

KANPUR DEVELOPMENT AUTHORITY

SELECTION OF CONSULTANT FOR PREPARATION OF DETAILED MASTER PLAN FOR KANPUR MODERN CITY

INVITATION OF OFFERS

1. Kanpur Development Authority, an agency appointed by Govt. of U.P., intends to appoint a consultant for preparation of detailed master plan for Kanpur Modern City at Kanpur.
2. In 2015 a Conceptual Master Plan was created for the Kanpur Modern City, a development of approximately 1100 Hectares on the left bank of the river Ganga
3. KDA is seeking to detail this master plan in the period of 6 months .
4. In view of selection of the Consultant, sealed offers are invited from reputed Consultant Firms having relevant experience for the preparation of detailed Master Plan for Modern City in Kanpur upto 15:00 Hrs by the 25-06-2016.
5. Bids (Technical & Financial) may be submitted to Secretary, Kanpur Development Authority, Moti Jheel, Kanpur 208002 on the prescribed application form .The brochure, prescribed application eligibility criteria, scope of work, terms of reference, prescribed application form and other details can be downloaded from our website www.kda.co.in or can be obtained from the office of Chief Town Planner, Kanpur Development Authority.
6. The interested consultants may contact Sri Swaraj Ganguly, Chief Town Planner, Kanpur Development Authority (Tel:9794552794) or Sri Asheesh Shivpuri Chief Town Planner (Mob. 9559882244) Moti Jheel, Kanpur 208002 on any working day for further information, if any.

(JAISREE BHOJ)
Vice Chairman
Kanpur Development Authority

Terms of Reference
for
Detailed Master Plan
for the Kanpur Modern City

• **INTRODUCTION**

In 2015 a Conceptual Master Plan was created for the Kanpur Modern City, a development of approximately 1100 ha on the left bank of the river Ganga. KDA is seeking to detail this master plan in a period of 6 month, before the detailed engineering phase (DPR) starts. Important aspects are urban planning, study to the behavior of the river and conceptual engineering designs for utility and infrastructure. The KDA seeks international comprehensive engineering consultants that have ample experience with the design of modern cities, complex river management and modern infrastructure and utilities.

KDA values the comprehensiveness and quality of the planning and design approach for the modern city very high and will therefore assess proposals on quality.

Bid Format

The proposal in two parts – Technical Qualification Bid and a Financial Bid – must be submitted separately.

Earnest money deposit

Earnest money deposit of **Rs. 1,00,000/- (Rupees one lac only)** in the form of demand draft in favour of Secretary, Kanpur Development Authority payable at Kanpur must be enclosed along with Technical Qualification Bid. The technical qualification bid without earnest money deposit shall be summarily rejected. The consultant shall also enclose a demand draft of **Rs. 1000/- (Rupees one thousand only)** favouring Secretary, Kanpur Development Authority payable at Kanpur along with Technical Qualification Bid, in case bid document is downloaded from the website . Earnest money deposit shall be refunded to the consultants who are not selected.

Security money

The successful consultant shall have to submit the security money of **Rs. 10,00,000/- (Rupees Ten lacs only)** in the form of Demand Draft / FDR/Bank Guarantee of the assignment. The earnest money deposit shall be adjusted against security money.

Submission, Receipt and Opening of Bids

- a. Both the Technical Qualification Bid and Financial Bid shall be prepared in a physical format (hard copy).
- b. Both the Technical Qualification Bid and Financial Bid shall be prepared in Undeletable ink . They shall contain no interlineations or overwriting, except as necessary to correct errors made by the firms itself and any such corrections must be initialled by the person or persons, who sign the bids. An authorized representative of the firm is required to initial on all pages of

both the Bids - Technical Qualification Bid and Financial Bid. The representative must be an "authorized signatory."

- c. Physical copies (one copy each) of both the Bids must be submitted at the address specified in the date Sheet. The original copy of the Technical Qualification Bid shall be placed in sealed envelope clearly marked "Technical Qualification Bid". The Financial Bid in accordance with TOR, shall be placed in separated sealed envelop clearly marked "Financial Bid" Both separated envelopes – Technical Qualification Bid and Financial Bid – shall be placed into another (an outer) envelope and sealed. This outer envelop shall bear the submission address and other information indicated in the Data Sheet and Sealed.
- d. Bids must be delivered (by post/ courier/ hand delivery) at the submission address up to **1500 Hrs on 09-05-2016**
- e. Any Bid received after the closing time for submission of bids shall be returned unopened

Summary Conceptual Master Plan Kanpur Modern City

The Conceptual Master Plan for Kanpur Modern City or KMC, assigned by Kanpur Development Authority or KDA defines the outlines of the planned urban expansion of Kanpur at the left bank of the Ganges. The plan describes the strategy, location, the size, the accessibility, the hydrological and land making aspects, the functional zoning and the general lay-out of the new city, as well as engineering requirements.

The location which was originally chosen by KDA is a site at approximately 3 kilometres distance from the existing city in the forelands of the Ganges, between existing bunds and dams and a planned new dam. The total size is approximately 1100 hectare. The Conceptual Master Plan describes a larger development, including the land between the existing city and the site which was originally chosen by KDA, measuring in total approximately 1,100 ha.

On a neighbouring parcel of land UPSIDC has planned an industrial and residential city called Trans Ganga City or TGC of approximately 468 hectare. This development has been planned independently of the KMC development. The Conceptual Master Plan advised to integrate both developments in one plan and to share infrastructure, utilities and services.

The site in its present situation is accessible by local 2 lane roads. The accessibility for the future city has to be improved radically by new roads and public transport facilities. The Conceptual Master Plan describes the outlines of the new roads, new bridges and the public transport facilities for the new development among which a metro-line connecting the old and the new city. Vital issue in the plan is the connection of the KMC road system with the road system in the old city.

The location within the flood bed of the Ganges asks for special attention. River studies show issues and risks in the water management which should be addressed in the planning for KMC, such as flooding risks and erosion of the right bank. The Conceptual Master Plan proposes to integrate a side channel in the KMC development with the objective to relieve the currents during high water levels.

In order to guarantee water safety the Conceptual Master Plan proposes to choose for a land-reclamation instead of a polder development. The sand for this reclamation has to be mined in the region.

- **APPROACH (40 points)**

The consultant will provide a Plan of Approach that is to prove the following:

- Understanding of the project and specific problems;
- How to create a modern SMART and attractive urban design for a sustainable city, based on the outcomes of the conceptual master plan;

- A comprehensive approach between the different elements;
- Providing river safety on medium and long term, convincing the relevant authorities;
- Seeking optimal technical solutions (design, maintenance, performance, ..), aiming for high quality, low maintenance infrastructure and utilities;
- Respect for environmental and social aspect and existing values; -
- Stakeholder engagement;
- A staged approach with 4 workshop / stakeholder engagement weeks.

The Detailed Master Plan will consist of the elements described in the next paragraphs.

- **Regional study**

Regional Plan as a framework for KMC

A regional plan for the entire Kanpur left bank area is indispensable for a successful development of KMC. This regional plan will organise land use and infrastructure on a regional scale and on a long term basis thus creating a solid foundation for local developments such as KMC and TGC.

Without such a regional plan the realisation of vital amenities such as roads, highways, public transport connections, utilities, and industrial areas will be blocked by housing and other developments.

This Regional Plan will be made in cooperation with neighbouring authorities to guarantee that roads and utilities will be continued over the administrative boundaries and that land use will be safeguarded against hindrance. The regional plan will also offer the opportunity to discuss and organise the financing of regional infrastructure required for a sustainable urban development. Its creation has a high priority as a framework for the planning and design of KMC and TGC.

Objectives Regional Study

The production of a comprehensive Regional Plan will cost time, probably several years since the plan has to be discussed with all relevant stakeholders and approved by many authorities. This time is not available and for this reason it is decided that the Detailed Master Plan for KMC will be based on a comprehensive Regional Study with the same objective but without the intensive stakeholder engagement and without the approval process as mentioned above for the Regional Plan. This study will be based on a programme of requirements for the long term sustainable regional development will analyse trends and developments and will provide a map with explanation and elaboration of all regional elements which will be required for a sustainable KMC and TGC development.

The consultant will produce this study. It will be based on available information, on estimations of future demographic, social and economic development of Kanpur left bank. The boundaries of this regional study have to be determined and motivated in the study. It will include all developments, relevant for the planning of KMC and TGC such as roads, rail, utilities, industrial sites, sand mining locations and housing for Low Income Groups and will include the Unnao region. The time-horizon for this study is 25 years with a perspective on the longer term.

Scope

The Regional Study will include at least (not limited to):

- Analysis of the present situation in the region with respect to landscape, geography, agriculture, economy, ecology, heritage and local culture in order to identify valuable and vulnerable locations and the requirements for their future sustainable preservation and development.
- Analyses of demographic and social development Kanpur left bank and estimation of demographic and social development (25 years ahead) and on the long term resulting in a bandwidth of the number of inhabitants, of the demographic and social composition of the population.

- Analysis of economic development Kanpur left bank in relation to Kanpur and Unnao, with attention for present and new economic sectors, employment, specific locational requirements of economic functions and an estimation of surface areas required for these economic functions.
- Analysis of trends in transport and traffic in Kanpur, Unnao and the region, the future transport demand as a result of the expected demographic, social and economic development, the modes of transport and their proportions, the required road and rail capacity and their location and other facilities required for transport, such as bridges, viaducts, roundabouts and other specific constructions.
- Analysis and estimations of the infrastructure and utilities, plants and related facilities to provide the Kanpur left bank with power, potable water, drainage and sewage and all other facilities requiring space in the region.
- Summary of the findings of the study in a programme of requirements for the regional development and estimations of the surface areas required for demographic, social and economic development as mentioned above.
- Analysis of environmental issues in the region and proposals to solve these issues in the future.
- Allocation of these surfaces in the region on a map titled Regional Study Kanpur left bank – Unnao combined with an explanation.

Consultant will Endeavour to collect all available data with the local authorities and will collect complementary data in the field during site visits.

Relevant stakeholders have to be identified by the consultant in consultation with KDA, such as (not limited to) local governments (districts, municipalities), NGO's (chamber of commerce, heritage and environmental organizations) to collect data and to discuss their vision on the regional development.

This study forms a framework for the KMC and TGC planning and will be delivered early in the process in order to integrate relevant programm elements in the master plans for KMC and TGC.

The regional study will be reported separately in a document with the collected information, reports of the discussions with stakeholders, maps, tables, photographs and other relevant illustrations.

- **Detailed Urban Master Plan**
- **Market and Programming Study**

The consultant will produce a market study for the KMC development, in order to provide a comprehensive programme for all relevant functions in the new city (not limited to): residential, economic functions and services / amenities. This study will provide information on the types and volumes of housing for the target groups: Middle Income and High Income Groups. Next to the study will reveal the demand for all types of economic functions (not limited to): offices, high-tech, light industry, health-care, education, workshops, shops and commercial activities, amusement, sports, media.

Sources of information are demographic information, a trend analysis, a comparison with other relevant metropole areas in India and abroad, governmental information and interviews with key-players in the field.

The collected data will be summarised in a programme for the new development, showing types and volumes. This programme will be presented for each phase of 5 for 25 years with a perspective for the long term development.

Consultant will endeavour to collect all available data and to build a suitable programme on available information combined with the results of interviews with key-experts in the field and with an analysis of comparable and successful projects in India and abroad.

This study forms a framework for the KMC and TGC planning and will be delivered early in the process in order to integrate relevant programme elements in the master plans for KMC and TGC.

The market and the programming study will be presented in a separate report.

- **Transportation Study**

The consultant will produce a transportation study in order to provide a programme for all volumes of all transportation modes and related facilities such as roads, rail, bicycle paths, footpaths and parking space in the new city. This study will be based on present governmental policies, on demographic information, on analysis of actual trends, on analysis of comparable projects in India and abroad.

The study will result in a programme for roads, rail, bicycling, walking and parking facilities including required capacities and preferred spatial organisation in public and private space. Special attention is requested for road safety issues, standard designs for cross sections of roads and intersections and for aspects for traffic and parking management.

Next to this the study will identify strategies, solutions and locations for connecting the road and rail system of KMC + TGC with the existing network in Kanpur up to a level of a conceptual plan. The collected data will be summarised in a transportation system programme and plan for the new development, to be presented for each phase of 5 years between 2016 and 2045 with a perspective for the long term development.

Consultant will endeavour to collect all available data and to build a suitable programme on available information combined with an analysis of comparable and successful projects in India and abroad.

This study forms a framework for the KMC and TGC planning and will be delivered early in the process in order to integrate relevant programme elements in the master plans for KMC and TGC.

The transportation study will be presented in a separate report.

- **Detailed Urban Master Plan**

Vision and objectives

The Detailed Urban Master Plan will be based on the preferred option and choices within the Conceptual Master Plan. The objectives are summarised as follows:

- The KMC development will be part of a much larger future Kanpur left bank development which will be organised in a comprehensive and long term Regional Plan.
- The KMC development offers space for the Ganga, and prevents future emissions in the river. Old and new city will be protected effectively against flooding.
- The KMC plan will integrate many opportunities for leisure and tourist development. As important will be the focus on a pleasant, safe and vibrant cultural life for which appropriate conditions will be created.
- KMC will be connected by high quality public transport and spacious roads, especially with Kanpur but also with regional destinations. KMC will be safe and comfortable for walking and the use of the bicycle.
- KMC will create first class Middle class housing and will create a wide range of new jobs, thus supporting the renewal of Kanpur for all Kanpurians.

- The high density, focus on public transport, respect for the river and many other features in the plan make the KMC plan high level sustainable.
- KMC will be a modern, vibrant and attractive city.
- The KMC plan is technically and financially feasible.

Consultant will produce the Detailed Master Plan as a comprehensive spatial plan for the future development which will enable the developing authority to:

- Manage costs and profits.
- Manage the designing of infrastructure, public space and buildings.
- Manage the engineering of the infrastructure for the new development.
- Contract developers and investors.

Scope

The Detailed Master Plan will be based on the choices made in the Conceptual Master Plan phase, on the outcomes of the regional study, the market and programming study, the transportation study, the river management study and technical studies. The results of these studies will be integrated in a comprehensive programme of requirements for the new development which will be translated in a Detailed Master Plan map scale 1: 5,000. Both will be explained in the Detailed Master Plan report.

This programme and map with explanation will consist of (not limited to):

- Zoning principles and zoning map(s) for functions, densities and building typologies;
- Organization of required transportation facilities in a coherent system / network (transportation map);
- Connections with Kanpur and the region for all relevant transport modes;
- Integration of infrastructure, utilities and amenities with TGC in consultation with UPSIDC;
- Distribution of public space, parks and public amenities in the plan area (green areas / structure map);
- Locations for utilities, utility plants, sub stations and other related facilities (utility and infrastructure map);
- Relation with the river and integration of river related facilities / constructions and their dimensions;
- Plan boundary and elevations;
- Cross sections for relevant road types scale 1: 500 and standard conceptual designs for intersections, bus stops, safety measures and so on;
- Conceptual designs and references for key locations in public space, scale 1:500;
- Identification of standards for materials, plantings, lighting and furniture in public space;
- Locations of key-buildings and key-projects with references for architecture;
- Locations, types and references for specific public constructions such as bridges and fly-overs.
- Regulations for mixed use development in the plinths, regulations for building design such as (not limited to): building heights, FSI, % built-up area, building lines, distances between buildings, location of entrances, entrances of private garages, green court yards, architectural expression of facades;
- Detailed cost-estimate of the public works;
- A phasing plan with intervals of five years;
- An implementation Plan.

Important factors

The Detailed Master Plan will be the framework plan for phasing, for engineering and for detailed designs per phase (DPR's). This plan identifies the framework and standards for the development but will be a flexible plan in the same time to guarantee its function if circumstances or preferences might change.

The plan is a comprehensive plan and will cover all relevant issues for a successful development, yet it will be concise and manageable in daily practice.

Consultant is expected to organize workshops with KDA and major stakeholders regularly to keep them updated and to give the opportunity of feed-back in all stages of the development of the plan.

Deliverables

- A Detailed Master Plan drawing in Autocad with coordinates of the plots;
- Maps of functional and density zoning, transportation plan, green structure, utilities and infrastructure and phasing in GIS, based on the Autocad master Plan drawing;
- Overall layout plan on 1:10,000 Scale;
- Report with explanation, relevant maps, illustrations, tables;
- Cost estimate in a separate report.

NB: KDA will provide for a detailed base-line map in Autocad of the location of KMC and the adjacent parts of Kanpur, Shuklaganj and TGC.

- **River and land reclamation**

Objectives

- Define an unequivocal land reclamation elevation and dimensions including associated (and accepted) flood risk in relation to the development for short – medium – long term developments taking into account climate change and potential human interventions. The elevation has to be determined by means of 3D hydraulic modelling of KMC including the waterfront development of Old Kanpur.
- Provide a Design Basis for short – medium – long term sustainable measures to enable the land reclamation and waterfront development such as side channels, inlet / outlet structures and river training works with particular attention for the side channel in relation to its urban and river management performance.
- Provide insight into morphodynamics using a 3D morphodynamic model within the project area and propose a design basis for supporting infrastructure including river training works, bridge (foundations) etc which are affected by morphology in short to long term
- Evaluate the design in terms of staged development of the land reclamation project and optimize the implementation of measures necessary to enable the land reclamation
- Identify potential locations for sand-mining in full appreciation of the staged development and design basis for the various items of infrastructure and confirm available quantities and suitability. Sand can be mined from the Ganga's river bed, from flood plains or elsewhere in Uttar Pradesh. Particularly in case of sand mining from the river bed and flood plains the environmental (river) impact should be considered and evaluated.

Scope

The 3D modelling will include KMC as well as the waterfront development of Old Kanpur. This is the maximum development corresponding with the finalized development in say 2040 and so sets a clear target for compensation measures needed to sustainably implement Kanpur Modern City. Subsequently the staged development of KMC and Old Kanpur should be modelled to determine whether temporary situations between start of development to 2040 require additional / temporary measures or not. The modelling must be carried using Delft3D, a proven model used in similar situations of large scale river interventions.

Consultant should understand the need to coordinate and evaluate interventions in the river within the larger setting of river basin management requirements and have in depth and up to date understanding of "Ganges River Basin Management".

Three steps are foreseen

- Surveys
- Extension of the 1 D model to 3D model
- Detailed 3D model

Step 1: Surveys

Consultant shall define and supervise the surveys to be carried out on behalf of the Client with the actual surveys to be carried out by local consultants and surveyors .

- Topographical surveys must be carried out covering at least the winterbed across 35 kilometres of the Ganga River up and downstream. A resolution of 1 x 1 metre is needed and Lidar is proposed to meet time constraints.
- Bathymetrical surveys are required for the wet area of the Ganga River bed and a resolution of 1 x 1 m is needed with a 0,10 m vertical accuracy.
- Sediment survey is needed at several locations determining characteristic grain sizes in the river bed. Locations to be determined off the initial modelling (step 2).

Consultant will carry out detailed statistical analyses of river discharge and climate change scenarios and define a logical set of scenarios to be used in the modelling effort.

Step 2: Extension of the 1 D model to 3D model

A 3D preliminary model will be extended from the existing 1D model over a sufficiently long stretch of the Ganga River (70 km) to allow for better interpretation of results and the carrying out of sensitivity / scenario analyses (climate change impact and human intervention in the river system) and to determine a reasonable range of elevation for the land reclamation. In doing so Consultant will deal with flood safety in a practical manner, closely interacting with the urban design team to determine flood risk. As part of the sensitivity analyses the Consultant will also identify win-win opportunities: an example will be improvement of water quality or the potential to improve river management and maintenance or to make such more future-proof. The model will indicate morph dynamic and hydraulic trends and water quality trends from hydraulic simulations.

Step 3: Detailed 3D model

The 3D model will be improved with better input data and survey results. Also, it is expected that in this step we will engage with the key stakeholder who must approve of the project and who has already indicated that a thorough modeling study will be needed for them to be able to do so. So apart from improving the model, we expect IDUP/CWC as key stakeholders to participate in a minor way, at least as an observer and provider of data. Also, in the discussions we expect to lay the design basis for the evaluation model and to jointly determine the desired capabilities for the model and scope for evaluation of land reclamation. New data and fresh insights obtained will be incorporated into the model after which the impact of the land reclamation given scenarios as determined under Step 2 will be repeated and the design for the land reclamation will be updated.

Deliverables

- Report with explanation, relevant maps, illustrations, tables;
- Computer model that is to be transferred to the Client for sharing with the relevant Authorities
- **Conceptual engineering designs**

The objective of the conceptual engineering designs is to select optimal engineering solutions for infrastructure and utilities, based on the design requirements as described in the Conceptual Master Plan by Royal HaskoningDHV.

- The conceptual solutions and designs are to be detailed to such a level that the relevant choices can be made in the detailed Urban Master Plan and DPR's can be created based on this in the next phase.

The scope is:

- Land reclamation and site preparation: geotechnics, river protection works, drainage system;
- Transport: roads (within KMC, connection with Trans Ganga and to Kanpur), bridges (to Kanpur), public transport (except metro);
- Utilities (water): drinking water supply system and drinking water extraction (a.o. river groundwater) and treatment plant (incl. location), sewage and waste water treatment plant (incl. location);
- Utilities (other): power (grid), ICT (grid), solid waste (collection).
- In order to create a modern high density city it is essential that the infrastructure works are of very high quality and modern standards. The consultant has to select the proper technical solutions per subject and create conceptual designs in order to optimize in this phase the following factors:
 - Capacity, quality, costs (investment, operations, maintenance);
 - Locational aspects and possibilities for phasing during construction phase;
 - Design (as to enhance the image of city), for visible elements;
 - Manageability during operations and maintenance after realisation

Deliverables

- Report with solutions, designs, calculations, explanation, relevant maps, illustrations, tables.

Scoping study Environment and Social

The objective of the Scoping study Environment and Social is to start the process of environmental and social impact assessment, in order to be able to create a sustainable modern city, deal with the existing values in a good way and treat stakeholders with respect and according to regulations

The scope of this study is:

- Create an overview, description and planning of the steps that are to be taken and by whom to follow the ESIA process / procedure in a correct manner;
- Give the scope for the relevant field studies for the ESIA.

Deliverables

- Report with explanation, illustrations, tables.
- **Financial Feasibility and Implementation strategy**

The objectives of this study are to:

- Determine the comprehensive financial feasibility on the level of the detailed master plan for KMC and Sector 1;
- Create a realistic implementation strategy for the development of KMC and in more detail for the first phase (Sector 1).

The financial feasibility and implementation strategy are to be developed simultaneously with design and engineering to optimize costs and revenues in early stage and create a feasible implementation strategy.

The scope is the following:

- Business Case including infrastructure and utilities in order to prove the financial feasibility. The financial model is to be in compliance with financial industry standards (e.g. FAST standard). It is to be clear and transparent and provide insight in the main cost and revenues and enables strategic decisions. Use scenario's and sensitivity analysis for picturing important choices;
- Financial structuring: to give advice on how to structure the development to enable for private sector participation in line with relevant policies, regulations and international best practice;

- The implementation strategy for KMC + Sector 1 in more detail is to envisage organisational, programmatic, technical and financial aspects. It is to picture a clear planning of the main components of the project as to provide a framework for the development as a whole. KDA will provide input on the organizational and procedural aspects, regulations, and policies.

Deliverables

- Report with calculations, explanation, illustrations, tables, planning.

- **PLANNING**

Planning

The study is to be completed in 6 month time. Mobilization of the team is required within two week after signing of the contract.

- **EXPERIENCE OF THE CONSULTANT (30 points)**

References are required on three categories:

- Comprehensive master planning
- Sectoral studies
- River engineering

Comprehensive master planning of modern cities (10 points)

Core to the project is the comprehensiveness of the design in order to achieve the quality of a modern city.

References are to be given for at least 02 comprehensive completed master planning projects on a comparable scale, in an international setting, providing modern technological solutions and complying to modern international standards in the last 10 years.

Comprehensiveness in Urban Master Planning concerns integrating urban planning and design, transport, environment, ecology, engineering of infrastructure and utilities and river/water management, business case.

Required for all project references is a short description of the project, proving the requirements plus an overview of the design.

Experience per (sectoral) study (10 points)

References are to be given for at least 2 projects on a comparable scale in an international setting, providing modern technological solutions and complying to modern international standards in the last 10 years.

Required for all project references is a short description of the project, proving the requirements plus an overview of the design.

Relevant project experience is required for all studies:

- Regional studies (especially integrating urban and infrastructure planning);
- Market study and economic strategies;
- Transportation;
- River engineering (especially river management, numerical computer modelling, policy making for long term developments, climate change);
- Land reclamation and sand mining land reclamations (especially of comparable size and in complex hydrological situations);
- Engineering of infrastructure (especially on iconic bridge design);
- Engineering of utilities (especially on river groundwater extraction, providing drinking water quality according to international standards and innovative waste water technologies);
- Environmental and social impact assessment;
- Business cases / financial feasibility and management / implementation strategies.

River engineering requirements (10 points)

Due to the importance of this subject a minimum of 8 points is required.

River engineering is a crucial aspect for the development of KMC. The consultant shall have a proven track record and must have done at least 4 similarly sized and complex projects around the world in river basins and coastal zones and have experience in staged development from master planning to execution and supervision.

For the development to be sustainable, the impact of climate change should be considered and the consultant shall have the latest insights and scientific and proven understanding of glacial melting and intensified monsoons, affecting the Ganga River in order to have the best possible insight into the challenges for sustaining Kanpur Modern City for the next 50 – 100 years.

Finally, the consultant shall have adequate experience in capacity building and stakeholder engagement and convincing relevant river authorities.

Furthermore the Consultant shall have a proven track record in designing and supervising land reclamations of similar size and complexity around the world. The Consultant shall have done at least 02 such projects (total budget > 5 M Euro/Rs. 3.75 crores) in an international setting over the last 5 years and should be able to prove their high level involvement in sand mining / sand search campaigns, geotechnical and geological aspects of land reclamations in coastal areas and river basins.

TEAM: REQUIRED DISCIPLINES / KEY STAFF (30 points)

- Requirements for all key staff

General requirements

- Key staff is required to have international experience in at least 2 countries; experience in both emerging markets / developing countries and modern countries is required;
- Fluent in English language, both spoken and written.

Key staff

Function	Points
1. Project Manager	4
2. Master Planner / Urban planner	4
3. Market / Economic strategy Expert	2
4. Senior River Engineering Expert	3
5. Senior River Modelling Expert	2
6. Senior Climate Change & Impact Expert	2
7. Team manager Infrastructure and Utilities, Engineering, Utilities	3
8. Transport Infrastructure Engineer	2
9. Drinking Water Expert	2
10. Waste water expert	2
11. Environmental/Social Impact Expert	2
12. Financial Modelling Expert / Investment advisor	2
Total	30

- **Project Manager**
 - Master of Science in engineering or equivalent;
 - Certified with internationally recognized project management association (IMPA certification or equivalent);
 - Minimum of 20 years of working experience;
 - Proven experience in project management and/or technical in regional studies, urban master planning and engineering of utilities and infrastructure, feasibility, costing , management;
 - A minimum of 3 modern master planning development projects;
 - Experience with stakeholder management.
- **Master Planner / Urban planner**
 - Master of Science in urban planning / urban design or equivalent;
 - Minimum of 20 years of working experience;
 - Proven experience in at least 2 comprehensive modern master planning projects in international setting, leading technical experts (spatial planners, quantity surveyors, M&E engineers, structural engineers, civil engineers, environmentalists etc.) in the design of large real estate clusters / cities / other developments;
 - Experience with Stakeholder management.
- **Market / Economic strategy Expert**
 - Master of Science in Economic Geography, Economics or equivalent;
 - Minimum of 20 years of working experience;
 - Proven experience in at market research, spatial-economic (development) strategies, policy development;
 - A minimum of 2 modern master planning development projects.

- **Senior River Engineering Expert**
 - Master of Science in Civil Engineering;
 - Minimum of 20 years of working experience;
 - Proven experience working on (integrated) river engineering and land reclamation projects throughout the project life cycle from master planning to Design, Construction, Supervision and Maintenance for different types of stakeholders (contractors, government bodies);
 - A minimum of 10 (integrated) river engineering and land reclamation projects in the past 10 years;
 - Proven ability to coordinate between different stakes and angles of approach and coordinate within different teams of urban design, civil design, permitting, costing & procurement.

- **Senior River Modeling Expert:**
 - PhD in River Engineering / Morphology or equivalent;
 - Minimum of 20 years of working experience in river-morphology and hydrodynamics modeling studies. Experience should cover rivers in various places on the world; Regional experience preferable;
 - Experience in 2D and 3D hydrodynamic and morphological modelling;
 - Experience in managing downstream environmental impacts of dams, and development of mitigation strategies;
 - Experience in climate change adaptation or climate change impacts mitigation studies.

- **Senior Climate Change & Impact Expert:**
 - PhD in climate change and impact on river basins;
 - Minimum of 15 of working years of experience;
 - Experience in the impact of climate change on the Ganges basin, experience in spatial modeling of mountainous basins.

- **Team manager Infrastructure and Utilities, Engineering, Utilities:**
 - University degree in infrastructure / civil engineering;
 - Minimum of 20 years of working experience;
 - Proven experience in large scale development projects with project management and coordinating multi-disciplinary teams of engineering experts in the fields of geotechnical engineering, traffic engineering, road design, sewer and drainage design drinking water, waste water, waste management, power;
 - A minimum of 3 modern master planning development projects;
 - Experience with Stakeholder management.

- **Transport Infrastructure Engineer:**
 - University degree in transport planning / engineering;
 - Minimum of 20 years of relevant working experience;
 - Proven experience in transport planning in at least 3 urban master planning projects in international setting, including traffic modeling and public transport.

- **Drinking Water Expert:**
 - Master of Science in Civil Engineering or equivalent;
 - Minimum of 20 years of working experience;
 - Proven experience in drinking water planning and engineering of (river) ground water extraction systems, surface water extraction and water treatment plants in an international setting.

- **Waste water expert:**
 - Master of Science in Civil Engineering or equivalent;
 - Minimum of 20 years of working experience;
 - Proven experience in waste water planning and engineering and water treatment plants in an international setting. Experience with innovative waste water technologies.

- **Environmental/Social Impact Expert:**
 - Master of Science in Environmental Sciences, Civil Engineering or equivalent;
 - Minimum of 20 years of relevant working experience;
 - Proven experience in impact assessment, environmental management, and stakeholder engagement in the field of spatial planning, large infrastructural projects and rivers / water management.

- **Financial Modeling Expert / Investment advisor:**
 - Master of Science degree in business economics or equivalent;
 - Minimum of 15 years of working experience;
 - Proven experience with financial feasibility and bankability studies, business case engineering, structuring public-private partnerships, transaction advisory, procurement and tender strategies, cost benefit analysis, project financing, public funding strategies, especially in large urban / infrastructural projects.

- **ORGANISATIONAL REQUIREMENTS**

The consultant must comply with the following conditions:

- As of the importance of the comprehensive nature of the project, the consultant is required to have all disciplines available within the company;
- In case of a cooperation of companies KDA expects the leading company to have experience with comparable comprehensive projects. Joint ventures are not allowed. A maximum of 1 sub-consultant is allowed.
- The lead consultant shall be an international based firm with at least one substantial office (> 50 employees) in India. The office should have relevant disciplines available and experience in Kanpur;
- The lead consultant is to have an annual turn-over exceeding 100 million US Dollar/Rs.75 crores;
- A clear integrity policy.

SELECTION CRITERIA

Kanpur and KDA aim to create a modern SMART sustainable high density city, with modern high quality infrastructure and utilities. The setting in the flood prone area of the Ganges is technically complex and challenging. The requirements are there for set to:

- **Technical proposal**

The technical proposals submitted by the applicants will be evaluated on a maximum of 100 marks. Against this marking, only the financial bids of those securing a minimum of 80 marks out of 100 in total, as well as 80% of the points per main subject (Approach, Experience, Key Staff) subject, shall only be considered for further evaluation:

A minimum (threshold) of 80% of the points is required for:

- Overall Technical Proposal (80% of 100 points);
- The Approach (80% of 40 points);
- The Experience (80% of 30 points);
- The Key Staff (80% of 30 points).

- **Financial proposal**

- The financial proposal should match the following requirements:
- At least 60% of the time shall be spent by the Key Staff as defined above;
- The financial breakdown should make sufficiently clear how the budget shall be spent.

- **Overall score**

Only proposals that have a score for the Technical Proposal of at least 80% in total and per main subject are considered. The overall score is determined based on the following criterion: 80/20 ratio quality / price.

The lowest financial proposal (FM) will be given a financial score (SF) of 100 points. The financial scores of other proposals will be computed as follows:

$SF = 100 \times FM/F$ ($F = \text{amount of financial proposal}$).

Proposals will finally be ranked according to their combined technical (ST) and financial (SF) scores as follows:

$$S = ST \times Tw + SF \times Fw$$

Where S is the combined score, and Tw and Fw are weights assigned to Technical Proposal and Financial Proposal, that shall be 0.80 and 0.20 respectively.

Consultancy Fee

The Consultant shall quote the fee as follows:

1. For Detailed Master Plan

Lump-sum fee in INR – Basic fee including travelling, boarding, lodging etc.

Service tax shall be paid extra.

2. Obtaining Statutory Approvals

Lump-sum fee in INR – basic fee including travelling, boarding, loading etc (This will exclude the fee payable to the Statutory Bodies). **Service tax shall be paid extra.**

Stage	Study		%Breakup
1.	Detailed Master Plan only		
	1.1	Inception Report	10%
	1.2	Area Assessment report	15%
	1.3	Draft Conceptual/Schematic Master Plan	25%
	1.4	Conceptual/Schematic Master Plan	25%
	1.5	Master plan, final after incorporating comments of various Statutory Bodies after approvals have been obtained.	25%
2.	Statutory Approvals		
	1.	For HR mobilization	10%
	2.	On submission of required approvals(Fee can be billed on pro-rata based on approvals received)	90%

Responsibility of the Client

- The Client will help facilitate the images, requisite revenue drawings, studies mentioned earlier, and permissions required for carrying out the studies.
- The Client will provide all the reports and data that it has for the study.
- Land use change, land acquisition & removing encroachment, if any.

Bid document _____

FORM
TEAM COMPOSITION AND TASK ASSIGNMENTS

Technical Staff

Sl.No	Name	Position	Task
1.			
2.			
3.			
4.			
5.			
6.			
7			
8.			

Certification:-

1.The undersigned certify that to the best of my knowledge and brief, these data correctly described me, my qualification and my experience.

_____ Date _____

[Signature of staff member and authorized representative of the Firm]
Day/Month/year.

Full Name of Staff member : _____

Full name of authorized representative: _____

FINANCIAL BID

(TO BE QUOTED BY THE CONSULTANT SEPARATELY)

CONSULTANCY FEE

- 1. Detailed Design of Final Master Plan Components :**
-

Authorized Signature

Date

Name and designation of
Signatory

Name of firm

Address

Seal of the consultant/firm

