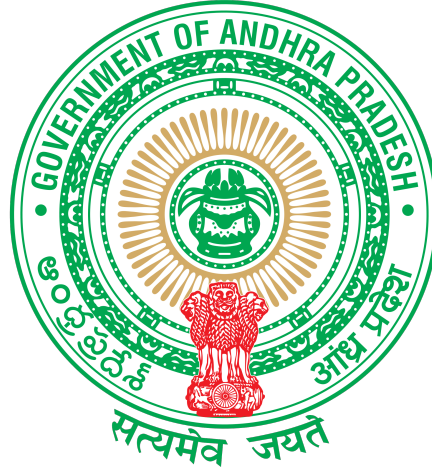


RFP for engagement of Consultant for
preparation of Smart integrated Infrastructure
Masterplan and Detailed Project Reports for
Phase-I Infrastructure works for/at Amaravati
Capital city



**Andhra Pradesh Capital Region Development
Authority (APCRDA)**



Andhra Pradesh Capital Region Development Authority

NOTICE INVITING BIDS (NIB)

RFP FOR ENGAGEMENT OF CONSULTANT FOR PREPARATION OF SMART INTEGRATED INFRASTRUCTURE MASTERPLAN AND DETAILED PROJECT REPORTS FOR PHASE-I INFRASTRUCTURE WORKS FOR AMARAVATI CAPITAL CITY" FOR APCRDA

Tender Notice No: 02/APCRDA/Infra/Master Plan/1495/2015

Dt: 03.12.2015

The Government of Andhra Pradesh is developing new capital city Amaravati over 217 sq. km. area in Guntur District within the Capital Region Area of 8352 sq. km. APCRDA has been established through an Act of the state Assembly for planning and execution of the development of Amaravati and other infrastructure across the Capital Region area.

The Commissioner, APCRDA, Vijayawada invites RFP from eligible bidders for "Engagement of consultant for preparation of smart integrated infrastructure Master plan and detailed project reports for phase-i infrastructure works for/at Amaravati capital city " for APCRDA services for the development of the Capital City Region in the state of Andhra Pradesh.

Interested applicants are requested to submit their responses online through the website: www.eprocurement.gov.in/ on or before 3:00 PM (IST), 26th December 2015. The particulars of the tender can be downloaded from the aforementioned website.

For any further clarifications, you may get in touch with

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**Commissioner,
APCRDA, Vijayawada**

VOLUME I - SCOPE OF WORK

Contents

I	Introduction	7
1	Introduction	8
2	Project Status	9
3	Broad Implementation Framework of Capital City	11
4	Works targeted for completion by Dec 2018: Phase 1	14
4.1	Seed level infrastructure works directly handled by CRDA (4000 ac area CBD)	14
4.2	City level infrastructure works directly handled by CRDA (54000 ac)	14
4.3	Coordination and real-time monitoring of infrastructure works essential for the 2018 plan, and handled by other Government Agencies.	15
II	Detailed Infrastructure Masterplan	16
5	Structure of Detailed Masterplan	17
6	Detailed Masterplans	18
6.1	Concept plan	18
6.2	Transport plan	19
6.2.1	Regional Context:	19
6.2.2	Capital City Context:	19
6.2.3	Road Network System with Geometric Design details:	19
6.2.4	Public Transport System:	19
6.2.5	Traffic Management System:	20
6.2.6	Integration of Transport Systems:	20
6.2.7	Policies, Norms, guidelines and standards	20
6.3	Water plan	20
6.3.1	Water supply plan	20
6.3.2	Waste Water :	22
6.3.3	Rain Water:	23
6.4	Power plan	24
6.5	Solid waste management plan	25
6.6	Gas Masterplan	26
6.7	Smart city integrated infrastructure plan	27
6.8	District cooling plan	29
6.9	Safety and security plan	30
6.10	Disaster management plan	31

III Detailed Project Reports and Detailed Designs	33
7 List of projects	34
8 General Scope of services	35
9 Specific Scope of services	37
9.1 Development of arterial and sub-arterial integrated road infrastructure (around 290km with 50m RoW) & Development of east-west and north-south expressways including interchanges / grade separators (total of 41 km with 60m RoW)	37
9.1.1 Feasibility study	37
9.1.2 Standards & design:	37
9.1.3 Detailed Design	37
9.1.4 Concept design, schematic design and detailed architectural designs	39
9.1.5 Assess and prepare plan for:	39
9.1.6 Prepare GAD and obtain approvals	39
9.1.7 Prepare DPR which will include the following (list not exhaustive),	39
9.1.8 Conduct SIA, EIA and EMP	40
9.1.9 General:	40
9.1.10 Tender Documentations	40
9.1.11 Support during execution	40
9.1.12 Representative photographs indicating the desired finish/ look and feel	40
9.2 Development of smart power transmission and distribution systems for Phase-I	41
9.2.1 Feasibility study	41
9.2.2 Standards & design:	41
9.2.3 Detailed Design	41
9.2.4 Assess and prepare plan for:	42
9.2.5 Prepare GAD and obtain approvals	42
9.2.6 Prepare DPR which will include the following (list not exhaustive),	42
9.2.7 Conduct SIA if required	43
9.2.8 General	43
9.2.9 Tender Documentations	43
9.2.10 Support during execution	43
9.2.11 Representative photographs indicating the desired finish/ look and feel	43
9.3 Development of Water supply plan including source, water treatment plant(s), storage reservoirs, trunk distribution network, automated control and command center and so on, for Phase I.	43
9.3.1 Feasibility study	43
9.3.2 Standards & design:	44
9.3.3 Detailed Design	44
9.3.4 Assess and prepare plan for:	44
9.3.5 Prepare GAD and obtain approvals	45
9.3.6 Prepare DPR which will include the following (list not exhaustive),	45

9.3.7	Conduct SIA, EIA and EMP	45
9.3.8	General:	45
9.3.9	Tender Documentations	45
9.3.10	Support during execution	46
9.3.11	Representative photographs indicating the desired finish/ look and feel	46
9.4	Development of Waste water management system including trunk network, sewerage treatment plant(s), pumping stations, disposal, reuse network, automated control and command center and so on, for Phase I.	46
9.4.1	Feasibility study	46
9.4.2	Standards & design:	47
9.4.3	Detailed Design	47
9.4.4	Assess and prepare plan for:	47
9.4.5	Prepare GAD and obtain approvals	47
9.4.6	Prepare DPR which will include the following (list not exhaus- tive)	48
9.4.7	Conduct SIA, EIA and EMP	48
9.4.8	General:	48
9.4.9	Tender Documentations	48
9.4.10	Support during execution	48
9.4.11	Representative photographs indicating the desired finish/ look and feel	49
9.5	Development of Solid Waste Management Infrastructure including collection, treatment, disposal, automated control and command cen- ter, required for Phase I (including seed capital area)	49
9.5.1	Feasibility study	49
9.5.2	Standards & design:	50
9.5.3	Detailed Design	50
9.5.4	Assess and prepare plan for:	50
9.5.5	Prepare GAD and obtain approvals	51
9.5.6	Prepare DPR which will include the following (list not exhaus- tive)	51
9.5.7	Conduct SIA, EIA and EMP	51
9.5.8	General:	51
9.5.9	Tender Documentations	51
9.5.10	Support during execution	52
9.5.11	Representative photographs indicating the desired finish/ look and feel	52
9.6	Development of storm water disposal system for Phase I	52
9.6.1	Feasibility study	52
9.6.2	Standards & design:	52
9.6.3	Detailed Design	53
9.6.4	Assess and prepare plan for:	53
9.6.5	Prepare GAD and obtain approvals	53
9.6.6	Prepare DPR which will include the following (list not exhaus- tive),	54
9.6.7	Conduct SIA, EIA and EMP	54
9.6.8	General:	54
9.6.9	Tender Documentations	54

9.6.10	Support during execution	54
9.6.11	Representative photographs indicating the desired finish/ look and feel	55
9.7	Development of IT infrastructure and Central Command & Control Centers, Surveillance systems, Intelligent Traffic and Transport Sys- tem, Fiber Optic Network for all infrastructure and services for Phase I	55
9.7.1	Feasibility study	55
9.7.2	Standards & design:	56
9.7.3	Detailed Design	56
9.7.4	Assess and prepare plan for:	57
9.7.5	Prepare GAD and obtain approvals	57
9.7.6	Prepare DPR which will include the following (list not exhaus- tive),	57
9.7.7	Conduct SIA.	58
9.7.8	General:	58
9.7.9	Tender Documentations	58
9.7.10	Support during execution	58
9.7.11	Representative photographs indicating the desired finish/ look and feel	58
9.8	Development of tier-II infrastructure for 900 acres of Government Complex campus	58
9.8.1	Feasibility study	58
9.8.2	Standards & designs:	61
9.8.3	Detailed Design	61
9.8.4	Assess and prepare plan for:	65
9.8.5	Prepare GAD and obtain approvals	65
9.8.6	Prepare DPR which will include the following (list not exhaus- tive),	67
9.8.7	Conduct SIA, EIA and EMP	67
9.8.8	General:	67
9.8.9	Tender Documentations	68
9.8.10	Support during execution	68
9.8.11	Representative photographs indicating the desired finish/ look and feel	68
9.9	Development of tier-II infrastructure for 17000 acres of returnable lands under Land pooling scheme	70
9.9.1	Feasibility study	70
9.9.2	Standards & designs:	71
9.9.3	Detailed Design	72
9.9.4	Assess and prepare plan for:	75
9.9.5	Prepare GAD and obtain approvals	75
9.9.6	Prepare DPR which will include the following (list not exhaus- tive),	76
9.9.7	Conduct SIA, EIA and EMP	77
9.9.8	General:	77
9.9.9	Tender Documentations	77
9.9.10	Support during execution	77
9.9.11	Representative photographs indicating the desired finish/ look and feel	77

IV Assistance during execution	79
10 Assistance during execution	80
V Deliverables and Key Personnel	81
11 Deliverables for Masterplan	82
12 Deliverables for DPR	83
13 Deliverables for Assistance during execution	84
14 Key Personnel	85
VI Others	86
15 Glossary	87
16 Appendix 1	88
16.1 Concept plan	88
16.2 Transport plan	88
16.3 Water plan	90
16.4 Power plan	91
16.5 Solid waste management plan	91
16.6 Gas Masterplan	92
16.7 Smart city integrated infrastructure plan	93
16.8 District cooling plan	94
16.9 Safety and security plan	95
16.10 Disaster management plan	96
17 Appendix 2	97
18 Appendix 3	138
18.1 Transport	138
18.2 Power	146
18.3 Water	147
18.3.1 Water supply	147
18.3.2 Waste water	148
18.3.3 Solid waste Management	148
18.3.4 Storm water management	149
18.3.5 District cooling system	150
18.3.6 ICT & Smart infrastructure	151

Part I
Introduction

APC RDA

1

Introduction

The Government of Andhra Pradesh proposes to establish ‘Amaravati’, a world-class capital city for the State. The aspiration is to create a peoples capital that is vibrant, diverse, inclusive, and modern which is not only a glowing pride for all the people of Andhra Pradesh but also a magnet for skilled migrants, industries, business, professionals from across the world. It would synthesize the best features of urban planning, sustainability, and effective governance to create an inclusive, highly liveable, and world-class urban eco-system.

Amaravati will have physical infrastructure that is of global standards with most efficient utilities - environmentally sustainable, functionally smart and technology driven. It will also amalgamate the local cultures, historical roots, involve peoples’ aspirations and a robust socio economic plan to spur rapid and sustainable economic growth that is inclusive. This mix of modernity with continuity will develop Amaravati as a city with higher degree of liveability quotient and create deep sense of attachment and ownership among its stakeholders. It is aspired that the city will become an ultimate destination for the investors, businesses, education, tourism, re-search and development. In nutshell, the government hopes that the new city would be a people’s capital”.

With the objective of construction of new capital city Amaravati”, an act has been passed by the GoAP to provide for the declaration of the new Capital area for state of the Andhra Pradesh and establishment of the Andhra Pradesh Capital Region Development Authority (APCRDA) for the purposes of planning, Coordination, execution, supervision, financing, and for promoting and securing the planned Development of the capital region development area, undertaking the construction of the new capital region development area, undertaking the Construction of the new capital for the state of Andhra Pradesh and for managing and supervising urban services in the new capital area and for matters ancillary thereto.

2

Project Status

The current project status is summarized below for better understanding of the assignment

1. Government of Andhra Pradesh had entered into a MOU with the Government of Singapore that resulted in three concept master plan reports (i) Perspective plan for the Capital region covering an area of about 8,353 sq km (ii) Capital city master plan covering an area of 217 sq km (iii) Seed capital area within the Capital City of about 16.94 sq km. These reports can be accessed on the website of APCRDA i.e., www.crda.ap.gov.in. A brief of the Landuse masterplan is provided in Appendix 2.
2. Land Procurement: Land pooling scheme of about 32,000 acres has been completed.
3. Detailed Master Planning and Land Pooling Layout:
 - (a) M/s Surbana International Consultant has been engaged for preparation of detailed master plan to enable CRDA for notification of master plan and detailed land use & development plan for 217 sq.km of Amaravati capital city.
 - (b) Layout planning for completion of Land Pooling Scheme in order to give returnable plots of about 17,000 acres net (about 7500 ac residential and 2500 ac commercial).
4. Environment Impact Assessment
 - (a) Environment clearance for the project is given by State level Environment Impact Assessment Authority.
 - (b) Individual downstream side projects will require separate environmental clearances.
5. Infrastructure Planning and Development:
 - (a) Being an infrastructure led development, a detailed smart infrastructure master plan is required for the city.

- (b) The consultant engaged under this bid shall be responsible for preparation of Detailed Infrastructure Master Plan consisting of individual master plans for Transport, Water, Energy, ICT, Landscape, Fire, Disaster Management etc. and also detailed designs including technical assistance in tender preparation & construction phase for phase 1 infrastructure to be implemented.
- (c) Pre-construction activities (eg. construction workers colony, construction power and water, access road etc.) have to be initiated for the implementation of phase 1 of development.
- (d) Regional infrastructure development / upgradation is also being planned concurrently like Regional Ring Road, National Highway Connectivity and Railway connectivity and Vijayawada Metro Rail System.

6. Development of Smart Government Complex

- (a) Government Complex being the most important development for Amaravati city, international Master Architects are being engaged through a concept design competition for 900 acres of Government Complex in Amaravati Capital City.

7. Engagement of various agencies/firms Multiple firms are being engaged to lead the development of the Capital region such as:

- (a) Programme management consultant to programme manage the entire development.
- (b) Strategic management consultant to develop the socio-economic master plan and urban development strategy to attract investments.
- (c) Communication and PR Consultant for Amaravati city.

8. Technical Studies

- (a) Technical Surveys and Investigation for the studies for the Capital City are being carried out including geotechnical investigation, topographic surveys etc.
- (b) Half meter contour interval data for the 421 sq.km of Kondaveeti vagu catchment area within which Amaravati city of 217 sq.km falls is available with CRDA.
- (c) Bathymetric survey data for Krishna river all along the 20 km river front of Amaravati city is available.

9. Skill Development:

- (a) Skill mapping and training programme is being carried by CRDA along with Skill Development Department for construction work force and enterprise resource development for the capital region.

3

Broad Implementation Framework of Capital City

1. The Capital City would primarily function as the administrative headquarters of the State. It is being developed as a business hub that provides services to cultivate the economic and social harmony of the region. This would imply development of zones which would facilitate the built environment to meet i) various institutional requirements for administration and governance, ii) central business districts to create vitality, economy & employment and iii) mixed use zones to serve the city for creating residential and social infrastructure. Being Greenfield development, the new city's endeavor is to provide state of the art infrastructure that would typically include its core infrastructure, utilities, governance system, and social infrastructure and development nodes to be developed by various stakeholders.
2. The key entities for the development of Capital City are:
 - (a) Government of India (GoI)
 - (b) Government of Andhra Pradesh (GoAP)
 - (c) Andhra Pradesh Capital Region Development Authority (APCRDA)
 - (d) Special Purpose Vehicles of CRDA/GoAP for the development and maintenance of utilities and infrastructure like water, power etc. within Amaravati; such vehicles will be set up in future.
 - (e) Partners for carrying out development of various nodes in Amaravati, including Seed Capital Area
3. GoI shall provide policy support and regional infrastructure development support for the development of Capital City. An initial corpus of fund has already been sanctioned by GoI for the development. The regional infrastructure shall be developed with the help of GoI/GoAP.
4. Andhra Pradesh Capital Regional Development Authority (APCRDA) will play the key role in development of Capital City (refer CRDA act at <http://www.crda.ap.gov.in/>):
 - (a) As planning and development authority, for the capital city region
 - (b) It shall prepare policy for regional growth in terms infrastructure, nodes and economic development

- (c) It shall develop regional growth centres
- (d) It shall be responsible for regional infrastructure and coherent growth among various nodes
- (e) It is preparing the development plan for all the nodes like Capital City (Amaravati), Vijayawada, Guntur, Mangalgi, Tenali etc.
- (f) It shall regulate the development in Capital Region.
- (g) It shall collect the impact fees, cess, charges as per the APCRDA Act
- (h) The entire land in Amaravati shall be continued to be owned by APCRDA
- (i) It shall raise resources through GoI, GoAP and Multilateral Agencies for regional infrastructure.
 - i. It shall facilitate infrastructure development (Support, Trunk and Utilities) Preparation of Detailed Project Development Plan and Structuring for Capital City
 - ii. Preparation of Detailed Infrastructure Plan, Detailed Design and Tendering for infrastructure development
 - iii. Preparation and implementation of sustainable and workable business plan, raising financial resources for the Company
 - iv. Preparation of plan and provision of social infrastructure, city services, operation and management
 - v. Partnerships and Agreements for association with various agencies to design, develop, operate and maintain the components of Amaravati City
 - vi. Investment Promotion and attracting business in Amaravati to create jobs and habitation in the city with the help of Department of Industries, GoAP.
 - vii. Skill Development for construction workforce and skilled resources to make talent readily available for the Industry
 - viii. Engagement of professionals and capacity building of the organization
- (j) Various institutional partners could be associated in the long term to contribute financial and technical resources for carrying out development of physical and social infrastructure of capital city.
- (k) The broad development components comprise of the following:
 - i. Regional Infrastructure: The regional infrastructure like Ring Road, expressways, High Speed Rail, Metro Rail between Vijayawada and Amaravati, Riverfront development. The other city level regional infrastructure like Mass Transit Systems, Regional Railway Networks, Bus Transport Nodes and Airport could be developed on Public Private Partnership (PPP) basis with support of Central Government and Multilateral Funding Agencies
 - ii. Trunk Infrastructure: The city level core / trunk infrastructure that would typically include site development, major roads, utility corridors/ducts, regional storm water networks, parks / gardens, other public spaces and social infrastructure can be directly developed by Government for city to quick start, stabilize and attract international investment.

- iii. Utilities: Various utilities like water system that include water and waste water treatment, supply / collection and distribution; power system that includes non-renewable and renewable power sources, receiving and distribution; Information and Communication Technology (ICT) for the city; gas; district cooling; waste management system from collection to treatment on sustainable principles could be developed on self-sustainable model. Utility Companies as specific SPVs may be formed wherein private sector participation may be invited for special areas.
- iv. Sub-cities development: Nine theme sub-cities finance city, government city, justice city, tourism city, sports city, health city, knowledge city, electronics city and media city are proposed to be developed in Amaravaati.
- v. Government Complex: The Government Complex shall be developed comprising of various iconic structures such as Legislature, High court, Secretariat, Directorates etc. The overall area would be to plan a complete ecosystem to meet the requirements of the Government.
- vi. Land pooling layouts: For the development of the 217 sq. km. Amaravati APCRDA notified an innovative Land Pooling Scheme (LPS) which led to the aggregation of 33,000 acres of privately owned lands. As part of this LPS, each of the beneficiary/ participants of LPS are to be given developed lands of area equal to 25% of the land pooled by them. Development of these LPS layouts is one of the key milestone for Amaravati city.
- vii. Strengthening of existing cities/ towns in CR: The Capital region spread over 8353 sq. km encapsulates large cities, towns and vil-lages including Vijayawada, Guntur, Tenali and Mangalgi. The APCRDA plans to align the infrastructure of these existing agglom-erates at par with Amaravati.

4

Works targeted for completion by Dec 2018: Phase 1

GoAP intends to develop the Amaravati city in a phase-wise manner with certain works prioritized to be completed in the Phase-I (Dec 2018). The list of various infrastructural activities proposed to be taken up during phase-I are enlisted below,

4.1 Seed level infrastructure works directly handled by CRDA (4000 ac area CBD)

1. Access road from NH5 to new Government Complex (Alignment is about 17 km length including one flyover of about 3km length) in order to access the Government Complex from Vijayawada city. Detailed designs for this work are completed.
2. State of the art Government complex of about 7.5 million sq ft in about 900 acres of land along with landscaping and campus development to accommodate about 20,000 employees of Government of Andhra Pradesh besides Government of India offices. Housing for about 2500 Government employees and high level Government functionaries of about 2.5 to 3 million sq ft would also be part of the Government Complex.

Note: Out of 4000 ac seed area, it is planned to develop Government Complex as a priority as the Government machinery has to move to these premises by December 2018.

4.2 City level infrastructure works directly handled by CRDA (54000 ac)

The city level infrastructure forms the crux of the project area for planning exercise for the Consultant.

1. Arterial and sub-arterial road network of about 290 km to access/connect the following locations
 - (a) Layouts covering about 17,000 acres to provide developed land of about 10,000 ac (7500 ac residential plots and 2500 ac of commercial plots) to

all the 22,000 land owners (farmers) who have given lands under land pooling. It is the obligation of CRDA to give developed plots to these land owners by December, 2018.

- (b) Institutional areas of the city where institutes such as AIIMS, National Institute of Design etc. will be located
- 2. Tier 2 infrastructure for all the 17000 ac of returnable land stated above comprising of roads, utility provision, flood management, water, waste water, solid waste, power, fire system etc.
- 3. Tier 1 (trunk) infrastructure to serve the Government complex and the returnable layouts consisting of essential items such as water, waste water, solid waste, power etc.
- 4. Flood management works needed to protect the seed and the city.

4.3 Coordination and real-time monitoring of infrastructure works essential for the 2018 plan, and handled by other Government Agencies.

- 1. NH by-pass passing through Amaravati city, land for which is already acquired and NHAI is in the process of finalizing the agency.
- 2. Power circuits passing over the city and which will be diverted by APTRANSCO/ DISCOM / or respective agency.
- 3. Other infrastructure works done by other agencies.

Part II
Detailed Infrastructure
Masterplan

5

Structure of Detailed Masterplan

Requirement: The bidder is required to prepare the detailed smart infrastructure master plan consisting of individual detailed master plan elements for a project area encompassing the Capital City, of an area of 217sq.km. The detailed smart infrastructure master plan is a collection of individual master plan element reports.

Process: The master plans are expected to be prepared after all the required data collection (primary and secondary), stake holder consultations, bench marking international best practices, detailed analysis and planning of the systems.

Structure: The broad structure of the different master plan elements expected from the successful bidder are given in Appendix 1.

Approval of the process and structure are also expected to be obtained by the bidder from the client after benchmarking the global best practices in master plan preparation. The Consultant would be expected to coordinate with the Programme Management Consultant to APCRDA for vetting of submissions, feedback and overall coordination with stakeholders.

The Consultant is also required, in the process of performing the Master planning exercise, perform Capacity building exercises for APCRDA employees to ensure proficiency of the Authority to implement and enforce the Masterplans made.

6

Detailed Masterplans

6.1 Concept plan

The concept plan would be a document that covers the vision, goals, issues, concepts, and objectives of all the individual infrastructure master plan elements, including the methodology followed for each of the sectors, considerations and best practices. The concept plan would indicate the positioning of the Infrastructure plan in relation with the other Masterplans that APCRDA has undertaken or plans to undertake. The concept planning exercise should necessarily cover the following aspects:

1. Thorough study of existing studies undertaken by APCRDA for each sectors, and identify various sources of information and gaps in information available for the planning exercise
2. Identification of key stakeholders of the project and various guidelines set by relevant authorities for each sector
3. Study of best practices for planning in various sectors, and set target objectives to set Amaravati as one of the best liveable cities in the world
4. Subsequent to inputs from APCRDA and benchmarking against international best practices, detailed methodology of the planning process must be worked out
5. The various outputs of the planning process must be laid out, and must adhere to the conditions and requirements specified in various sector specifications described in Section 2.
6. The planning process must necessarily capture the goals and objectives for each sector masterplan as well the overall masterplan. A clear vision statement, background leading to the plan, goals and the various issues must be identified for each sector after consulting various stakeholders.
7. The implementation plan, including institutional framework and policy framework required for every sector; and best practices for city-wide governance of the utility systems to be provided.
8. The various inter-dependencies between the various sector plans must be identified and measures are to be suggested for coordination during construction as well as operation.

6.2 Transport plan

6.2.1 Regional Context:

1. Assessment of transportation network and system infrastructure demand at regional level (conducting various required surveys and reviewing existing, ongoing Master Plans, projects, studies, etc. and consultations with various agencies/stakeholders) related to air, road, rail, water transport sectors. The assessment needs to address infrastructure requirements such as airport express connectivity, high speed rail connectivity, regional transit nodes, multi-modal logistics infrastructure, integrated transport infrastructure, etc., to meet the future demand and to provide connectivity for various corners of the state.

6.2.2 Capital City Context:

6.2.3 Road Network System with Geometric Design details:

1. Assess the Right of Way (RoWs) covering number of lanes, public transport corridor, bicycle lane, pedestrian walk ways, bus bays, IPT parking bays, utility service ducts, drainage, plantation strips, incidental sickbays, Street lights, etc., requirements for the proposed City road network following Road Hierarchical System in integration with regional transport network and its development with phasing
2. Assess the requirement for number of bridges, cross and catch drainage, and other hydraulic infrastructure development with phasing.

6.2.4 Public Transport System:

1. Assess the demand and recommend development of Public Transport network and infrastructure System requirements for rail, road sector (such as Ordinary Bus/BRT/LRT/Tram/Metro/etc.,) with its phasing
2. Assess the demand and recommend Pedestrian walkway and cycle track network.
3. Assess the demand and recommend development of Multi-modal Corridors, Terminals and other infrastructure with regional network system integration and phasing.
4. Feasibility studies and preparation of Plans for Urban Waterways (Canal Navigation system).
5. Assess the demand and recommend development for Feeder/Intermediate Para-Transit (IPT) network and infrastructure system with phasing.
6. Assess the demand and recommend development of Integrated Commuter Transit nodes, Regional Passenger Rail/Bus Terminals, other infrastructure etc., with phasing.
7. Assess the demand and recommend development of goods terminals such as Logistic Parks/hubs, Truck Terminals, etc., with phasing.

6.2.5 Traffic Management System:

1. Assess the demand and recommend phased development of Junction Design plans (Grade separated structures such as RoB/RuB/Flyovers/Subways/FoBs etc.,) based on traffic demand for various years with traffic signal time and other infrastructure requirement including Pedestrian Crossings, area requirements, etc.
2. Assess the demand and recommend phased development of Intelligent Transport System (ITS) Master Plan covering the equipments lists, system & physical architecture and infrastructure requirements with specifications.
3. Assess and identify the strategic locations and for parking of Emergency Vehicles.
4. Assess and identify the strategic locations for parking of Emergency Vehicles.

6.2.6 Integration of Transport Systems:

1. Recommend the plan of action for integration of various transportation network and infrastructure systems.
2. Develop location plans with geo-referenced coordinates and unique coding number systems for every transport, other physical infrastructure elements location plan.

6.2.7 Policies, Norms, guidelines and standards

1. Parking, Street Design Guidelines, NMT Policies with standards and norms based on benchmarking,
2. Financial Resource Mobilization for implementing the planned projects.
3. Preparation of Transit Oriented Development (TOD) Plans with guidelines and Phasing.
4. Preparation of Traffic Impact Assessment (TIA) and its mitigation Guidelines for the capital city.
5. Preparation of Institutional Framework Plan for implementing the planned projects.

6.3 Water plan

6.3.1 Water supply plan

1. Study the existing water supply demand and system in place for the existing villages in the Capital city.
2. Study and presentation of Standards, norms and best practices for water consumption for varied uses.

3. Site assessment and identification of project influence area, site constraints and consultation with departments on the collection of data on existing, ongoing and any future proposals.
4. Finalisation of various water demands; domestic, commercial, recreational, industrial etc. for each zone for the Year 2050.
5. To Identify the various alternatives of source in the Project area as per Demand Projections
6. Assessment of available and proposed water supply from various sources, integration requirements and provision for water sourcing.
7. The particular nature and characteristics of the project site such as topography, hydrology, groundwater, rainwater harvesting etc. Hydrological water balance, water quantity and quality for water availability for the proposed development of Source.
8. Explore self reliant zone planning approach.
9. The consultants will consider alternatives for the layout configuration for Zoning and mode of operation of the water distribution system including the locations and patterns of storage reservoirs and pumping stations.
10. The water treatment technology options shall be analysed in detailed from sustainability and O&M considerations pertaining to environmental parameters, land use requirements, quality, cost economics etc.
11. Design of Water Supply transmission system from existing source /proposed source, up to proposed Water distribution Centres, including pumping arrangement with pumping machinery and electrical equipments as required
12. To design the Water distribution Centres, decide locations of ESR / GSR(if required) for each water district for the project area, capacities of ESR/GSR, staging heights,
13. To prepare master plan for water supply distribution system for the project area, including designs of Water Supply distribution system under supply of 24x7 system.
14. In consideration of smart and sustainable planning development principles, the consultant shall endeavour to minimise the use of net fresh intake of water. It shall evaluate options for alternative water sources such as rainwater, recycle / treated water etc.
15. The costs estimates for Capital and O&M shall be carried out for the various components of the water infrastructure system.
16. Prepare conceptual master plan for water supply.
17. The application of SCADA to reduce the UFW in the O&M of water supply system to be made as part of designs.
18. Installation of bulk flow and smart meters for users.
19. City Command and Control Centre for monitoring of O&M of system

20. Phasing of the components in parallel with the development plan envisaged in Master Plan.
21. Integration of source availability with rain water collected within the city top be explored to minimize the dependency on the external sources.

6.3.2 Waste Water :

1. Study the existing sewerage system in the existing villages in the capital City as also the demand.
2. Estimation of sewerage generation, storm water entering in to the sewerage system.
3. Assessment for sewerage collection, treatment, recycle and reuse of treated water for various uses etc.
4. The study and analysis for the wastewater system (for domestic and industrial) shall be carried out involved various processes and technologies in an order and scope similar to those followed up for network treatment system.
5. Identify technologies for abstraction, conveyance, wastewater treatment, sanitation, distribution and collection; Efficient and reduced energy consumption and infrastructure management etc.
6. To suggest Sewerage Zoning for project area keeping in view the profile and the drainage aspects.
7. To design hydraulic sewerage collection system including size and slope of sewers, bedding details, considering soil strata available in project area, type, location and size of manholes, vent shafts etc. The general arrangement of pumps, pumping capacity required for areas for the installation.
8. To identify of no. & location of sewerage pumping stations, also to prepare hydraulic design, pump house, wet well / dry well details, pumping machinery, suction pipes, rising main, delivery main, manifold no. and pipes of pumps, all civil hydraulic electrical mechanical details, dg sets etc.
9. Selection of technology for STP shall be critically analysed based on the cost and land use as per O&M requirements with reference to life cycle cost.
10. To prepare detailed hydraulic and structural designs, drawings for system including sewage pump house, rising main, STP / Package Treatment Plant (PTP) including design calculations.
11. The collection and disposal of wastewater system shall be carefully analysed. The Consultants will endeavour to reduce pumping and/ or lift stations to minimum.
12. Design of transmission / pumping main from sewage pump house to out fall sewer and interception sewers if required for additional flow other than designed to carry to STP.
13. Scope includes the design of components from sewage generation, conveyance up to STP and STP to final disposal.

14. The STPs can be in phases using modules which can be expanded as per the need arise in future ie. Modular approach.
15. Submit detailed specifications for individual items including electrical and mechanical equipments.
16. To prepare detailed cost estimates for total sewage master Plan system including collection, transmission and treatment for the priority items mentioned in Phase I scope of the work.
17. Designing of recycling of treated wastewater for watering of green belts, plantation along the roads etc. including pipeline and pumping network
18. Design of smart measuring devices to be installed ie. individual plots to measure the wastewater of allotted before discharging the same into the sewer.
19. City sanitation plan such as the requirement of PUTS and the plan of implementation and O&M.
20. City Command and Control Centre for monitoring of O&M of system

6.3.3 Rain Water:

1. Study site features. Site and geographical location. Existing and proposed land use. Subsoil water level and its fluctuations, drainage facilities available.
2. To study the rainfall pattern for finalizing design parameters like rainfall intensity etc. and study of existing ponds and irrigation canals. Hydrological analysis of the catchment basin based on ultimate development of the catchment area.
3. Work out Critical intensity of rain fall to be considered for based on the size of the catchment /watershed using meteorological Data.
4. The study of the project area includes the hydrology and storm water drainage scheme will be carried out taking in consideration the hydrological characteristics of the project area, identification of storm water network, water course regime, the rainfall- intensity, river flow, storm water and river discharge, sediment analysis, ground aquifer conditions, catchment area characteristics from regional and local considerations etc.
5. To study the design parameters and requirements, on the basis of the extent, type and nature of the green space. The source of water to be used for irrigation shall preferably be treated water and appropriate water system shall be designed.
6. The Consultant shall take into consideration various planning principles and approaches such as centralisation / de-centralisation, self-reliant zoning, effectiveness, reliability, cost-effectiveness in operations and maintenance etc. for carrying out optimisation of the network to ensure reliable and quality service delivery.
7. The hydraulic analysis through simulation and modelling of the network shall be carried out on the various alternatives in order to enable the selection and the recommendation of the most feasible alternative.

8. It would include model set up, model calibration and exploratory runs flood monitoring estimation of 1:25, 1:50, 1:100, 1:500, 1:1000 years flood and flood generation of flood hydrographs from regional, city, drainage considerations; set up of rainfall-runoff & hydrodynamic modeling, model calibration and exploratory runs; sediment transport and deposition modeling (river morphology) to understand impact of proposed development.
9. Hydraulic design and structural designs of the network and other flow regulatory systems.
10. For the proposed development and in consideration of project influence area, the overall assessment and determination of planning and design parameters in consideration with the various return periods to arrive at design brief for safe development, phased nature of development for flood mitigation and management measures, drainage system and structures, protective works and measures, risk management and impact on proposed development. The site development and landscape aspect shall be looked upon along with. The Consultant shall develop flood mitigation strategies, sustainable urban drainage system strategy and proposed suitable mitigation measures in response to climate vulnerabilities for integrated site development and road networks.
11. The analysis of alternatives and recommendations for safe and sustainable development of the city the storm water as per local and regional considerations in a phased manner shall be provided by the Consultant.
12. The site development aspect, catchment characteristics, storm water drainage, rainwater harvesting, landscape, road network design, streetscape elements etc. shall be compatible.
13. Feasibility and design of design of detention ponds for temporary detention of rain water.
14. The green and blue reaches including appropriate buffer facilities for disposal of peak floods.
15. Options for conservation of runoff flux by way of construction of reservoirs to reduce the intensity of impact of flooding on Downstream side
16. The detailed designing of minor bridges and culverts will comprise of innovative models.

6.4 Power plan

1. Study the existing policy of the state and list down the fundamentals for city wide development;
2. Arrive at the integrated power supply distribution system for the city with details such as distribution network, sub stations, under ground systems etc.
3. Identify the land most suitable on the basis of infrastructure requirements like transformers, sub stations, control rooms etc.
4. Develop the strategy for engaging the execution agency for city.

5. Develop strategy for various cost and implementation options including options of different innovative technologies.
6. To develop strategy and tender document for engaging operation and maintenance operators on long term basis for running of plants; such agency to handle all billing, metering etc requirement for client (if need be).
7. Recommend the entities at the macro level (state and nodal agencies) and at the meso level (financial institutions, OEMs, investors, project developers) along with the predefined roles and responsibilities for successfully execution.
8. Develop an institutional setup that can be used for discussion point with various institutions proposed for implementation of strategy.
9. Based on the discussion with the various institutions, revise and finalise the implementation.
10. Prepare the detailed phasing, financing and institutional framework.

6.5 Solid waste management plan

1. Study the existing SW practices in the villages of Capital City and surrounding Cities.
2. The existing facilities available for Solid waste Managements in surrounding and its availability for Capital city.
3. Assessment of the solid waste management techniques, types of solid waste, collection, storage, transportation and treatment
4. Estimation of the different types of solid waste including e-waste, hazardous waste etc likely to be generated
5. Estimation and appropriate practices for the collection and transport of the street and floating waste.
6. Waste characterization
7. Assessment of the required management practices, best suited disposal options, technology and handling options, recycling and resource recovery, waste to energy options.
8. Options to minimize waste that is led to landfill, thereby minimizing landfill site requirements.
9. The waste reduction techniques shall be detailed by the Consultant. It shall make use of the 3R approach i.e. Reduce, Recycle, Reuse.
10. Based on the SWM assessment and characterization the Consultant shall identify the potential SWM options for storage, collection, transport and disposal for all categories of waste.
11. Identification of collection zones and sub-zones indicating Transit points.
12. Propose strategy and measures to segregate the waste at source.

13. The waste handling strategies shall be on sustainable principles.
14. Prepare Plan showing collection route duly identification of Scientific Landfill. The Design of Scientific Landfill to be decided as per site conditions.
15. Details of final disposal system (Self Sustaining System) including reuse and disposal of Construction & Demolition waste
16. The Consultant shall recommend the SWM plan and technology with the objective of maintaining high level of cleanliness, hygiene, scientific and sustainable treatment of waste considering waste as resource there by maximising resource recovery, safe disposal of residual waste.
17. Provide the options analysis for ideal and cost effective treatment technologies. It shall identify evaluate various technologies like waste to Energy /Biometthanization etc./gasification and composting/ incineration. The advantages, issues and constraints shall be highlighted.
18. The usage of ICT in solid waste systems management to be presented. The provisions for ICT integration shall be provided.
19. The Phasing of the plan, financing and institutional framework to be detailed.

6.6 Gas Masterplan

1. Demand forecast: This report sets a general overview of the methodology which Gas plan has used to forecast gas demand and supply in city. The model on demand and supply of gas for up to 15 years ahead and across several possible scenarios to be developed. Forecasting gas demand is an important activity at planning level as it feeds directly into the assessment of the natural gas infrastructure. Accurate forecasting is also a pre-requisite to determine future investment requirements. Gas demand forecasts are also relevant for providing insights on network developments, the evolution of tariffs and expectations of the market. The demand forecasts should include following components:
 2. Total annual gas demand forecast for the average year, across the different economic segments and up to 15 years ahead;
 3. Peak-day gas demand forecast for the average year, which is the day with the highest gas demand requirement in a given year;
 4. Peak-day gas demand forecast for the peak-year.

There are many different and variable factors that can affect gas demand forecasts (weather conditions, economic growth, renewable energy sources, etc.). The forecasts produced should reflect best estimates regarding the evolution of such factors.
5. Supply Strategy: Source: The plan in all details shall specify the supply side strategy for the city distribution networks by earmarking sources either on centralised or decentralised sources. In addition to modelling what future gas demand might look like for the different economic segments, a number of supply scenarios are also to be considered. The aim is to capture the main

uncertainties related to gas supply from the principal source or secondary sources in terms of storage in case of imports and other supply sources.

6. Distribution system: The plan shall contain exhaustive reports containing provisions for distribution networks in the city. The distribution scope shall cover the main 4 types of piping systems namely:
 7. Feeder pipes- From the feeder mains to the supply mains.
 8. Distribution lines- From feeder main to primarily residential, commercial and smaller industrial consumers. They may also provide for certain smaller industrial units.
 9. Service lines- From the distribution mains in the street to the consumer's meter. Service lines shall be the property and responsibility of the utility.
10. Fuel lines- For usage as fuel for vehicles.

The distribution system shall also entail an exhaustive detailed control and command centre for effective monitoring and smooth function of the city wide gas distribution network. The soft and hard components that need to be included in such an apparatus needs to be elaborated in the plan.
11. Energy management measures: Energy management measures shall be enlisted for having comprehensive planning by linking all energy sources and potential alternatives. They can be broadly categories as follows:
 - (a) Measure/benchmark future energy consumption. The report shall consist of benchmarking similar project cases from amongst the best practices available globally. The benchmarking study shall conclusively highlight the future gap in demand and supply, after suggesting appropriate projections.
 - (b) Develop an energy consumption profile. An energy consumption profile to demonstrate how energy use is distributed among building systems (e.g., heating, water, lighting, office equipment, refrigeration, and so on) as well as identify the energy source for each system (natural gas, fuel oil, district cooling, electricity). Metering and related hardware arrangements along with cost effective alternatives for avoiding operation losses shall be suggested comprehensively in the plan.
12. Non-conventional energy sources: Incorporate and suggest use of alternative renewable sources on the city scale. The study of such options shall be conducted on a preliminary basis but the feasibility may be proposed at the planning stage itself. Such proposals shall also include the SWOT analysis as a vital component to the plan.

6.7 Smart city integrated infrastructure plan

The broad scope of the work is to create and establish excellent Information & Communication technology infrastructure for the city, and integrate the Information and communication technology in design, construction, operation and maintenance of major infrastructure services and facilities. The plan for ICT infrastructure in the city must cover high-speed optic-fibre connections for various kinds of residential

and commercial uses, and the network and infrastructure required for the same. Plan for the smart city should include majorly three parts, first, Introduction of new initiatives to improve public services delivery, second, application of technologies for integrated and efficient management of city; and third, governance system to achieve the intended objectives.

1. Identification of specific areas in infrastructure services where ICT & IEC (Information Education and Communication programs) may integrate in operation and management of that area. For a smart city, some of the issues that need to be addressed are as follows, but not limited to;
 - (a) Education Facility Management
 - (b) Civic amenities
 - (c) Public Utilities
 - (d) Health Management
 - (e) Energy Management
 - (f) Transport System Management
 - (g) Traffic System Management
 - (h) Land and Housing Management
 - (i) Environment Management (including public paths, open space)
 - (j) Disaster Management
 - (k) Innovation and Entrepreneurship Hub
 - (l) ICT Platform for public Services
 - (m) ICT management of public utilities (Energy, water, traffic, street lights, etc.)
 - (n) GIS Mapping of all Public services.
 - (o) Safety & Surveillance–Crisis management centers, Video Surveillance etc
 - (p) E-Governance–Municipal E-Governance, Smart City Dashboard, Network Operation Center etc.,
 - (q) Likely MIS for the City Management Authorities (CRDA, Public Health Dept. , ULBs and other Parastatal Dept.) [Dashboard (both Mobile and Desktop) and Weekly / Monthly/ Quarterly / Yearly Reports]
The areas of ICT intervention in each of the sector will be defined here.
2. Identification of ICT network for the city including optic fibres, central and regional switching centres
3. Developing the IT Strategy and Roadmap.
4. System Integration-It should provide details of system architecture, Technical Feasibility of ICT Integration.
5. Study and assessment of modern, robust and resilient and adaptable technologies like fibre optics, wireless sensor networks, low power sensors based on micro electro mechanical systems (MEMS), computer vision and energy harvesting for creation of smart infrastructure facilities in the city.

6. Create platform for providing data to enable smarter and proactive asset decisions for construction of new capital city.
7. Mapping of ICT services and their integration with all infrastructure services and facilities.
8. Create a Smart grid to develop citizen insight and share rapidly in the capital city.
9. Develop a concept of City Command and Control Centre for Smart City Operations.
10. Define Business architecture & technology—defining the strategy for service delivery, by understanding the functional processes & the business environment.
11. Develop a Smart City Strategy at a policy level which allows for the creation of ‘innovation zones’ that free up areas from the constraints of regulation in selected domains and for limited duration in order to act as an incubator to test solutions. To scale up and make broadly available the lessons learned.
12. Implement collaborative, integrated smart city planning (city planning forums) and operation, that maximise city-wide data to deliver more agile processes; employing modern multi-criteria simulation and visualisation tools.
13. Phasing and Implementation strategy with detailed cost estimates for ICT services. Detail out the investment requirement ,phasing strategy, resource requirements, timelines and the implementation plan of the Program; Sustainability Model-solution life-cycle management, scalability, benchmarking, and post-implementation monitoring mechanisms, service monetization etc.,

The Plan for Smart City should integrate the above sectors / components and present a document for addressing them in a holistic manner.

6.8 District cooling plan

1. Study and presentation of Standards, norms and best practices for District cooling systems for varied projects around the world.
2. Site feasibility assessment and identification of project influence area, site constraints and consultation with the departments on the collection of data on ongoing and any future proposals.
3. Assessment of various demands; domestic, commercial, recreational, industrial etc. for each theme city for the Horizon Year 2050.
4. Chillers: The Configuration of the chillers planned to work on all times based on the load demand required.
5. Appropriate pumping system details
6. Cooling Towers details
7. Consider alternatives for the layout configuration for Zoning and mode of operation of the water distribution system including the locations and patterns of storage reservoirs and pumping stations.

8. The water treatment technology options shall be analysed in detailed from sustainability and O&M considerations pertaining to environmental parameters, land use requirements, quality, cost economics etc.
9. Design of Water Supply transportation system from existing source /proposed source, up to proposed Water distribution Centres, including pumping arrangement with pumping machinery and electrical equipments as required.
10. Air Handling Units of Various capacities at Building level including infrastructure such as modulating damper with Actuator, duct pressure sensors etc.
11. DOAU – Dedicated Outdoor Air Units
12. Chilled Water Piping System. The Valves and fittings etc. to be with specifications and rating.
13. Insulation system.
14. In consideration of smart and sustainable planning development principles, minimise the use of net fresh intake of water. Evaluate options for alternative water sources such as rainwater, recycle / treated water etc.
15. LCA - Life cycle assessment considerations to be taken. The general global warming potential to be brought down with the proposed system.
16. The costs estimates for Capital and O&M shall be carried out for the various components of the above said system.
17. Phasing of the components in parallel with the development plan envisaged in Master Plan.
18. Integration of source availability with rain water collected within the city top be explored to minimize the dependency on the external sources.

6.9 Safety and security plan

The Broad scope of work is to prepare Safety and security policies for a city

1. Identifying the Safety and Security parameters for a new city while in planning, designing and Construction.
2. Assess the safety and security measures during construction of Buildings in capital city and also identify the impact of construction activity in its surrounding areas.
3. Need assessment for safety and security measures for important public building and city as a whole.
4. The following are the major areas where safety and security measures need to be studied and produce a mitigation measures for the same.
 - (a) Public Buildings
 - (b) Utility Infrastructure
 - (c) Circulations areas and Road safety

- (d) Vehicular Movement
 - (e) Parking areas
 - (f) Pedestrian safety
 - (g) Fire safety
 - (h) Safety from Threatening and allied criminal activities.
 - (i) Ambulance Service
5. Identify the Strategic locations for Safety and Security Infrastructure in the city.
 6. Broad assessment of surveillance and cyber infrastructure (Hardware, Software, ICT elements) like Physical Access Control System (PACS), Intrusion Detection System (IDS), Video Assessment and Surveillance System, Security Intercommunications.
 7. Concept for Security Management based on various identified contexts.
 8. Develop a well established framework to manage a safety and security within the city.
 9. Identify the key safety and security related infrastructure required for capital city and Prepare a strategic location plan for Safety and Security related infrastructure required in the city and their phasing with cost estimates.
 10. Develop measures for road safety, Disaster Mitigation, Women and child safety.
 11. Develop a policy document to induce safety and security measure in development of Amaravati Capital City.

6.10 Disaster management plan

1. Identify various hazard elements associated with the City's development, habitat, infrastructure & services and analyze the vulnerability associated
2. The scientific data & information shall be gathered from various sources and use of different codes, regulation, guidelines need to be identified.
3. Plan for unified system for Emergency Management
4. Concept for Emergency Response System for preparedness, handling and management of various emergency operations in a proactive and effective manner.
5. The preparation of Risk Management Plan, Emergency Management and Response Plan, Standard Operating Procedure and Checklists, Monitoring and evaluation shall be prepared commensurate with the development.
6. It should lay down the framework for preparing a detailed disaster management plan for the specific areas.
7. The unified system for Emergency Preparedness and Response System shall prescribe roles and responsibilities of the various stakeholders.

8. The institutional framework requirements, technology platform and ICT integration etc. management of various emergency operations in a proactive and effective manner shall be detailed.
9. Physical and spatial planning considerations in disaster mitigation with reference to micro zoning.

APCRDA

Part III
**Detailed Project Reports and
Detailed Designs**

7

List of projects

1. Development of arterial and sub-arterial integrated road infrastructure (around 290km with 50m RoW) & Development of east-west and north-south expressways including interchanges / grade separators (total of 41 km with 60m RoW)
2. Development of smart power transmission and distribution systems for Phase-I
3. Development of Water supply plan including source, Water treatment plant(s), storage reservoirs, distribution network, automated control and command center and so on, for Phase I.
4. Development of Waste water management plan including collection network, Sewerage treatment plant(s), pumping stations, disposal, reuse network, automated control and command center and so on, for Phase I.
5. Development of Solid Waste Management Infrastructure including automated control and command center, required for Phase I (including seed capital area)
6. Development of storm water disposal system for Phase I.
7. Development of IT infrastructure and Central Command & Control Centers, Surveillance systems, Intelligent Traffic and Transport System, Fiber Optic for all infrastructure and services for Phase I
8. Development of tier-II infrastructure for 900 acres of Government Complex campus
9. Development of tier-II infrastructure for 17000 acres of returnable lands under Land pooling scheme

8

General Scope of services

The below are the activities that need to be performed for the 9 projects as mentioned in Specific Scope of services. Wherever specific activities are require for any activity, they have been mentioned in the Specific scope of services.

1. Conduct detailed geo-technical investigations
2. Prepare feasibility report
3. Prepare detailed designs and drawings (GAD and GFC)
4. Prepare SOR and seek statutory approvals
5. Prepare cost estimates as per SOR (Schedule of rates)
6. Assist in technical scrutiny and approval of DPR
7. Prepare standard bid documents
8. Assist in procurement
 - (a) The tender documentation shall prepare comprehensive guidelines / requirements / conditions related to Environment, Health and Safety (EHS), Quality Assurance, Statutory Obligations / Regulations to be met for safety, labor etc. taking into consideration the Applicable Laws, Local Conditions etc. and shall be as per best industry practices.
 - (b) Prepare the following necessary documentations (non-exhaustive) for tender process, :
 - i. Scope of Works
 - ii. Technical Standards and Specifications
 - iii. Tender Drawings
 - iv. Detailed Bill of Quantities
9. Revision of designs and drawings during execution
10. Prepare DPR in conformity with the requirements of the international multi-lateral/bilateral funding

Note:

1. All DPRs and detailed designs to be conform with the strategy prescribed in the Masterplan

2. All drawings, plans and reports will be vetted by the Programme Management Consultant to APCRDA, who will provide feedback and inputs on the same.
3. All the detailed designs & DPRs of any component shall be done with the purpose of making that system full-functional and operable
4. The list of items provided in Part-II are indicative in nature (and not exhaustive) and the bidder is expected to fill in the gaps and improvise the list as per industry best practices
5. Draft masterplan is as provided in Appendix 2.

APCRDA

9

Specific Scope of services

9.1 Development of arterial and sub-arterial integrated road infrastructure (around 290km with 50m RoW) & Development of east-west and north-south expressways including interchanges / grade separators (total of 41 km with 60m RoW)

9.1.1 Feasibility study

1. Conduct Geo-technical investigations
2. Fix benchmarks and geo-reference corridors
3. Follow master plan principles
4. Fix road level as per the specifications considering MFL
5. Prepare pre-feasibility report covering road alignment and its infrastructure such as location of bus stops, parking bays, cycle tracks, pedestrian bays, sick-bays, street lighting, street scaping, dustbins, signal lights and poles, other street furniture, IPT, Goods, Emergency parking locations, junctions, etc.,
6. Financing and tariff modeling for utility services under Utility corridors

9.1.2 Standards & design:

1. Adopt IRC codes, BIS standards, MORTH specifications or applicable British/American standards
2. Design road geometry in compliance with relevant standards

9.1.3 Detailed Design

Prepare detailed designs & drawings covering structural designs & drawings for the following elements,

Regional Level:

1. RoW with Carriageway and other detailed infrastructure covering geometrical elements for regional road network around capital city (including improvements for existing, new and missing links for integration).
2. Passenger & Freight transport network connectivity, terminal, other infrastructure, multimodal hubs, etc., through rail, water, air sectors for around capital city (including improvements for existing, new and missing links for integration)

Capital City Level (290 kms – 50mt (RoW) and 41 kms – 60mt(RoW)):

1. RoW with Carriageway and other detailed infrastructure covering Geometrical elements
2. Segregated common utility tunnel capable of handling next 100 year requirements (for water supply, waste water drain, storm water drain, fire hydrant supply, irrigation, gas supply lines, power supply lines, cooling, ICT, etc.)
3. Special provisions for elevated, underground, underpass, and high embankment structure roads and other infrastructure
4. Pavement designs including medians, with materials and specifications
5. NMT (cycle/electric) tracks with parking infrastructure and its connectivity to public transport stations, etc.
6. Pedestrian walkways and its connectivity to public transport stations, etc.
7. Plantation strips, types of plants and irrigation system
8. Smart street lighting and ITS Phase – I equipment (along with locations) and integration with ICT plan
9. Street-scaping with street furniture (including bins)
10. Bus/BRTS bays, sick bays with area requirements
11. On and Off-street parking for IPT, Goods Vehicles, emergency, etc.,
12. Public Transport Network system (BRT/MRT, etc.,) corridors integrated with IPT/feeder network (with requisite infrastructures) and integrated stations
13. Signage on road network, other locations with related infrastructure in 2 or 3 languages as per IRC
14. Pavement markings on road network, other locations with related infrastructure as per IRC
15. Junctions with signal design and cycle phasing, interchanges and grade separators details including area requirements, zebra crossings, turning radius, speed limits, Transition kerb, islands with respect to phasing
16. Cross Masonry /Cross Drainage works (CM/CD) and other hydraulic structures if any

17. ROBs/ RUBs, bridges & culverts, flyovers, clover leaf, other structures, infrastructure, etc.,
18. Multi-model network, bus and rail transport nodes, interchange hubs, other infrastructure requirements including facilities and amenities

9.1.4 Concept design, schematic design and detailed architectural designs

1. Prepare at least 3 architectural concept designs for all important structures/ items such as grade separators, interchanges, ROBs/RUBs, Flyovers, bridges & culverts, transition kerbs at intersection, FOBs, utility corridors, street furniture, streetscaping, landscaping, public transport stations, etc.
2. Prepare merits de-merits for each concept design and obtain approvals for the most aesthetic design and thereafter prepare schematic and detailed designs
3. Prepare architectural drawings, structural designs and drawings for grade separators, interchanges, ROBs/RUBs, Flyovers, bridges & culverts, FOBs, utility corridors etc.

9.1.5 Assess and prepare plan for:

1. Shifting existing utilities & services
2. Compliance with concept plans and detailed designs prepared by Architects of Government Complex

9.1.6 Prepare GAD and obtain approvals

1. Plot all site plans, L-section and C-section. Scale to be 1:1000 for longitudinal axis (along the road), 1:100 for lateral axis (across the road) and 1:50 for vertical axis (height above or below the road level)
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

9.1.7 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value Engineering
4. Detailed Bill of Quantities (BoQ)
5. Rate Analysis
6. Detailed Capital Cost
7. O&M cost estimates

8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.1.8 Conduct SIA, EIA and EMP

9.1.9 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed transportation system
3. Make presentations on any scope of work as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/
relevant digital formats
5. Provide geo-referenced locations (coordinates) of street furniture and all in-
frastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure
assets

9.1.10 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.1.11 Support during execution

1. Revise plans and drawings

9.1.12 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

1. Arterial roads
2. Cycle tracks
3. Carriageway
4. Utility tunnel capable
5. Underground storm water drainage within the row (underground)
6. Pavement and medians
7. Space for solid waste bins
8. Pedestrian walkways
9. Plantation strips and streetscaping

10. Smart street lighting
11. Bus bays
12. Public transport stations
13. Surveillance infrastructure
14. Signage and pavement markings
15. Junctions, interchanges and grade separators
16. Robs/ rubs, bridges & culverts, flyovers,
17. Multi-model interchange hubs
18. Transition kerbs at intersection

9.2 Development of smart power transmission and distribution systems for Phase-I

9.2.1 Feasibility study

1. Conduct geo-technical investigations
2. Assess load requirement
3. Assess source availability
4. Locate transmission and distribution sub-stations (with capacity of PTRs)
5. Provide ROW in utility ducts
6. Locate DTRs

9.2.2 Standards & design:

1. Adopt IE, BIS and relevant standards for all the designs
2. State of the art energy efficiency/ sustainability norms (minimum T&D loss)

9.2.3 Detailed Design

1. Prepare detailed designs & drawings covering structural designs & drawings for the following elements,
2. Indoor substations (400/220 kV, 220/132 kV, 132/ 33 kV and 33/11 kV), power transformer of varied capacities and modern office space
3. Concealed Distribution transformers with CT meters as per load
4. City wide underground smart transmission & distribution network of various capacities and sizes along with accessories
5. City wide underground back-up cable network

6. SCADA system and central command center capable of monitoring up to consumer e-meters
7. 11 kV Ring main system
8. Smart street lighting network with central control room
9. Net metering facility across the city
10. Provision for trams, MRT/LRT/BRT, district cooling systems at various locations in city
11. Number of HT points required (33kV and 11kV potential) along with materials including data transfer system
12. Identification and design of LT panels (distribution box) in the utility corridors
13. Use of non-conventional energy wherever feasible
14. Smart meters system with facility to send real-time reports

9.2.4 Assess and prepare plan for:

1. Upgrading the existing supply system in the Capital city villages and integrating with the new system (29 Nos.)
2. Dismantling the existing agricultural power network consisting of 4,500 connections and 1,500 dtrs

9.2.5 Prepare GAD and obtain approvals

1. Prepare plans - 1:100 for LT, 1:500 for 11kV, 1:1000 for 33 kV, and 1:2000 for 132 kV and above
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

9.2.6 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project

9. Good for construction GAD
10. Project implementation schedule

9.2.7 Conduct SIA if required

9.2.8 General

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Make presentations on any scope of work and obtain approvals as and when required
3. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/ relevant digital formats
4. Provide geo-referenced locations (coordinates) of all infrastructure assets with appropriate identification codes
5. Prepare an appropriate coding system (nomenclature) for the infrastructure assets

9.2.9 Tender Documentations

Prepare contracting strategy including packaging and obtain approval

9.2.10 Support during execution

1. Revise plans and drawings

9.2.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

1. Power cables in utility corridors
2. Indoor sub-stations
3. Concealed distribution box
4. Concealed DTR box

9.3 Development of Water supply plan including source, water treatment plant(s), storage reservoirs, trunk distribution network, automated control and command center and so on, for Phase I.

9.3.1 Feasibility study

1. Conduct geo-technical investigations

2. Assess demand requirement for residential, industrial, fire, and urban irrigation
3. Locate source, WTP, trunk distribution centers, water re-use lines (if necessary) and storage reservoirs
4. Locate pumping stations with capacities across the city
5. Provide ROW in utility ducts

9.3.2 Standards & design:

1. CPHEEO manual, BIS standards or applicable British/ American standards
2. Limit unaccounted water usage to less than 5
3. 24x7 pressurized potable water supply system
4. System should be durable and easy to implement, operate and maintain

9.3.3 Detailed Design

Prepare detailed designs & drawings covering structural designs & drawings for the following elements,

1. Intake structure at source
2. Hydraulic and structural designs of WTP, transmission mains, city-wide water transmission & distribution system including pumps, appurtenances, storages (where necessary) etc.
3. Ensure 24x7 potable water supply (with back-up arrangements) without provision of sumps at the consumer-end for residential, commercial and industrial
4. Water supply system for urban plantations, parks, landscaping and streetscaping (urban irrigation)
5. Water supply system for firefighting including fire hydrants
6. All required pumping systems
7. SCADA system and central command and control center monitoring supply up to consumer end
8. Data connectivity to smart water meters located at the transmission, distribution and consumer end
9. Leakage detection and UFW reduction system
10. Selection of appropriate materials/ equipment for entire system

9.3.4 Assess and prepare plan for:

1. Upgrading and integrating the existing village level water supply system with the new system

9.3.5 Prepare GAD and obtain approvals

1. Prepare plans - 1:1000 for transmission and distribution and 1:100 for WTP
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings (1:25) for all the components

9.3.6 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.3.7 Conduct SIA, EIA and EMP

9.3.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed system
3. Make presentations on any scope of work and obtain approvals as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/ relevant digital formats
5. Provide geo-referenced locations (coordinates) of all infrastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure assets

9.3.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.3.10 Support during execution

1. Revise plans and drawings

9.3.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

1. Intake structure
2. Water lines in utility corridors
3. WTP
4. Control center

9.4 Development of Waste water management system including trunk network, sewerage treatment plant(s), pumping stations, disposal, reuse network, automated control and command center and so on, for Phase I.

9.4.1 Feasibility study

1. Demand assessment of sewage / waste water generated from residential, commercial & industrial sectors
2. Assessment of quality of sewerage
3. Formation of sewerage zones
4. Sewerage networks (lateral, branch & trunk network)
5. Intermittent pumping stations
6. Location of sewerage treatment plants (modular and scalable treatment system)
7. Network for reuse of treated waste water for irrigation/other purposes
8. Effluent disposal system
9. Treatment and disposal of industrial waste
10. City sanitation plan
11. Provision of ROW in utility ducts / separate networks

9.4.2 Standards & design:

1. CPHEEO manual, BIS standards or applicable British/ American standards
2. System should be durable and easy to implement, operate and maintain
3. AP PCB guidelines

9.4.3 Detailed Design

Prepare detailed designs & drawings covering structural designs & drawings for the following elements,

1. Hydraulic design of sewerage collection system including size and slope of sewers; size, type & location of manholes, vent shafts
2. Hydraulic and structural designs of pump house, STP, transmission mains, pumps, appurtenances, wet-wells, disposal of treated waste water, etc.
3. Detailed design specifications for individual items including mechanical and electrical equipment
4. Design of recycling treated waste water for watering of green belts, plants along roads
5. SCADA system and central command and control center for entire sewerage system
6. Data connectivity to smart sewerage leakage & blockage detection systems, and other sensors required
7. Selection of appropriate materials/ equipment for entire system

9.4.4 Assess and prepare plan for:

1. Upgrading and integrating the existing village level septage systems with the new system

9.4.5 Prepare GAD and obtain approvals

1. Prepare plans - 1:1000 for collection network and transmission network, and 1:25 for STP
2. Prepare good for construction drawings for all the components of the system such as index plan, key plan & general layout, zonal plans, L sections, layout of treatment plant & pumping system (if any)
3. Prepare structural designs and drawings (1:25) for all the structural components

9.4.6 Prepare DPR which will include the following (list not exhaustive)

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.4.7 Conduct SIA, EIA and EMP

9.4.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed system
3. Make presentations on any scope of work and obtain approvals as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/ relevant digital formats
5. Provide geo-referenced locations (coordinates) of all infrastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure assets

9.4.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.4.10 Support during execution

1. Revise plans and drawings

9.4.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

1. Sewer lines in utility corridors
2. STP
3. Control center

9.5 Development of Solid Waste Management Infrastructure including collection, treatment, disposal, automated control and command center, required for Phase I (including seed capital area)

9.5.1 Feasibility study

1. Best practices wherever applicable and available
2. Study the existing solid waste practices in the villages of capital city and surrounding cities
3. Estimation of different types of solid waste including e-waste, hazardous waste, etc. likely to be generation
4. Assessment of solid waste management techniques, types of solid waste, collection, transportation and treatment
5. Feasibility of various efficient collection systems, segregation at source / collection point
6. Feasibility of Reduce, reuse and recycling of waste
7. Examine the possibility of community participation in the promotion of best practices
8. Various options of treatment process
9. Usage of Smart systems in solid waste management
10. Assessment of various solid waste treatment processes and technologies
11. Identification of collection zones and sub-zones indicating collection points
12. Location of transfer systems
13. Assess solid waste generation
14. Street and floating waste
15. Final disposal systems

16. Provide ROW in utility ducts and studies for automatic collection, treatment and disposal
17. PPP partners for total or components of system

9.5.2 Standards & design:

1. Adopt Supreme Court orders of Solid waste management, 2004; CPHEEO manual, PCB norms
2. BIS standards or applicable British/ American standards
3. State of the art sustainability norms

9.5.3 Detailed Design

1. Prepare detailed designs & drawings covering structural designs & drawings for the following elements,
2. Design scientific solid waste collection system for entire area
3. Estimation of the number of collectors bins / chutes required
4. Develop mechanism for door-to-door collection till end point delivery
5. Design of primary transportation and nodal collection points
6. Number and design of transit and transfer stations
7. Design of secondary transportation
8. Segregation and recycling of collected waste into items such as paper, plastic, glass, metal, organic waste and so on with systems/machinery for recycling
9. Treatment process - composting / gasification / waste to energy / incineration
10. Disposal of hazardous / industrial waste
11. Smart operational systems for management of Solid waste
12. Central command center capable of monitoring and controlling entire system including items such as vehicular movement, waste received, waste recycled by machines, quantity incinerated, land fill and so on.

9.5.4 Assess and prepare plan for:

1. Upgradation of the existing solid waste management systems in villages (29) and integration with existing treatment processes in surrounding cities

9.5.5 Prepare GAD and obtain approvals

1. Plans for collection routes
2. Plans for collection zones and sub-zones indicating transit points
3. Drawings for landfill
4. Prepare good for construction drawings for all the components
5. Prepare structural designs and drawings for all the components

9.5.6 Prepare DPR which will include the following (list not exhaustive)

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.5.7 Conduct SIA, EIA and EMP

9.5.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Make presentations on any scope of work and obtain approvals as and when required
3. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/ relevant digital formats
4. Provide geo-referenced locations (coordinates) of all infrastructure assets with appropriate identification codes
5. Prepare an appropriate coding system (nomenclature) for the infrastructure assets

9.5.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.5.10 Support during execution

1. Revise plans and drawings

9.5.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

1. Land fill, treatment process
2. Automatic waste collection system
3. Bins
4. Transfer station
5. Segregation plant

9.6 Development of storm water disposal system for Phase I

9.6.1 Feasibility study

1. Conduct geographical investigations, contours and hydrology of the catchments
2. Identify location of possible disturbances, erodible soils, steep slopes, forest conservation areas, stream valley buffers
3. Study of subsoil water level, existing and proposed land use
4. Estimation of critical intensity of rainfall and runoff
5. Identification of flood prone areas
6. Identification of storm water drainage basins
7. Conserving storm water for water supply and irrigation purposes
8. Conserving storm water for recreation usages
9. Rainwater harvesting systems

9.6.2 Standards & design:

1. CPHEEO manual, BIS standards or applicable British/ American standards
2. System should be durable and easy to implement, operate and maintain

9.6.3 Detailed Design

Prepare detailed designs & drawings covering structural designs & drawings for the following elements,

1. Storm water network (lateral, branches and outfall drains)
2. Hydraulic and structural designs for detention ponds
3. Conservation systems
4. Storage of water supply
5. Blue and green canal systems
6. Mechanical systems for flood mitigation
7. Regulatory systems linking to canal irrigation
8. Treatment systems
9. Pumping systems
10. Minor bridges and culverts for CD works
11. SCADA system and central command and control center for automatic flood monitoring and control
12. Automatic rain gauges
13. Data connectivity to flood flow detectors and other equipment
14. Selection of appropriate materials/ equipment for entire system
15. Modeling and simulation of storm water system under various scenarios
16. Underground collection tunnels

9.6.4 Assess and prepare plan for:

1. Integrating with existing flow regime in Kondaveeti vagu

9.6.5 Prepare GAD and obtain approvals

1. Prepare plans - 1:1000 for storm water networks and 1:100 for Storm water Treatment System
2. Plan of SWD system, alignment and position of storm water drainage along the road giving the details of size of drains, invert levels, HFL and road edge level
3. Plan and Sectional details of drains, channels, etc. including Longitudinal sections
4. Layout plan to the scale 1:2000 with proposed formation level, high flood level (HFL), invert level (IL), discharge, velocity and freeboard data in a tabular form

5. Prepare good for construction drawings for all the components, minor bridges, culverts and regulatory systems
6. Prepare structural designs and drawings (1:25) for all the components including CD works

9.6.6 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.6.7 Conduct SIA, EIA and EMP

9.6.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed system
3. Make presentations on any scope of work and obtain approvals as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/ relevant digital formats
5. Provide geo-referenced locations (coordinates) of all infrastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure assets

9.6.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.6.10 Support during execution

1. Revise plans and drawings

9.6.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

1. Blue and green canal
2. Rainwater harvesting
3. Storm water treatment plant
4. Control center
5. Underground collection tunnel

9.7 Development of IT infrastructure and Central Command & Control Centers, Surveillance systems, Intelligent Traffic and Transport System, Fiber Optic Network for all infrastructure and services for Phase I

9.7.1 Feasibility study

The feasibility study for the development of IT infrastructure and Central Command and Control Centers for all infrastructure and services for Amaravati Capital city.

1. The study should include following aspects but not limited to:
 - (a) Education Facility Management
 - (b) Civic amenities
 - (c) Public Utilities
 - (d) Health Management
 - (e) Energy Management
 - (f) Transport Management
 - (g) Traffic Management
 - (h) Land and Housing Management
 - (i) Environment Management (including public paths, open space)
 - (j) Disaster Management
 - (k) Innovation and Entrepreneurship Hub
 - (l) ICT Platform for public Services
 - (m) ICT management of public utilities (Energy, water, traffic, street lights, etc.)
 - (n) GIS Mapping of all Public services.
 - (o) Safety & Surveillance–Crisis management centers, Video Surveillance etc.

- (p) E-Governance–Municipal E-Governance, Smart City Dashboard, Network Operation Center etc.
- 2. Prepare prefeasibility report:
- 3. Bandwidth assessment for various sectors, including residential, commercial, industry and so on.
- 4. Provision of RoW in Utility corridor
- 5. Optic fibre network system and comparison of various systems of operation (PPP, etc)

9.7.2 Standards & design:

- 1. Refer MoUD Smart city Guidelines
- 2. Standard Data Base formats for all infrastructure services.
- 3. Standards for design and space requirements for CCTV installation and Central Command & Control Centers.
- 4. Design Standards for Monitoring workstations, Handled devices, Video calls, LED Displays.
 - (a) BIS and other British/American references
 - (b) Geo referencing to incorporated throughout the platform

9.7.3 Detailed Design

Prepare detailed designs & drawings of equipment & software with specifications, for the smart management of following elements,

- 1. Education Facility Management
- 2. Civic amenities
- 3. Public Utilities
- 4. Gas and power Management
- 5. Intelligent Transport System
- 6. Asset Management
- 7. Environment Management (including public paths, open space)
- 8. Disaster Management
- 9. Safety & Surveillance–Crisis management centers, Video Surveillance etc.
- 10. E-Governance
- 11. Citizen charter services

Detailed designs also have to be furnished for the following:

1. Software and system architecture for integration of various elements
2. City-wide network plans
3. ICT infrastructure plan including locations
4. Command and control center

9.7.4 Assess and prepare plan for:

1. Plan for existing village level IT infrastructure with the new system and prepare a plan for Central command and control centers for existing village settlements
2. Integration with other SCADA systems and other city governance management system

9.7.5 Prepare GAD and obtain approvals

1. Prepare plans for detailed IT infrastructure requirements for each of the township and smart city components.
2. Prepare Plans for Center Command and Control Centers.
3. Prepare good for construction drawings for all the components
4. Prepare structural designs and drawings (1:25) for all structural components

9.7.6 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.7.7 Conduct SIA.

9.7.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed IT Infrastructure details.
3. Make presentations on any scope of work as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/
relevant digital formats
5. Provide geo-referenced locations (coordinates) of street furniture and all in-
frastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure
assets

9.7.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.7.10 Support during execution

1. Revise plans and drawings
2. Technical Advisory service for selection of type technology/ Software/Hardware
Requirements.

9.7.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this
project report.]

1. CCTV
2. Smart Dash Boards
3. Central Command and Control centers
4. Intelligent Traffic and Transportation System.

9.8 Development of tier-II infrastructure for 900 acres of Government Complex campus

9.8.1 Feasibility study

Transport:

1. Conduct Geo-technical investigations
2. Fix benchmarks and geo-reference corridors

3. Follow master plan principles
4. Fix road level as per the specifications considering MFL
5. Prepare pre-feasibility report
6. Location of parking

Water supply:

1. Assess demand requirement for water supply, fire system, plantation irrigation
2. Provide ROW in utility ducts
3. Water distribution center, pumping systems, distribution systems

Waste water:

1. Demand assessment of sewage / waste water generated from Govt. complex
2. Assessment of quality of sewerage
3. Sewerage networks (lateral, branch & trunk network)
4. Intermittent pumping stations
5. Network for reuse of treated waste water for irrigation/other purposes
6. Provision of ROW in utility ducts / separate networks

Storm water:

1. Conduct geographical investigations, contours and hydrology of the catchments
2. Study of subsoil water level, existing and proposed land use
3. Identification of flood prone areas
4. Identification of storm water drainage basins
5. Conserving storm water for gardening
6. Rainwater harvesting systems

Power:

1. Conduct geo-technical investigations
2. Assess load requirement
3. Locate distribution sub-station (with capacity of PTRs)
4. Provide ROW in utility ducts
5. Locate DTRs

District cooling plant

1. Understanding the technology and different approaches
2. Heat rejection based on various usages of water.
3. Understanding the development and assess the cooling requirements for the complex.
4. Financial feasibility with respect to the conventional systems
5. Risk Assessment - Lower energy sales / revenue generation
6. Location of chiller plant
7. Provide ROW in utility ducts

Solid waste

1. Estimation of different types of solid waste including e-waste, paper waste, etc. likely to be generation
2. Assessment of solid waste management techniques, types of solid waste, collection, storage, transportation and treatment
3. Feasibility of various efficient collection systems, segregation at source / collection point
4. Feasibility of Reduce, reuse and recycling of waste, including Construction debris recycling
5. Examine the possibility of community participation in the promotion of best practices
6. Identification of collection zones and sub-zones indicating collection points
7. Location of transfer systems, if needed
8. Street and floating waste
9. Provide ROW in utility ducts and studies for automatic collection
10. PPP partners for total or components of system

Surveillance system:

1. Study of Surveillance system of International and National cities.
2. Assessment of vulnerabilities and potential points of intrusion
3. Identification of high security & strategic locations
4. Development of Surveillance system & the type of technology
5. Automated detection of threats from video surveillance

9.8.2 Standards & designs:

1. Adopt IRC codes, BIS standards, MORTH specifications or applicable British/American standards
2. Design road geometry in compliance with relevant standards
3. State of the art energy efficiency/ sustainability norms (minimum T&D loss)
4. CPHEEO manual for water supply, waste water and for storm water
5. Limit unaccounted water usage to less than 5
6. 24x7 pressurized potable water supply system
7. System should be durable and easy to implement, operate and maintain
8. AP PCB guidelines
9. Adopt Supreme Court orders of Solid waste management , 2004
10. Adopt ECBC and GRIHA and other relevant standards for all the designs under District cooling

9.8.3 Detailed Design

Prepare detailed designs & drawings covering structural designs & drawings for the following elements,

Transport:

1. RoW with Carriageway and other detailed infrastructure covering Geometrical elements
2. Segregated common utility tunnel capable of handling next 100 year requirements (for water supply, waste water drain, storm water drain, fire hydrant supply, irrigation, gas supply lines, power supply lines, cooling, ICT, etc.)
3. Special provisions for elevated, underground, underpass, and high embankment structure roads and other infrastructure
4. Pavement designs including medians, with materials and specifications
5. NMT (cycle/electric) tracks with parking infrastructure and its connectivity to public transport stations, etc.
6. Pedestrian walkways and its connectivity to public transport stations, etc.
7. Plantation strips, types of plants and irrigation system
8. Smart street lighting and ITS Phase – I equipment (along with locations) and integration with ICT plan
9. Street-scaping with street furniture (including bins)
10. Bus/BRTS bays, sick bays with area requirements

11. On and Off-street parking for IPT, emergency, etc.,
12. Public Transport Network system (BRT/MRT, etc.,) corridors integrated with IPT/feeder network (with requisite infrastructures) and integrated stations
13. Signage on road network, other locations with related infrastructure in 2 or 3 languages as per IRC
14. Pavement markings on road network, other locations with related infrastructure as per IRC
15. Junctions with signal design and cycle phasing and grade separators details including area requirements, zebra crossings, turning radius, speed limits, Transition kerb, islands with respect to phasing
16. Cross Masonry /Cross Drainage works (CM/CD) and other hydraulic structures if any
17. Bridges & culverts, flyovers, other structures, infrastructure, etc.,
18. Multi-modal network, bus and rail transport nodes, interchange hubs, other infrastructure requirements including facilities and amenities

Water supply:

1. Hydraulic and structural designs for transmission and distribution system including pumps, appurtenances, storages (where necessary) etc.
2. Ensure 24x7 potable water supply (with back-up arrangements) without provision of sumps
3. Water supply system for urban plantations, parks, landscaping and streetscaping (urban irrigation)
4. Water supply system for firefighting including fire hydrants
5. All required pumping systems
6. SCADA system
7. Data connectivity to smart water meters located at the distribution and consumer end
8. Leakage detection and UFW reduction system
9. Selection of appropriate materials/ equipment for entire system

Waste water:

1. Hydraulic design of sewerage collection system including size and slope of sewers; size, type & location of manholes, vent shafts
2. Hydraulic and structural designs of pump house, transmission mains, pumps, appurtenances, wet-wells, etc.
3. Design of recycling treated waste water for watering of green belts, plants along roads

4. SCADA system
5. Data connectivity to smart sewerage leakage & blockage detection systems, and other sensors required
6. Selection of appropriate materials/ equipment for entire system

Storm water:

1. Protection works required like flood bank strengthening/realignment, raising of platform level of site and any other measures required for protecting site from inundation
2. Storm water network (lateral, branches)
3. Minor bridges and culverts for CD works
4. Automatic rain gauges
5. Data connectivity to flood flow detectors and other equipment
6. Selection of appropriate materials/ equipment for entire system
7. Modeling and simulation of storm water system under various scenarios
8. Underground collection tunnels

Power:

1. Indoor substations (33/11 kV), power transformer of varied capacities and modern office space
2. Concealed Distribution transformers with CT meters as per load
3. Underground smart distribution network of various capacities and sizes along with accessories for internal buildings
4. Underground back-up cable network
5. SCADA system and central command center capable of monitoring up to consumer e-meters
6. Smart street lighting network
7. Net metering facility
8. Identification and design of LT panels (distribution box) in the utility corridors
9. Use of non-conventional energy wherever feasible
10. Smart meters system with facility to send real-time reports

District Cooling system:

1. Details and elements of cooling systems on both condenser side and evaporator side including all related components
2. Control diagrams and all details of heating systems such as boilers, burners, heaters etc.
3. Coolant distribution system and the specifications required to be followed by building detailed designers
4. Duct Layout drawings along with the layouts of accessories such as diffuser, dampers, grills etc.
5. Equipment Layouts and schedules for Chillers / DX Units, Air Handling Equipment, Ducting Accessories (grills, diffusers, dampers, etc.), Pump etc.
6. All electrical, mechanical and other equipment required to implement full scale district cooling system for all buildings in the Government campus
7. Non-conventional energy systems if prescribed
8. Smart meters system with facility to send real-time reports

Solid waste:

1. Design scientific solid waste collection system for entire area
2. Estimation of the number of collector bins / chutes required
3. Develop mechanism for door-to-door collection
4. Design of primary transportation and nodal collection points
5. Number and design of transit and transfer stations
6. Design of secondary transportation
7. Segregation and recycling of collected waste into items such as paper, plastic, glass, metal, organic waste and so on with systems/machinery for recycling
8. Smart operational systems for management of Solid waste

Surveillance system:

1. Emergency call box system and their location
2. CCTV location and design aspects.
3. Detailed system architecture design for surveillance system integration with Police Stations, Fire Stations and Ambulance
4. Variable Messaging Signs, Parking lot availability automation.
5. Connectivity for Sensors and other Smart City Initiatives like temperature sensors, air quality sensors, flood water sensors, fire /smoke sensors, capture GPS data from select vehicles, etc.

6. Integration with e-challan Smart Traffic Enforcement, Detailed designs for Intelligent Street Lighting System
7. Detailed design for Public address system.
8. Central Command and control center
9. IT infrastructure and switching/routing components for surveillance
10. Fiber optic communication network
11. Software, support and cyber-security

9.8.4 Assess and prepare plan for:

Transport:

1. Shifting existing utilities & services
2. Compliance with concept plans prepared by master architect of government complex

Power, water supply, waste water, solid waste, storm water, surveillance system:

1. Integration with city-level trunk infrastructure and ensure provisions for city-level infrastructure components as per masterplan
2. Ensure provisions for city-level infrastructure components as per masterplan

9.8.5 Prepare GAD and obtain approvals

Transport

1. Plot all site plans, L-section and C-section. Scale to be 1:1000 for longitudinal axis (along the road), 1:100 for lateral axis (across the road) and 1:50 for vertical axis (height above or below the road level)
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

Water supply

1. Prepare plans - 1:1000 for transmission and distribution
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings (1:25) for all the components

Waste water:

1. Prepare plans - 1:1000 for collection network and transmission network
2. Prepare good for construction drawings for all the components of the system such as index plan, key plan & general layout, zonal plans, L sections
3. Prepare structural designs and drawings (1:25) for all the structural components

Storm water:

1. Plan of SWD system, alignment and position of storm water drainage along the road giving the details of size of drains, invert levels, HFL and road edge level
2. Plan and Sectional details of drains, channels, etc. including Longitudinal sections
3. Layout plan to the scale 1:2000 with proposed formation level, high flood level (HFL), invert level (IL), discharge, velocity and freeboard data in a tabular form
4. Prepare good for construction drawings for all the components, minor bridges, culverts and regulatory systems
5. Prepare structural designs and drawings (1:25) for all the components including CD works

Power

1. Prepare plans - 1:100 for LT, 1:500 for 11kV
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

District Cooling Plant

1. Prepare good for construction drawings for all the components
2. Prepare structural designs and drawings for all the components

Solid waste;

1. Plans for collection routes
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

Surveillance system:

1. Prepare plans for detailed IT infrastructure requirements for each of the township and smart city components.
2. Prepare Plans for Center Command and Control Centers.
3. Prepare good for construction drawings for all the components
4. Prepare structural designs and drawings (1:25) for all structural components

9.8.6 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.8.7 Conduct SIA, EIA and EMP

9.8.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed transportation system
3. Make presentations on any scope of work as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/ relevant digital formats
5. Provide geo-referenced locations (coordinates) of street furniture and all infrastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure assets
7. Tender Documentations
8. Prepare contracting strategy including packaging and obtain approval

9.8.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.8.10 Support during execution

1. Revise plans and drawings
2. Technical Advisory service for selection of type technology/ Software/Hardware Requirements.

9.8.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this project report.]

Transport:

1. Arterial roads
2. Cycle tracks
3. Carriageway
4. Utility tunnel capable
5. Underground storm water drainage within the row (underground)
6. Pavement and medians
7. Space for solid waste bins
8. Pedestrian walkways
9. Plantation strips and street-scaping
10. Smart street lighting
11. Bus bays
12. Public transport stations
13. Surveillance infrastructure
14. Signage and pavement markings
15. Junctions, interchanges and grade separators
16. Robs/ rubs, bridges & culverts, flyovers
17. Multi-model interchange hubs
18. Transition kerbs at intersection

Water supply:

1. Water lines in utility corridors
2. Control center

Waste water:

1. Sewer lines in utility corridors

Storm water:

1. Rainwater harvesting
2. Underground collection tunnel

Power:

1. Power cables in utility corridors
2. Indoor sub-stations
3. Concealed distribution box
4. Concealed DTR box

District Cooling plant

1. District cooling plant
2. Cooling Tower
3. Chilled water supply and return for institutions

Solid waste;

1. Automatic waste collection system
2. Bins
3. Transfer station

Surveillance system:

1. CCTV
2. Smart Dash Boards
3. Central Command and Control centers

9.9 Development of tier-II infrastructure for 17000 acres of returnable lands under Land pooling scheme

9.9.1 Feasibility study

Transport:

1. Conduct Geo-technical investigations
2. Fix benchmarks and geo-reference corridors
3. Follow master plan principles
4. Fix road level as per the specifications considering MFL
5. Prepare pre-feasibility report
6. Location of parking

Water supply:

1. Assess demand requirement
2. Provide ROW in utility ducts
3. Water distribution center, pumping systems, distribution systems

Waste water:

1. Demand assessment of sewage / waste water generated from Govt. complex
2. Assessment of quality of sewerage
3. Sewerage networks (lateral, branch & trunk network)
4. Intermittent pumping stations
5. Network for reuse of treated waste water for irrigation/other purposes
6. Provision of ROW in utility ducts / separate networks

Storm water:

1. Conduct geographical investigations, contours and hydrology of the catchments
2. Study of subsoil water level, existing and proposed land use
3. Identification of flood prone areas
4. Identification of storm water drainage basins
5. Conserving storm water for gardening
6. Rainwater harvesting systems

Solid waste

1. Estimation of different types of solid waste including e-waste, paper waste, etc. likely to be generation
2. Assessment of solid waste management techniques, types of solid waste, collection, storage, transportation and treatment
3. Feasibility of various efficient collection systems, segregation at source / collection point
4. Feasibility of Reduce, reuse and recycling of waste
5. Examine the possibility of community participation in the promotion of best practices
6. Identification of collection zones and sub-zones indicating collection points
7. Location of transfer systems, if needed
8. Street and floating waste
9. Provide ROW in utility ducts and studies for automatic collection
10. PPP partners for total or components of system

Power:

1. Conduct geo-technical investigations
2. Assess load requirement
3. Locate distribution sub-station (with capacity of PTRs)
4. Provide ROW in utility ducts
5. Locate DTRs

ICT:

1. Bandwidth assessment for various sectors, including residential, commercial, industry and so on.
2. Provision of RoW in Utility corridor

9.9.2 Standards & designs:

1. Adopt IRC codes, BIS standards, MORTH specifications or applicable British/American standards
2. Design road geometry in compliance with relevant standards
3. State of the art energy efficiency/ sustainability norms (minimum T&D loss)
4. CPHEEO manual for water supply, waste water and for storm water
5. Limit unaccounted water usage to less than 5

6. 24x7 pressurized potable water supply system
7. System should be durable and easy to implement, operate and maintain
8. AP PCB guidelines
9. Adopt Supreme Court orders of Solid waste management , 2004

9.9.3 Detailed Design

1. Prepare detailed designs & drawings covering structural designs & drawings for the following elements,

Transport:

1. RoW with Carriageway and other detailed infrastructure covering Geometrical elements
2. Segregated common utility tunnel capable of handling next 100 year requirements (for water supply, waste water drain, storm water drain, fire hydrant supply, irrigation, gas supply lines, power supply lines, cooling, ICT, etc.)
3. Special provisions for elevated, underground, underpass, and high embankment structure roads and other infrastructure
4. Pavement designs including medians, with materials and specifications
5. NMT (cycle/electric) tracks with parking infrastructure and its connectivity to public transport stations, etc.
6. Pedestrian walkways and its connectivity to public transport stations, etc.
7. Plantation strips, types of plants and irrigation system
8. Smart street lighting and ITS Phase – I equipment (along with locations) and integration with ICT plan
9. Street-scaping with street furniture (including bins)
10. Bus/BRTS bays, sick bays with area requirements
11. On and Off-street parking for IPT, emergency, etc.,
12. Public Transport Network system (BRT/MRT, etc.,) corridors integrated with IPT/feeder network (with requisite infrastructures) and integrated stations
13. Signage on road network, other locations with related infrastructure in 2 or 3 languages as per IRC
14. Pavement markings on road network, other locations with related infrastructure as per IRC
15. Junctions with signal design and cycle phasing and grade separators details including area requirements, zebra crossings, turning radius, speed limits, Transition kerb, islands with respect to phasing

16. Cross Masonry /Cross Drainage works (CM/CD) and other hydraulic structures if any
17. Bridges & culverts, flyovers, other structures, infrastructure, etc.,
18. Multi-modal network, bus and rail transport nodes, interchange hubs, other infrastructure requirements including facilities and amenities

Power:

1. Indoor substations (33/11 kV), power transformer of varied capacities and modern office space
2. Concealed Distribution transformers with CT meters as per load
3. Underground smart distribution network of various capacities and sizes along with accessories for internal buildings
4. Underground back-up cable network
5. SCADA system and central command center capable of monitoring up to consumer e-meters
6. Smart street lighting network
7. Net metering facility
8. Identification and design of LT panels (distribution box) in the utility corridors
9. Use of non-conventional energy wherever feasible
10. Smart meters system with facility to send real-time reports

Water supply:

1. Hydraulic and structural designs for transmission and distribution system including pumps, appurtenances, storages (where necessary) etc.
2. Ensure 24x7 potable water supply (with back-up arrangements) without provision of sumps
3. Water supply system for urban plantations, parks, landscaping and streetscaping (urban irrigation)
4. Water supply system for firefighting including fire hydrants
5. All required pumping systems
6. SCADA system
7. Data connectivity to smart water meters located at the distribution and consumer end
8. Leakage detection and UFW reduction system
9. Selection of appropriate materials/ equipment for entire system

Waste water:

1. Hydraulic design of sewerage collection system including size and slope of sewers; size, type & location of manholes, vent shafts
2. Hydraulic and structural designs of pump house, transmission mains, pumps, appurtenances, wet-wells, etc.
3. Design of recycling treated waste water for watering of green belts, plants along roads
4. SCADA system
5. Data connectivity to smart sewerage leakage & blockage detection systems, and other sensors required
6. Selection of appropriate materials/ equipment for entire system

Solid waste:

1. Design scientific solid waste collection system for entire area
2. Estimation of the number of collector bins / chutes required
3. Develop mechanism for door-to-door collection
4. Design of primary transportation and nodal collection points
5. Number and design of transit and transfer stations
6. Design of secondary transportation
7. Segregation and recycling of collected waste into items such as paper, plastic, glass, metal, organic waste and so on with systems/machinery for recycling
8. Smart operational systems for management of Solid waste

Storm water:

1. Storm water network (lateral, branches)
2. Minor bridges and culverts for CD works
3. Automatic rain gauges for monitoring flood prevention measures
4. Data connectivity to flood flow detectors and other equipment
5. Selection of appropriate materials/ equipment for entire system
6. Modeling and simulation of storm water system under various scenarios
7. Underground collection tunnels

ICT:

1. Fiber optic communication network
2. IT infrastructure and switching/routing components

9.9.4 Assess and prepare plan for:

Transport:

1. Shifting existing utilities & services
2. Compliance with concept plans prepared by master architect of government complex

Power, water supply, waste water, solid waste, storm water, ICT:

1. Integration with city-level trunk infrastructure and ensure provisions for city-level infrastructure components as per masterplan
2. Ensure provisions for city-level infrastructure components as per masterplan

9.9.5 Prepare GAD and obtain approvals

Transport:

1. Plot all site plans, L-section and C-section. Scale to be 1:1000 for longitudinal axis (along the road), 1:100 for lateral axis (across the road) and 1:50 for vertical axis (height above or below the road level)
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

Water supply:

1. Prepare plans - 1:1000 for transmission and distribution
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings (1:25) for all the components

Waste water:

1. Prepare plans - 1:1000 for collection network and transmission network
2. Prepare good for construction drawings for all the components of the system such as index plan, key plan & general layout, zonal plans, L sections
3. Prepare structural designs and drawings (1:25) for all the structural components

Storm water:

1. Plan of SWD system, alignment and position of storm water drainage along the road giving the details of size of drains, invert levels, HFL and road edge level
2. Plan and Sectional details of drains, channels, etc. including Longitudinal sections

3. Layout plan to the scale 1:2000 with proposed formation level, high flood level (HFL), invert level (IL), discharge, velocity and freeboard data in a tabular form
4. Prepare good for construction drawings for all the components, minor bridges, culverts and regulatory systems
5. Prepare structural designs and drawings (1:25) for all the components including CD works

Solid waste

1. Plans for collection routes
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

Power:

1. Prepare plans - 1:100 for LT, 1:500 for 11kV
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings for all the components

ICT system:

1. Prepare plans for detailed IT infrastructure requirements and smart city components.
2. Prepare good for construction drawings for all the components
3. Prepare structural designs and drawings (1:25) for all structural components

9.9.6 Prepare DPR which will include the following (list not exhaustive),

1. Detailed designs
2. Detailed estimations
3. Value engineering
4. Detailed bill of quantities (BoQ)
5. Rate analysis
6. Detailed capital cost
7. O&M cost estimates
8. Phasing of the project
9. Good for construction GAD
10. Project implementation schedule

9.9.7 Conduct SIA, EIA and EMP

9.9.8 General:

1. Prepare 2D/3D artistic views and photo montages of the designs.
2. Prepare 3D animation of the proposed transportation system
3. Make presentations on any scope of work as and when required
4. Submit DPRS - 4 hard copies, soft copy of report word, data in excel/csv/
relevant digital formats
5. Provide geo-referenced locations (coordinates) of street furniture and all in-
frastructure assets with appropriate identification codes
6. Prepare an appropriate coding system (nomenclature) for the infrastructure
assets

9.9.9 Tender Documentations

1. Prepare contracting strategy including packaging and obtain approval

9.9.10 Support during execution

1. Revise plans and drawings
2. Technical Advisory service for selection of type technology/ Software/Hardware
Requirements.

9.9.11 Representative photographs indicating the desired finish/ look and feel

[Photographs provided in Appendix 3. The below photos are applicable for this
project report.]

Transport:

1. Arterial roads
2. Cycle tracks
3. carriageway
4. utility tunnel capable
5. Underground storm water drainage within the ROW (underground)
6. pavement and medians
7. space for solid waste bins
8. pedestrian walkways
9. plantation strips and street-scaping

10. smart street lighting
11. bus bays
12. public transport stations
13. surveillance infrastructure
14. signage and pavement markings
15. Junctions, interchanges and grade separators
16. ROBs/ RUBs, bridges & culverts, flyovers,
17. Multi-model interchange hubs
18. transition kerbs at intersection

Water supply:

1. Water lines in utility corridors
2. Control center

Waste water:

1. Sewer lines in utility corridors

Storm water:

1. Rainwater harvesting
2. Underground collection tunnel

Solid waste;

1. Automatic waste collection system
2. Bins
3. Transfer station

Power:

1. Power cables in utility corridors
2. Indoor sub-stations
3. Concealed distribution box
4. Concealed DTR box

Part IV
Assistance during execution

10

Assistance during execution

The expected list of activities from the Consultant during the execution of the project are as below.

1. Technical Assistance in Selection of Agencies
2. Co-ordination and Preparation / Checking of Designs and Drawings of Selected Agency for Implementation
3. Revisions and clarifications to detailed drawings required during execution of project

The consultant would be required to perform the required clarifications/revisions upon receiving a request for the same from APCRDA. The payment for the services rendered during this phase will be compensated based on the number of man-days utilized.

Part V
Deliverables and Key Personnel

Deliverables for Masterplan

MASTER PLAN												
Timeline	Concept plan	Transport	Water			Power	Solid waste management	Gas	Smart	District cooling	Safety and security	Disaster management
			Water Supply	Waste water	Storm water							
T + 0.5 months	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report
T + 1 months	Stakeholder consultations	Survey	Survey	Survey	Survey	-	-	-	-	Survey	Survey	Survey
T + 1.5 months	Feasibility report Final Plan	Concept report	Concept report	Survey	Concept report	Survey	Concept report	Survey	Concept report	Concept report	Concept report	Concept report
T + 2.5 months	-	-	-	Concept report	-	Concept report	-	Concept report	-	-	-	-
T + 3 months	-	-	-	-	-	-	-	-	-	-	-	-
T + 3.5 months	-	Draft final report	Draft final report	Draft final report	Draft final report	-	Draft final report	-	Draft final report	Draft final report	Draft final report	Draft final report
T + 4 months	-	-	-	-	-	-	-	Draft final report	-	-	-	-
T + 4.5 months	-	Final plan	-	Draft final report	-	Draft final report	Final plan	-	Final plan	Final plan	Final plan	Final plan
T + 5 months	-	-	Final plan	Final plan	Final plan	-	-	-	-	-	-	-
T + 5.5 months	-	-	-	Final plan	-	Final plan	-	Final plan	-	-	-	-

12

Deliverables for DPR

Timeline	Development of IT infrastructure and Central Command & Control Centers, Surveillance systems, Intelligent Traffic and Transport System, Fiber Optic for all infrastructure and services for Phase I	All other projects
T + 3 months	-	Feasibility report
T + 4.5 months	Feasibility report	-
T + 6 months	-	Detailed designs (detailed designs, SIA/EIA/EPM, GAD and approvals)
T + 7 months	-	Final DPR
T + 7.5 months	Detailed designs (detailed designs, SIA/EIA/EPM, GAD and approvals)	-
T + 9 months	Final DPR	Prepare bid documents and assist during bid process
T + 9.5 months	Prepare bid documents and assist during bid process	-

13

Deliverables for Assistance during execution

Technical assistance during execution is expected to go on until Dec-18, during which it is required that the Consultant would have resources available for technical assistance in terms of revision of drawings, clarifications to contractors and other such requirements that may arise from time to time.

14

Key Personnel

Sl. No	Position
1	Project Manager / Team Leader
2	Infrastructure Planner
3	Urban Planner
4	Water Supply & Waste Water Expert
5	Stormwater & Drainage Expert
6	Environmental / Sustainability Planner
7	Urban Transportation - Planner
8	Energy and Power Expert
9	ICT / Instrumentation Expert
10	Landscape Expert
11	Disaster Management Expert
12	Urban Transport Engineer
13	Structural Design Expert - Water
14	Structural Design Expert - Energy
15	Structural Design Expert - Mechanical
16	Electrical engineer
17	Geotechnical Expert
18	Fire Expert
19	Financial Expert
20	3D/GIS Expert
21	Renewables Expert
22	District Cooling Expert
23	City Safety and Security Expert
24	Gas network expert
25	Urban surveying expert

Note: The Consultant shall deploy personnel on-site during the execution of the scope, which shall include an expert for each Infrastructure sector, covering Transportation, Energy, Water, Gas, Solid waste, Safety and security and ICT.

Part VI

Others

15

Glossary

BoQ	Bill of quantities
BRT	Bus rapid transport
DPR	Detailed project report
GAD	General arrangement drawings
GFC	Good for construction
ICT	Information and communication technology
IPT	Intermediate public transport
IRC	Indian road congress
NMT	Non-motorized transport
ROB	Railway over bridge
RUB	Railway under bridge
DTR	Distribution transformer
PTR	Power transformer
WTP	Water treatment plant

16

Appendix 1

Structure of Masterplans expected

16.1 Concept plan

1. Introduction
 - (a) Purpose
 - (b) Roles of plan
 - (c) Planning process
 - (d) Masterplan elements
 - (e) Amendments
2. Vision
3. Background
4. Goals
5. Issues, concepts and objective (To be provided for each masterplan elements)

16.2 Transport plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Regional Connectivity plan
2. Air

3. Rail
4. Public transport (including last mile and first mile connectivity)
5. Roads
 - (a) Utility corridors
 - (b) Bus bays
 - (c) Pedestrian crossing
 - (d) Signages
 - (e) Planting strip
 - (f) Street furniture
 - (g) Smart street lights
 - (h) Accident relief system
6. Canal transport
7. NMT
8. Parking
9. Freight
10. Multi-modal integration
11. ITS
 - (a) Signalling
 - (b) Control & Communication systems
 - (c) Variable message signs
 - (d) Auto vehicle number-plate recognition system

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.3 Water plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II: Water supply

1. Source development
2. C4

Part III: Waste water

1. Modular and scalable treatment system
2. Reuse network
3. Central command and control centre (C4)

Part IV: Rainwater

1. Network
2. Lakes and water bodies
3. C4
4. Harvesting

Part V: Irrigation

1. C4
2. Avenue plantations

Part VI: Fire hydrant network Part VII

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.4 Power plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Demand forecast
2. Source
3. Transmission system
4. Distribution system with [C4]
5. Energy management measures
6. Non-conventional energy sources

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.5 Solid waste management plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Waste generation forecast

2. Waste reduction measures
3. Collection
4. Segregation
5. Reuse & recycle
6. Treatment
7. Disposal

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.6 Gas Masterplan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Demand forecast
2. Source
3. Transmission system
4. Distribution system [C4]
5. Energy management measures
6. Non-conventional energy sources

Part III

1. Integration with other infrastructure facilities / services
2. Phasing

3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.7 Smart city integrated infrastructure plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Transport
2. Water supply
3. Waste water
4. Flood control
5. Solid waste
6. Gas
7. District cooling
8. Pollution monitoring
9. Security & surveillance
10. Health services
11. Education
12. Civic services [bill payments for utilities, etc]
13. Employment
14. Housing
15. Public Distribution System
16. Pensions
17. Property registrations
18. Judiciary

19. Crime records
20. Resident data base
21. ICT infrastructure (including networking)
22. ICT Architecture
23. Central command control centre [C4]

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.8 District cooling plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Analysis of alternatives (economic analysis)
2. Proposed system
3. Demand forecast
4. Transmission system
5. Distribution system with [C4]

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.9 Safety and security plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Planning & design
 - (a) Prevention through environmental design
2. Key infrastructure
3. Strategic locations
4. Threat assessments
5. Vulnerability assessments
6. Security measures
 - (a) General
 - (b) Women safety
 - (c) Child safety
 - (d) Road safety
7. Police
8. Fire
9. Ambulance services

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

16.10 Disaster management plan

Part I

1. Introduction
2. Vision
3. Background
4. Goals
5. Issues, Concepts & Objectives

Part II

1. Risk and hazard analysis
2. Flood control
3. Earthquake
4. Cyclones
5. Building collapse
6. Control Centre [C4]
7. Community participation
8. Standard Operating Procedures
9. Infrastructure

Part III

1. Integration with other infrastructure facilities / services
2. Phasing
3. Cost estimates & financing
4. Action plans
5. Institutional framework and its phasing
6. Policy framework

17

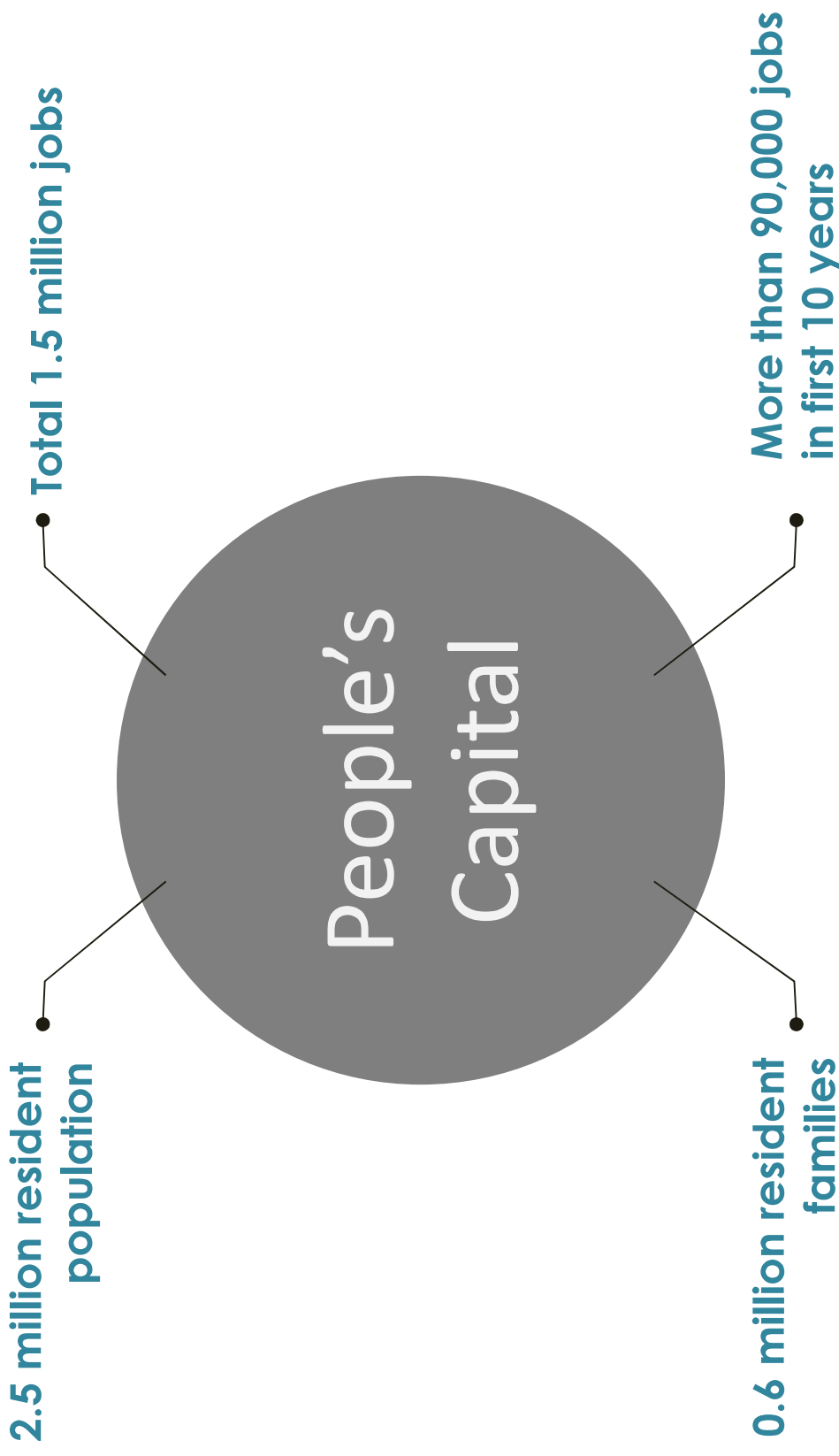
Appendix 2

Draft Detailed Land use Master plan

02

Capital City Projections

Key Statistics



Employment Sectors – 9 Cities

Key Employment Sectors

Government



Health



Sports



Justice



Electronics



Culture



Knowledge



Finance



Tourism



03

Township Model

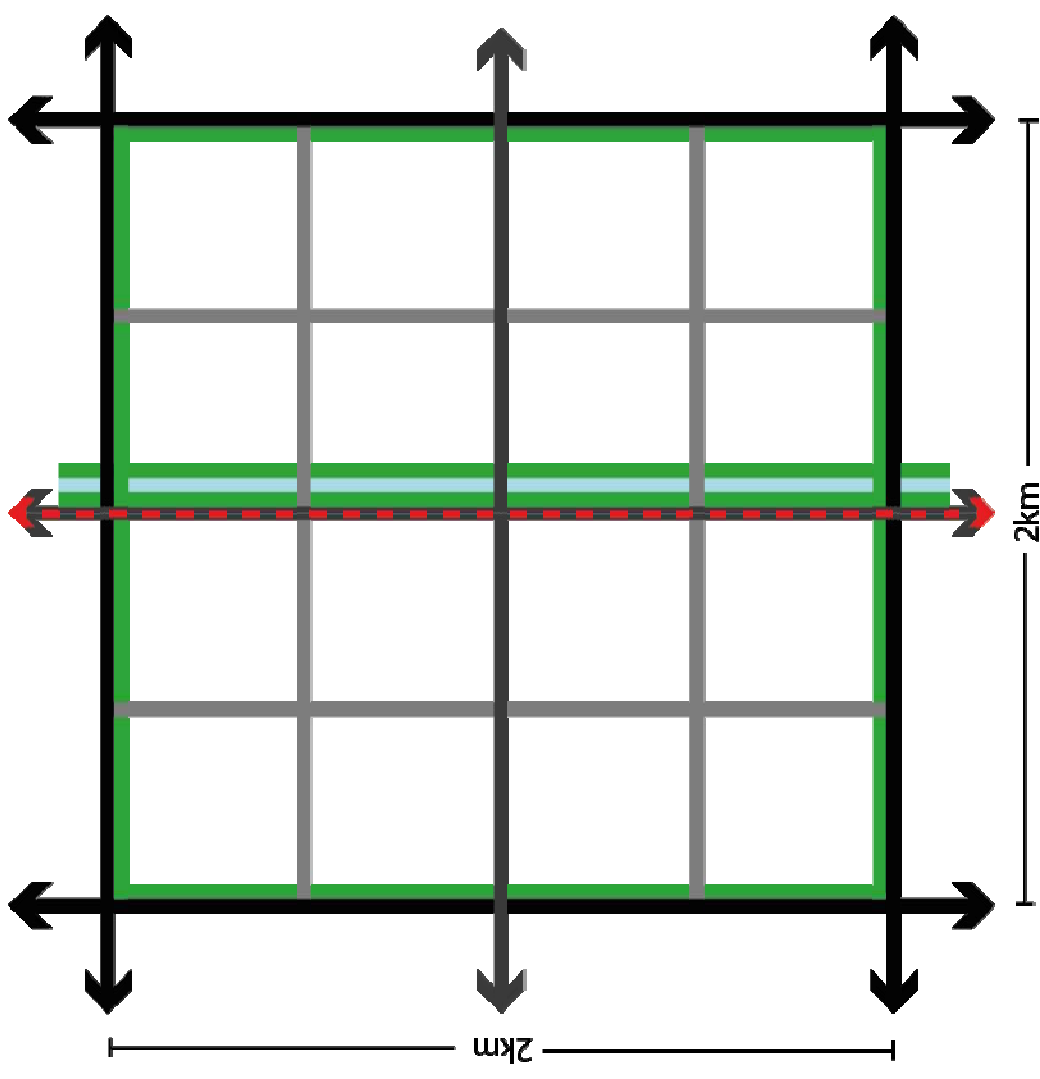
Township Model – squared pattern

Area: 4 sq km

Population: 60,000 to 110,000

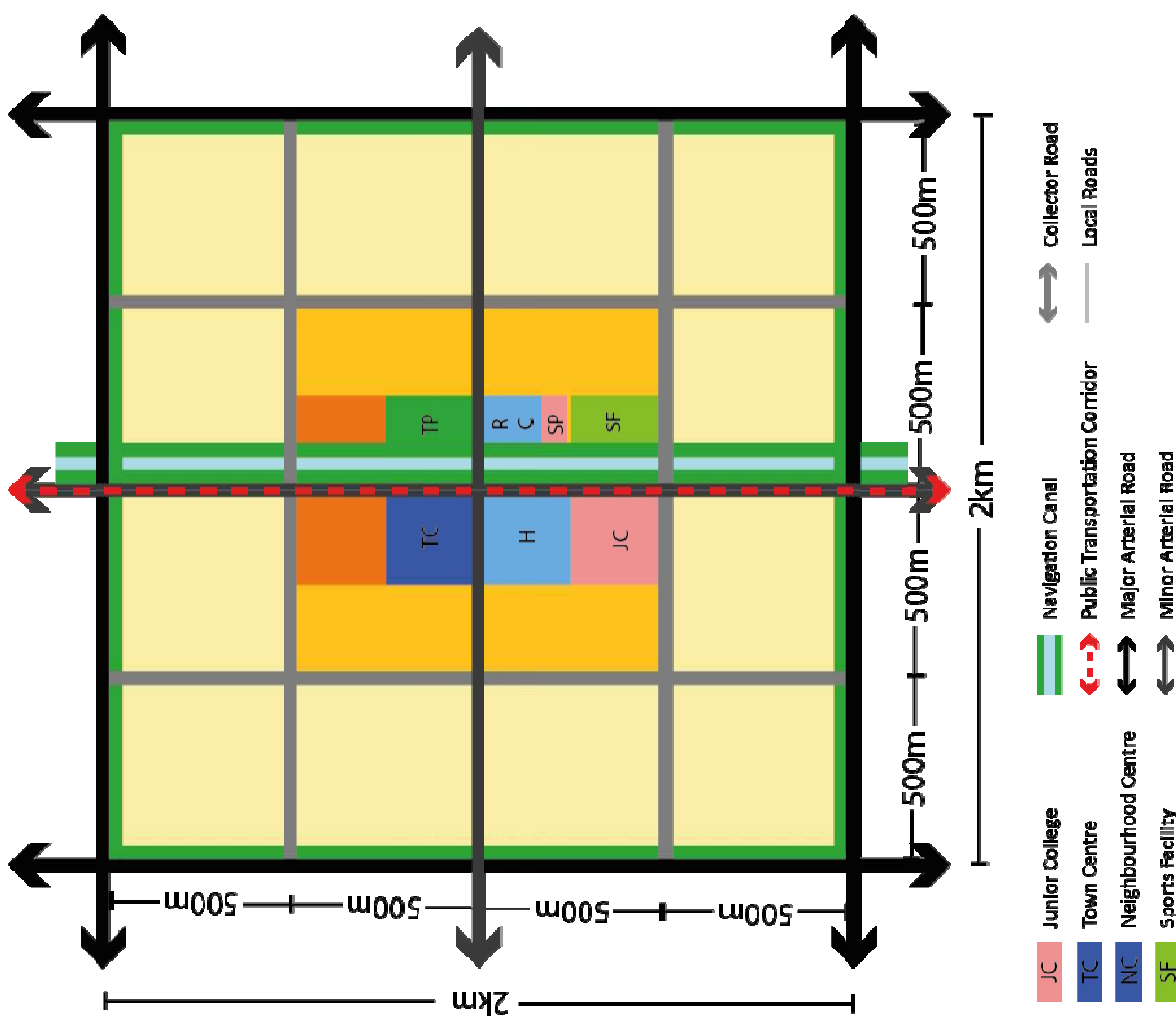
Main Features:

- Connected by major arterial roads for easy accessibility
- The minor arterial road crossing through the Town centre houses the Public Transportation corridor



Mixed Use Development	Town Park	Junior College	Navigation Canal	Collector Road
Low-Medium Density Residential	Neighbourhood Park	Town Centre	Public Transportation Corridor	Local Roads
Medium-High Density Residential	Primary School	Neighbourhood Centre	Major Arterial Road	
Green Buffer	Secondary School	Sports Facility	Minor Arterial Road	

Township Model – squared pattern



Area: 4 sq km

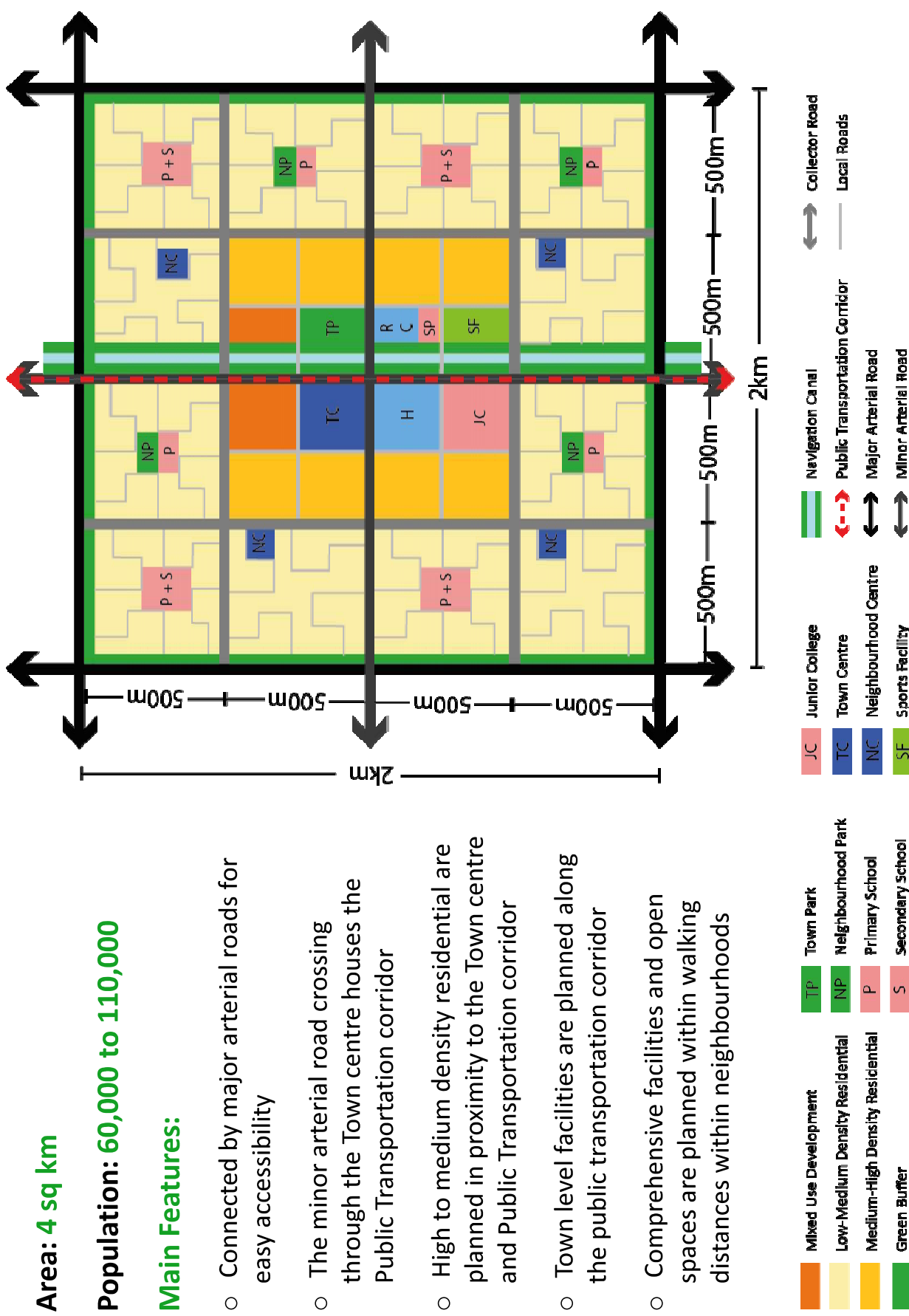
Population: 60,000 to 110,000

Main Features:

- Connected by major arterial roads for easy accessibility
- The minor arterial road crossing through the Town centre houses the Public Transportation corridor
- High to medium density residential are planned in proximity to the Town centre and Public Transportation corridor
- Town level facilities are planned along the public transportation corridor

Mixed Use Development	Town Park	Junior College	Navigation Canal
Low-Medium Density Residential	Neighbourhood Park	Town Centre	Public Transportation Corridor
Medium-High Density Residential	Primary School	Neighbourhood Centre	Major Arterial Road
Green Buffer	Secondary School	Sports Facility	Minor Arterial Road

Township Model – squared pattern



Area: 4 sq km

Population: 60,000 to 110,000

Main Features:

- Connected by major arterial roads for easy accessibility
- The minor arterial road crossing through the Town centre houses the Public Transportation corridor
- High to medium density residential are planned in proximity to the Town centre and Public Transportation corridor
- Town level facilities are planned along the public transportation corridor
- Comprehensive facilities and open spaces are planned within walking distances within neighbourhoods

Proposed Facility Standards

City Level Facilities

Population: 25,00,000

Community Facilities		Proposal- Quantitative Guidelines	Area	Proposal- Location
Commercial Facilities	District/Regional Centre	1 per 5,00,000 people	40.0 Ha	Regional Centres ad CBD
	Local Whole Sale Markets/ Mandis	1 per 10,00,000 people	10.0 Ha	Located Close to Regional Centres
Educational Facilities	Technical Education Centre (A) + Polytechnic	1 per 10,00,000 people	4.0 Ha	Located near regional Centre
	Technical Education Centre (B) + Technical Centre + Coaching Centre	1 per 10,00,000 people	4.0 Ha	Located near regional Centre
	Engineering College	1 per 10,00,000 people	6.00 Ha	Located in University Town
	Medical college	1 per 10,00,000 people	15.00 Ha	Located in University Town
	Other Professional College	1 per 10,00,000 people	6.00 Ha	Located in University Town
	University Campus	-	10.0 – 60.0 Ha	Located in University Town
Health & Medical	General Hospital	1 per 250,000 people	6.00 Ha	Located within 9 city centres and health city
Civic & Community Institutions	Police	District Station: 1 per 10,00,000	4.8 Ha	Fronting main/arterial roads
		District Jail: 1 per 10,00,000	10.0 Ha	
		Civil Defense and Home Guards: 1 per 10,00,000 people	2.0 Ha	
Parks & Open Space	City Level Park	Police Line: 1 per city	6.0 Ha	
Sports & Recreation	Divisional Sports centre	1 per 1 mil (~10ha)	~10ha	
		1 per 10,00,000	20 Ha	Located close to Regional Centres/Transit Station

Note: Based on URDPFI Guidelines and Case studies from Singapore, Malaysia and South Africa

Proposed Facility Standards

Town Level Facilities

Population: 60,000- 1,00,000

Community Facilities		Proposal- Quantitative Guidelines	Area	Proposal- Location
Commercial Facilities	Town Centre	1 per 1,00,000 people	5.0 Ha	Along minor arterial/public transport corridors
Educational Facilities	Junior College	1 per 1,00,000 people	6 Ha	Located near Town Centre
	School for Physically challenged	1 per 1,00,000 people	1.5 Ha	Located near Town Centre/Town Park
Health & Medical	Polyclinic	Polyclinic: 1 per 1,00,000		Centrally located
	Nursing Home, Child Welfare and Maternity Centre	1 per 1,00,000 people	0.3 Ha	Located close to Town Centre
	Intermediate Hospital Category (A & B)	1 per 1,00,000 people	4.70 Ha	Located close to Town Centre
	Multi speciality Hospital	1 per 1,00,000 people	6.35 Ha	Located close to Town Centre
Places of Worship	Temples	1 per 1,00,000 people	1 Ha	Located close to Town Centre
	Others	1 per 3,00,000 people	1 Ha	Located close to Town centre
Civic & Community Institutions	Fire Station	1 per 10,00,000 people	1 Ha	
	Police	Police Station: 1 per 1,00,000	1.5 Ha	Fronting main/arterial roads
Parks & Open Space	Town Park	1 per 1,00,000 (~5ha)	~5ha	
Sports & Recreation	District Sports Complex	1 per 1,00,000 people	8 Ha	Close to Town Centre
Safety Management	Disaster Management Centre	1 per 2,00,000	1.0 Ha	Along arterial roads

Note: Based on URDPFI Guidelines and Case studies from Singapore, Malaysia and South Africa

Proposed Facility Standards

Neighbourhood Level Facilities

Population: 15,000- 25,000

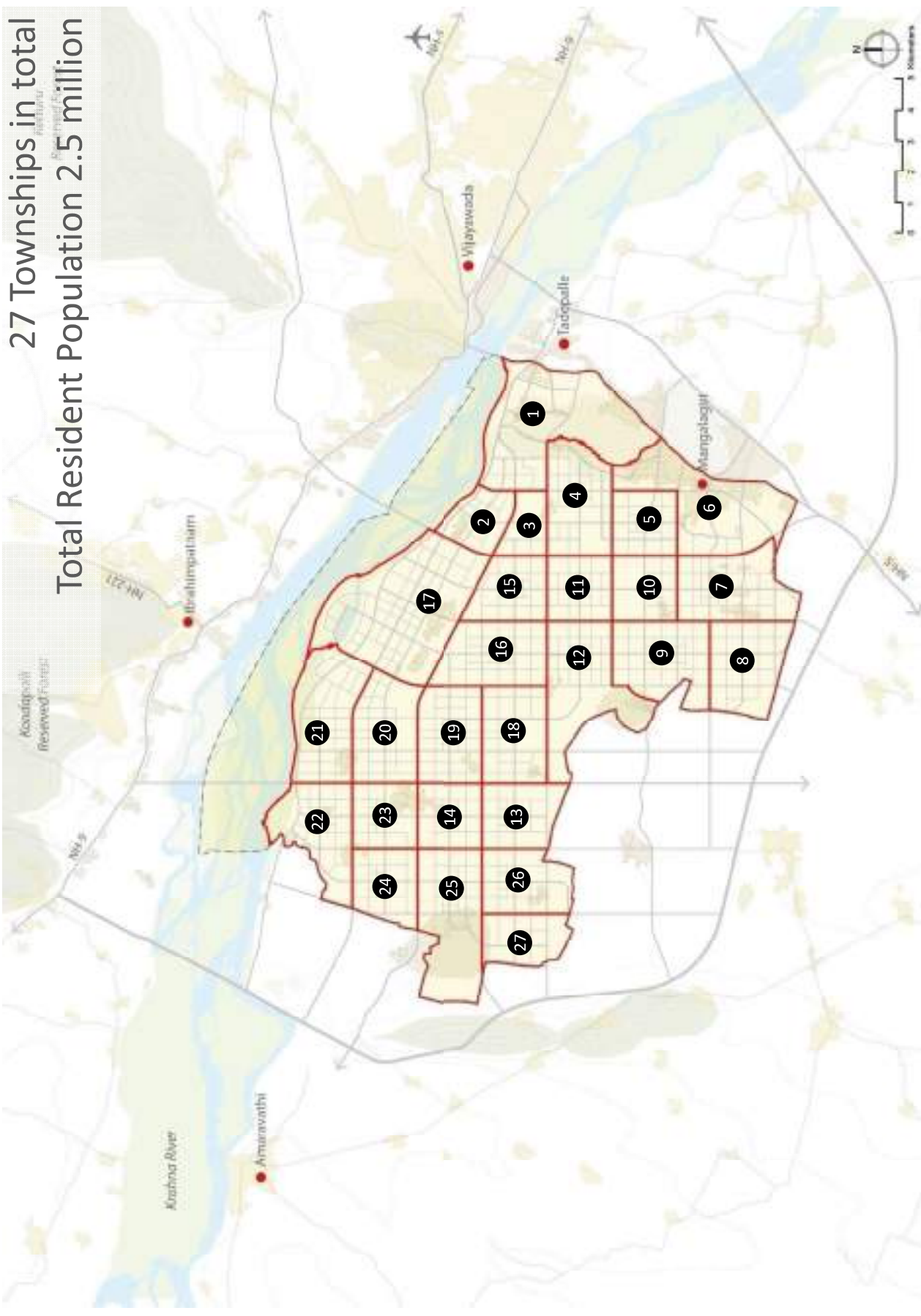
Community Facilities		Proposal- Quantitative Guidelines	Area	Proposal- Location
Commercial Facilities	Local Market	1 per 15,000 people	1.0 Ha	Along Collector Roads
	Primary School	1 per 10-15,000 person	1.5-2ha	5-10mins walk from residential areas
Educational Facilities	Secondary School	1 per 25,000 person	3ha	10-20mins walk, may co-locate with PS (~5ha)
	Health centre/ clinics	1 per neighbourhood		Located within the Neighbourhood Centre
Health & Medical	Local markets	1 per 15,000 people		within neighbourhood centre
	Community Centre	1 per 15,000 (0.5ha) people		within neighbourhood centre
Social	Neighbourhood Park	1 per 3-15,000	1-1.5ha	

Note: Based on URDPFI Guidelines and Case studies from Singapore, Malaysia and South Africa

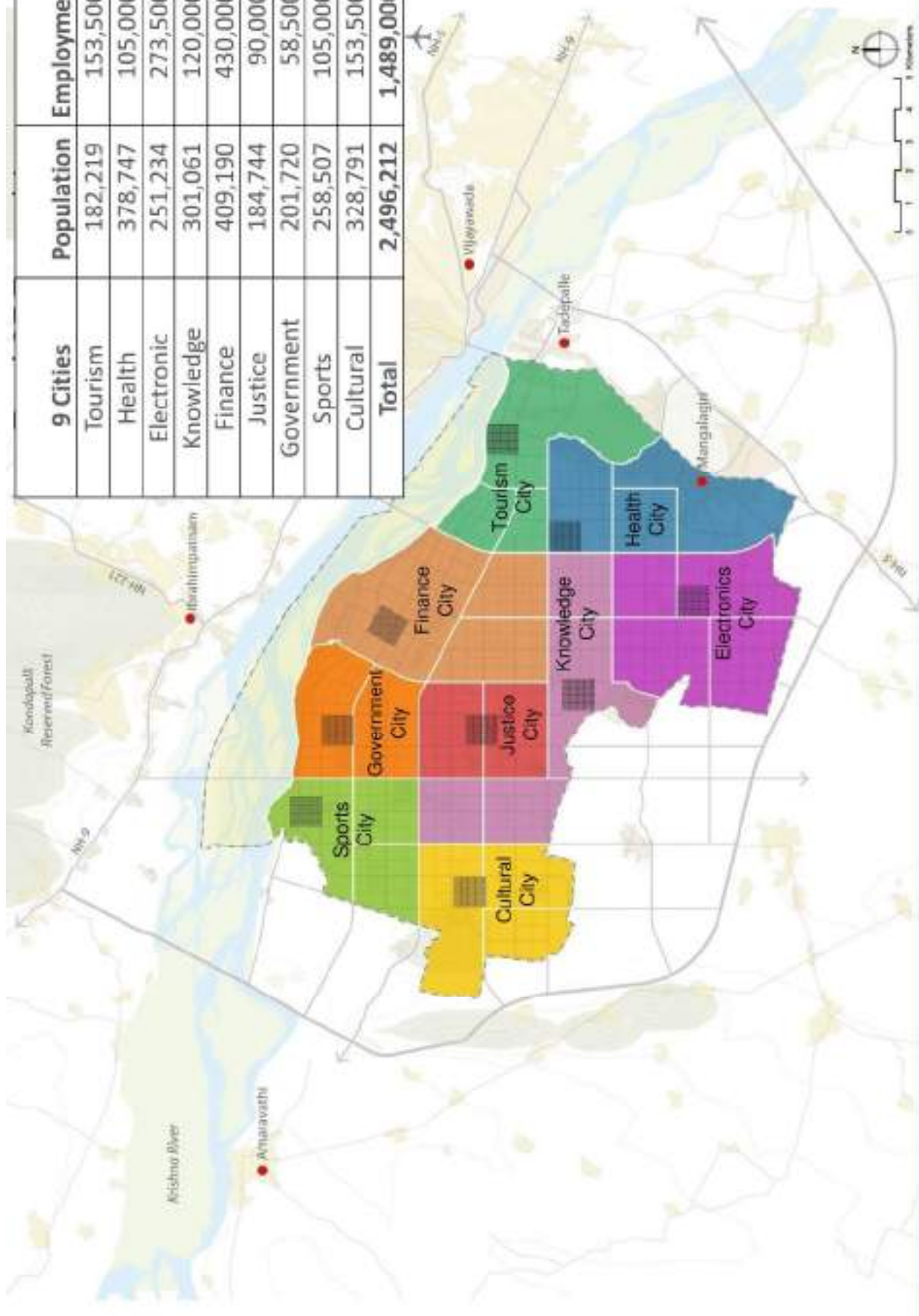
04

Revised Masterplan

Townships



9 Cities



Public Transport – Integrated Transport Hub



Public Transport – BRT/Tram



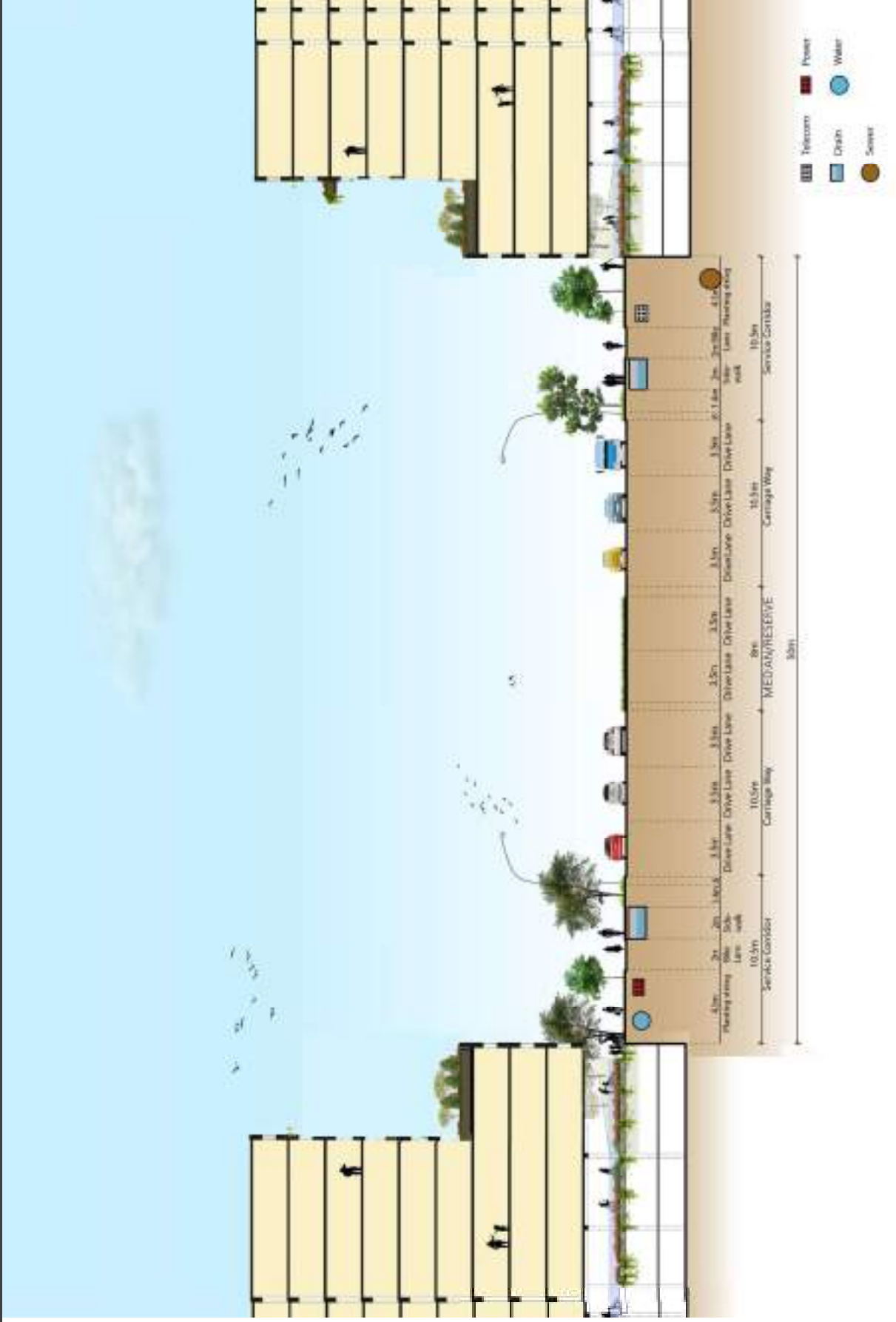
BRT



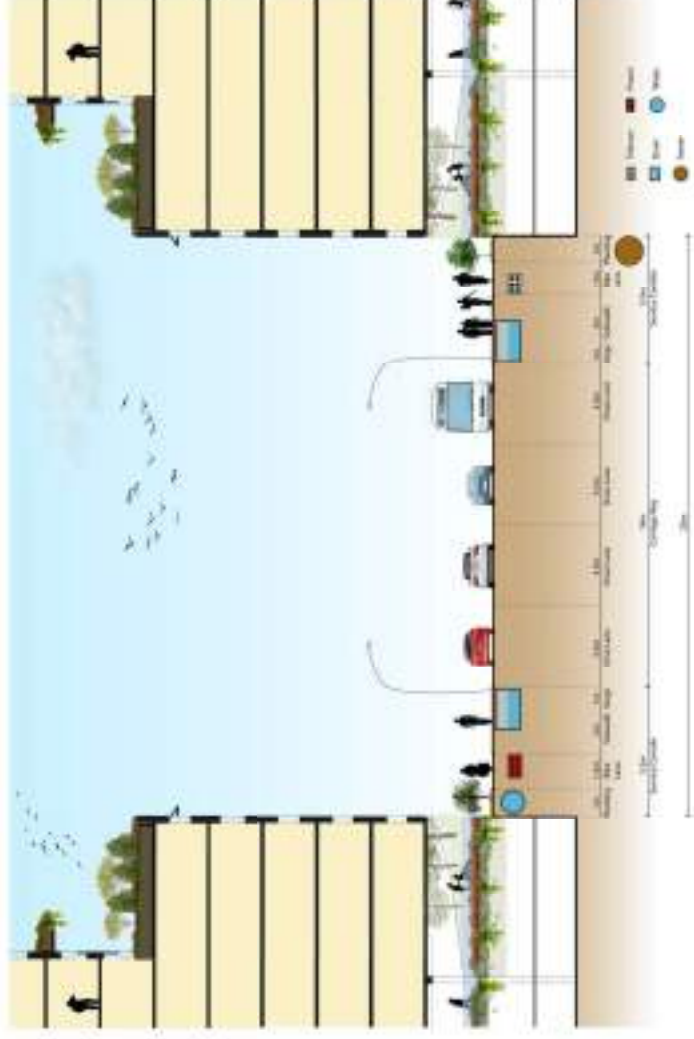
Trams

- The “Public Transport corridor” can accommodate both BRT or Tram
- Needs a detail Transport Masterplan to work out the alternatives and alignments
- Feasible to build BRT in early phase due to less capital investment

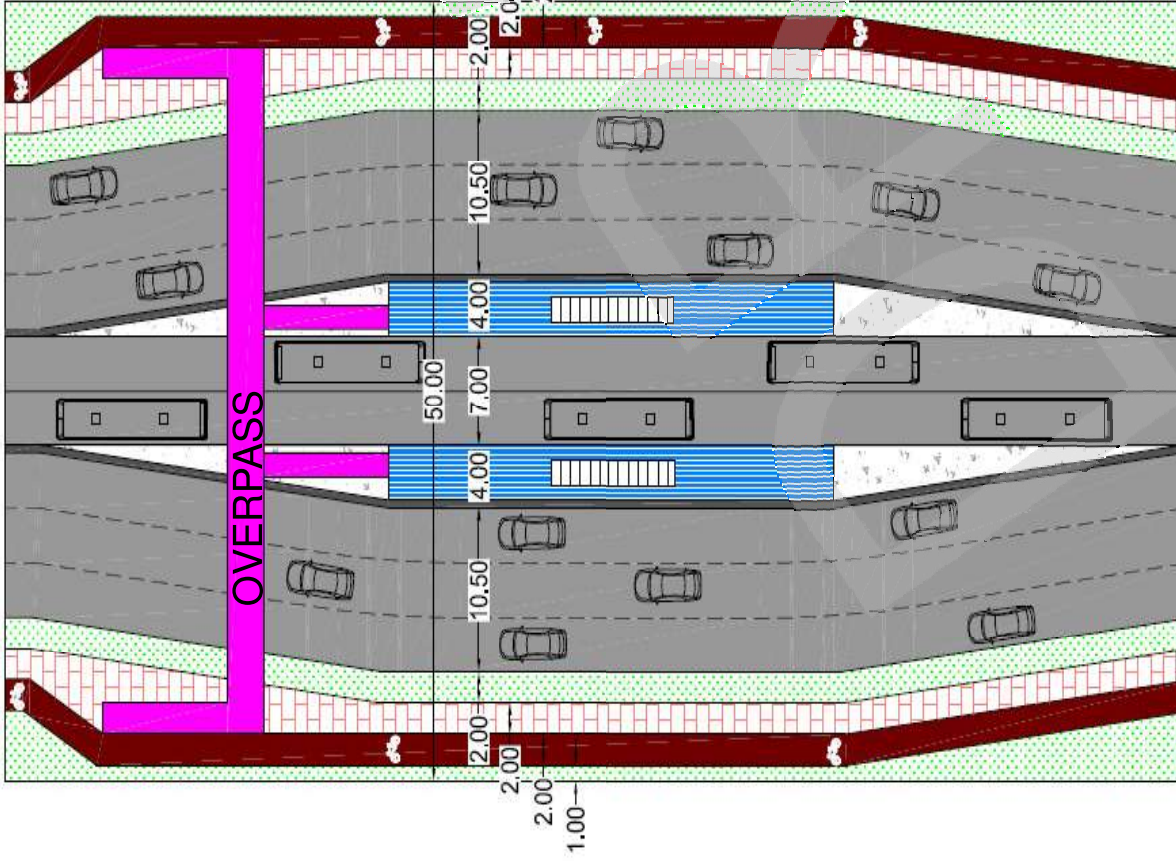
Right of Way – Arterial (50m)



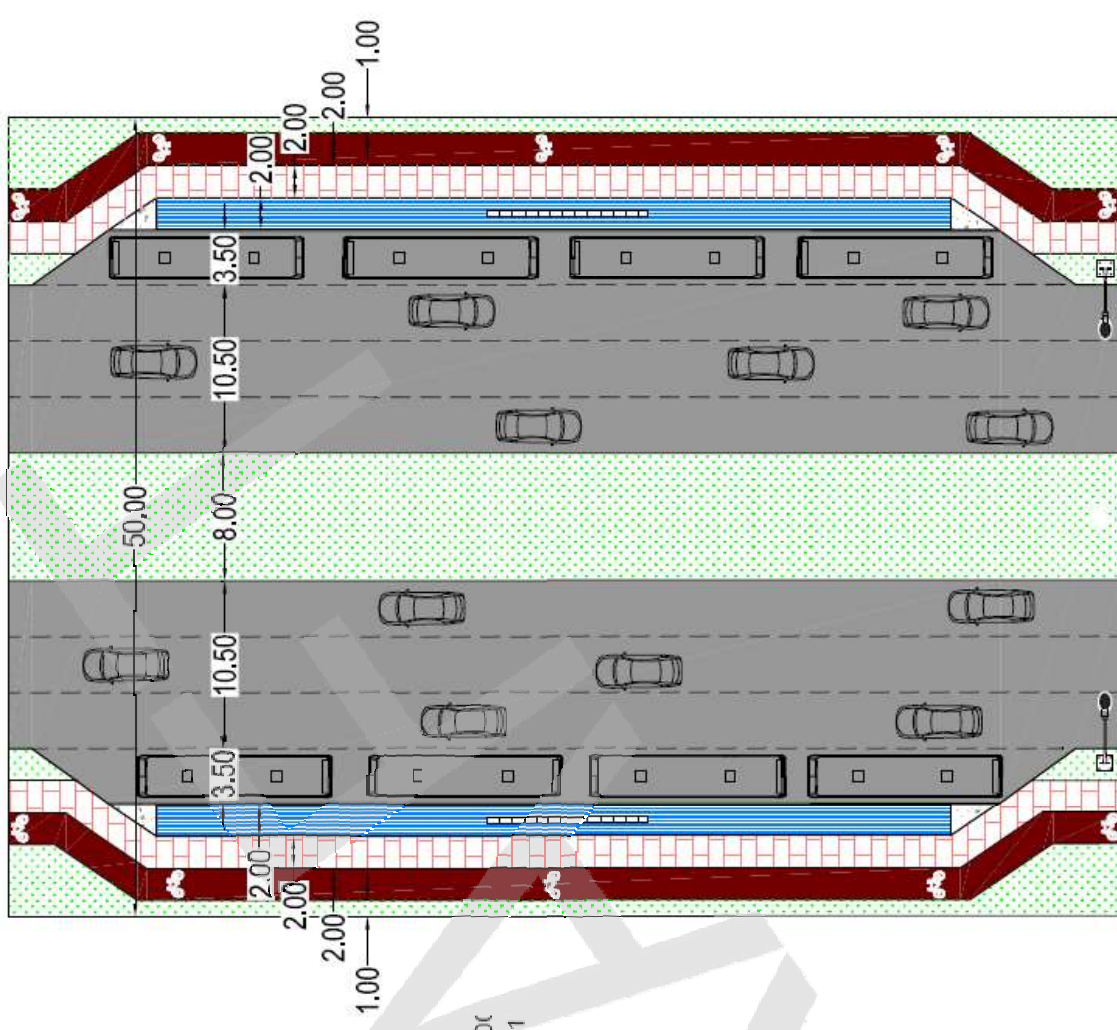
Right of Way - Collector



Public Transport Plan



Sub Arterial (50m)



Arterial (50m)

NMT strategy

> 350kms Bicycle/Jogging tracks on all Arterial roads and Green & Blue network with easy intermodal connectivity within 5 mins



Green and Blue

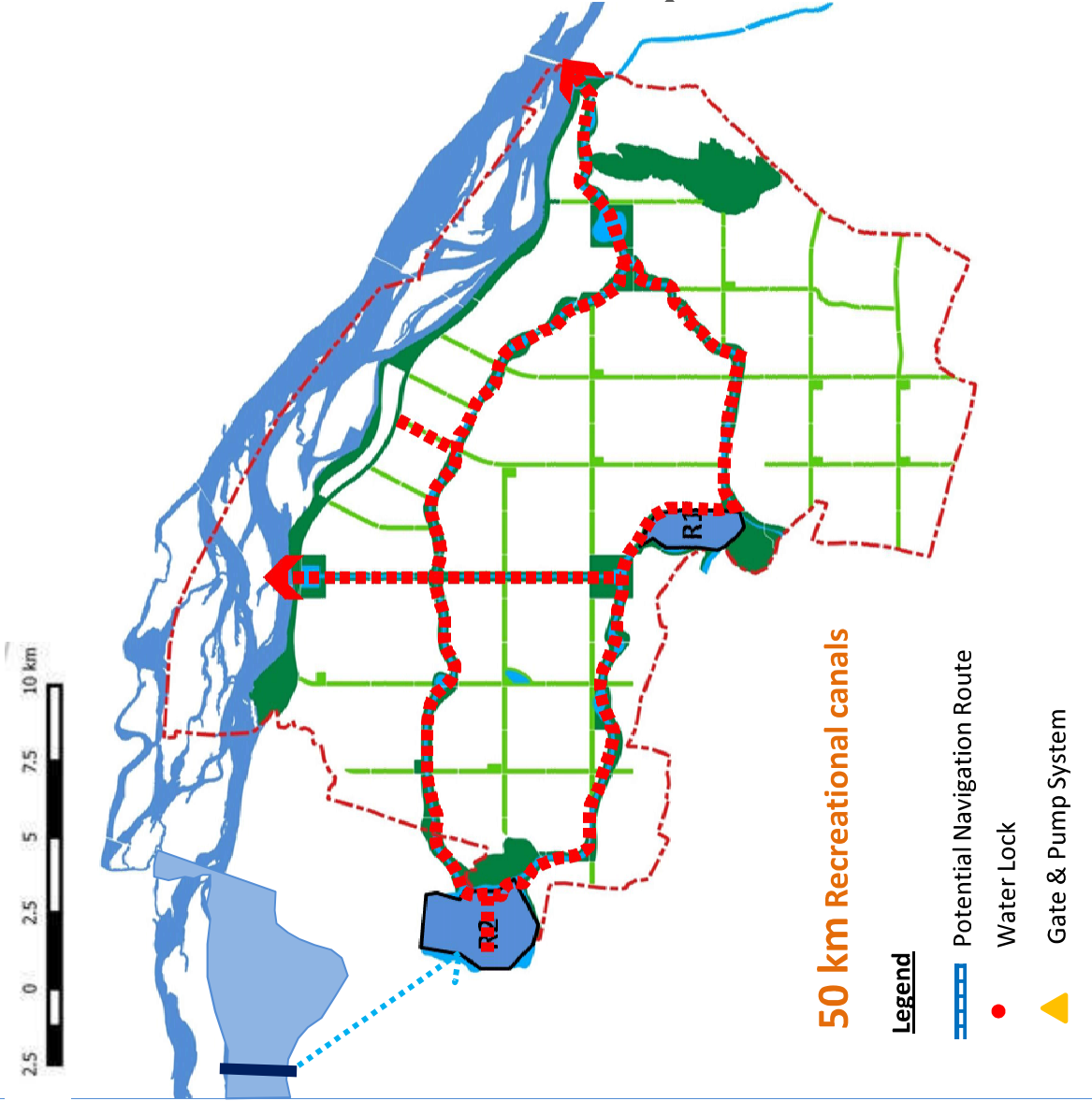
- Site Boundary
- █ Primary Green, 36 sqkm, 16%
- █ Secondary Green, 12 sqkm, 6%
- █ Water, 7 sqkm, 3%
- Total, 51 sqkm, 25%**



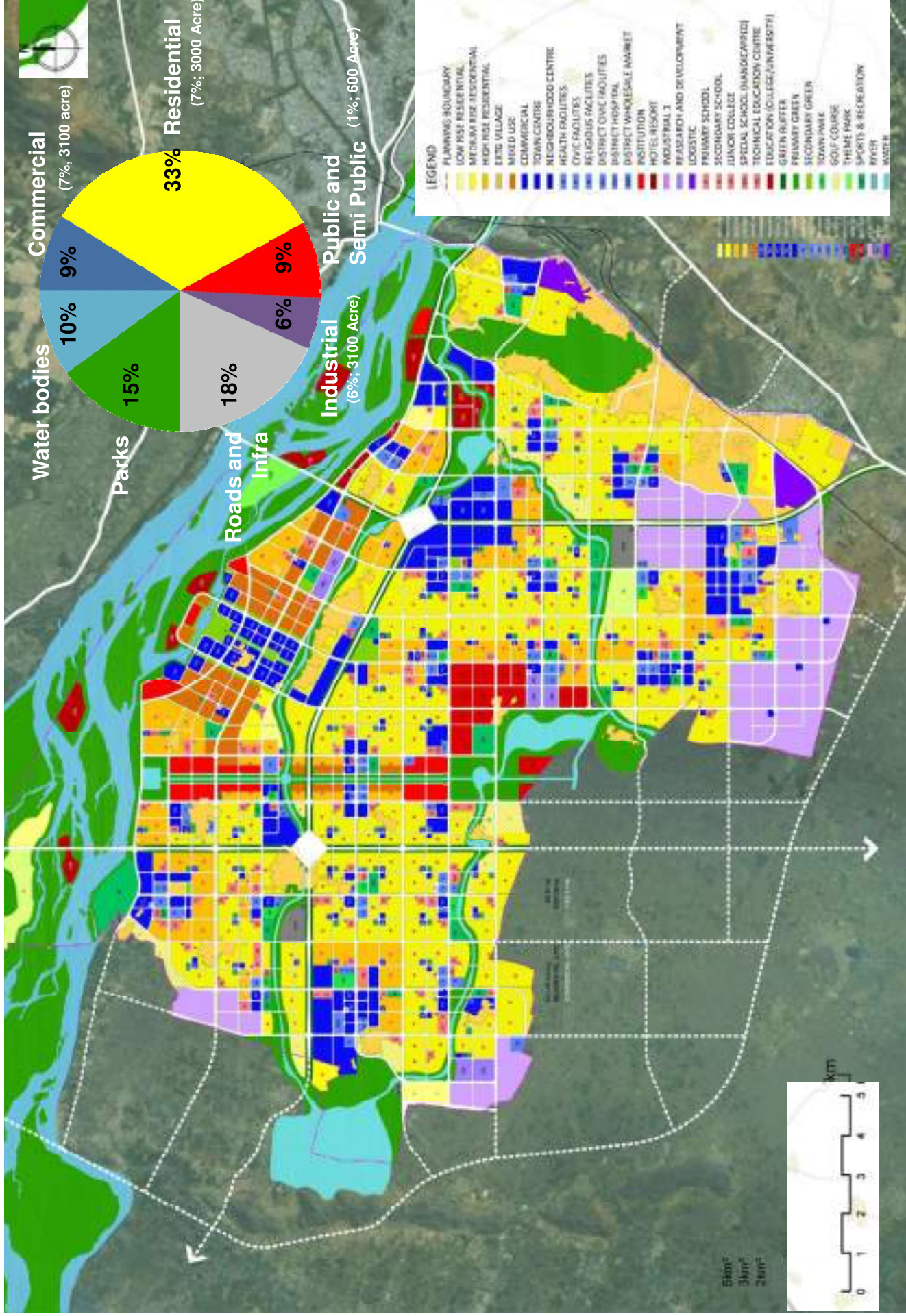
Net Total Green and Blue (target) , 87sqkm, 40%

Water Navigation – Option 2

Konaseema canals



Land Use

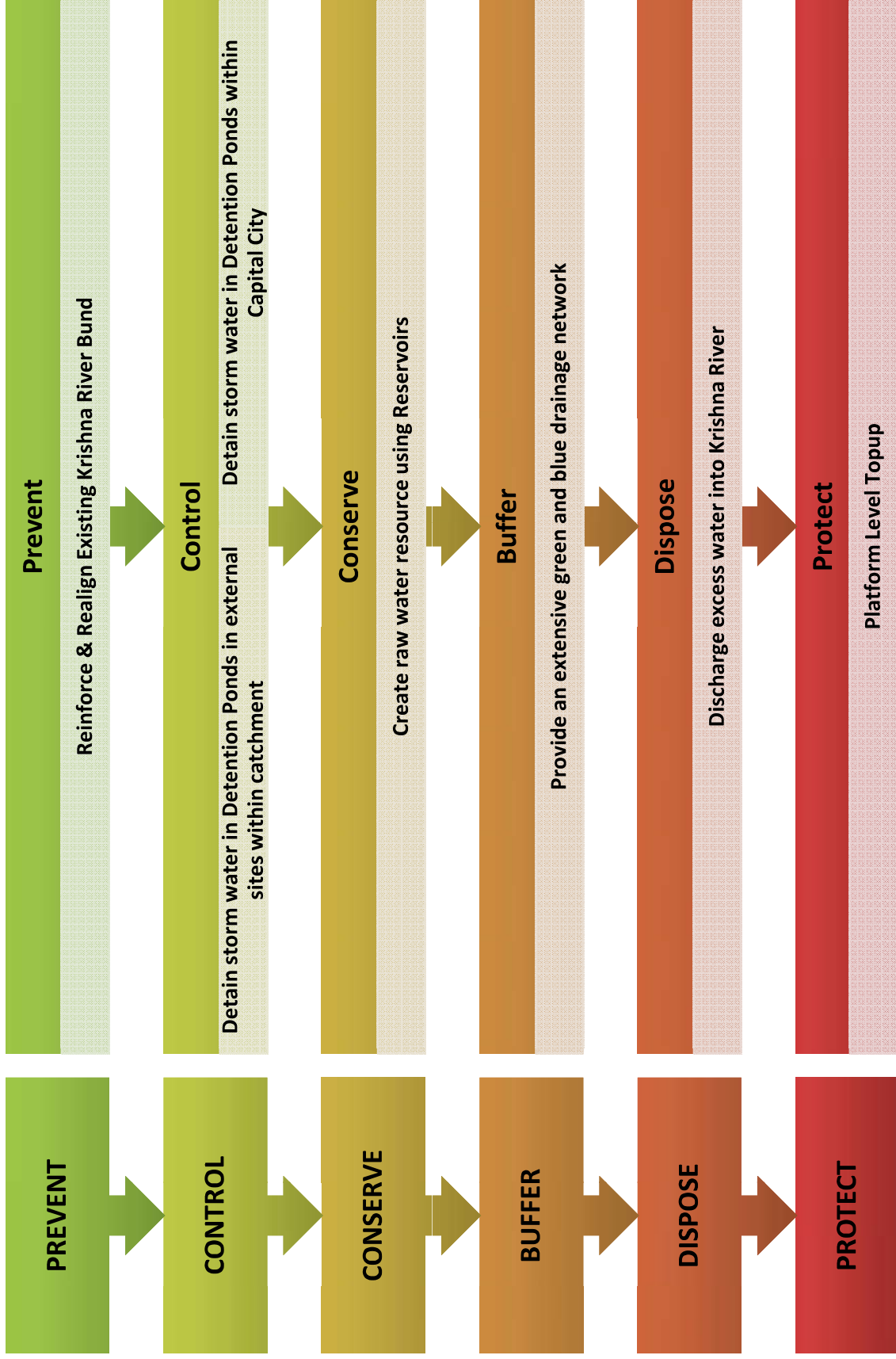


05

Infrastructure

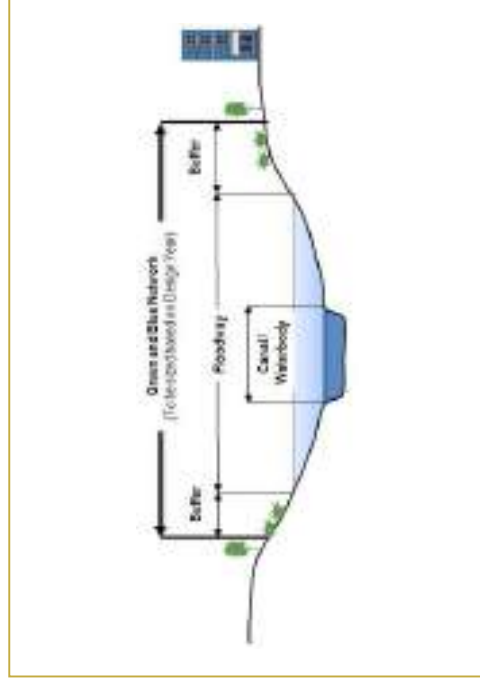
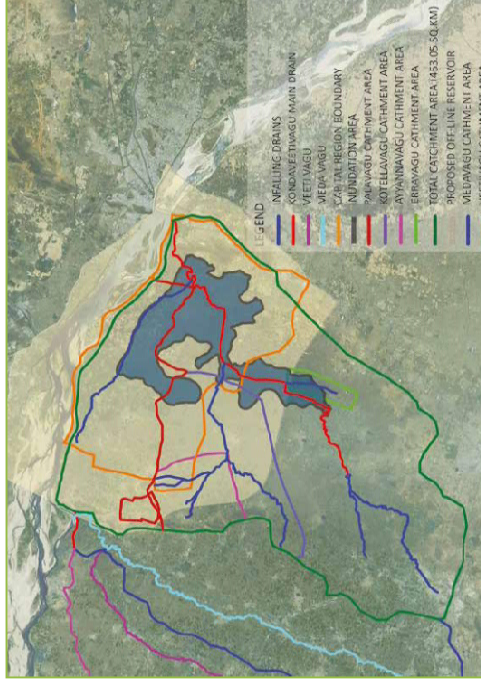
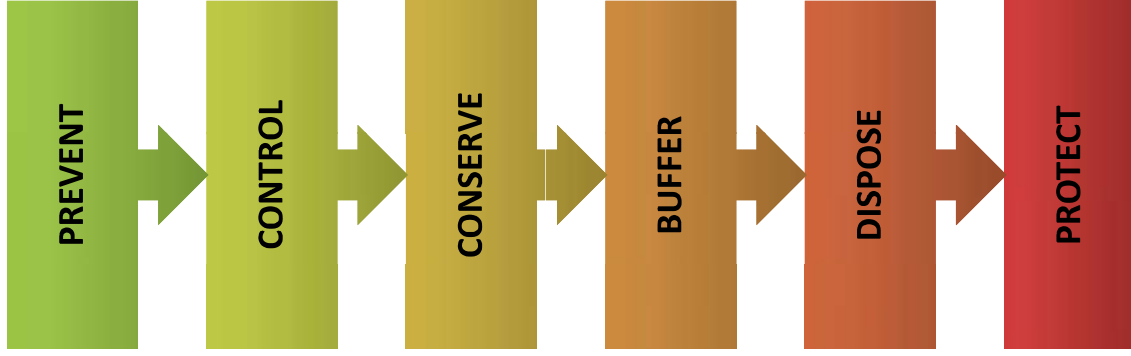
Flood Management

Proposed Flood Management Strategies

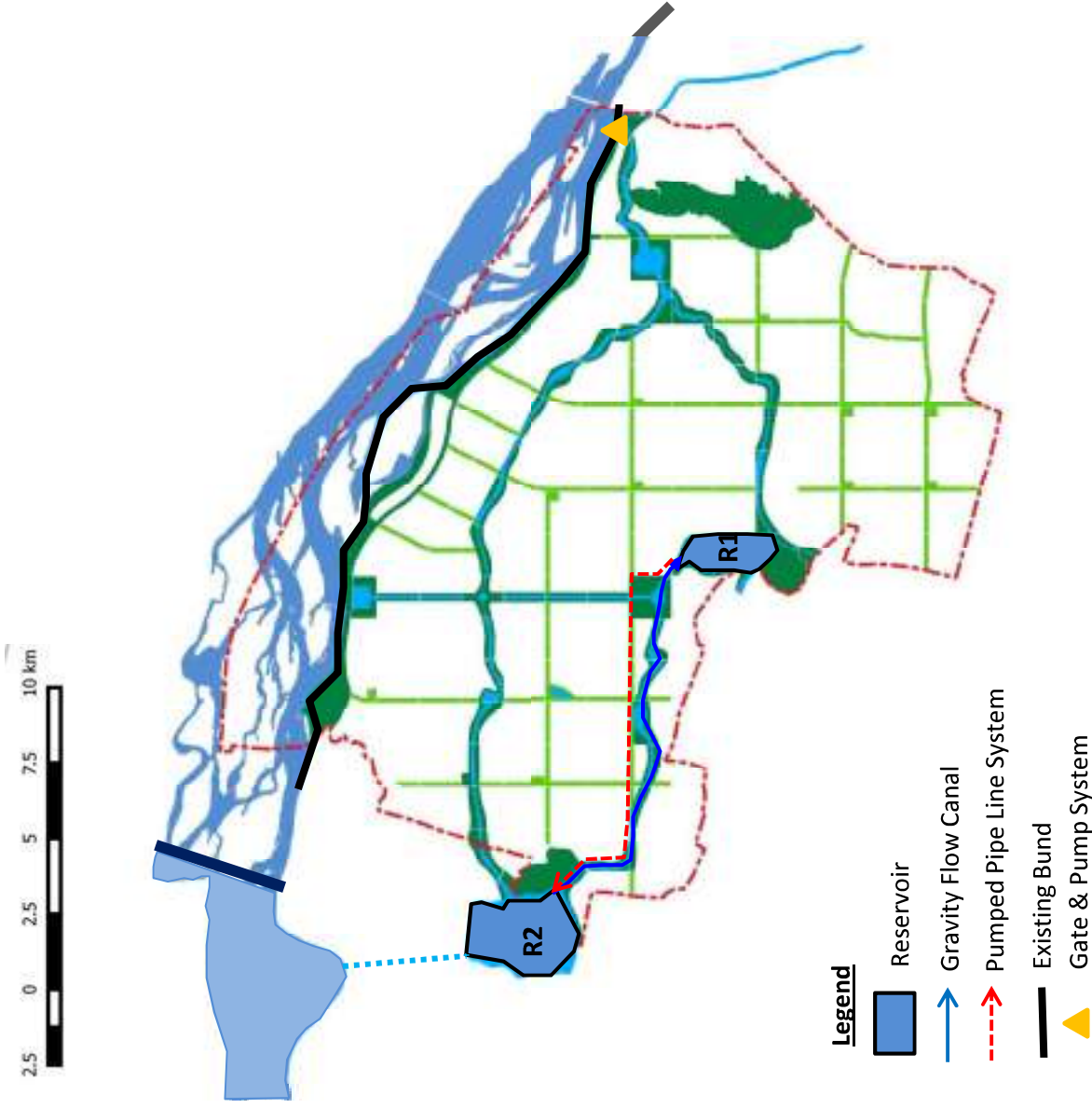


Flood Management

Proposed Flood Management Strategies



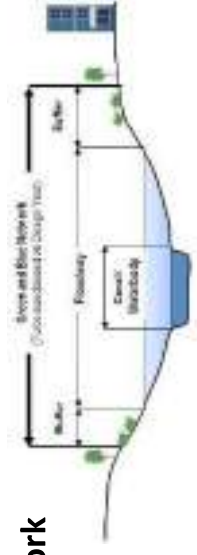
Flood Management



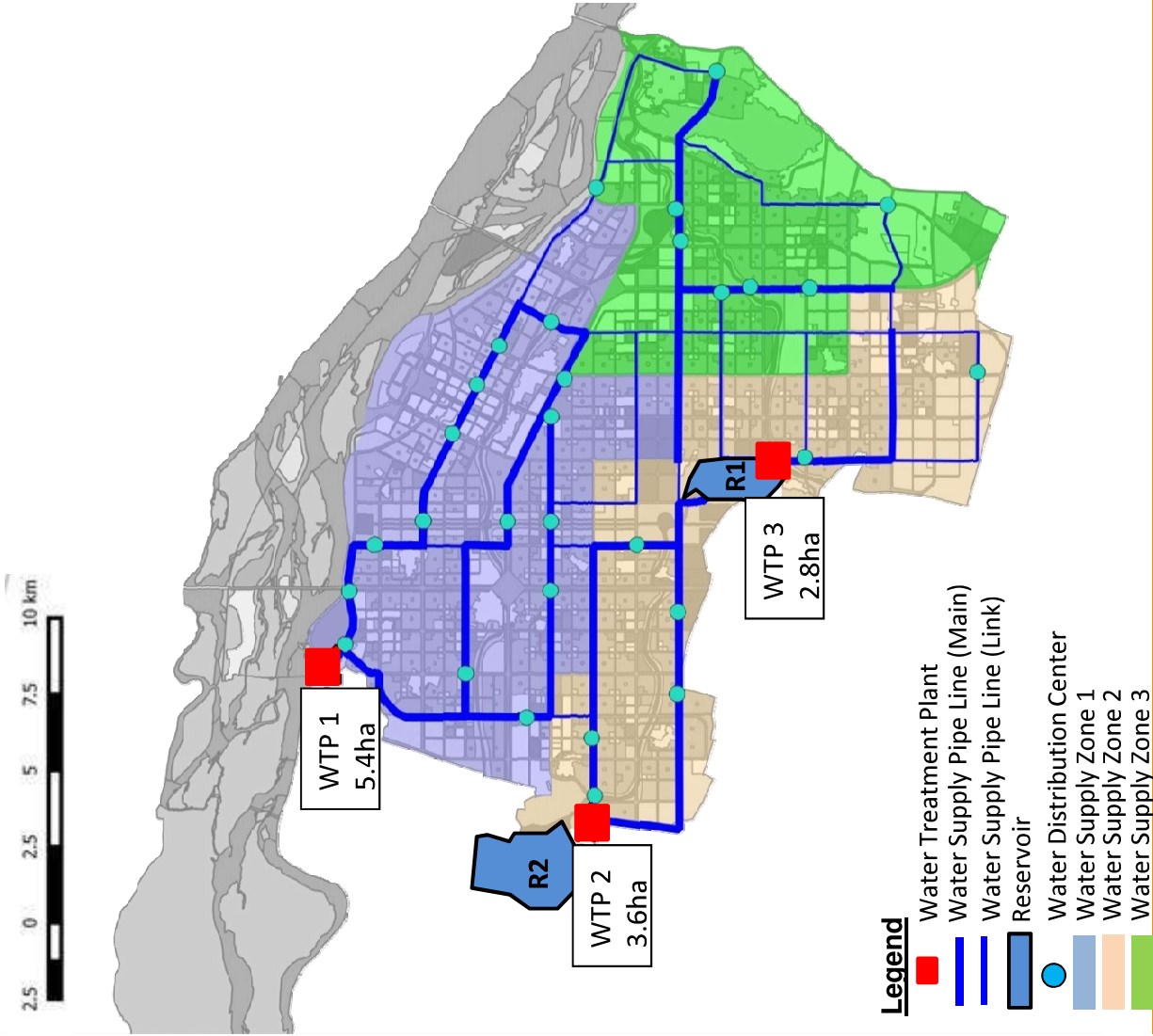
Overview of Flood Control Green and Blue Buffer



Cross-section of Green & Blue Network



Bishan Park, Singapore



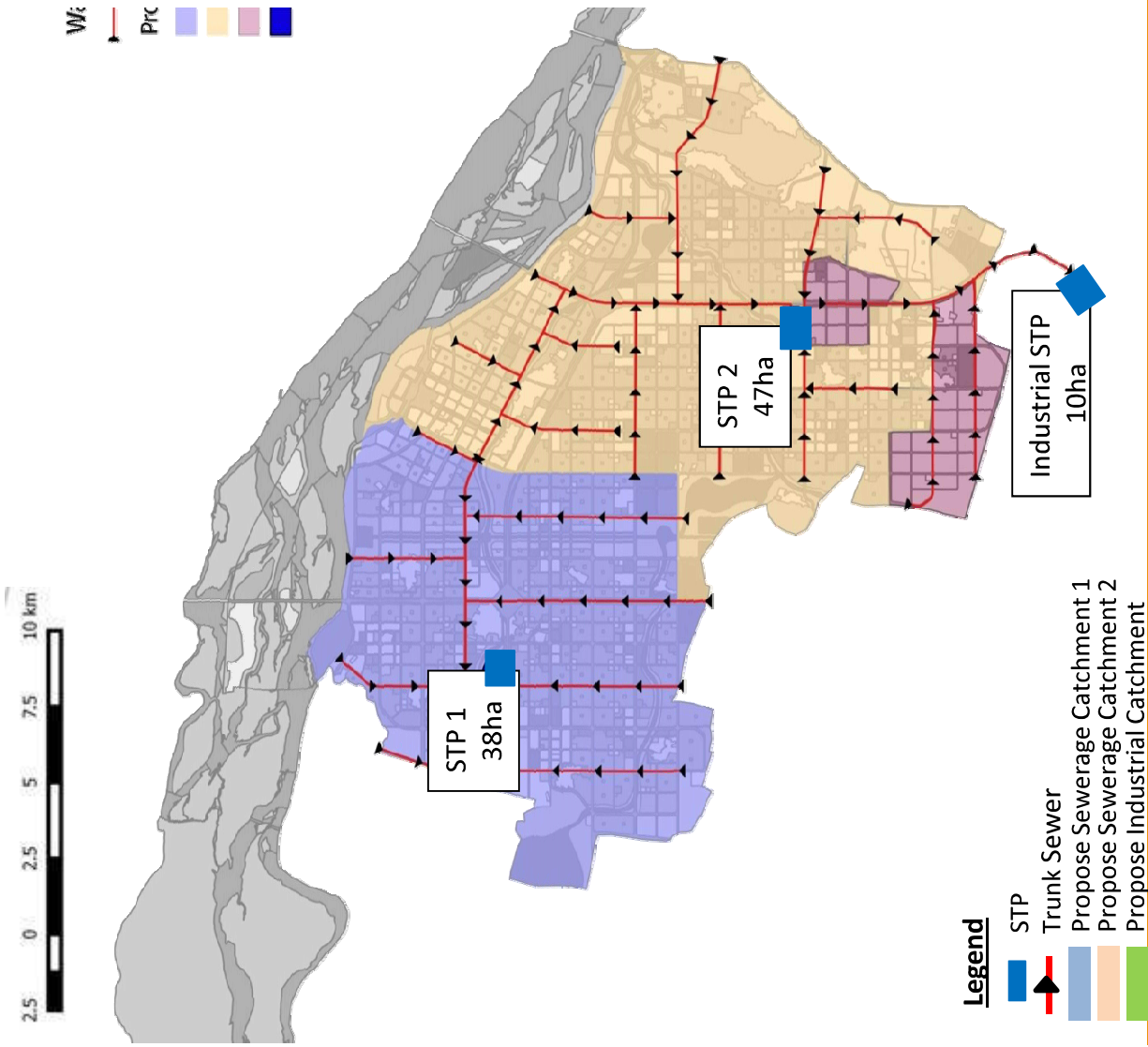
Overall Water Supply Strategy

Two main sources of raw water supply:

- Krishna River
- Reservoirs R1, R2

Water Treatment Plant

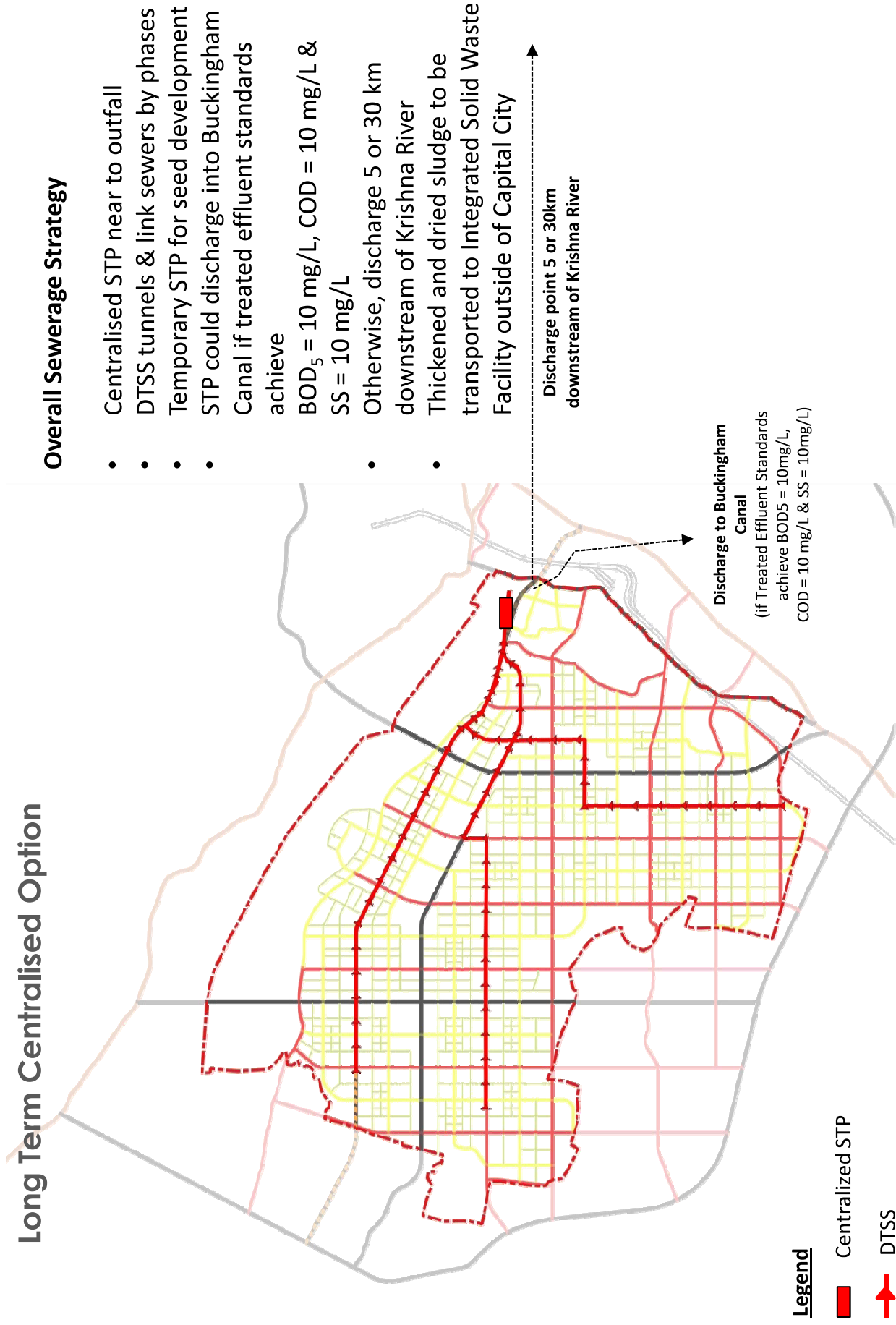
- Three WTPs to serve various water supply zones



Overall Sewerage Strategy

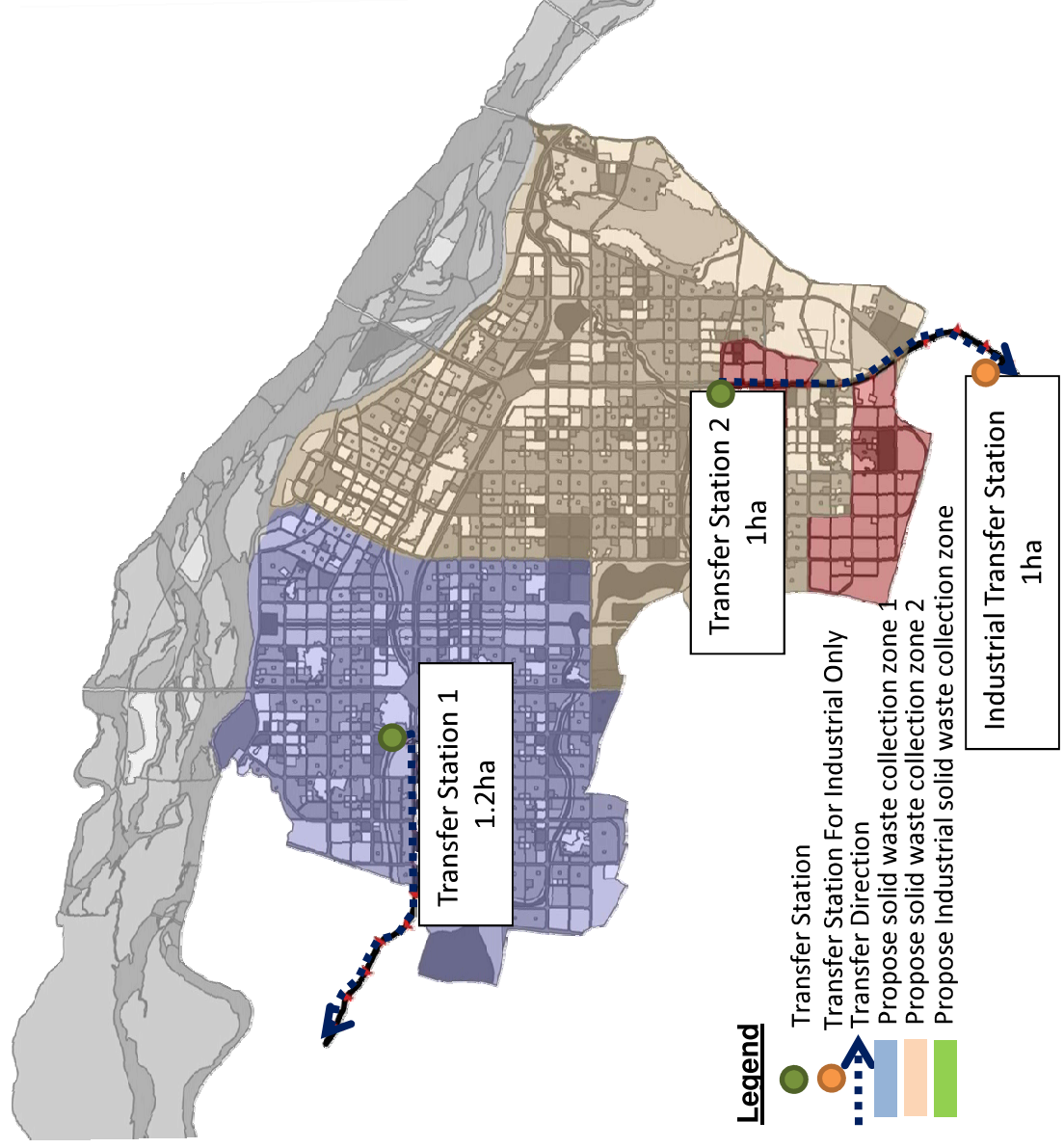
- Decentralised STP: Two municipal STP and one industrial STP
- STP could discharge into nearest water bodies if treated effluent standards achieve
 $BOD_5 = 10 \text{ mg/L}$, $COD = 10 \text{ mg/L}$ &
 $SS = 10 \text{ mg/L}$
- Thickened and dried sludge to be transported to Integrated Solid Waste Facility outside of Capital City

Long Term Centralised Option



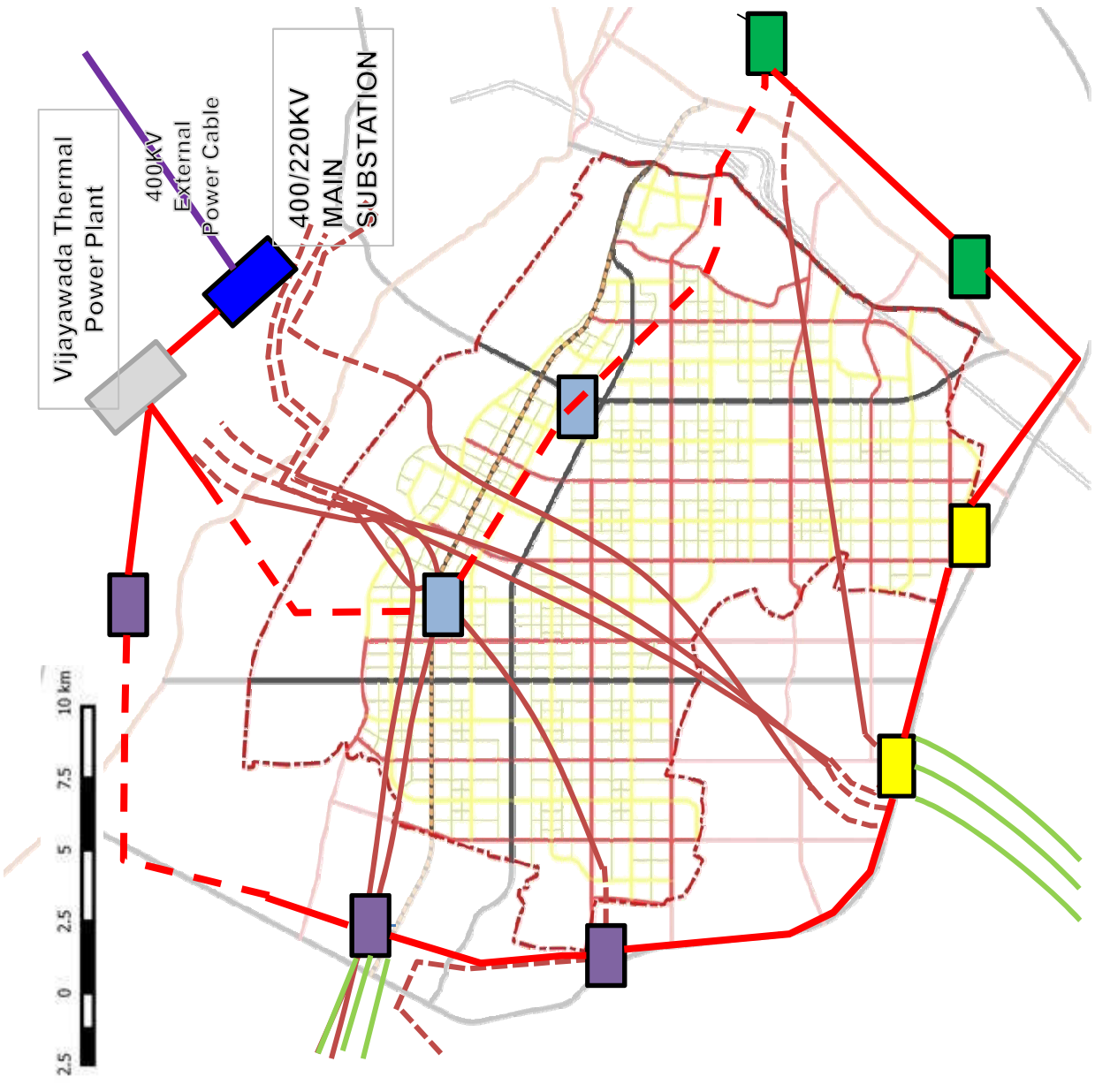
Overall Sewerage Strategy

- Centralised STP near to outfall
- DTSS tunnels & link sewers by phases
- Temporary STP for seed development
- STP could discharge into Buckingham Canal if treated effluent standards achieve
BOD₅ = 10 mg/L, COD = 10 mg/L & SS = 10 mg/L
- Otherwise, discharge 5 or 30 km downstream of Krishna River
- Thickened and dried sludge to be transported to Integrated Solid Waste Facility outside of Capital City



Overall Solid Waste Mgt Strategy:

- Implement a new Waste Collection System suitable for transferring waste from the developments to the transfer station and onwards
- Construct an Integrated Solid Waste Management Facility (ISWMF) outside the Capital City boundary
- Construct road network to provide direct link to the transfer stations & ISWMF



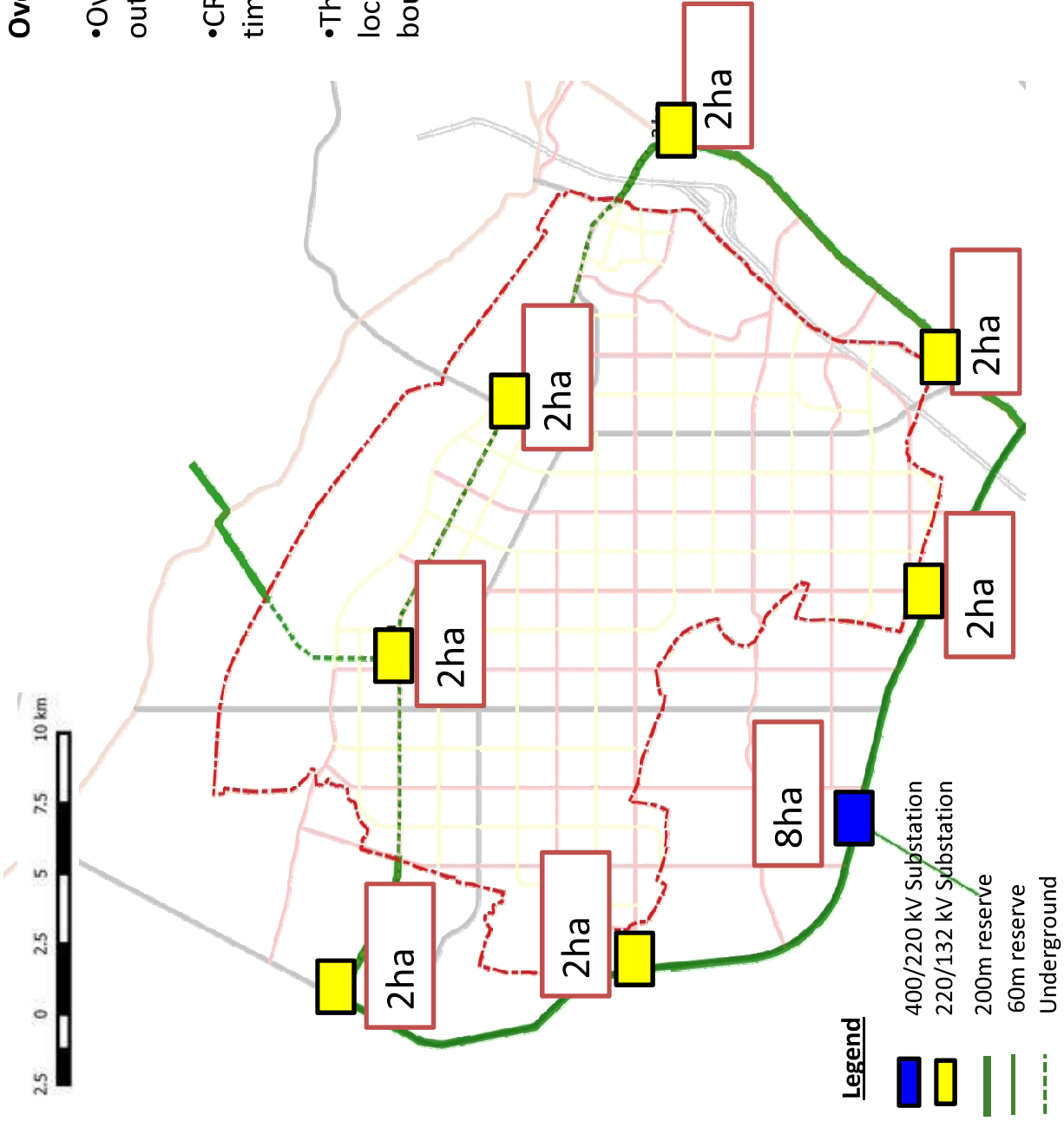
Overall Power Supply Strategy:

- Overhead UHV power line diversion to outside of City Boundary
- CRDA to confirm with TransCo on timeframe required for diversion
- The proposed 400/220KV substation location shall be located outside the City boundary

Land Use	Power Demand(MW)
Municipal	5,000
Industrial	500
Total	5,500

Legend

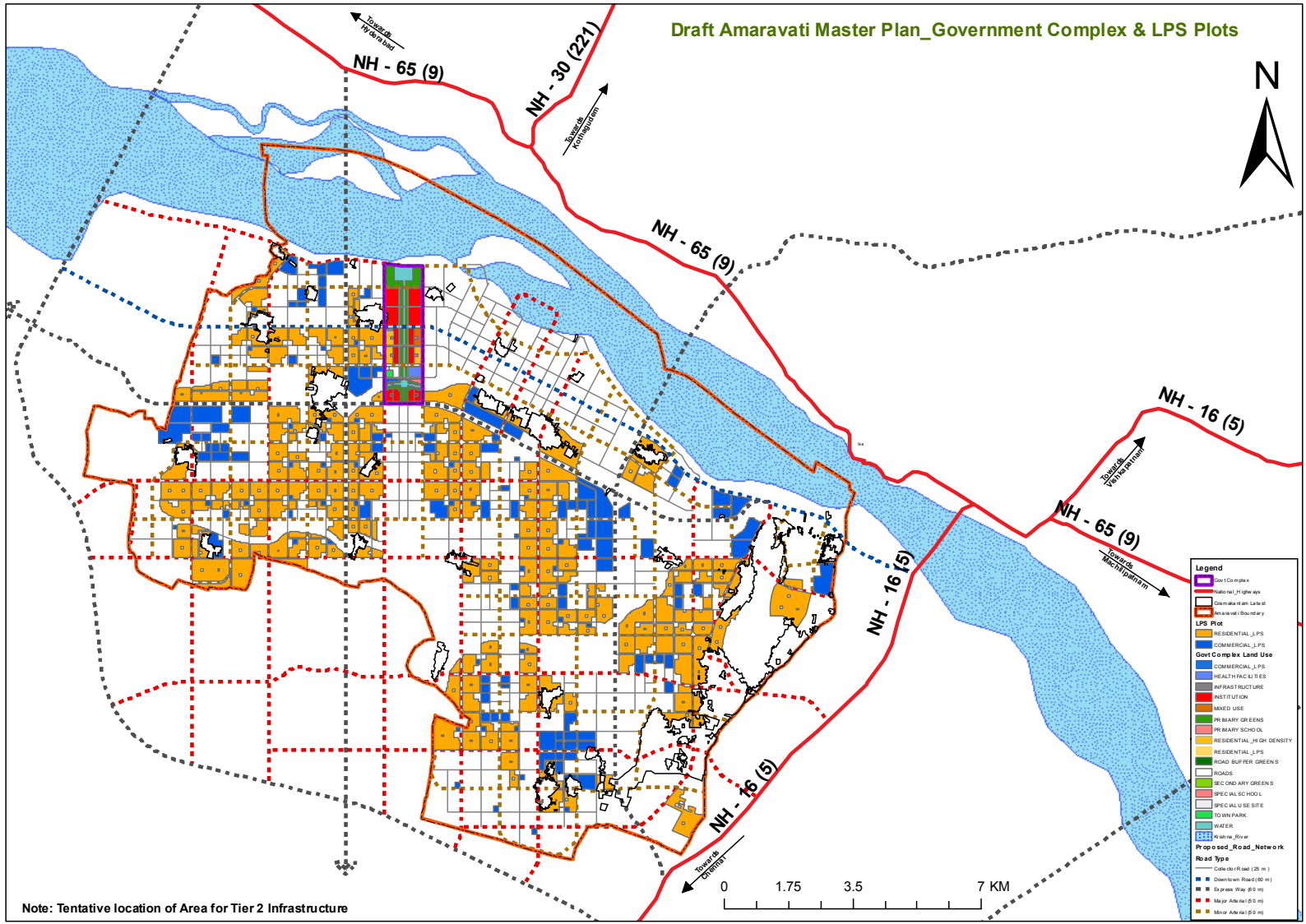
- 400/220 kV Substation
- Seed Dev. - 220/132 kV Substation
- Phase 1 - 220/132 kV Substation
- Phase 2 - 220/132 kV Substation
- Phase 3 - 220/132 kV Substation
- Proposed 220KV Power Line
- Proposed 220KV Power Line (Underground)
- Proposed 440KV New Power Line
- Existing Overhead UHV Power Line



Overall Power Supply Strategy:

- Overhead UHV power line diversion to outside of City Boundary
- CRDA to confirm with TransCo on timeframe required for diversion
- The proposed 400/220KV substation location shall be located outside the City boundary

Draft Amaravati Master Plan_Government Complex & LPS Plots



Note: Tentative location of Area for Tier 2 Infrastructure

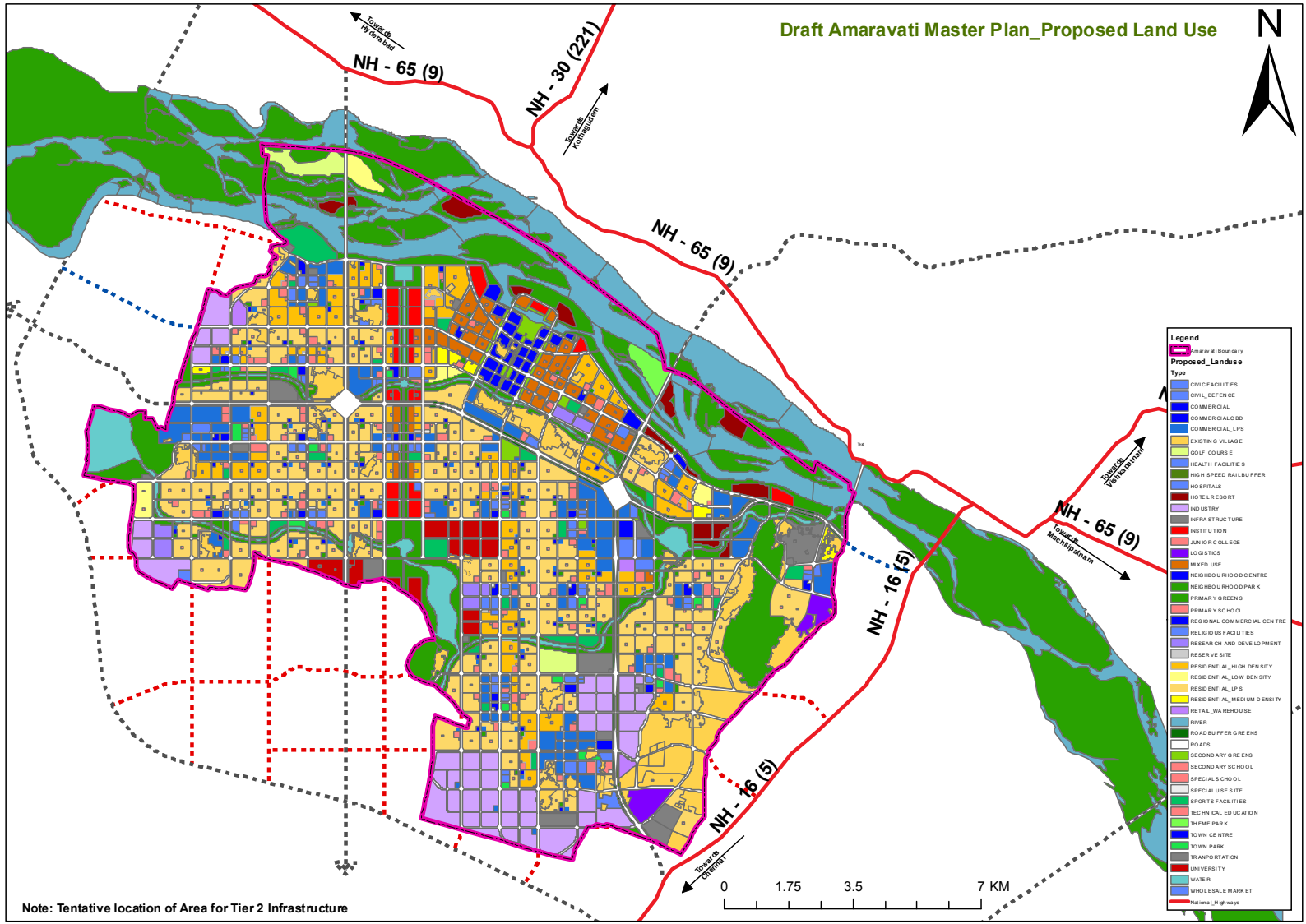
Legend

- Govt Complex
- National Highways
- District of Am. Lokat
- Area of Interest Boundary
- Residential LPS
- Commercial LPS
- Govt Complex Land Use
- Health Facilities
- Infrastructure
- Institution
- Mixed Use
- Primary Greens
- Primary School
- Residential High Density
- Residential LPS
- Road Buffer Greens
- Roads
- Secondary Greens
- Special School
- Special Use Site
- Town Park
- Water
- Wainganga River

Proposed Road Network

- Collector Road (20 m)
- Downtown Road (60 m)
- Express Way (60 m)
- Major Arterial (50 m)
- Minor Arterial (50 m)

Draft Amaravati Master Plan_Proposed Land Use



Legend

Proposed Land Use Type

- AMARAVATI BOUNDARY
- CIVIL FACILITIES
- CIVIL DEFENCE
- COMMERCIAL
- COMMERCIAL CBD
- COMMERCIAL_LPS
- COMMERCIAL_LPS
- EXISTING VILLAGE
- GOLF COURSE
- HEALTH FACILITIES
- HIGH SPEED RAIL BUFFER
- HOSPITALS
- HOTEL RESORT
- INDUSTRY
- INFRASTRUCTURE
- INSTITUTION
- JUNIOR COLLEGE
- LOGISTICS
- MIXED USE
- NEIGHBOURHOOD CENTRE
- NEIGHBOURHOOD PARK
- PRIMARY GREENS
- PRIMARY SCHOOL
- REGIONAL COMMERCIAL CENTRE
- RELIIGIOUS FACILITIES
- RESEARCH AND DEVELOPMENT
- RESERVE SITE
- RESIDENTIAL_HIGH DENSITY
- RESIDENTIAL_LOW DENSITY
- RESIDENTIAL_LPS
- RESIDENTIAL_MEDIUM DENSITY
- RETAIL_WAREHOUSE
- RIVER
- ROAD BUFFER GREENS
- ROADS
- SECONDARY GREENS
- SECONDARY SCHOOL
- SPECIAL SCHOOL
- SPECIAL USE SITE
- SPORTS FACILITIES
- TECHNICAL EDUCATION
- THEME PARK
- TOWN CENTRE
- TOWN PARK
- TRANSPORTATION
- UNIVERSITY
- WATER
- WHOLESALE MARKET
- NATIONAL HIGHWAY

Note: Tentative location of Area for Tier 2 Infrastructure

0 1.75 3.5 7 KM

CRDA Region

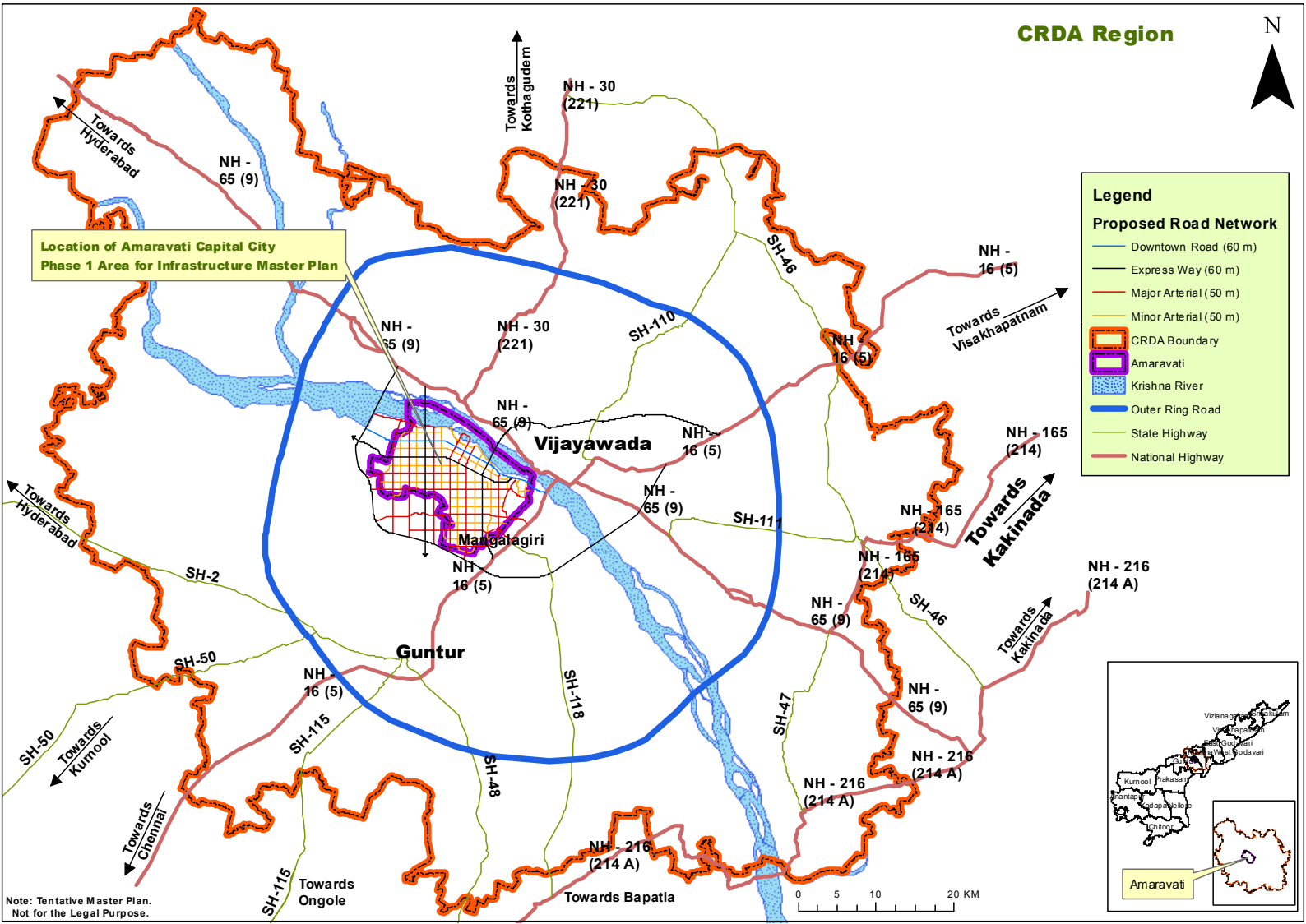


Location of Amaravati Capital City
Phase 1 Area for Infrastructure Master Plan

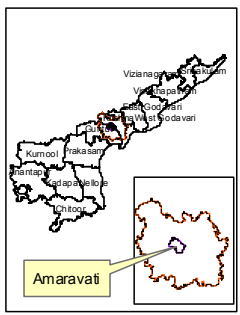
Legend

Proposed Road Network

- Downtown Road (60 m)
- Express Way (60 m)
- Major Arterial (50 m)
- Minor Arterial (50 m)
- CRDA Boundary
- Amaravati
- Krishna River
- Outer Ring Road
- State Highway
- National Highway



Note: Tentative Master Plan.
Not for the Legal Purpose.



18

Appendix 3

Representative photographs indicating the desired finish/ look and feel

18.1 Transport



Figure 18.1: Arterial roads



Figure 18.2: Cycle track



Figure 18.3: Carriageway



Figure 18.4: Utility tunnel



Figure 18.5: Storm Water drainage



Figure 18.6: Pavement and medians



Figure 18.7: Solid waste bins on roads



Figure 18.8: Pedestrian walkways; Plantation strips and streetscaping



Figure 18.9: Smart Street Lighting



Figure 18.10: Bus bays



Figure 18.11: Public Transport stations; Multi-model interchange hub



Figure 18.12: Surveillance Infrastructure



Figure 18.13: Signages and Pavement markings



Figure 18.14: Interchanges / Junction



Figure 18.15: Road under bridge (RUB)



Figure 18.16: Transition kerb

18.2 Power



Figure 18.17: Power lines in Utility corridor



Figure 18.18: Indoor substation

18.3 Water

18.3.1 Water supply



Figure 18.19: Water lines in utility corridors



Figure 18.20: Control center

18.3.2 Waste water



Figure 18.21: Sewer lines in utility corridors

18.3.3 Solid waste Management



Figure 18.22: Automatic waste collection system with bins



Figure 18.23: Transfer station

18.3.4 Storm water management



Figure 18.24: Rainwater harvesting

18.3.5 District cooling system



Figure 18.25: District Cooling Plant



Figure 18.26: Cooling tower



Figure 18.27: Chilled water supply to institutions

18.3.6 ICT & Smart infrastructure



Figure 18.28: CCTV system



Figure 18.29: Central Command and control center

VOLUME II
INSTRUCTIONS TO BIDDERS

1

GENERAL

1.1 Scope of Bid

1.1.1

The Authority invites Bids for the Services described in these Bidding Documents, in accordance with the procedures, conditions and contract terms prescribed in the Bidding Document.

1.1.2

The title and identification number of the Notice Inviting Bids (NIB), resulting Contract(s), and brief description of service are provided in the **BDS**.

1.1.3

The schedule of bidding process is as specified in the **BDS**.

1.1.4

The successful bidder will be expected to complete its performance within the period stated in the **BDS**.

1.1.5

Bidder must be ready to accept the extension of the contract by a further period specified in the **BDS** on the same terms and conditions, if so desired by Authority.

1.1.6

The Official Website and the address of Authority's Office for the purpose of this Bidding Document shall be as specified in the **BDS**.

1.1.7

If the **BDS** so provides, alternative procedures forming part or all of what is commonly known as e-Tendering are available to the extent specified in, or referred to by, the **BDS**.

1.1.8

The Bidding documents can be obtained from the official website of the Authority or at the Authority's Office, at the Cost specified in **BDS**. In case the bidding documents are downloaded from the official website, a bank demand draft for an amount equal to the bid price, drawn in favour of the Client, shall be submitted along with the bid, attached to the bid form.

1.1.9

Throughout these bidding documents, the definitions in the Conditions of Contract shall apply; Services refer to Activity Schedule; Authority refers to employer, buyer, Client and owner; and Contractor refers to supplier, seller, Service Provider and vendor.

1.1.10

Throughout the Bidding Documents, the term "in writing" means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt, and the term "days" means calendar days unless a different meaning is evident from the context.

1.2 General Instructions

1.2.1

Any entity which has been barred by the Central Government, any State Government, a Statutory Authority or a public sector undertaking, as the case may be, from participating in any project and the ban subsists as on the date of Bid, would not be eligible to submit a Bid.

1.2.2

This Bidding Document is not transferable.

1.2.3

Any award of contract pursuant to this Bidding Document shall be subject to the terms of Bidding Document.

1.2.4

The statements and explanations contained in this Bidding Document are intended to provide a better understanding to the Bidders about the subject matter of the Bid for which this Bidding Document is issued and it should not be construed or interpreted as limiting in any way or manner the scope of services and obligations of the bidder set forth in the Bidding Document or the Authority's rights to amend, alter, change, supplement or clarify the scope of work, the assignment to be awarded pursuant to this Bidding Document or the terms thereof or herein contained. Consequently, any omissions, conflicts or contradictions in the Bidding Document including this document are to be noted, interpreted and applied appropriately to give effect to this intent, and no claims on that account shall be entertained by the Authority.

1.2.5 Liability

The Authority shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to tender document, the Bidding Document or the Bidding Process, including any error or mistake therein or in any information or data given by the Authority.

1.2.6

By submitting a proposal, the Bidder agrees to promptly contract with the Authority for any work awarded to the Bidder. Failure on the part of the awarded Bidder to execute a valid contract with the Authority's due date will relieve the Authority of any obligation to the Bidder, and a different Bidder may be selected.

1.2.7

Any additional or different terms and conditions proposed by the Bidder would be rejected unless expressly assented to in writing by the Authority.

1.2.8

The Bidders shall adhere to the terms of this Bidding Document and shall not deviate from the same. If the Bidders have absolutely genuine issues only then should they provide their nature of non-compliance to the same. The Authority reserves its right to not accept such deviations to the Tender terms, in its sole and absolute discretion, and shall not be obliged to furnish any reason for exercising such right.

1.2.9

Responses received become the property of the Authority and can't be returned. Information provided by each Bidder will be held in confidence, and will be used for the sole purpose of evaluating a potential business relationship with the Bidder.

1.2.10 Contacts during Bid Evaluation

Bids shall be deemed to be under consideration immediately after they are opened and until such time the Authority makes official intimation of award/ rejection to the Bidders. While the Bids are under consideration, Bidders and/ or their representatives or other interested parties are advised to refrain, save and except as required under the Bidding Document, from contacting by any means, the Authority and/ or their employees/ representatives on matters related to the Bids under consideration.

1.2.11 Prohibited Practices

For the purposes of this bid the Authority,

- (a) defines "Prohibited Practice" to comprise of any or all of the following terms collectively
 - (i) **Corrupt practice** means (i) The offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the **LOA** or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); Or (ii) Save and except as permitted under the Clauses relating to Bid security/Performance security of this Bidding Document as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the **LOA** or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the **LOA** or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Authority in relation to any matter concerning the Project;
 - (ii) **Fraudulent practice** means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;

- (iii) **Coercive practice** means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;
 - (iv) **Undesirable practice** means establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process;
 - (v) **Restrictive practice** means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.
- (b) will reject a proposal for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in prohibited practices in competing for the contract in question; and
- (c) will black-list a firm or individual, including declaring ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has, directly or through an agent, engaged in prohibited practices in bidding for, or in executing, a contract of the Authority.

1.2.12 Cost of Bid

The Bidders shall be responsible for all of the costs associated with the preparation of their Bids and their participation in the Bidding Process. The Authority will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

1.2.13 Definitions and Acronyms

“ITB” means Instructions to Bidders,

“BDS” means Bid Data Sheet,

“Paragraph” or “Para” refers to the paragraph number in the ITB or **BDS**,

“Subpara” or “Sub-paragraph” refers to the sub paragraph of a para of ITB or **BDS**,

“Clause” or “Sub-Clause” refer to those in General Conditions of Contract(GCC) or Special Conditions of Contract(SCC),

1.3 Eligibility

1.3.1

This invitation for bids is open to service providers of specified in the **BDS**.

1.3.2

Proposals not complying with the 'Eligibility criteria' are liable to be rejected and will not be considered for further evaluation. The proposal should adhere to the minimum eligibility criteria specified in the **BDS**.

1.3.3

If a prequalification process has been undertaken for the Contract(s) for which these Bidding Documents have been issued, only those Bidders may participate that had been prequalified and continue to meet the eligibility criteria of this Paragraph ITB.

1.3.4

A firm or other entity that is ineligible according to any of the provisions of this bidding documents, may also not participate as a Joint Venture partner, or as Sub-contractor for or supplier of goods, works or services. If a bid becomes materially incomplete after removing ineligible entities, the bid may be disqualified.

1.3.5

Bidders shall provide such evidence of their continued eligibility satisfactory to the Client, as the Client shall reasonably request.

1.4 Qualifications

1.4.1

By submission of documentary evidence in its bid, the Bidder must establish to the Client's satisfaction:

- (a) that it has the financial, technical, and production or performance capability necessary to perform the Contract, meets the qualification criteria specified in the **BDS**, and has a successful performance history. If a prequalification process has been undertaken for the Contract(s) for which these Bidding Documents have been issued, the Bidder shall, as part of its bid, update any information submitted with its application for prequalification;
(For the purposes of establishing a Bidder's qualifications, and unless stated to the contrary in the **BDS**, the experience and / or resources of any Subcontractor will not contribute to the Bidder's qualifications; only those of a Joint Venture partner will be considered.)
- (b) that, if a Bidder proposes Subcontractors for key services if and as identified in the **BDS**, these Subcontractors have agreed in writing to serve for the Bidder under the Contract(s) that may result from this bidding.

1.5 Pre-Bid meeting and/or Site visit

1.5.1

Bidders are encouraged to submit their respective Bids after visiting the site locations and ascertaining for themselves the site conditions, infrastructure and other available resources. The costs of visiting the site or sites shall be borne by the Bidder.

1.5.2

It shall be deemed that by submitting a Bid, the Bidder has:

- (i) Made a complete and careful examination of the Bidding document;
- (ii) Received all relevant information requested from the Authority;
- (iii) Accepted the risk of inadequacy, error or mistake in the information provided in the Bidding Document or furnished by or on behalf of the Authority relating to any of the matters referred to sub-para in "General Instructions" paragraph ITB;
- (iv) Satisfied itself about all matters, things and information including matters referred to in , necessary and required for submitting an informed Bid, implementation of the Proposal in accordance with the Bidding Document and performance of all of its obligations there under;
- (v) Acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in the Bidding Document or ignorance of any of the matters refer to "General Instructions" paragraph ITB, shall not be a

basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from the Authority, or a ground for termination of the Agreement by the bidder;

- (vi) Agreed to be bound by the undertakings provided by it under and in terms hereof.
- (vii) Bidders shall have the opportunity to clarify doubts pertaining to the Bidding Document in order to clarify any issues they may have prior to finalizing their responses in the pre-bid conference. Responses to inquiries and any other corrections and amendments will be made available on the Authority's website as addenda to this Bidding Document.

1.5.3 Correspondence with the Bidder

Save and except as provided in this document, the Authority shall not entertain any correspondence with any Bidder in relation to acceptance or rejection of any Bid. The Authority may, in its absolute discretion, seek additional information or material from any Bidders after the bid due date and all such information and material provided must be taken to form part of that Bidders response.

1.5.4

The Authority shall be under no obligation to accept the lowest or any other offer received in response to this Bidding Document and shall be entitled to reject any or all offers including those received late or incomplete offers without assigning any reason whatsoever. The Authority reserves the right to make any changes in the terms and conditions of purchase. The Authority will not be obliged to meet and have discussions with any Bidder, and / or to respond to any representations.

2

THE BIDDING DOCUMENTS

2.1 Contents of Bidding Documents

2.1.1

The Bidding Document comprise the documents listed in in the **BDS** and addenda issued in accordance with “Amendment of Bidding Document” ITB.

2.1.2

The bidder is expected to examine the Bidding Document, including all instructions, forms, contract terms and specifications. Failure to furnish all information required by the Bidding Document, or submission of a bid not substantially responsive to the documents in every respect, will be at the bidder’s risk and may result in the rejection of its bid.

2.1.3

The Invitation for Bids is not formally part of the Bidding Documents and is included for reference only. In case of inconsistencies, the actual Bidding Documents shall prevail.

2.2 Clarifications

2.2.1

The Authority on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders as per(vii) of “Pre-bid meeting and/or Site Visit” Para ITB. All clarifications and interpretations issued by the Authority shall be deemed to be part of the Bidding Document. Verbal clarifications and information given by Authority or its employees or representatives shall not in any way or manner be binding on the Authority.

2.3 Amendment of Bidding Document

2.3.1

At any time prior to the Bid Due Date, the Authority may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the Bidding Document details by the issuance of Addenda.

2.3.2

Any addendum issued hereunder will be in writing/updated in the official website.

2.3.3

In order to afford the Bidders a reasonable time for taking an addendum into account, or for any other reason, the Authority may, in its sole discretion, extend the Bid Due Date.

3

PREPARATION OF BIDS

3.1 Language of bids

3.1.1

The bid prepared by the Bidder and all correspondence and documents related to the bid exchanged by the bidder and the Authority shall be written in English Language.

3.2 Documents Comprising the Bid

3.2.1

The bid submitted by the Bidder shall comprise the following:

- (a) A Bid Form (**Form T1**) completed and signed by a person or persons duly authorized to bind the Bidder to the Contract with the following attachments:
 - (i) Attachment **Form T2: Bid Security** furnished in accordance with “Bid Security” of ITB.
 - (ii) (a) Attachment **Form T3: Power of Attorney**, duly authorized by a Notary Public, indicating that the person(s) signing the bid have the authority to sign the bid and thus the bid is binding upon the bidder;

(b) The authorised person of the firm as to sign the Power of Attorney in the prescribed form as a part of contract agreement
 - (iii) Attachment **Cost of Bidding Documents** furnished in the form specified under sub-para 1.1.8 of “Scope of Bid” ITB, either in the form of a receipt of Bid Price paid or in the form of a Demand Draft drawn in the favour of the Client.
- (b) **The Technical part** attachments consisting of the following:
 - (i) Attachment **Form T4: Bidder’s Particulars and Eligibility Criteria** (in the format indicated in Volume II (iv)), duly completed by the bidder in the manner supported by documentary evidence as specified therein, establishing that the bidder satisfies the eligibility criteria referred to in

- “Eligibility” 1.3 ITB and is otherwise eligible to perform the contract if its bid is accepted;
- (ii) Attachment **Form T5:(Financial details)**-Financial Viability, General Experience Record, Joint Venture Summary if any, Similar Experience Record, Current Works in Progress
 - (iii) Attachment **Form T6:Similar experience** Documentary evidence establishing to the Authority’s satisfaction, and in accordance with ITB “Qualifications”, that the bidder has the requisite experience to qualify. The Bidder must provide evidence on any changes in the information submitted as the basis for prequalification or, if there has been no change at all in said information, a statement to this effect;
 - (iv) Attachment **Form T9: Bid process checklist**: checklist and declaration to be filled and signed by competent authority
 - (v) Other Technical Attachments- any information or other materials required to be completed and submitted by the bidders in accordance with these Bidding Documents and specified in the **BDS**.
- (c) **The Financial part** attachments consisting of the following:
- (i) Attachment **Form F1: The Price Bid Form and Form F2: Cost Breakup** (in the format indicated in Volume II, duly completed by the bidder in the manner and detail indicated therein and in accordance with the requirements of “Bid Prices” ITB.;
 - (ii) Other Financial Attachments- any information or other materials required to be completed and submitted by the bidders in accordance with these Bidding Documents and specified in the **BDS**.

3.2.2

The bidder shall submit offers which comply with the requirements of the Bidding Documents, including the basic technical requirements as indicated. The attention of bidders is drawn to the provision of **2.1.2** of “Contents of Bidding Documents” paragraph ITB regarding the rejection of bids which are not substantially responsive to the requirements of the Bidding Documents. Alternatives will not be considered unless permitted in **3.2.3** below.

3.2.3

When alternatives are explicitly invited or permitted, a statement to that effect will be included in the **BDS**, as will the submission requirements and the methods for evaluating such alternatives.

3.2.4

The Financial Bid should be furnished in the format at Price Bid form clearly indicating the bid amount in both figures and words, in Indian Rupees, and signed by the bidder’s authorized signatory. In the event of any difference between figures and words, the amount indicated in words shall be taken into account.

3.3 Bid Prices

3.3.1

Unless specified otherwise in the **BDS**, the contract shall be for all the services referred to in 1.1.1 “Scope of Bid” ITB, based on the price schedules submitted by the bidder as part of the financial bid.

3.3.2

The bidder shall fill in price break-up for all cost items of the service. Prices indicated on the price schedules shall be entered separately in the manner and detail specified therein and in accordance with the other requirements specified in these documents.

3.3.3

Unless specified in the **BDS**, prices quoted by the bidder shall be fixed during the bidder’s performance of the Contract and not subject to variations on any account. A bid submitted with an adjustable price quotation which is not consistent with this paragraph ITB shall be rejected by the Authority as nonresponsive.

3.4 Bid Currency

Prices shall be quoted in Indian Rupees.

3.5 Validity of Bids

3.5.1

Bids shall remain valid, at a minimum, for the period **specified in the BDS** after the deadline date for bid submission prescribed by the Client, pursuant to “Due Date for Submission of Bids” 4.1 of ITB. A bid valid for a shorter period shall be rejected by the Client as non-responsive. For the convenience of Bidders, the **BDS** spells out the minimal original expiration dates for the validity of the bid. However, Bidders are responsible for adjusting the dates in the **BDS** in accordance with any extensions to the deadline date of bid submission pursuant to 4.1.2 of “Due Date for Submission of Bids” para of ITB.

3.5.2

In exceptional circumstances, prior to expiry of the bid validity period, the Client may request that the Bidders extend the period of validity for a specified additional period. The request and the responses to the request shall be made in writing. A Bidder may refuse the request without risking execution of the Bid-Securing Declaration or forfeiting the Bid Security, but in this case the bid will be out of the competition for the award. Except as provided in 3.5.3 of this para ITB, a Bidder agreeing to the request will not be required or permitted to modify its bid, but will be required to ensure that the bid remains secured for a correspondingly longer period, pursuant to 3.6.2 of “Bid Security” para of ITB.

3.5.3

In the case of fixed price contracts, if the award is delayed by a period exceeding sixty (60) days beyond the expiry of the initial bid validity, the contract price will be adjusted as specified in the request for extension. Bid evaluation will be based on the bid prices without taking into consideration the above correction.

3.6 Bid Security

3.6.1

The bid security is required to protect the Authority against the risk of the bidder's conduct which would warrant the forfeiture of the security, pursuant to 3.6.6 of this paragraph ITB. The Authority shall not be liable to pay any interest on the Bid Security deposit so made and the same shall be interest free. Any Bid not accompanied by the Bid Security shall be summarily rejected by the Authority as non-responsive.

3.6.2

The Bidder shall furnish as part of its Bid, a Bid Security. The

- (a) amount;
- (b) form;
- (c) period of validity beyond the bid validity date, as extended, if applicable, and
- (d) the time period within which the bid security of the unsuccessful bidders will be returned are as specified in the **BDS**.

3.6.3

The Bid Security of a Joint Venture shall be issued in the name of the Joint Venture submitting the bid provided the Joint Venture has legally been constituted, or else it shall be issued in the name of all partners proposed for the Joint Venture in the bid. Sanctions due to a breach of the terms of a Bid Security pursuant to 3.6.6 of this para ITB will apply to all partners to the Joint Venture.

3.6.4

The Authority shall be entitled to forfeit and appropriate the Bid Security as Damages inter alia in any of the events specified in 3.6.6 of this para ITB. The Bidder, by submitting its Bid pursuant to this notification shall be deemed to have acknowledged and confirmed that the Authority will suffer loss and damage on account of withdrawal of its Bid or for any other default by the Bidder during the period of Bid validity as specified in the bid data sheet in this Bidding Document. No relaxation of any kind on Bid Security shall be given to any Bidder.

3.6.5

Unless executed or forfeited pursuant to 3.6.6 of this para ITB, Bid Securities, if any, will be returned, without any interest, as promptly as possible, and within the time period specified at 3.6.2 “Bid Security” ITB.,

- (a) all Bidders upon annulment of the bidding pursuant to “Authority’s Right to Accept any Bid or Reject any or all Bids” ITB;
- (b) Bidders refusing a request to extend the period of validity of their bids pursuant to 3.5.2 “Validity of Bids” ITB;
- (c) the successful Bidder once it has signed the Contract Agreement and furnished a valid Performance Security as required. The Authority may, at the Selected Bidder’s option, adjust the amount of Bid Security in the amount of Performance Security to be provided by him in accordance with the provisions of the Bidding Document;
- (d) the unsuccessful Bidders at the same time as in (c), that is, when they are informed about the successful establishment of the contract with the successful Bidder.

3.6.6

The Bid Security shall be forfeited as Damages without prejudice to any other right or remedy that may be available to the Authority under the Bidding Document and/ or under the Agreement, or otherwise, under the following conditions

- (i) In case of a **Bidder**
 - (a) If he submits a non-responsive bid, or
 - (b) If he engages in a corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice as specified in the 1.2.11 of “General Instructions” Para ITB, or
 - (c) If he withdraws his Bid during the period of Bid validity as extended by mutual consent of the respective Bidder(s) and the Authority;
- (ii) In the case of **Selected Bidder**, if he **fails** within the specified time limit
 - (a) To sign and return the duplicate copy of **LOA**, or
 - (b) To sign the Contract agreement pursuant to “Contract Signing” 6.5.1 ITB, or
 - (c) To furnish the Performance Security within the period prescribed in the agreement, or
 - (d) Having signed the Contract agreement, commits any breach thereof prior to furnishing the Performance Security.

3.6.7

If a bid security is **not required in the BDS**, and

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in 3.5.2 “Period of Validity of Bids” ITB,or
- (b) if the successful Bidder fails to sign the Contract in accordance with “Contract Signing and Performance Security” para ITB; or furnish a performance security in accordance with “Contract Signing and Performance Security” 6.5 ITB;the Borrower may, black-list or debar the bidder for a period of time as stated in the **BDS** from participating in future bids of the Authority.

3.6.8

A Bidder shall be liable for disqualification and forfeiture of Bid Security if any legal, financial or technical adviser of the Authority in relation to the Work is engaged by the Bidder, in any manner for matters related to or incidental to the implementation of this work during the Bidding Process or subsequent to the

- (i) issue of the **LOA** or
- (ii) Execution of the Contract agreement.

In the event any such adviser is engaged by the Selected Bidder, after issue of the **LOA** or execution of the Contract Agreement, for matters related or incidental to the Scheme, then notwithstanding anything to the contrary contained herein or in the **LOA** or the Contract agreement and without prejudice to any other right or remedy of the Authority, including the forfeiture and appropriation of the Bid Security or Performance Security, as the case may be, which the Authority may have there under or otherwise, the **LOA** or the Agreement, as the case may be, shall be liable to be terminated without the Authority being liable in any manner whatsoever to the Selected Bidder for the same.

For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Bidder, in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of this bid notification. Nor will this disqualification apply where such adviser is engaged after a period of three years from the date of operation of this Proposal/Assignment

3.7 Sealing and Marking of Bids

3.7.1

The bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as “**ORIGINAL**” and “**COPIES.**” The envelopes shall then be sealed in an outer envelope. The technical bid and financial bid shall be in two separate envelopes.

3.7.2

The inner and outer envelopes shall

- (a) be addressed to the Authority at the address provided at 1.1.6 “Scope of Bid” paragraph ITB;
- (b) bear the name and identification of the contract as defined in the **BDS**; and
- (c) Provide a warning not to open before the specified time and date for bid opening.

3.7.3

In addition to the identification required above, the inner envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared “late” pursuant to “Late Bids” 4.2 ITB, and for matching purposes under “Modifications, Substitution and Withdrawal of Bids” 4.3 ITB.

3.7.4

If the outer envelope is not sealed and marked as required above, the Authority will assume no responsibility for the misplacement or premature opening of the bid. If the outer envelope discloses the bidder’s identity, the Authority will not guarantee the anonymity of the bid submission, but this shall not constitute grounds for rejection of the bid.

3.7.5 Receipt of Bids

The Authority shall receive Bids pursuant to this Bidding Document in accordance with the terms set forth in this document and other documents to be provided by the Authority pursuant to this bid notification, as modified, altered, amended and clarified from time to time by the Authority (collectively the “Bidding Document”), and all Bids shall be prepared and submitted in accordance with such terms on or before the date and time specified for submission of Bids (the “**Bid Due Date**”) in the 1.2.3 “Scope of Bid” **BDS**.

4

SUBMISSION OF BIDS

4.1 Due Date for Submission of Bids

4.1.1

Bids must be received by the Authority at the address specified in “Sealing and Marking of Bids” 3.7 ITB, no later than the Bid Due Date. A receipt thereof should be obtained from the authorized person of the Authority.

4.1.2

The Authority may in its sole discretion, extend the Bid Due Date by issuing an Addendum in accordance with “Amendment of Bidding Documents” 2.3 ITB in which case all rights and obligations of the Authority and the bidder’s previously subject to the original due date will thereafter be subject to the due date as extended.

4.1.3

No Bidder shall submit more than one Bid for the Proposal.

4.1.4 Submission of Hard copies

After submission of bid online, the bidders are requested to submit the originals of Bid Security towards transaction fee, bid processing fee and hard copies of uploaded documents to the Authority before opening of the price bid and original hard copies of uploaded documents at the time of concluding agreement. The bidder shall invariably furnish the original Bid Security to the tender inviting authority before opening price bid either personally or through courier or by post and the receipt of the same within the due date shall be the responsibility of bidder. The department shall not take any responsibility for any delay or non-receipt. If any of the documents furnished by the bidder is found to be false/fabricated/bogus, the bidder is liable for black listing, forfeiture of the EMD, cancellation of work and criminal prosecution.

The bidder is requested to get a confirmed acknowledgement from the Authority as a proof of 1 original bid (technical and financial), 2 Hardcopies of technical bid and 1 hard copy of financial bid to avoid any discrepancy. The bidder has to attach the required documents after uploading the same as required by Tender Inviting Authority in its tender conditions.

4.1.5 Deactivation of Bidders

If any successful bidder fails to submit the original hard copies of the uploaded documents/certificates, bid security fee within the prescribed due date or if any variation is noticed between the uploaded documents before concluding the agreement, as the successful bidder will be suspended/disqualified/barred from participating in the tender on e-Procurement platform for a period of 12 months from date of bid submission as per G.O.Ms No. 245 I&CAD department dated 30-12-2005 and G.O. Ms No. 155 I&CAD department dated 23-08-2006 besides forfeiture of EMD. Bidders must, therefore keep a track on their incoming email.

The bidder is requested to get a confirmed acknowledgement from the Authority(s) a proof of hardcopies submission to avoid any discrepancy. Other conditions as per tender document are applicable.

4.2 Late Bids

4.2.1

Bids received by the Authority after the specified time on the Bid Due Date shall not be eligible for consideration and shall be summarily rejected.

4.3 Modifications, Substitution and Withdrawal of Bids

The Bidder may modify, substitute or withdraw its Bid after submission, provided that written notice of the modification, substitution or withdrawal is received by the Authority prior to the Bid Due Date.

No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date.

The modification, substitution or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with the “Sealing and Marking of Bids” 3.7 ITB, with the outer and inner envelopes being additionally marked **“MODIFICATION”**, **“SUBSTITUTION”** or **“WITHDRAWAL”**, as appropriate.

Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded. Withdrawal of a bid between the deadline for submission of bids and the expiration of the period of bid validity may result in the forfeiture of the bid security pursuant to 3.6.6 “Bid Security” para ITB.

5

BID OPENING AND EVALUATION

5.1 Opening of Bids

5.1.1

The Client will open all bids, including withdrawals, substitutions, and modifications, in public, in the presence of Bidders' representatives who choose to attend, at the time, on the date and at the place **specified in the BDS**. Bidders' representatives shall sign a register as proof of their attendance.

5.1.2

First, envelopes marked "**BID WITHDRAWAL NOTICE**" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "**BID SUBSTITUTION NOTICE**" shall be opened and read out and exchanged with the corresponding bid being substituted, and the substituted bid shall not be opened, but returned to the Bidder. No bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "**BID MODIFICATION NOTICE**" shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only bids that are opened and read out at bid opening shall be considered further.

5.1.3

Technical bids shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the presence or absence of a Bid Security if one was required, the details of the technical bid attachments;

5.1.4

Bids and modifications that are not opened and read out at bid opening shall not be considered for further evaluation, irrespective of the circumstances. These bids,

including any bids validly withdrawn in accordance with 5.1.2 “Opening of Bids” ITB, will promptly be returned, unopened, to their Bidders. The Financial Bids of all the bidders shall be kept in a cover and sealed.

5.1.5

After the technical evaluation is complete, the financial bids of all the qualified bidders will be opened in the presence of the qualified bidders. The bidders’ names, the bid prices, the prices of any alternative (if alternatives have been requested or permitted) any discounts, bid deviations, and such other details as the Authority may consider appropriate, will be announced by the Authority at the time of financial bid opening. Any bid price, discount or modification that is not read out and recorded at bid opening will not be considered for bid evaluation, irrespective of the circumstances.

5.1.6

The Client will prepare minutes of the bid opening, including the information disclosed to those present in accordance with 5.1.2 “Opening of Bids” ITB. The minutes will promptly be distributed to all Bidders that met the deadline for submitting bids.

5.2 Confidentiality

5.2.1

The document including this Bidding Document and all attached documents, provided by the Authority are and shall remain or becomes the property of the Authority and are transmitted to the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Bid. The provisions of this Clause shall also apply mutatis mutandis (with the necessary changes in points of detail) to Bids and all other documents submitted by the Bidders, and the Authority will not return to the Bidders any Bid document or any information provided along therewith.

5.2.2

Information relating to the examination, clarification, evaluation and comparison of bids, and recommendation for the award of contract, shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising the Authority in relation to or matters arising out of, or concerning the Bidding Process, until the award to the successful bidder has been announced. The Authority will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. The Authority may not divulge any such information unless it is directed to do so by Applicable Laws or judicial or administrative or arbitral process or by any governmental instrumentalities or any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or the Authority or as may be required by law or in connection with any legal process.

5.2.3

The bid evaluation process up to the award of a contract is confidential.

5.2.4

Any effort by a bidder or its agents to influence the Authority's evaluation of bids or award decision, including the offering or giving of bribes, gifts, or other inducement, may result in the invalidation of its bid and the forfeiture of its bid security, pursuant to 3.6.6 of "Bid Security" ITB.

5.3 Clarifications

5.3.1

To assist in the examination, evaluation and comparison of bids, the Authority may, at its sole discretion, ask any bidder for clarification of its bid, including breakdowns of its prices. Such clarification may be requested at any stage up to the contract award decision. Requests for clarification and the responses shall be in writing or by fax and no change in the price or substance of the bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Authority in the evaluation of the bids in accordance with "Preliminary Examination of Bids" 5.4 ITB.

5.3.2

If the Bidder does not provide clarifications sought for under 5.3 of this para ITB, within the specified time, its Bid shall be liable to be rejected. Any such verification or lack of such verification, by the Authority shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of the Authority there under.

5.4 Preliminary Examination of Bids

5.4.1

Prior to the detailed evaluation of bids, the Authority will examine the bids to determine for each bid whether:

- (a) it is complete;
- (b) the documents have been properly signed;
- (c) it is accompanied by the required bid securities;
- (d) it is substantially responsive to the requirements of the bid documents; and
- (e) any computational errors have been made.

The Authority may require the bidder to provide any clarification and/or substantiation to determine responsiveness pursuant to 5.4.4 of this para ITB. In the case where a prequalification process has been undertaken for the Contract(s) for

which these Bidding Documents have been issued, the Client will ensure that each bid is from a prequalified Bidder, and in the case of a Joint Venture, that partners and structure of the Joint Venture are unchanged from those in the prequalification.

5.4.2

Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between added or subtracted subtotals and totals, the unit or subtotal price shall prevail and the total price shall be corrected, unless in the opinion of the Client there is an obvious misplacement of the decimal point in the unit or subtotal prices, in which case the line item total as quoted shall govern and the unit price or sub-total shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail, unless the discrepancy is the result of a typo/error for which the correction is self-evident to the Client. If the Bidder with the Lowest Evaluated Bid does not accept the correction of errors, the bid shall be rejected this will be considered as invalidating its bid and the bid security may be forfeited pursuant to 3.6.6 of “Bid Security” para ITB.

All items in the financial bid must be priced. If a bidder has included the price of the main activities/ items this must be clearly stated and a price of zero must be entered for the respective associated activities/items.

If a bidder fails to price activities/ items that are not the primary subject of the bid and the omission is judged to be non-material in accordance with **3.5.3** of this para ITB, the bid price will be adjusted for such omission in accordance with **5.5.2(c)(iv)** “Evaluation and Comparison of Bids” para ITB for evaluation purposes only.

5.4.3

The Client may waive any minor informality, nonconformity, or irregularity in a bid that does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

5.4.4

Prior to the detailed evaluation, the Client will determine whether each bid is of acceptable quality, is complete, and is substantially responsive to the Bidding Documents. For purposes of this determination, a substantially responsive bid is one which conforms to all the terms, conditions, and specifications of the Bidding Document without material deviation, reservation or omission. A material deviation, reservation or omission is one:

- (a) which affects in any substantial way the scope, quality, or performance of the contract;
- (b) which limits in any substantial way, inconsistent with the Bidding Document, the Authority’s rights or the bidders’ obligations under the contract; or
- (c) the rectification of which would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

5.4.5

Prior to evaluation of Bids, the Authority will determine whether each bid is responsive to the requirements of the Bidding Document. The Authority may, in its sole discretion, reject any bid that is not responsive hereunder. A Bid shall be considered responsive only if:

- (a) The Technical Bid is received in the form specified in “Documents Comprising the Bid” and “Sealing and Marking of Bids” 3.7 ITB;
- (b) It has been received by the Bid Due Date or its extended due date;
- (c) It is signed, sealed, and bound together in hard cover and marked as per “Sealing and Marking of Bids” 3.7 ITB;
- (d) It contains all the information (complete in all respects) as requested in the Bidding Document;
- (e) It does not contain any condition or qualification; and
- (f) . It is not non-responsive in terms hereof.

The Authority reserves the right to reject any Bid which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by the Authority in respect of such Bid.

5.5 Evaluation and Comparison of Bids

5.5.1

The method of selection adopted is as given in **BDS**.

The objective of this evaluation is to facilitate the selection of a successful bidder ensuring technically superior and professional services at optimal cost. The Client will evaluate and compare the bids that have been determined to be substantially responsive, pursuant to “Preliminary Examination of Bids” 5.4 of ITB. The Authority reserves the right to accept or reject any variation, deviation, or alternative offer which is not submitted in accordance with the bidding documents. Variations, deviations, alternative offers, and other factors that are in excess of the requirements of the bidding documents or which otherwise result in unsolicited benefits for the Authority, shall not be taken into account in bid evaluation. The evaluation will be performed assuming that

- (a) The Contract will be awarded to the highest evaluated Bidder for the entire work;

5.5.2

- (a) The Client’s evaluation of a bid will be made on the basis of prices quoted in accordance with ITB “Bid Prices” 3.3.
- (b) The estimated effect of any price adjustment provisions under the Conditions of Contract, applied over the period of execution of the contract, shall not be taken into account in bid evaluation.

- (c) In evaluating the bids, the Authority will determine for each bid, the evaluated bid price by adjusting the bid price as follows:
 - (i) making any correction for errors pursuant to “Preliminary Examination of Bids” 5.4 ITB;
 - (ii) excluding provisional sums and the provision, if any, for contingencies in the price schedules;
 - (iii) making an appropriate adjustment for any other quantifiable acceptable nonmaterial variations, deviations or alternative offers; and
 - (iv) making appropriate adjustments to reflect additional factors in the manner and to the extent indicated in the **BDS**.
- (d) Bidders are requested to be prepared to demonstrate, through presentations and / or site visits, as part of the final evaluation in accordance with the responses given for the identified requirements, as per schedule of bidding process. The Bidder will arrange such demonstrations, presentations or site visits at its own cost.
- (e) Bidders must not present any reference as credential for which it is not in a position to present the verifiable facts/documents because of any non-disclosure agreement with its other customer or any other reason whatsoever. The Authority would not consider any statement as a credential if same cannot be verified as per its requirement for evaluation.

5.5.3 Evaluation Process Flow

This is a three step selection process in which the Bidder has to submit the bids in two separate envelopes at the time of submission of bids. The process is as given below.

- (a) In the first step, the Authority shall evaluate the ‘**Eligibility Criteria**’ and clear all the bids which pass through the Eligibility scrutiny. In the second step ‘**Technical Bids**’ shall be evaluated and based on the outcome of Technical evaluation, ‘**Commercial bids**’ shall be opened for the technically qualified proposals only. The final selection will be done based on Techno-commercial evaluation.
- (b) The Authority, would display on its official website the names of those successful bidders who have qualified in the Technical Evaluation.
- (c) A date, time and venue will be notified to those technically successful Bidders for opening of their Financial Bids in the official website of the Authority. The opening of Financial Bids shall be done in presence of respective representatives of those technically successful Bidders who choose to be present. The Authority will not entertain any query or clarification from Bidders who fail to qualify at any stage of the Selection Process.
- (d) The evaluation by the Authority will be undertaken by a Committee of Officials or/and representatives formed by the Authority and its decision shall be final.
- (e) **Normalization** The Authority reserves the right to go for normalization process after technical evaluation and accordingly may request all the bidders to submit

revised bid (technical or commercial or both) to avoid any possible ambiguity in evaluation process or make apple-to-apple comparison or to bring further transparency in the evaluation process

5.5.4 Evaluation of Eligibility Criteria

- (i) Bids submitted by all the bidders would be scrutinised for eligibility as per the 'Eligibility Criteria' specified in "Eligibility" ITB. Bids not complying with the eligibility criteria are liable to be rejected and will not be considered for further evaluation.
- (ii) Successful bids out of this stage would be considered for technical evaluation. Bidders must submit the proof of all the credentials as required for scrutiny of eligibility criteria. Claims of the bidders without verifiable facts will not be considered as credentials towards satisfying eligibility criteria.

5.5.5 Technical Evaluation

- (i) The technical bids will be evaluated for determining the continued eligibility of the Bidder for the Work and compliance of the bids with the necessary technical requirements and scope of work of this Bidding Document.
- (ii) The Authority may seek specific clarifications from any or all the Bidder(s) at this stage. All the clarifications received within the bid due date shall be considered for evaluation. In case satisfactory clarifications are not received from the bidders within the bid due date, the respective technical parameters would be treated as non-compliant and decision to qualify the bidder shall be accordingly taken by Authority.
- (iii) Technical bids would be evaluated based on the **technical evaluation criteria** and the marks with break-up as specified in the **BDS**, and following the method given hereunder.
 - (a) The technical bid will be analyzed and evaluated, based on which the Relative Technical Score shall be assigned to each bid on the basis of parameters mentioned above.
 - (b) Relative Technical Score (RS_{Tech}) for each bidder will be calculated as follows based on above parameters:

$$RS_{Tech} = T/T_{high}100$$

Where, RS_{Tech} = Relative score obtained by the bidder

T = Technical score obtained by bidder

T_{high} = Highest Technical score secured among the Bidder

- (iv) Technical Bids receiving (RS_{Tech}) a greater than or equal to a score specified in **BDS**, (cut-off marks, say 'm') will be eligible for consideration in the subsequent round of commercial evaluation.
- (v) If less than 3 bidders qualify as per above criteria ($RS_{Tech} \geq m$), authority reserves the right to reject the bid.

5.5.6 Commercial Evaluation

- (i) In this phase, the Commercial Bids of the Bidders, who are found technically qualified in previous phase, will be taken for commercial evaluation.
- (ii) The date for opening of commercial bids will be separately notified in the website of the Authority.
- (iii) The Authority will determine whether the Financial Bids are complete, unqualified and unconditional. The Financial Bid quoted shall be deemed as final and omissions, if any, in costing any item shall not entitle the firm to be compensated and the liability to fulfill its obligations as per the Bidding Document within the total quoted Financial Bid shall be that of the Bidder.
- (iv) Relative Technical Score (RS_{Tech}) of the technically qualified bids would be announced before the representatives of the bidders and the commercial bids of those bidders would be opened for commercial evaluation.
- (v) Net Present Value (NPV) would be calculated for the value quoted for the entire period to arrive at derived commercial bid value for evaluation. The discount rate specified in **BDS** will be considered for calculation of NPV.
- (vi) Relative Commercial Score (RS_{Com}) for each Bidder will be calculated as follows: $RS_{Com} = C_{Low}/C100$

Where, RS_{Com} = Relative score for Commercial Bid of the Bidder

C = NPV of Commercial bid value of the current bid

C_{Low} = Lowest NPV of commercial bid value out of all the commercial bids obtained.

5.5.7 Final Selection of the Eligible Bidder

Total Relative Score (RS) obtained by each eligible Bidder will be calculated as follows:

$$RS = RS_{Tech} \text{ Technical weightage [insert: } W_{Tech} \text{ from } \mathbf{BDS}] + RS_{Com} \text{ Commercial weightage [insert: } W_{Com} \text{ from } \mathbf{BDS}]$$

The eligible bidder will be selected based on minimum Relative Score (RS) thus obtained.

The Bidder with the highest Relative Score (RS) will be selected subject to all the terms and conditions defined in this Bidding Document for further discussion prior to finalizing contract.

6

POSTQUALIFICATION AND AWARD OF CONTRACT

6.1 Post Qualification

6.1.1

The Client will determine at its own cost and to its satisfaction whether the Bidder (including Joint Venture Partners, and any Subcontractors for which the “Qualifications” Para of **BDS** permits that their qualifications count towards the required Bidder qualifications) that is selected as having submitted the Lowest Evaluated Bid is qualified to perform the Contract satisfactorily, in accordance with “Qualifications” of ITB. If a prequalification process was undertaken for the Contract(s) for which these Bidding Documents were issued, the Client will determine in the manner described above that no material changes have occurred after the prequalification that negatively affect the ability of the Bidder that has submitted the Lowest Evaluated Bid to perform the Contract.

6.1.2

The capabilities of the subcontractors if permitted under this bidding documents, including manufacturers and vendors proposed in the bid to be used by the lowest evaluated bidder, will also be evaluated for acceptability. Their participation should be confirmed with a letter of intent, as needed. Should a subcontractor be determined to be unacceptable, the bid will not be rejected, but the bidder will be required to substitute an acceptable subcontractor without any change to the bid price.

6.1.3

If the bid of the successful bidder is seriously unbalanced or front-loaded in relation to the Authority’s estimate of the services to be performed under the contract, the Authority may require the bidder to produce detailed price analyses for any or all items of the Work, to demonstrate the internal consistency of those prices with the implementation schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated contract payments, the Authority may require that the amount of the performance security set forth in “Contract Signing and Performance Security” 6.5 ITB, be increased at the expense of the bidder to a

level sufficient to protect the Authority against financial loss in the event of default of the bidder under the contract.

6.1.4

An affirmative post qualification determination will be a prerequisite for award of the Contract to the Lowest Evaluated Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Client will proceed to the next lowest evaluated Bidder to make a similar determination of that Bidder's capabilities to perform satisfactorily.

6.2 Authority's Right to Accept any Bid or Reject any or all Bids

6.2.1

Notwithstanding anything contained in this document, the Authority reserves the right to reject any Bid and to annul the Bidding Process and reject all Bids at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.

6.2.2

The Authority reserves the right not to proceed with the Bidding Process at any time, without notice or liability, and to reject any Bid without assigning any reasons. The Authority reserves the right to reject any Bid, disqualify the bidder and appropriate the Bid Security if:

- (a) At any time before signing of the Agreement or after its execution and during the period of subsistence thereof, including the Contract thereby granted by the Authority, a material misrepresentation is made or uncovered, or
- (b) The Bidder does not provide, within the time specified by the Authority, the supplemental information sought by the Authority for evaluation of the Bid. Such misrepresentation/ improper response shall lead to the disqualification of the Bidder. If such disqualification / rejection occurs after the Bids have been opened and the Selected Bidder has already been issued the **LOA** or has entered into the Contract agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this document, be liable to be terminated, by a communication in writing by the Authority to the Selected Bidder without the Authority being liable in any manner whatsoever to the Selected Bidder.

In such an event, the Authority shall be entitled to forfeit and appropriate the Bid Security or Performance Security, as the case may be, as Damages, without prejudice to any other right or remedy that may be available to the Authority under the Bidding Document and/ or the Agreement, or otherwise. In the event of the selected bidder being disqualified / rejected, then the Authority reserves the right to:

- (i) Invite the remaining Bidders to submit their Bids in accordance with the ITB.

Or

- (ii) Take any such measure as may be deemed fit in the sole discretion of the Authority, including annulment of the Bidding Process.

6.2.3

The Bidder must submit the response exactly in the formats mentioned in this Bidding document and same should be precise. No irrelevant information shall be provided. All the credentials, claimed in the response, must be accompanied with necessary proofs. The Authority would be at discretion to reject the response of the bidder in case any part or whole of the response document is found to be partially or fully incomplete or confusing or misleading or having irrelevant information.

6.2.4

The Authority reserves the right to reject any proposal in case same is found incomplete or not submitted in the specified format given in this Bidding Document. The Authority would not give any clarification/explanation to the concerned bidder in case of such rejection.

6.2.5

Authority reserves the right to modify the evaluation process at any time during the Tender process (before submission of technical and commercial responses by the prospective bidder), without assigning any reason, whatsoever, and without any requirement of intimating the Bidders of any such change.

6.2.6

Conditional and qualified bid is liable for rejection as a non-responsive Bid.

6.2.7

Bidders are advised that the selection shall be on the basis of an evaluation by the Authority through the Selection Process specified in this document; And Bidders shall be deemed to have understood and agreed that no explanation or justification for any aspect of the Selection Process will be given and that the Authority's decisions are without any right of appeal whatsoever.

6.2.8

Authority will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the best bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily. However, Authority shall not be bound to accept the best bid or any bid and reserves the right to accept any bid, either wholly or in part, as it may deem fit.

6.2.9

The Authority may at its absolute discretion exclude or reject any proposal that in the reasonable opinion of the Authority contains any false or misleading claims or statements. The Authority shall not be liable to any person for excluding or rejecting any such proposal.

6.3 Award Criteria

6.3.1

Subject to “Authority’s Right to Accept any Bid or Reject any or all Bids” paragraph of ITB, the Authority will award the contract to the bidder whose bid has been determined to be substantially responsive to the Bidding Document and who has offered the lowest evaluated bid price, provided that such bidder has been determined to be qualified to perform the contract satisfactorily in accordance with the provisions in “Post Qualification” 6.1 of ITB.

6.3.2

The Authority reserves the right at the time of award of the contract to increase or decrease the quantity of works and/or services specified in the Work, up to the percentage specified in the **BDS**, without change in the unit prices for such works and/or services, or other terms and conditions.

6.4 Award Notification, and Contract Signing

6.4.1 Award Notification

- (a) Prior to expiration of the period of bid validity, the Authority will notify the successful bidder by fax, confirmed by registered letter, that its bid has been accepted. The notification of award shall specify the sum which the Authority will pay the contractor in consideration of the execution and completion of the contract.
- (b) The notification of award (hereinafter called “the Letter of Acceptance”) will constitute the formation of the contract.
- (c) The Letter of Acceptance(**LOA**) shall be issued, in duplicate, by the Authority to the Selected Bidder and the Selected Bidder shall, within 7 (seven) working days of the receipt of the **LOA**, sign and return the duplicate copy of the **LOA** in acknowledgement thereof. In the event the duplicate copy of the **LOA** duly signed by the Selected Bidder is not received within the bid due date, the Authority may, unless it consents to extension of time for submission thereof, appropriate the Bid Security of such Bidder as Damages on account of failure of the Selected Bidder to acknowledge the **LOA**, and the next eligible Bidder may be considered.

6.5 Contract Signing, and Performance Security

6.5.1 Contract Signing

- (a) At the same time that the Authority notifies the successful bidder that its bid has been accepted, the Authority will send the bidder the contract agreement in the form provided in the Bidding Document, incorporating all agreements between the parties. After acknowledgement of the **LOA** as aforesaid by the Selected Bidder, the Authority shall cause the Bidder to execute the Contract agreement within the period prescribed in **BDS**. The Selected Bidder shall not be entitled to seek any deviation, modification or amendment in the Contract agreement.
- (b) Within period prescribed at sub-paragraph **6.5.1(a)** of this para of ITB of receipt of the contract agreement, the successful bidder shall sign the contract agreement and return it to the Authority, together with the required performance security.
- (c) Upon fulfilment of **6.5.1(b)** of this para of ITB, the Authority will promptly notify the other bidders that their bids have been unsuccessful and their bid security will be returned as promptly as possible, in accordance with “Bid Security” paragraph of ITB.

6.5.2 Performance Security

- (a) Within the period prescribed at sub-paragraph **6.5.1(a)** of this Para of ITB, of receipt of the Letter of Acceptance from the Authority, the successful bidder shall furnish to the Authority a performance security in accordance with the Conditions of Contract and in the form due date in the **BDS** or in another form acceptable to the Authority.
- (b) Failure of the successful bidder to comply with the requirements of 6.5 “Contract Signing and Performance Security” ITB shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Authority may make the award to the next lowest evaluated bidder or call for new bids.

6.6 Dispute Resolution Procedure

The method of dispute resolution is as indicated in the **BDS** and the Conditions of Contract.

VOLUME II

**BID DATA SHEET(BDS) AND
FORMS**

BID DATA SHEET

1.1.2

Title : Infrastructure master planning and design consultant.

Identification Number : 02/APCRDA/Infra/Master Plan/1495/2015

Brief Description of Services : Development of comprehensive Infrastructure Master plan and detailed designing of the various infrastructure components within the 216.9 sq.k. Amaravati Capital city area.

Resulting Contract : As given in "Volume III - Conditions of Contract".

1.1.3

Schedule of Bidding process (with timelines wherever applicable)	Date
Bid Notification	<u>04:12:2015</u>
Tender Uploading	<u>04:12:2015</u>
Pre-bid Conference	<u>15:12:2015</u>
Due date for the Submission of Bid	<u>26:12:2015, 15:00 hrs</u>
Opening of technical bids	<u>26:12:2015, 16:00 hrs</u>
Presentation to the technical committee	<u>30:12:2015, 10:00 hrs</u>
Tentative date of declaring qualified bids	<u>04:01:2016</u>
Tentative date of opening of financial bids	<u>05:01:2016, 15:00 hrs</u>
Tentative date of issuing Letter of Award for contract	<u>11:01:2016</u>

The RFP would be available at the e-procurement platform www.eprocurement.gov.in. Any subsequent notifications, changes and amendments in the assignment/documents would be posted only on the website.

1.1.4

Time period for completion of the project: The Consultancy shall be for a maximum period of 36 months.

1.1.5

Extension of time period: The contract shall be extended by a maximum period of 12 months at one time subject to prior approval of Authority and shall not be extended more than twice.

1.1.6

Authority's address:

Andhra Pradesh Capital Regional Development Authority (APCRDA),
Lenin Center,
Governerpet,
Vijayawada-520002.
Andhra Pradesh, India **Website:** www.crda.ap.gov.in

1.1.7

e-procurement website: <http://www.eprocurement.gov.in>

1.1.8

Cost of the bidding documents: INR 100,000 (Indian Rupees One Lakh only) to be paid in the form of Bank Draft drawn in favour of Commissioner, APCRDA, Vijayawada

1.3.1

Agencies offering Engineering and Planning consulting services for various types of assignments.

1.3.2

Eligibility criteria of service providers:

- A). **"Definition"** of the terms referred to in the Eligibility (section - 1.3.2), technical evaluation criteria (section - 1.4.1 (a)), financial evaluation criteria (section - 5.5.6(v)) and few other sections of the BDS document:
- (a) **"Urban area"** means urban cities / Industrial cities / Integrated townships / Special Economic Zones / Special Investment Zones (list is exhaustive) of size equal or above 5 sq. km.
 - (b) **"Infrastructure Master plan"** means completed infrastructure Master planning assignment (and not overall master planning) for the development of **"Urban area"** catering to at least 35,000 people, covering any TWO (2) of the following infrastructure components - Transportation infrastructure, Water and waste management related infrastructure (Waste water / Water supply / Storm water / Solid waste management), Energy infrastructure (Power supply / Gas / District cooling) anywhere globally in the last 10 years.
 - (c) **"Detailed infrastructure design"** means completed detailed engineering design assignment (DPR) including Good for Construction (GFC) drawings and detailed Bill of Quantities (BoQ) for development of infrastructure for an **"Urban area"**, covering any TWO (2) of the following sectors - Transportation infrastructure, Water and waste management related infrastructure (Waste water / Water supply / Storm water / Solid waste management), Energy infrastructure (Power supply / Gas / District cooling) having estimated project cost greater than or equal to INR 1,500 Crore anywhere globally, and for which development has started within 10 years from the date of its proposal.
 - (d) **"Smart infrastructure plan and design"** means completed assignment covering development of smart ICT (Information & Communication Technology) master plan, detailed System architectural designs and IT Infrastructure plans for integration of IT with urban public utilities covering any TWO (2) of the following sectors - transport, water (water supply, waste water, storm water), power, gas, solid waste and safety security for an **"Urban area"**.

B). Bidders must conform to the eligibility criteria given below:

Sl. No	Parameters	Eligibility Criteria	Evidence
1).	Legal Status	The bidder must be a registered JV/ a government organization/ Public sector unit/ Limited Company/ Private Ltd. Co. having its office in India which includes "Branch office" OR "SPV office" OR "Project Office" OR a place of business as approved by the Ministry of Corporate Affairs, Government of India. OR a consortium* having a binding Joint Bidding Agreement with a clause on registering a SPV office in India at the time of signing the contract in case such a consortium wins the bid.	Registration document/ Certificate of Incorporation/ Joint bidding agreement*
2).	Turnover	Average annual turnover from planning or/and engineering design or/and technology business in the last 3 financial years preceding the bid submission date, as per the audited financial statements. As detailed in the TURNOVER CRITERIA Table below,	Certificate from statutory auditor/ CA (or equivalent in case of countries other than India) based on the audited financial statements as per format included in the Form T5

TURNOVER CRITERIA:-

S. No	Criteria	Sole Bidder	In case of Joint Venture		
			Lead Member	Other Members	Overall
1	Turnover	at least 100 Cr.	at least 80 Cr.	at least 40 Cr.	-

*** JV related terms:**

1. Members of the Joint Venture shall nominate the majority share holder as the lead member (the-Lead Member)
2. Lead member should have more than 51% stake in the Joint venture.
3. The number of entities/ partners within a Joint Venture or Consortium cannot be more than THREE (3). Members of the Consortium shall nominate the majority share holder as the lead member (the Lead Member). The nomination(s) shall be supported by a Power of Attorney, as per the format in this RFP, signed by all the other members of the Consortium. The duties, responsibilities and powers of such Lead Member shall be specifically included in the joint Bidding Agreement. It is expected that the Lead Member would be authorized to incur liabilities and to receive instructions and payments for and on behalf of the Consortium. Members of the JV/ Consortium shall enter into a binding Joint Bidding Agreement (the -Jt. Bidding Agreement) for the purpose of submitting a Proposal. The Jt. Bidding Agreement concluded on Rs.100 non judicial stamp paper duly signed by Public notary or equivalent authority in case of other countries, to be submitted along with the Application. The agreement shall, inter alia,
 - a). clearly outline the proposed roles and responsibilities, if any, of each member;
 - b). include a statement to the effect that all members of the Consortium shall be liable jointly and severally for all obligations of the Consultant in relation to the Assignment until the completion of the Assignment in accordance with the contract and the Scope;
 - c). clearly define the proposed administrative arrangements (organisation chart) for the management and execution of the Assignment, if awarded to the Consortium;
 - d). except as provided under this RFP, there shall not be any amendment to the Jt. Bidding Agreement without the prior written consent of the Client.

3). Similar Experience

The firm/bidder should have the following experience,

Sl.No.	Similar Experience	Criteria	Evidence
1.	"Infrastructure Master plan" as defined in Definition-(b) of Section-1.3.2(A) of BDS.	At least ONE completed consultancy assignment*	"Client certificate" **
2.	"Detailed infrastructure design" as defined in Definition-(c) of Section-1.3.2(A) of BDS.	At least ONE completed consultancy assignment* for a greenfield project	"Client certificate" **
3.	"Smart infrastructure plan and design" as defined in Definition-(d) of Section-1.3.2(A) of BDS.	At least ONE completed consultancy assignment*	"Client certificate" **

*"Consultancy assignment" means for the purpose of the above table such assignments wherein the bidder is either a sole member or a lead member of the consortium/ JV.

** "**Client certificate (s)**" means documentary evidence issued by the client, duly signed by a competent personnel from the client's organization, to establish that the work is completed.

The following will be "Similar experience" assessment criteria in case of JV/Consortium,

S. No	Criteria	Minimum Threshold	Sole Bidder	In case of Joint Venture		
				Lead Member	Other Members	Overall
1	Similar Experience	As defined in 1.3.2	Yes	NA	NA	Yes

Note:

- Bidders should submit the Evidence documents mentioned in the table above.
- Bids of firms not confirming to the eligibility criteria listed above will be summarily rejected. Submission of forged documents and unsigned documents will result in rejection of the bid.
- For the purpose of evaluation of Bidders INR 65.00 (INR Sixty five only) per

USD shall be considered as the applicable currency conversion rate.

4. In case of any other currency the same shall first be converted to USD as on the date 60 (Sixty) days prior to the proposal due date including the (proposal due date) and the amount so derived in USD shall be converted in to INR at the aforesaid rate. The conversion rate of such currency shall be the daily representative exchange rates published by the IMF for the relevant date
5. In case of invoking ITB section-5.3 to call for clarifications, such clarifications shall be sought only on the documents submitted. No new document other than the documents submitted at the time of the bid will be entertained and will not be counted even if submitted. No correspondence will be entertained on this issue.

1.4.1(a)

Qualification Criteria:

The qualification criterion has been defined as the minimum threshold relative score to be obtained by the Bidder/ Agency in the **”Technical evaluation”** round. The scoring basis which the relative score for technical evaluation is arrived at, is obtained as per the process outlined below;

Abstract of Qualification Criteria

Sl.No	Description	Marks
A	Similar Project Experience	35
B	Approach and Methodology	15
C	Key Professional Staff	50
Total		100

The **detailed scoring methodology** for each of the above THREE (3) qualification criteria is detailed in this section.

(A.) Similar Project Experience (35 marks):

Evaluation Criteria	Marks	Evidence
Number of "Infrastructure Master plan" assignments successfully completed by the firm/bidder as defined in Definition-(b) of Section-1.3.2(A) of BDS.	2 marks per assignment subject to a maximum of 15 marks . Additional 1 mark for every 5 Sq. Km increase in the area of "Urban area" on a pro-rata basis subject to a cap of 5 marks per individual assignment	Client Certificate and other documentary proofs
Number of "Detailed infrastructure design" assignments successfully completed by the firm/bidder as defined in Definition-(c) of Section-1.3.2(A) of BDS.	2 marks per assignment subject to a maximum of 15 marks . Additional 1 mark for every additional 1000 Crores of project cost on a pro-rata basis subject to a cap of 4 marks per individual assignment	Client Certificate and other documentary proofs
Number of "Smart infrastructure plan and design" assignments successfully completed by the firm/bidder as defined in Definition-(d) of Section-1.3.2(A) of BDS.	2.5 marks per assignment subject to a maximum of 5 marks .	Client Certificate and other documentary proofs
Maximum Total Marks	35 marks	

(B.) Approach and Methodology (15 marks):

Sl.No.	Evaluation criteria:	Marks	Methodology
1).	Project appreciation	5 marks	Technical Presentation*
2).	Quality of workplan and methodology proposed (for the THREE (3) phases defined in scope)	10 marks	Technical Presentation*
Total marks		15 marks	

*Eligible consultants are required to present the "Approach and Methodology" covering the TWO (2) aspects listed above through a PowerPoint presentation during the Technical Evaluation phase. Copies of the presentations to be signed by authorized representatives and shall be submitted on the day of making the presentation.

(C.) Key Professional Staff (50 marks):

The professional staffing of the bidders to be evaluate based on the Quality of the key personnel - 50 marks

Sl.No.	Key Personnel	Max. score
1	Project Manager / Team Leader	8
2	Infrastructure Planner	3
3	Urban Planner	3
4	Water Supply & Waste Water Expert	3
5	Stormwater & Drainage Expert	3
6	Environmental / Sustainability Planner	2
7	Urban Transportation - Planner	2
8	Energy and Power Expert	2
9	ICT / Instrumentation Expert	2
10	Landscape Expert	2
11	Disaster Management Expert	2
12	Urban transport engineer	2
13	Structural Design Expert - Water	2
14	Structural Design Expert - Energy	2
15	Structural Design Expert - Mechanical	2
16	Geotechnical Expert	2
17	Fire Expert	2
18	Financial Expert	2
19	3D/GIS Expert	1
20	Gas Network expert	1
21	City Safety and Security Expert	1
22	Urban surveying expert	1
Total marks		50

The score for each key personnel would be based on the following criteria:

Sl.No.	Criteria	Marks
1.	Relevant Educational Qualification	25 max.
(a).	- Relevant Post Graduation	25
(b).	- Relevant Graduation only	15
2.	Relevant Professional Experience	25 max.
(a).	- Total Professional Experience (equal to 20 Yrs & Above)	25
(b).	- Total Professional Experience (equal to 15 but less than 20 Yrs)	10
(c).	- Total Professional Experience (less than 15 Yrs)	0
3.	Adequacy for the Assignment	50 max.
(a).	- 15 marks for each similar assignment*	30
(b).	- For each additional similar assignment* - 10 marks for each project	10

*”**Similar assignment**” means a similar role undertaken by the said executive for the infrastructure planning, design and development of an Urban area as defined in Definition-(a)/(b)/(c) of Section-1.3.2(A) of BDS.

The marks arrived at based on the above methodology to be used to estimate the final scoring as defined in the Section 5.5.5 (iii)b of the **ITB** document.

A bidder would be declared as qualified if the score computed as defined in the Section 5.5.5(iii)b is greater than the threshold defined in the Section 5.5.5(iv) of the **BDS** document.

2.1.1

Bidding Documents: Refer to “Bid Forms”

3.5.1

Period of validity: The bid validity date, as extended, if applicable shall be 45 days.

3.6.2

- (a) **Amount of Bid Security** is Rs. 35 lakhs
- (b) **Form of Bid Security** shall be a Demand Draft OR Bank Guarantee in favour of The Commissioner, APCRDA from a scheduled Bank.
- (c) **Period of validity** beyond the bid validity date, as extended, if applicable shall be 30 days
- (d) The **time period** within which the bid security of the unsuccessful bidders will be returned is 25 working days.

3.6.7(b)

For the purposes of this bid the Authority will blacklist a firm or individual, including declaring ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has, directly or through an agent, engaged in prohibited practices in bidding for, or in executing, a contract of the Authority.

3.7.2(b)

Refer to 1.1.2

3.7.5

Refer to 1.1.3

5.1.1

Opening of Bids

Time and Date: Refer to 1.1.3

Place: Andhra Pradesh Capital Regional Development Authority (APCRDA),
Lenin Center,
Governerpet,
Vijayawada-520002
Andhra Pradesh, India

5.5.1

Evaluation Process Flow: Refer to "ITB" 5.5.3

5.5.5 (iii)

Technical Evaluation Criteria: Refer to 1.4.1 (a)

5.5.5 (iv)

Cut-off Marks "m": 70 (SEVENTY)

5.5.6 (v)

Net Present Value (NPV):

Given the nature of the assignment, the Net Present Value (NPV), as defined in the section 5.5.6 (v) of the ITB document, would not be relevant from the perspective of evaluating the financial proposal. Instead of using "NPV" for the evaluation of the financial proposal, total fee for the assignment, of managing the various tasks and deliverables as outlined in the Volume-I (Scope of work) document, would be employed.

This total fee termed as "**Lump-sum Fee**" (**LSF**) would cover all the expenses pertaining to the delivery of services including, but not limited to, professional fees for various services rendered (**Master planning** assignment (referred to in the Part-II of the Volume-I Scope of work), the fee for the **infrastructure Detailed project reports preparation** assignment (referred to in the Part-III of the Volume-I Scope of work), and the fee for the **Technical assistance during execution** (referred to in the Part-IV of the Volume-I Scope of work)), out-of pocket expenses and the cost of support staff. This LSF to be provided as a split of fee corresponding to the above-mentioned projects. The LSF would replace the NPV factor in the financial evaluation calculation explained in Section 5.5.6 (vi) of the ITB. The bidder also needs to submit a detailed breakup of the lump-sum amount as indicated in Form F2, the price bid form. The detailed split by deliverables shall not exceed the limits set in the table below,

Components	Fees as percentage of LSF
Infrastructure Masterplanning Fee	40%
Preparation of Nine (9) Detailed project reports (DPRs) Fee	55%
Retention Money for Technical assistance during execution, as defined in Part-IV of the Volume-I Scope of work	5%

Within these two broad components the split by sub-components or by individual studies are as follows,

1. Infrastructure Masterplanning

Sl.No	Masterplan	Percent of LSF component
1	Concept plan	6%
2	Transport	15%
3	Water	
a).	Water Supply	11%
b).	Waste water	11%
c).	Storm water	10%
4	Power	6%
5	Solid waste management	9%
6	Gas	6%
7	Smart	8%
8	District cooling	6%
9	Safety and security	6%
10	Disaster management	6%

2. Preparation of Detailed project reports (DPRs)

Sl.No	DPR	Percent of LSF component
1	Arterial roads	20%
2	Smart Power	8%
3	Smart water supply	8%
4	Waste water system	8%
5	Solid waste system	8%
6	Storm water	10%
7	IT infra & smart	10%
8	Govt complex	8%
9	LPS	20%

5.5.7

Technical weightage W_{Tech} : 80%.

Commercial weightage W_{Com} : 20%

6.1.1

Minimum qualification criteria: Refer to 1.3.1

6.6.1 6.3.2

Percentage for quantity increase or decrease of works: Upto 30 percent the bid price.

6.5.1 (a)

Time period for signing the contract: The Bidder to sign the contract agreement within a period of 10 days.

6.5.2

Refer to 1.1.3

BID FORMS

Form T1:Letter of BID

(On Bidder's letter head)

Date:.....

Name of Contract:.....

To:

Sir,

Having examined the bidding documents, including Addenda, the receipt of which is hereby acknowledged, we, the undersigned, offer to [specify scope of the contract] under the above named Contract in full conformity with the said bidding documents for the sum specified in financial bid form or such other sums as may be determined in accordance with the terms and conditions of the Contract. The above amounts are in accordance with the price schedules attached herewith and are made part of this bid.

We undertake, if our bid is accepted, to commence performance and to achieve completion within the respective times stated in the bidding documents.

If our bid is accepted, we undertake to provide an advance payment security and a performance security in the form and amounts and within the times specified in the bidding documents.

We agree to abide by this bid for a period of [specify number] days from the date fixed for submission of bids as stipulated in the bidding documents, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

Until a formal contract is prepared and executed between us, this bid, which consists of the letter and Attachments 1 through [] hereto, together with your written acceptance thereof and your notification of award, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest, or any bid you may receive.

Dated this..... Day of 20.....

..... (Signature)

In the capacity of

..... (Position)

Duly authorized to sign this bid for and on behalf of

..... (Name of bidder)

APCRDA

Form T2: Bid Security

Bank Demand Draft for Bid Security

APCRDA

Form T3: Power of Attorney

Power of Attorney for signing of Bid Know all men by these presents, We, (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr. / Ms (Name), son/daughter/wife of.....and presently residing at, who is presently employed with us and holding the position of, as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our bid for Name of Bid [insert: Name of Bid from Bid data sheet] proposed by _____ (the “Authority”) including but not limited to signing and submission of all applications, bids and other documents and writings, participate in bidders’ and other conferences and providing information / responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts including the Agreement and undertakings consequent to acceptance of our bid, and generally dealing with the Authority in all matters in connection with or relating to or arising out of our bid for the said Scheme and/or upon award thereof to us and/or till the entering into of the Agreement with the Authority.

AND we hereby agree to ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 2011.

For.....
(Signature, name, designation and address)

Witnesses:

- 1.
- 2.

Accepted

Notarised
(Signature, name, designation and address of the Attorney)

Notes:

The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.

The Power of Attorney should be executed on a non-judicial stamp paper of Rs. 50 (fifty) and duly notarised by a notary public.

Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

Form T4: Bidder's Particulars and Eligibility Criteria

Title of Bidder	
Whether bidder is applying as Sole Firm or Lead member of a consortium.	
If Consortium, whether Jt. bidding agreement is enclosed.	
Name of the Company (Lead member in case of Consortium)	
Registered Office of the Company	
Firms Registration Number and Validity:	
Legal status (e.g. incorporated private company, unincorporated business, partnership etc.):	
Registered address:	
Year of Incorporation:	
Year of commencement of Company:	
Brief description of the Company including details of its main lines of business	
Name, designation, address and phone numbers of authorized signatory of the Bidder	
Name: Designation: Company: Address:	
Company:	
Phone No.:	
Address:	
Fax No. :	

E-mail address:	
In case of consortium, provide the following information for the other members: 1. Name of firm: 2. Legal status and country of incorporation 3. Registered address and principal place of business	

2. Please State the following correctly (In case of consortium, for each member):

(i) Has the Bidder ever been penalized by any organization for poor quality of work or breach of contract in the last five years?	Yes/No
(ii) Has the Bidder ever failed to complete any work awarded to it by any public Authority/entity in last five years?	Yes/No
(iii) Has the Bidder been ever blacklisted by any Government department/Public Sector Undertaking in the last five years?	Yes/No
(iv) Has the Bidder been suffered bankruptcy/insolvency in the last five years?	Yes/No

Note: If answer to any of the questions at (i) to (iv) is yes, the Bidder is not eligible for this Work.

3. Documents required

The below documents have to produced by the bidder (and by every member in case of Consortium):

1. Registration document / Certificate of Incorporation -
2. In case of JV, joint bidding document -

The relevant documents have to be attached and ticked above.

4. Details of Bank Draft:

a. Towards the Bid Security amount of rupees [Thirty Five Lakh only]: The draft shall be addressed to the Commissioner, APCRDA

Date:

Signature and Seal of Authorized Person

Place:

Form T5: Financial Viability

[This form is to be provided by the bidder / every member in case of consortium/JV]
Name of the Bidder:

Sl. no.	Financial years	Annual revenue
1		
2		
3		

This is to certify that _____ (name of Applicant)
has received the payments shown above against the respective years on
account of professional fees for their Planning and/or Engineer consulting
and/or Engineering design services.

(Signature, name and designation of the authorized signatory)

Date

Name and seal of the audit firm

Certificate from the Statutory Auditor

In case the Bidder does not have a Statutory Auditor, it shall provide the certificates from its chartered accountant that ordinarily audits the annual accounts of the Bidder.

Note: Please provide the audited income statement without the notes/annexures; do not attach printed Annual Financial Statements.

Form T6: Similar Experience Record

Name of Bidder or partner of a Joint Venture	
Use a separate sheet for each contract	
1	Number of contract Name of contract Client certificate provided?
2	Name of Client
3	Client's Address
4	Type of contract (Infrastructure Master plan / Detailed infrastructure design / Smart infrastructure plan and design)
5	Contractor role (check one) 1. Prime Supplier 2. Management Contractor 3. Subcontractor 4. Partner in a Joint Venture
6	Area of project covered Evidence of project area (reference to client certificate / document)
7	If Infrastructure Master plan project, components covered Evidence (reference to clause in client certificate / other documents)
8	If Detailed infrastructure design project, sectors covered Project cost of contract Evidence (reference to clause in client certificate / documents) of project cost and sectors covered
9	If Smart infrastructure plan and design project, sectors covered Evidence of completion of project (reference to clause in client certificate)
10	Amount of the total/subcontractor/partner share (at completion, or at date of award for current contracts)
11	Total contract: Rs _____. Subcontract: Rs._____. Partner share: Rs_____
12	Date of award/completion
13	Contract was completed _____ months ahead/behind original schedule (if behind, provide explanation)
14	Contract was completed Rs._____ Percentage under/over original contract amount (if over, provide explanation)
15	Indicate the approximate present total contract value of work undertaken by subcontract, if any, and the nature of such work.

Form T7: Personnel Capabilities

Name of the Bidder

For specific positions essential to contract management and implementation (and/or those specified in the Bidding Documents, if any), Bidders should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form 3b for each candidate.

Bidders may propose alternative management and implementation arrangements requiring different key personnel, whose experience records should be provided.

1	Title of position
	Name of prime candidate
2	Title of position
	Name of prime candidate
3	Title of position
	Name of prime candidate
4	Title of position
	Name of prime candidate

Form T8: Candidates Summary

1.

Position	(to be provided as positions stated in Key Personnel, Vol-I.)	Candidate <input type="checkbox"/> Prime <input type="checkbox"/> Alternative
Candidate Information	Name of candidate	Date of Birth
	Professional Qualifications	
Present Employment	Name of Employer	
	Address of Employer	
	Telephone	Contact (Manager/personal officer)
	Fax	Telex
	Job title of candidate	Years with present Employer

2. Summarize professional experience over the last twenty years, in reverse chronological order. Indicate particular technical and managerial experience to the project.

From	To	Company/project/position/relevant technical and management experience

3. Abstract of "Similar assignments / projects" undertaken by the said executive

Timeline	Designation	Project title and details	Project area

Authorized signatory of lead bidder

Signature of key personnel

Form T9: Bid process checklist

A	Provided Client certificates required for eligibility?	
	1. Infrastructure Master plan	<input type="checkbox"/>
	2. Detailed Infrastructure design	<input type="checkbox"/>
	3. Smart Infrastructure plan and design	<input type="checkbox"/>
B	Provided Client certificates required for qualification?	
	1. Infrastructure Master plan	<input type="checkbox"/>
	2. Detailed Infrastructure design	<input type="checkbox"/>
	3. Smart Infrastructure plan and design	<input type="checkbox"/>
C	Included Registration / Certificate of incorporation?	<input type="checkbox"/>
D	Included Certificate from Statutory auditor / CA?	<input type="checkbox"/>
E	Provided CVs of Key Personnel duly signed by Authorized signatory?	<input type="checkbox"/>

I hereby agree that I have submitted all the requisite documents for the bid process evaluation. I understand that the Technical evaluation Committee is not liable to provide any score for any criteria that is not substantiated and supported by Client certificates or other documents specified. Acceptance of alternatives to the client certificate or any other document is solely at the discretion of the Technical evaluation committee.

Authorized signatory

Form T10:Letter from subcontractor

(On Subcontractor's letter head)

Date:.....

Name of Contract:.....

To:

Sir,

We undertake, if our client's bid is accepted, to commence performance and to achieve completion within the respective times stated in the bidding documents. We agree to be associated with the project for the entire tenure of the contract entered between our Client and APCRDA as per the terms stipulated in the bidding documents.

Dated this..... Day of 20....

..... (Signature)

In the capacity of

..... (Position)

Duly authorized to sign this bid for and on behalf of

..... (Name of Sub-contractor)

Form F1: Price Bid Form

[Location, date]

To:

Sir,

We the under signed, offer to provide the services for [title of the Bid] in accordance with your Bidding Document dated [date] and our proposal (Technical and Financial proposal). Our attached financial proposal is for the sum of [amount in words and figures]. This amount is exclusive of the local taxes.

Our financial proposal shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the proposal i.e.,[date].

We understand you are not bound to accept any proposal you receive.

We remain,

Yours sincerely,

Authorised signatory:

Name and Title of Signatory:

Name of Firm:

Address:

Form F2: Cost Breakup

Name of the Bidder:

Authorized Signatory of the Bidder:

Break up of the quoted "Lump-sum Fee"

A). INFRASTRUCTURE MASTERPLANNING:

Sl.No.	Masterplan	Lump-sum price bid (in INR)
1.	Concept Plan	
2.	Transport plan	
3A	Water supply plan	
3B	Waste water plan	
3C	Storm water plan	
3.	Power plan	
4.	Solid waste management plan	
5.	Gas Masterplan	
6.	Smart city integrated infrastructure plan	
7.	District cooling plan	
8.	Safety and security plan	
-	Total Masterplan LSF	

* Percentage of the total LSF for each Masterplan shall not exceed specified ceiling provided under 5.5.6 of the BDS.

B). DETAILED PROJECT REPORTS:

Sl. No.	Project	Quantity	Unit	Unit Price bid	Lump-sum fee
1	Development of arterial and sub-arterial integrated road infrastructure (around 290km with 50m RoW) & Development of east-west and north-south expressways including interchanges / grade separators (total of 41 km with 60m RoW)	331	Km		
2	Development of smart power transmission and distribution systems for Phase-I	4000	MW		
3	Development of source, Water treatment plant(s), storage reservoirs, distribution network, automated control and command centre and so on, for Phase I.	260	MLD		
4	Development of collection network, Sewerage treatment plant(s), pumping stations, disposal, reuse network, automated control and command centre and so on, for Phase I.	210	MLD		
5	Development of Solid Waste Management Infrastructure including automated control and command centre, required for Phase I (including seed capital area)	250	Tonne		
6	Development of storm water disposal system for Phase-I	217	sq. km.		
7	Development of IT infrastructure and Central Command & Control Centres, Surveillance systems, Intelligent Traffic and Transport System, Fibre Optic for all infrastructure and services for Phase I	Lump sum	—	—	
8	Development of tier-II infrastructure for 900 acres of Government Complex campus	900	Acres		
9	Development of tier-II infrastructure for 17000 acres of re-usable land	17000	Acre		
-	Total DPR LSF				

* Percentage of the total LSF for each DPR shall not exceed specified ceiling provided under 5.5.6 of the BDS.

**VOLUME III - CONDITIONS OF
CONTRACT**

Contents

Contract document	3
1 General Provisions And Interpretation	8
1.1 Definitions	8
1.2 Interpretation	13
1.3 Representatives	16
1.4 Notices	18
1.5 Dispute Settlement	20
1.6 Copyright, Confidential Information, and Ownership	20
2 GUARANTEES, LIABILITIES, INDEMNITIES, INSURANCE AND RISKS	23
2.1 Time Guarantee and Liquidated Damages Trigger	23
2.2 Service Conformity Guarantee and Performance Security Trigger	24
2.3 IPR Warranty and Indemnity	25
2.4 Limitation of Liability	28
2.5 Indemnity	28
2.6 Insurances	30
2.7 Force majeure	31
3 TERM, TERMINATION AND MODIFICATION OF CONTRACT	34
3.1 Term	34
3.2 Termination	35
3.3 Modification	38
4 PAYMENT	40
4.1 Price	40
4.2 Payment Terms	40
4.3 Securities	43
4.4 Taxes and Duties	44
5 RESPONSIBILITIES	45
5.1 Consultant’s Responsibilities	45
5.2 Client’s Responsibilities	47
6 SUBJECT OF CONTRACT	50
6.1 Project Plan	50
6.2 Documents Approval	51
6.3 Personnel	53
7 SPECIAL CONDITIONS OF CONTRACT	55

CONTRACT FOR PROVISION OF SERVICES [INSERT: THE NAME OF THE SERVICES]

Between
Andhra Pradesh Capital Region Development Authority
And
[insert: name of Consultant(s)]

Dated: _____

CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT is made
the [insert: ordinal] day of [insert: month], [insert: year].
BETWEEN

1. (insert: Name of Client), a (insert: name of Client) of the Government of Andhra Pradesh, and having its principal place of business at (insert: address of Client) (hereinafter called “the Client”), and
2. (insert: name of Consultant] , a corporation incorporated under the laws of [insert: country of Consultant] and having its principal place of business at [insert: address of Consultant] (hereinafter called “the Consultant”).

or

2. a joint venture consisting of the following entities, each of which will be jointly and severally liable to the Client for the Consultant’s obligations under this Contract, namely, _____ and _____ (hereinafter called the “Consultant”)

WHEREAS

(A) The Client desires to engage the Consultant to provide the following Services [insert: brief description of the Services] “the Services” or “the Work”; and

(B) The Consultant, having represented to the Client that they have the required infra- structures, professional skills, personnel and technical resources, have agreed to provide the services on the terms and conditions set forth in this Contract Agreement;

NOW IT IS HEREBY AGREED as follows:

Article 1. Contract Documents

1.1 Contract Documents (Reference GCC Clause 1.1 (a) (iii)) The following documents shall constitute the Contract between the Client and the Consultant, and each shall be read and construed as an integral part of the Contract:

- (a) This Contract Agreement and the Appendices attached to the Contract Agreement
- (b) General Conditions of Contract
- (c) Special Conditions of Contract
- (d) [Add here: any other documents]

1.2 Order of Precedence

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents).

1.3 Definitions (Reference GCC Clause 1)

Capitalized words and phrases used in this Contract Agreement shall have the same meanings as are ascribed to them in the General Conditions of Contract.

Article 2. Contract Price and Payment Terms

2.1 Contract Price (Reference GCC Clause 1.1(a)(xi) and GCC Clause “Price”) The Client hereby agrees to pay to the Consultant the Contract Price in consideration of the performance by the Consultant of its obligations under the Contract. The Contract Price shall be [insert: amount in words], [insert: amount in figures] , as specified in the Price Schedule. The Contract Price shall be understood to reflect the terms and conditions used in the specification of prices in the detailed price schedules, including the taxes, duties and related levies if and as identified.

Article 3. Effective Date

3.1 Effective Date (Reference GCC Clause 1.1 (e) (vi)) The time allowed for delivery of the Service shall be determined from the date when all of the following conditions have been fulfilled:

- (a) This Contract Agreement has been duly executed for and on behalf of the Client and the Consultant;
- (b) The Consultant has submitted to the Client the performance security and the advance payment security, in accordance with GCC Clause 19.2 and GCC Clause 19.3;
- (c) The Client has paid the Consultant the advance payment, in accordance with GCC Clause 18;
- (d) specify here: any other conditions, for example, opening/confirmation of letter of credit.

Each party shall use its best efforts to fulfil the above conditions for which it is responsible as soon as practicable.

3.2 If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract Agreement because of reasons not attributable to the Consultant, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time and/or other relevant conditions of the Contract.

Article 4. Appendixes

4.1 The Appendixes listed below shall be deemed to form an integral part of this Contract Agreement.

Reference in the Contract to any Appendix shall mean the Appendixes listed below and attached to this Contract Agreement, and the Contract shall be read and construed accordingly.

APPENDIXES

Appendix 1. The Work(Description of the Services/Requirements implementation schedule)

Appendix 2. Project Plan (delivery schedule to be included) Appendix 3. Personnel Appendix

4. Working Hours and SLA Appendix

5 Forms (performance/advance security forms)

Appendix 6. Price Schedules

Appendix 7 Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

Appendix 8 Deliverable linked Payment schedule

IN WITNESS WHEREOF the Client and the Consultant have caused this Agreement to be duly executed by their authorized representatives the day and year first above written. For and on behalf of the Client

Signed:

in the capacity of [insert: title or other appropriate designation] in the presence of

For and on behalf of the Consultant

Signed:

in the capacity of [insert: title or other appropriate designation] in the presence of

CONTRACT AGREEMENT dated the [insert: number] day of [insert: month], [insert: year] BETWEEN [insert: name of Client], “the Client” and [insert: name of Consultant], “the Consultant”

General Provisions And Interpretation

1.1 Definitions

1.1.1 General

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings

- (i) “Applicable Law” means the laws and any other instruments having the force of law in the Client’s country, or in such other country as may be specified in the Special Conditions of Contract **SCC**, as they may be issued and in force from time to time.
- (ii) “Client” means the implementing agency that signs the Contract for the Services with the Selected Consultant.
- (iii) “Consultant” means a legally-established professional consulting firm or entity selected by the Client to provide the Services under the signed Contract.
- (iv) “Contract” means the legally binding written agreement signed between the Client and the Consultant and which includes all the attached documents listed in its paragraph 1 of the Form of Contract (the General Conditions (GCC), the Special Conditions (**SCC**), and the Appendices).
- (v) ”Contract Price” means the price payable to the Consultant as specified in the Contract agreement, Subject to such additions and adjustments thereto or deductions there from, as may be maid pursuant to the contract.
- (vi) ”Contract Documents” means the documents listed in the contract agreement, including any amendments thereto.
- (vii) “Day” means a working day unless indicated otherwise.
- (viii) “Effective Date” means the date on which this Contract comes into force and effect pursuant to Clause **GCC 3.1.1**
- (ix) “Experts” means, collectively, Key Experts, Non-Key Experts, or any other personnel of the Consultant, Sub-consultant or JV member(s) assigned by the Consultant to perform the Services or any part thereof under the Contract.
- (x) “Foreign Currency” means any currency other than the currency of the Client’s country.
- (xi) “GCC” means these General Conditions of Contract.

- (xii) “Government” means the Government of the Andhra Pradesh or Government of India.
- (xiii) “Joint Venture (JV)” means an association with or without a legal personality distinct from that of its members, of more than one entity where one member has the authority to conduct all businesses for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Client for the performance of the Contract.
- (xiv) “Key Expert(s)” means an individual professional whose skills, qualifications, knowledge and experience are critical to the performance of the Services under the Contract and whose Curricula Vitae (CV) was taken into account in the technical evaluation of the Consultant’s proposal.
- (xv) “Local Currency” means the currency of the Client’s country.
- (xvi) “Non-Key Expert(s)” means an individual professional provided by the Consultant or its Sub-consultant to perform the Services or any part thereof under the Contract.
- (xvii) “Party” means the Client or the Consultant, as the case may be, and “Parties” means both of them.
- (xviii) “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented but not over-written.
- (xix) “Services” means the work to be performed by the Consultant pursuant to this Contract, as described in Appendix 1 hereto.
- (xx) “Sub-consultants” means an entity to whom/which the Consultant subcontracts any part of the Services while remaining solely liable for the execution of the Contract.
- (xxi) “Third Party” means any person or entity other than the Government, the Client, the Consultant or a Sub-consultant.

1.1.2 Entities

- (i) Authority means AP Capital Region Development Authority
- (ii) “Member” in case of Consultant consisting of a joint venture of more than one entity, means any of these entities, and “Members” means all of these entities.
- (iii) “Party” means the Client or the Consultant, as the case may be; and “Parties” means both of them.

- (iv) “Client” means the entity purchasing the Services, as specified in the **SCC**.
- (v) “Project Manager” means the person named as such in the **SCC** or otherwise appointed by the Client in the manner provided in **GCC Clause 1.4.1** (Project Manager) to perform the duties delegated by the Client.
- (vi) “Consultant” means the firm or consultant or Joint Venture or Consortium whose bid or Proposal to perform the Contract has been accepted by the Client and is named as such in the Contract Agreement.
- (vii) “Consultant’s Representative” means any person nominated by the Consultant and named as such in the **SCC** or otherwise approved by the Client in the manner provided in **GCC 1.3.2** (Consultant’s Representative) to perform the duties delegated by the Consultant.
- (viii) “Subcontractor” means any firm to whom any of the obligations of the Consultant, including preparation of any design or supply of any Goods or Services, is subcontracted directly or indirectly by the Consultant.
- (ix) “Third Party” means any person or entity other than the Government, the Trust, the Service Providers or a Subcontractor.
- (x) “Owner’s Engineers” mean the client’s engineer or a representative of the client who is an independent third-party of the client to ensure the designing, execution and supervision aspects of works assigned.

1.1.3 Scope

- (i) “Confidential Information” means all information (whether in written, oral, electronic or other format) that have been identified or marked confidential at the time of disclosure including Project Data which relates to the technical, financial and business affairs, customers, Consultants, products, developments, operations, processes, data, trade secrets, design rights, know-how and personnel of each Party and its affiliates which is disclosed to or otherwise learned by the other Party whether a Party to this Agreement or to the Project Agreement in the course of or in connection with this Agreement (including without limitation such information received during negotiations, location visits and meetings in connection with this Agreement or to the Project Agreement).
- (ii) “Deliverables” means the products, infrastructure and services specifically developed for “AP Capital Region Development” and agreed to be delivered by the Consultant in pursuance of the agreement and include all documents related to the service, user manuals, technical manuals, design, methodologies, process and operating manuals, service mechanisms, policies and guidelines, and all their modifications.
- (iii) “Goods” means all equipment, machinery, furnishings, Materials, and other tangible items that the Consultant is required to supply or supply and install under the Contract, including, without limitation, the Information Technologies and Materials, but excluding the Consultant’s Equipment.

- (iv) “Proprietary Information” means processes, methodologies and technical, financial and business information, including drawings, design prototypes, designs, formulae, flow charts, data, computer database and computer programs already owned by, or granted by third Parties to a Party hereto prior to its being made available under this Agreement, Project Agreement or a Project Engagement Definition.
- (v) “Services” means all technical, logistical, management, and any other Services to be provided by the Consultant under the Contract. Such Services may include, but are not restricted to, activity management and quality assurance, design, development, study, documentation, transportation, insurance, testing, validation, expediting, site preparation, installation, integration, training, data migration, maintenance, operations and technical support.
- (vi) “Service Level” means the level and quality of service and other performance criteria which will apply to the Services as set out in any Project Agreement.
- (vii) “The Project Plan” means the document to be developed by the Consultant and approved by the Client, pursuant to **GCC 6.1** , based on the requirements of the Contract and the Preliminary Project Plan included in the Consultant’s bid. The “Agreed and Finalized Project Plan” is the version of the Project Plan approved by the Client, in accordance with **GCC 6.1** Should the Project Plan conflict with the Contract in any way, the relevant provisions of the Contract, including any amendments, shall prevail.
- (viii) “Software” is a collection of computer programs and related data that provide the instructions for telling a computer what to do and how to do it.
- (ix) “Materials” means all documentation in printed or printable form and all instructional and informational aides in any form (including audio, video, and text) and on any medium, provided to the Client under the Contract.
- (x) “Intellectual Property Rights” means any and all copyright, moral rights, trademark, patent, and other intellectual and proprietary rights, title and interests worldwide, whether vested, contingent, or future, including without limitation all economic rights and all exclusive rights to reproduce, fix, adapt, modify, translate, create derivative works from, extract or re-utilize data from, manufacture, introduce into circulation, publish, distribute, sell, license, sublicense, transfer, rent, lease, transmit or provide access electronically, broadcast, display, enter into computer memory, or otherwise use any portion or copy, in whole or in part, in any form, directly or indirectly, or to authorize or assign others to do so.
- (xi) “Consultant’s Equipment” means all equipment, tools, apparatus, or things of every kind required in or for the services that is to be provided by the Consultant.

1.1.4 Activities

- (i) “Delivery” means the transfer of the Goods or Services from the Consultant to the Client specified in the Contract.
- (ii) “Personnel” means persons hired by the Consultant or by any Subcontractor as employees and assigned to the performance of the Services or any part thereof;

1.1.5 Place and Time

- (i) “Day” means calendar day of the English Calendar.
- (ii) “Week” means seven (7) consecutive Days, beginning Monday.
- (iii) “Month” means calendar month of the English Calendar.
- (iv) title means twelve (12) consecutive Months.
- (v) “Effective Date” means the date on which this Contract comes into force and effect pursuant to Clause **GCC 3.1.1**
- (vi) “Contract Period” is the time period during which this Contract governs the relations and obligations of the Client and Consultant in relation to the Work, as specified in the **SCC**.
- (vii) “The Coverage Period” means the Days of the Week and the hours of those Days during which maintenance, operational, and/or technical support services (if any) must be available.

1.2 Interpretation

1.2.1 Contract Documents

Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts of these documents) are intended to be correlative, complementary, and mutually explanatory. The Contract shall be read as a whole.

1.2.2 Governing Law

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.

1.2.3 Governing Language

This Contract has been executed in the language specified in the SCC, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

1.2.4 Relation between the parties

Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between the Client and the Consultant. The Consultant, subject to this Contract, has complete charge of the Experts and Sub-consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

1.2.5 Singular and Plural

The singular shall include the plural and the plural the singular, except where the context otherwise requires.

1.2.6 Headings

The headings shall not limit, alter or affect the meaning of this Contract. Persons Words importing persons or parties shall include firms, corporations, and government entities.

1.2.7 Entire agreement

This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

1.2.8 Amendment

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party to the Contract.

1.2.9 Independent Consultant

The Consultant shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties to the Contract. Subject to the provisions of the Contract, the Consultant shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Consultant in connection with the performance of the Contract shall be under the complete control of the Consultant and shall not be deemed to be employees of the Client, and nothing contained in the Contract or in any subcontract awarded by the Consultant shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Client.

1.2.10 Joint Venture

If the Consultant is a Joint Venture of two or more firms, all such firms shall be jointly and severally bound to the Client for the fulfillment of the provisions of the Contract and shall designate one of such firms to act as a leader with authority to bind the Joint Venture. The composition or constitution of the Joint Venture shall not be altered without the prior consent of the Client.

1.2.11 Location

The Services shall be performed at such locations as are specified in Appendix 1 hereto and, where the location of a particular task is not so specified, at such locations, whether in the Government's country or elsewhere, as the Client may approve.

1.2.12 Non waiver

- (a) Subject to **GCC 1.2.12 (b)** of this Clause below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

1.2.13 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity, or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

1.2.14 Fairness And Good Faith

(a) Good Faith

The parties undertake to act in good faith with respect to each other's rights under this contract and to adopt all reasonable measures to ensure the realization of the objectives of this contract.

(b) Operation of the Contract

The parties recognize that it is impractical in this contract to provide for every contingency which may arise during the life of the contract, and the parties hereby agree that it is their intention that this contract shall operate fairly as between them, and without detriment to the interest of either of them, and that, if during the term of this contract either party believes that this contract is operating unfairly, the parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness, but no failure to agree on any action pursuant to this clause shall give rise to a dispute subject to arbitration in accordance with **“Dispute Settlement” 1.5** clause GCC hereof.

1.3 Representatives

(a) **Authorized Representatives**

Any action required or permitted to be taken, and any document required or permitted to be executed under this Contract by the Client or the Consultant may be taken or executed by the officials specified in the **SCC**.

(b) **Trust of Member in charge**

In case the Consultant is a Joint Venture, the members hereby authorize the member specified in the **SCC** to act on their behalf in exercising all the Consultant's rights and obligations towards the Client under this Contract, including without limitation the receiving of instructions and payments from the Client.

1.3.1 Project Manager

If the Project Manager is not named in the Contract, then within fourteen (14) days from the Effective Date, the Client shall appoint and notify the Consultant in writing of the name of the Project Manager. The Client may from time to time appoint some other person as the Project Manager in place of the person previously so appointed and shall give a notice of the name of such other person to the Consultant without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work. Such appointment shall take effect only upon receipt of such notice by the Consultant. Subject to the extensions and/or limitations **specified in the SCC** (if any), the Project Manager shall have the authority to represent the Client on all day-to-day matters relating to the Contract, and shall normally be the person giving or receiving notices on behalf of the Client pursuant to “Notices” 1.4 Clause GCC.

1.3.2 Consultant's Representative

(a) If the Consultant's Representative is not named in the Contract, then within fourteen [14] days from the Effective Date, the Consultant shall appoint the Consultant's Representative and shall request the Client in writing to approve the person so appointed. The request must be accompanied by detailed curriculum vitae for the nominee, as well as a description of any other responsibilities the nominee would retain while performing the duties of the Consultant's Representative. If the Client does not object to the appointment within fourteen [14]* days, the Consultant's Representative shall be deemed to have been approved. If the Client objects to the appointment within fourteen [14] days giving the reason therefore, then the Consultant shall appoint a replacement within fourteen [14] days of such objection in accordance with the Sub-Clause **1.3.2(a)** of this Clause GCC.

1

(b) Subject to the extensions and/or limitations specified in the **SCC** (if any), the Consultant's Representative shall have the authority to represent the Consultant on all day-to-day matters relating to the Contract, and shall normally be the person giving or receiving notices on behalf of the Consultant pursuant to

¹*unless specified otherwise in the SCC

“Notices” 1.4 Clause GCC.

- (c) The Consultant shall not revoke the appointment of the Consultant’s Representative without the Client’s prior written consent, which shall not be unreasonably withheld. If the Client consents to such an action, the Consultant shall appoint another person of equal or superior qualifications as the Consultant’s Representative, pursuant to the procedure set out in **1.3.2(a)** of this Clause GCC.
- (d) The Consultant’s Representative and staff are obliged to work closely with the Client’s Project Manager and staff, act within their own authority, and abide by directives issued by the Client that are consistent with the terms of the Contract. The Consultant’s Representative is responsible for managing the activities of its personnel and any subcontracted personnel.
- (e) The Consultant’s Representative may, subject to the approval of the Client (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions, and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Consultant’s Representative and shall specify the powers, functions, and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until the notice of it has been delivered.
- (f) Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with Sub-Clause **1.3.2(e)** of this Clause GCC shall be deemed to be an act or exercise by the Consultant’s Representative.

1.3.3 Objections and Removals

If the Client finds that any of the Experts or Sub-consultant has committed serious misconduct or has been charged with having committed a criminal action, or shall the Client determine that Consultant’s Expert of Sub-consultant have engaged in corrupt, fraudulent, collusive, coercive or obstructive practice while performing the Services, the Consultant shall, at the Client’s written request, provide a replacement.

In the event that any of Key Experts, Non-Key Experts or Sub-consultants is found by the Client to be incompetent or incapable in discharging assigned duties, the Client, specifying the grounds therefore, may request the Consultant to provide a replacement.

Any replacement of the removed Experts or Sub-consultants shall possess better qualifications and experience and shall be acceptable to the Client.

Replacement

Except as the Client may otherwise agree,

- (i) the Consultant shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and
- (ii) the remuneration to be paid for any of the Experts provided as a replacement

shall not exceed the remuneration which would have been payable to the Experts replaced or removed.

1.4 Notices

1.4.1

Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing and shall be sent, pursuant to Sub-Clause **1.4.3** of this Clause GCC below, by personal delivery, registered post, special courier, cable, telegraph, telex, facsimile, electronic mail, or Electronic Data Interchange (EDI), with the following provisions.

- (a) Any notice sent by cable, telegraph, telex, facsimile, electronic mail, or EDI shall be confirmed within two (2*) days after dispatch by notice sent by registered post or special courier, except as otherwise specified in the Contract.
- (b) Any notice sent by registered post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10*) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped, and conveyed to the postal authorities or courier service for transmission by mail or special courier.
2
- (c) Any notice delivered personally or sent by cable, telegraph, telex, facsimile, electronic mail, or EDI shall be deemed to have been delivered on the date of its dispatch.
- (d) Either party may change its postal, cable, telex, facsimile, electronic mail, or EDI addresses for receipt of such notices by ten (10) days' notice to the other party in writing.

1.4.2

Notices shall be deemed to include any approvals, consents, instructions, orders, certificates, information and other communication to be given under the Contract.

1.4.3

Pursuant to “**Representatives**” **1.3** Clause GCC, notices from/to the Client are normally given by, or addressed to, the Project Manager, while notices from/to the Consultant are normally given by, or addressed to, the Consultant’s Representative, or in its absence its deputy if any. If there is no appointed Project Manager or Consultant’s Representative (or deputy), or if their related authority is limited by the sub-clause **1.3.1** or “**Representatives**” **1.3.2(b)** of “**Representatives**” **1.3** Clause of **SCC** for GCC, or for any other reason, the Client or Consultant may give and receive notices at their fallback addresses. The address of the Project

²unless otherwise specified in SCC

Manager and the fallback address of the Client are as **specified in the SCC** or as subsequently established/amended. The address of the Consultant's Representative and the fallback address of the Consultant are as specified in **SCC** of the Contract Agreement or as subsequently established/amended.

APCRDA

1.5 Dispute Settlement

1.5.1 Dispute and Mutual Consultation

The Parties shall seek to resolve any dispute amicably by mutual consultation.

If either Party objects to any action or inaction of the other Party, the objecting Party may file a written Notice of Dispute to the other Party providing in detail the basis of the dispute. The Party receiving the Notice of Dispute will consider it and respond in writing within fourteen [14*] days after receipt. If that Party fails to respond within fourteen [14*] days, or the dispute cannot be amicably settled within fourteen [14*] days following the response of that Party.

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1.5.2 Arbitration

- (a) Any dispute between the Parties arising under or related to this Contract that cannot be settled amicably may be referred to by either Party to the adjudication/arbitration in accordance with the provisions specified in the **SCC**.

1.6 Copyright, Confidential Information, and Ownership

1.6.1 Copyright

As applicable, the Client's and Consultant's rights and obligations with respect to the designs, methodologies, algorithms, surveys, data, analysis, results and reports among other things in the deliverables, are specified in the **SCC**. **Subject to the SCC**, the Intellectual Property Rights in all the designs, methodologies, data, analysis, results and reports among other things in the deliverables of the Contract Agreement shall, at the date of this Contract or on creation of the rights (if later than the date of this Contract), vest in the Client. The Consultant shall do and execute or arrange for the doing and executing of each necessary act, document, and thing that the Client may consider necessary or desirable to perfect the right, title, and interest of the Client in and to those rights. In respect of such deliverable, the Consultant shall ensure that the holder of a moral right in such an item does not assert it, and the Consultant shall, if requested to do so by the Client and where permitted by applicable law, ensure that the holder of such a moral right waives it.

1.6.2 Confidential Information

Except with the prior written consent of the Client, the Consultant and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the Services, nor shall the Consultant and the Experts make public the recommendations formulated in the course of, or as a result of, the Services.

³unless otherwise specified in the SCC

1.6.3

For the purposes of **sub-clause 1.6.2** of this clause GCC, the Consultant is also deemed to be the Receiving Party of Confidential Information generated by the Consultant itself in the course of the performance of its obligations under the Contract and relating to the businesses, services, finances, Consultants, employees, or other contacts of the Client or the Client's use of the deliverables.

1.6.4

Notwithstanding **sub-clause 1.6.2** and **sub-clause 1.6.3** of this clause GCC the Consultant may furnish to its Subcontractor Confidential Information of the Client to the extent reasonably required for the Subcontractor to perform its work under the Contract, in which event the Receiving Party shall ensure that the person to whom it furnishes Confidential Information of the Disclosing Party is aware of and abides by the Receiving Party's obligations under this GCC Clause as if that person were party to the Contract in place of the Receiving Party.

1.6.5

The Consultant shall not, without the Client's prior written consent, use any Confidential Information received from the Client for any purpose other than those that are required for the performance of the Contract.

1.6.6

The obligation of the Receiving Party under **sub-clause 1.6.2** through **sub-clause 1.6.2** of this clause GCC, however, shall not apply to that information which

- (a) Now or hereafter enters the public domain through no fault of the Receiving Party;
- (b) can be proven to have been possessed by the Receiving Party at the time of disclosure and that was not previously obtained, directly or indirectly, from the Disclosing Party;
- (c) Otherwise lawfully becomes available to the Receiving Party from a third party that has no obligation of confidentiality.

1.6.7

The above provisions of this GCC Clause shall not in any way modify any undertaking of confidentiality given by the Consultant prior to the date of the Contract in respect of the System or any part thereof.

1.6.8

The provisions of this GCC Clause shall survive the termination, for whatever reason, of the Contract for three [3] years or such longer period as may be specified in the SCC.

1.6.9

The ownership of the deliverables and other Services or Goods shall be transferred to the Client at the time of Delivery or otherwise under terms that may be agreed upon and specified in the Contract Agreement.

Ownership and the terms of usage of the deliverables supplied under the Contract shall be governed by **sub-clause 1.6.1** of this clause GCC and any elaboration in the Requirements.

All plans, drawings, specifications, designs, reports, algorithms, source code of software, any similar thing prepared utilising the Client's domain knowledge, and other documents and tools prepared by the Consultant for the Client under this contract shall become and remain the property of the Client, and the Consultant shall, not later than upon termination or expiration of this contract, deliver all such documents to the Client together with a detailed inventory thereof. The Consultant may retain a copy of such documents, tools and software, if any. Restriction about the future use of these documents and software, if any, shall be specified in the **SCC**.

GUARANTEES, LIABILITIES, INDEMNITIES, INSURANCE AND RISKS

2.1 Time Guarantee and Liquidated Damages Trigger

2.1.1 Guarantee

The Consultant guarantees that it shall complete the performance of various activities of the contract within the time periods specified in the Implementation Schedule in the Requirements part of Volume I and/or the Agreed and Finalized Project Plan pursuant to GCC **Clause 6.1**, or within such extended time to which the Consultant shall be entitled under GCC **Clause 3.1.5** (Extension of Time).

2.1.2 Triggering of Liquidated Damages

- (a) If the Consultant fails to perform the various activities within the time specified in the Implementation Schedule in the Requirements part of Volume I or the Agreed and Finalized Project Plan, or any extension of the time previously granted under GCC **Clause 3.1.5** (Extension of Time), the Consultant shall pay to the Client liquidated damages at the rate specified in the **SCC** as a percentage of the Contract Price, or the relevant part of the Contract Price if an item/activity has not been performed. The aggregate amount of such liquidated damages shall in no event exceed the amount specified in the **SCC** (“the Maximum”). Once the Maximum is reached, the Client may consider termination of the Contract, pursuant to GCC **Clause 3.2.2**.
- (b) Unless otherwise specified in the **SCC**, liquidated damages payable under **Subclause 2.1.2(a)** of this clause GCC shall apply only to the failure to perform the activities/items as specified in the Implementation Schedule in the Requirements and/or Agreed and Finalized Project Plan. This shall not limit, however, any other rights or remedies the Client may have under the Contract for other delays.
- (c) If liquidated damages are claimed by the Client for the activity or item, the Consultant shall have no further liability whatsoever to the Client in respect to the time guarantee for the activity or item. However, the payment of liquidated damages shall not in any way relieve the Consultant from any of its obligations to complete the System or from any other of its obligations and liabilities under the Contract.

2.2 Service Conformity Guarantee and Performance Security Trigger

2.2.1

The Consultant guarantees that, once the Acceptance Certificate(s) has been issued, the work is in compliance with the Client's requirements set forth in the Requirements and it conforms to all other aspects of the Contract. The Consultant acknowledges that **GCC Clause 6.2.5** regarding Acceptance governs how conformance of the work to the Contract requirements will be determined.

2.2.2

If, for reasons attributable to the Consultant, the work does not conform to the Requirements or does not conform to all other aspects of the Contract, the Consultant shall at its cost and expense make such changes, modifications, and/or additions as may be necessary to conform to the Requirements and meet all standards. The Consultant shall notify the Client upon completion of the necessary changes, modifications, and/or additions and shall request the Client to re-check.

2.2.3

If the work fails to conform to the Requirements, the Client may consider termination of the Contract, pursuant to **GCC Clause 4.3**, and forfeiture of the Consultant's Performance Security in accordance with **GCC Clause 4.3** in compensation for the extra costs and delays likely to result from this failure.

2.3 IPR Warranty and Indemnity

2.3.1 IPR Warranty

The Consultant hereby represents and warrants that the performance of the Service, does not and will not infringe any Intellectual Property Rights held by any third party and that it has all necessary rights or at its sole expense shall have secured in writing all transfers of rights and other consents necessary to make the assignments, licenses, and other transfers of Intellectual Property Rights and the warranties set forth in the Contract, and for the Client to own or exercise all Intellectual Property Rights as provided in the Contract. Without limitation, the Consultant shall secure all necessary written agreements, consents, and transfers of rights from its employees and other persons or entities whose services are used.

2.3.2 IPR Indemnity

The Consultant shall indemnify and hold harmless the Client and its employees and officers from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability), that the Client or its employees or officers may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights by reason of performance of the service.

2.3.3

Such indemnities shall not apply if any claim of infringement

- (a) Is asserted by a parent, subsidiary, or affiliate of the Client's organization;
- (b) Is a direct result of a design mandated by the Client's Requirements and the possibility of such infringement was duly noted in the Consultant's Proposal or Bid;

2.3.4

If any proceedings are brought or any claim is made against the Client arising out of the matters referred to in **Sub-clause 2.3.2** of this clause GCC, the Client shall promptly give the Consultant notice of such proceedings or claims, and the Consultant may at its own expense and in the Client's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Consultant fails to notify the Client within twenty-eight [28*] days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Client shall be free to conduct the same on its own behalf. Unless the Consultant has so failed to notify the Client within the twenty-eight [28*] days, the Client shall make no admission that may be prejudicial to the defence of any such proceedings or claim. The Client shall, at the Consultant's request, afford all available assistance to the Consultant in conducting such proceedings or claim and shall be reimbursed

by the Consultant for all reasonable expenses incurred in so doing.

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2.3.5

The Client shall indemnify and hold harmless the Consultant and its employees, officers, and Subcontractors from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Consultant or its employees, officers, or Subcontractors may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided to the Consultant in connection with this Contract by the Client or any persons (other than the Consultant) contracted by the Client, except to the extent that such losses, liabilities, and costs arise as a result of the Consultant's breach of sub-clause of this clause GCC.

Such indemnity shall not cover

- (a) any use of the design, data, drawing, specification, or other documents or materials, other than for the purpose indicated by or to be reasonably inferred from the Contract;
- (b) any infringement resulting from the use of the design, data, drawing, specification, or other documents or materials, or any products produced thereby, in association or combination with any other Goods or Services not provided by the Client or any other person contracted by the Client, where the infringement arises because of such association or combination and not because of the use of the design, data, drawing, specification, or other documents or materials in its own right.

Such indemnities shall also not apply

- (a) If any claim of infringement is asserted by a parent, subsidiary, or affiliate of the Consultant's organization;
- (b) To the extent that any claim of infringement is caused by the alteration, by the Consultant, or any persons contracted by the Consultant, of the design, data, drawing, specification, or other documents or materials provided to the Consultant by the Client or any persons contracted by the Client.

2.3.6

If any proceedings are brought or any claim is made against the Consultant arising out of the matters referred to in **Sub-clause 2.3.2** of this clause GCC, the Consultant shall promptly give the Client notice of such proceedings or claims, and the Client may at its own expense and in the Consultant's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Client fails to notify the Consultant within twenty-eight [28*] days after receipt of such notice that it intends to conduct any such proceedings or claim,

¹unless otherwise specified in the SCC

then the Consultant shall be free to conduct the same on its own behalf. Unless the Client has so failed to notify the Consultant within the twenty-eight [28*] days, the Consultant shall make no admission that may be prejudicial to the defence of any such proceedings or claim. The Consultant shall, at the Client's request, afford all available assistance to the Client in conducting such proceedings or claim and shall be reimbursed by the Client for all reasonable expenses incurred in so doing. ²

²unless specified in the SCC

2.4 Limitation of Liability

2.4.1

- (a) Subject to additional provisions, if any, set forth in the **SCC**, the Consultant's liability under this Contract shall be as determined under the Applicable Law.
- (b) The Consultant shall not be liable to the Client, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, or loss of "interest" costs, provided that this exclusion shall not apply to any obligation of the Consultant to pay liquidated damages to the Client; and the Consultant shall replace all the equipment which is intentionally / accidentally damaged during the course of supply of services.
- (c) The aggregate liability of the Consultant to the Client, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, agreed by the both parties; provided that this limitation shall not apply to any obligation of the Consultant to indemnify the Client with respect to intellectual property rights infringement.

2.5 Indemnity

2.5.1

The Consultant and each and every Subcontractor shall abide by the job safety, insurance, other prevalent measures and the Applicable Law.

2.5.2

Subject to **Sub-clause 2.5.3** of this Clause GCC, the Consultant shall indemnify and hold harmless the Client and its employees and officers from and against any and all losses, liabilities and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Client or its employees or officers may suffer as a result of the death or injury of any person or loss of or damage to any property arising in connection with the service and by reason of the negligence of the Consultant or its Subcontractors, or their employees, officers or agents, except any injury, death, or property damage caused by the negligence of the Client, its contractors, employees, officers, or agents.

2.5.3

If any proceedings are brought or any claim is made against the Client that might subject the Consultant to liability under **Sub-clause 2.5.2** of this clause GCC, the Client shall promptly give the Consultant the notice of such proceedings or claims, and the Consultant may at its own expense and in the Client's name get conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Consultant fails to notify the Client within twenty-eight [28*] days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Client shall be free to conduct the same on its own behalf. Unless the

Consultant has so failed to notify the Client within the twenty-eight [28*] day period, the Client shall make no admission that may be prejudicial to the defence of any such proceedings or claim. The Client shall, at the Consultant's request, afford all available assistance to the Consultant in conducting such proceedings or claim and shall be reimbursed by the Consultant for all reasonable expenses incurred in so doing.

3

2.5.4

The Client shall indemnify and hold harmless the Consultant and its employees, officers, and Subcontractors from any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Consultant or its employees, officers, or Subcontractors may suffer as a result of the death or personal injury of any person or loss of or damage to property of the Client, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under “**Insurances**” **Clause 2.6** of GCC, provided that such fire, explosion, or other perils were not caused by any negligent act or failure of the Consultant.

2.5.5

If any proceedings are brought or any claim is made against the Consultant that might subject the Client to liability under **Sub-clause 2.5.4** of this clause GCC, the Consultant shall promptly give the Client the notice of such proceedings or claims, and the Client may at its own expense and in the Consultant's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Client fails to notify the Consultant within twenty-eight [28*] days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Consultant shall be free to conduct the same on its own behalf. Unless the Client has so failed to notify the Consultant within the twenty-eight [28*] days, the Consultant shall make no admission that may be prejudicial to the defence of any such proceedings or claim. The Consultant shall, at the Client's request, afford all available assistance to the Client in conducting such proceedings or claim and shall be reimbursed by the Client for all reasonable expenses incurred in so doing.

2.5.6

The party entitled to the benefit of an indemnity under this GCC Clause shall take all reasonable measures to mitigate any loss or damage that has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced. ⁴

³unless otherwise specified in the SCC

⁴unless otherwise specified in the SCC

2.6 Insurances

2.6.1

The Consultant

- (i) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at its (or the Sub-consultants', as the case may be) own cost but on terms and conditions approved by the Client, insurance against the risks, and for the coverage specified in the **SCC**, and
- (ii) at the Client's request, shall provide evidence to the Client showing that such insurance has been taken out and maintained and that the current premiums therefore have been paid. The Consultant shall ensure that such insurance is in place prior to commencing the Services as stated in Clause **GCC Clause 3.1.2**.

2.6.2

The Client shall be named as co-insured under all insurance policies taken out by the Consultant pursuant to **Sub-clause 2.6.1** of this clause GCC, except for the Third-Party Liability, and the Consultant's Subcontractors shall be named as co-insured under all insurance policies taken out by the Consultant pursuant to **Sub-clause 2.6.1** of this clause GCC. All insurers' rights of subrogation against such co-insured for losses or claims arising out of the performance of the Contract shall be waived under such policies.

2.6.3

The Consultant shall deliver to the Client certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect.

2.6.4

The Consultant shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Consultant.

2.6.5

If the Consultant fails to take out and/or maintain in effect the insurance referred to in **Sub-clause 2.6.1** of this clause GCC, the Client may take out and maintain in effect any such insurance and may from time to time deduct from any amount due to the Consultant under the Contract any premium that the Client shall have paid to the insurer or may otherwise recover such amount as a debt due from the Consultant.

2.6.6

Unless otherwise provided in the Contract, the Consultant shall prepare and conduct all and any claims made under the policies affected by it pursuant to this GCC Clause and all monies payable by any insurers shall be paid to the Consultant. The Client shall give to the Consultant all such reasonable assistance as may be required by the Consultant in connection with any claim under the relevant insurance policies. With respect to insurance claims in which the Client's interest is involved, the Consultant shall not give any release or make any compromise with the insurer without the prior written consent of the Client. With respect to insurance claims in which the Consultant's interest is involved, the Client shall not give any release or make any compromise with the insurer without the prior written consent of the Consultant.

2.7 Force majeure

2.7.1

“**Force Majeure**” means an event which is beyond the reasonable control of a Party, is not foreseeable, is unavoidable, and makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action by Government agencies.

Force Majeure shall not include

- (i) any event which is caused by the negligence or intentional action of a Party or such Party's Experts, Sub-consultants or agents or employees, nor
- (ii) any event which a diligent Party could reasonably have been expected to both take into account at the time of the conclusion of this Contract, and avoid or overcome in the carrying out of its obligations hereunder.

2.7.2 No Breach of Contract

Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder. The failure of a Party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

2.7.3 Measures to be Taken

A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

A Party affected by an event of Force Majeure shall notify the other Party of such

event as soon as possible, and in any case not later than fourteen [14*] calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultant, upon instructions by the Client, shall either

- (a) Demobilize, in which case the Consultant shall be reimbursed for additional costs they reasonably and necessarily incurred, and, if required by the Client, in reactivating the Services; or
- (b) Continue with the Services to the extent reasonably possible, in which case the Consultant shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.

In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to Clauses GCC **Clause 1.5**.

2.7.4

The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its or their performance of the Contract and to fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC **Clause 3.1.6**.

2.7.5

No delay or non performance by either party to this Contract caused by the occurrence of any event of Force Majeure shall

- (a) constitute a default or breach of the Contract;
- (b) (subject to GCC Clauses **Clause 3.1.3**, and **Clause 3.1.4** give rise to any claim for damages or additional cost or expense occasioned by the delay or non performance,

if, and to the extent that, such delay or non performance is caused by the occurrence of an event of Force Majeure.

2.7.6

If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than sixty [60*] days or an aggregate period of more than one hundred and twenty [120*] days on account of one or more events of Force Majeure during the time period covered by the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which, either party may terminate the Contract by giving a notice to the other. ⁵

⁵unless otherwise specified in the SCC

2.7.7

In the event of termination pursuant to GCC Clause **Clause 3.1.6**, the rights and obligations of the Client and the Consultant shall be as specified in GCC “**Termination**” **Clause 3.2**.

2.7.8

Notwithstanding GCC **Clause 3.1.5** , Force Majeure shall not apply to any obligation of the Client to make payments to the Consultant under this Contract.

TERM, TERMINATION AND MODIFICATION OF CONTRACT

3.1 Term

3.1.1 Effectiveness of contract

This Contract shall come into force and effect on the date (the “Effective Date”) of the Client’s notice to the Consultant instructing the Consultant to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SCC have been met.

3.1.2 Commencement of Services

The Consultant shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

3.1.3

The Consultant shall commence work within the period specified at **Sub-clause 3.1.2** of this clause GCC, and the Consultant shall thereafter proceed with the work in accordance with the time schedule specified in the Implementation Schedule in the Requirements Section and any refinements made in the Agreed and Finalized Project Plan.

3.1.4

The Consultant shall adhere to the timelines in the Implementation Schedule in the Requirements Section and any refinements made in the Agreed and Finalized Project Plan, or within such extended time to which the Consultant shall be entitled under GCC **Clause 3.1.5**(Extension of Time).

3.1.5 Extension of time

The time(s) specified in the Schedule of Implementation shall be extended if the Consultant is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following

- (a) Any occurrence of Force Majeure as provided in GCC Clause “**Force Majeure**” **2.7** ;
- (b) Default of the Client; or

(c) Any other matter specifically mentioned in the Contract;

by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Consultant.

3.1.6

Except where otherwise specifically provided in the Contract, the Consultant shall submit to the Project Manager a notice of a claim for an extension of the time, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Client and the Consultant shall agree upon the period of such extension. In the event that the Consultant does not accept the Client's estimate of a fair and reasonable time extension, the Consultant shall be entitled to refer the matter under "Settlement of Disputes" of GCC **Clause 1.5**.

3.1.7

The Consultant shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

3.2 Termination

3.2.1 Expiration of contract

Unless terminated earlier pursuant to GCC **Clause 3.1** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

3.2.2 Termination by the Client

The Client may terminate this Contract in case of the occurrence of any of the events specified in paragraphs **3.2.2(a)** through **3.2.2(f)** of this Clause. In such an occurrence the Client shall give at least thirty [30*] calendar days' written notice of termination to the Consultant in case of the events referred to in **3.2.2(a)** through **3.2.2(d)**; at least sixty [60*] calendar days' written notice in case of the event referred to in **3.2.2(e)**; and at least five (5*) calendar days' written notice in case of the event referred to in **3.2.2(f)** ¹

- (a) If the Consultant fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to Clause GCC **Clause 3.2**;
- (b) If the Consultant becomes (or, if the Consultant consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

¹unless otherwise specified in the SCC

- (c) If the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause GCC **Clause 1.5**;
- (d) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty [60*] calendar days; ²
- (e) If the Client, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;
- (f) If the Consultant fails to confirm availability of Key Experts as required in Clause GCC **Clause 3.1**.

Sub-Clause Furthermore, if the Client determines that the Consultant has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Client may, after giving fourteen (14*) calendar days written notice to the Consultant, terminate the Consultant's employment under the Contract. For the purposes of this Clause

- (i) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - (iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - (v) "obstructive practice" is (aa) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation by the Trust into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or (bb) acts intended to materially impede the exercise of the Client's inspection and audit rights provided for under 5Clause "Consultant's Responsibilities" GCC.
- (g) If the Client, in its sole discretion and for any reasons whatsoever, decides to terminate this contract.

²unless otherwise specified in the SCC

3.2.3 Termination by the Consultant

The Consultant may terminate this Contract, by not less than thirty [30*] calendar days' written notice to the Client, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- (a) If the Client fails to pay any money due to the Consultant pursuant to this Contract and not subject to dispute pursuant to Clauses GCC 1.5 within forty-five [45*] calendar days after receiving written notice from the Consultant that such payment is overdue. ³
- (b) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty [60*] calendar days.
- (c) If the Client fails to comply with any final decision reached as a result of arbitration pursuant to Clause GCC
- (d) If the Client is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five [45*] days (or such longer period as the Consultant may have subsequently approved in writing) following the receipt by the Client of the Consultant's notice specifying such breach.

3.2.4 Termination of contract for failure to become effective

If this Contract has not become effective within such time period after the date of Contract signature as specified in the **SCC**, either Party may, by not less than twenty two [22*] days written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto. ⁴

3.2.5 Cessation of rights and obligations

Upon termination of this Contract pursuant to GCC **Clause 3.2** or GCC **Clause 3.2.2** hereof, or upon expiration of this Contract pursuant to Clause **3.2.3**, all rights and obligations of the Parties hereunder shall cease, except

- (i) such rights and obligations as may have accrued on the date of termination or expiration,
- (ii) the obligation of confidentiality set forth in Clause GCC 1.6,
- (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause **5.1**, and **Clause 5.1.3** any right which a Party may have under the Applicable Law.

3.2.6 Cessation of Services

Upon termination of this Contract by notice of either Party to the other pursuant to Clauses **3.2.2** or GCC **3.2.3**, the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment and materials furnished by the Client, the Consultant shall proceed as provided, respectively, by Clauses GCC **Clause 5.1.7**.

³unless otherwise specified in the SCC

⁴unless otherwise specified in the SCC

3.2.7 Payment upon Termination

Upon termination of this Contract, the Client shall make the following payments to the Consultant

- (a) Remuneration for Services satisfactorily performed prior to the effective date of termination, and reimbursable expenditures for expenditures actually incurred prior to the effective date of termination; and pursuant;
- (b) In the case of termination pursuant to paragraphs (d) and (e) of GCC **Clause 3.2.2**, reimbursement of any reasonable cost incidental to the prompt and orderly termination of this Contract, including the cost of the return travel of the Experts.

3.2.8 Disputes about Events of termination

If either party disputes whether an event specified in paragraphs under **Sub-clause 3.2.2** or **Sub-clause 3.2.3** of this Clause GCC occurred, such party may, within forty-five [45*] Days after receipt of notice of termination from the party, refer the matter to arbitration pursuant to “**Dispute Settlement**” **1.5** clause GCC hereof, and this contract shall be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

3.3 Modification

3.3.1 Permitted Modifications

Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any proposals for modification or variation made by the other Party.

In cases of substantial modifications or variations, the prior written consent of the Authority's is required.

3.3.2 Introducing a Change

Client shall have the right to propose, and subsequently require, the Project Manager to order the Consultant from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in, or from the Service (interchangeably called “Change”), provided that such Change falls within the general scope of the work, does not constitute unrelated work, and is technically practicable, taking into account the capability of the Consultant.

3.3.3

The Consultant may from time to time during its performance of the Contract propose to the Client (with a copy to the Project Manager) any Change that the Consultant considers necessary or desirable to improve the quality or efficiency of the Service. The Client may at its discretion approve or reject any Change proposed by the Consultant.

3.3.4

Notwithstanding **Sub-clause 3.3.2** and **Sub-clause 3.3.3** of this clause GCC, no change made necessary because of any default of the Consultant in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time.

3.3.5 Assignment

Neither the Client nor the Consultant shall, without the express prior written consent of the other, assign to any third party the Contract or any part thereof, or any right, benefit, obligation, or interest therein or hereunder, except that the Consultant shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

PAYMENT

4.1 Price

4.1.1

The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.

4.1.2

Payments under this Contract shall not exceed the ceilings in foreign currency and in local currency specified in the **SCC**.

4.1.3

The Consultant shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.

4.2 Payment Terms

4.2.1

The Client shall pay to the Consultant as specified in **SCC**
The Contract Price shall be paid in Indian Rupees.

4.2.2

No payment made by the Client herein shall be deemed to constitute acceptance by the Client of any deliverable.

4.2.3

Payments shall be made promptly by the Client, preferably within thirty [30*] days after submission of a valid invoice by the Consultant. In the event that the Client fails to make any payment by its respective due date or within the period set forth in the Contract, the Client shall pay to the Consultant interest on the amount of such delayed payment at the rate(s) specified in the **SCC** for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

4.2.4 Mode of Billing and payments

Billings and payments in respect of the Services shall be made as follows

- (a) Advance payment. Within the number of days after the Effective Date, the Client shall pay to the Consultant an advance payment as specified in the **SCC**. Unless otherwise indicated in the **SCC**, an advance payment shall be made against an advance payment bank guarantee acceptable to the Client in an amount (or amounts) and in a currency (or currencies) specified in the **SCC**. Such guarantee (i) is to remain effective until the advance payment has been fully set off, and (ii) is to be in the form set forth in Appendix 5 , or in such other form as the Client shall have approved in writing. The advance payments will be set off by the Client in equal instalments against the statements for the number of months of the Services specified in the **SCC** until said advance payments have been fully set off.
- (b) The Itemized Invoices. As soon as practicable and not later than fifteen [15*] days after the end of each calendar month during the period of the Services, or after the end of each time interval otherwise indicated in the **SCC**, the Consultant shall submit to the Client, in duplicate, itemized invoices, accompanied by the receipts or other appropriate supporting documents, of the amounts payable pursuant to Clauses GCC 4.1 and GCC 4.2 for such interval, or any other period indicated in the **SCC**. Separate invoices shall be submitted for expenses incurred in foreign currency and in local currency. Each invoice shall show remuneration reimbursable expenses separately.
- (c) The Client shall pay the Consultant's invoices within sixty [60*] days after the receipt by the Client of such itemized invoices with supporting documents. Only such portion of an invoice that is not satisfactorily supported may be withheld from payment. Should any discrepancy be found to exist between actual payment and costs authorized to be incurred by the Consultant, the Client may add or subtract the difference from any subsequent payments. ¹
- (d) The Final Payment . Subject to SCC, the final payment under this Clause shall be made only after the final report and a final invoice, identified as such, shall have been submitted by the Consultant and approved as satisfactory by the Client. The Services shall be deemed completed and finally accepted by the Client and the final report and final invoice shall be deemed approved by the Client as satisfactory ninety [90*] calendar days after receipt of the final report and final invoice by the Client unless the Client, within such ninety (90) calendar day period, gives written notice to the Consultant specifying in detail deficiencies in the Services, the final report or final invoice. The Consultant shall thereupon promptly make any necessary corrections, and thereafter the foregoing process shall be repeated. Any amount that the Client has paid or has caused to be paid in accordance with this Clause in excess of the amounts payable in accordance with the provisions of this Contract shall be reimbursed by the Consultant to the Client within thirty (30) days after receipt by the Consultant of notice thereof. Any such claim by the Client for reimbursement must be made within twelve (12) calendar months after receipt by the Client of a final report and a final invoice approved by the Client in accordance with the above.

¹unless otherwise specified in the SCC

- (e) All payments under this Contract shall be made to the accounts of the Consultant specified in the **SCC**.
- (f) With the exception of the final payment under (d) above, payments do not constitute acceptance of the Services nor relieve the Consultant of any obligations hereunder.

4.2.5 Suspension

The Client may, by written notice of suspension to the Consultant, suspend all payments to the Consultant hereunder if the Consultant fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension.

- (i) Shall specify the nature of the failure, and
- (ii) shall request the Consultant to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Consultant of such notice of suspension.

Interest on Delayed Payments

If the Client had delayed payments beyond fifteen (15) days after the due date stated in Clause GCC **Sub-clause 4.2.4(c)**, interest shall be paid to the Consultant on any amount due by, not paid on, such due date for each day of delay at the annual rate stated in the **SCC**.

4.3 Securities

4.3.1 Issuance of Securities

The Consultant shall provide the securities specified below in favour of the Client at the times and in the amount, manner, and form specified below.

4.3.2 Advance Payment Security

- (a) As specified in the **SCC**, the Consultant shall provide a security equal in amount and currency to the advance payment and valid until the acceptance of all the deliverables.
- (b) The security shall be in the form provided in the Annexure-5 or in another form acceptable to the Client. The amount of the security shall be reduced in proportion to the value of the contract executed by and paid to the Consultant from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Client. The way the value of the security is deemed to become reduced and, eventually, voided is as **specified in the SCC**. The security shall be returned to the Consultant immediately after its expiration.

4.3.3 Performance Security

- (a) The Consultant shall, within twenty-eight [28*] days of the notification of Contract award, provide a security for the due performance of the Contract in the amount and currency specified in the **SCC**.
- (b) The security shall be a bank guarantee in the form provided in the **Appendix-5**, or it shall be in another form acceptable to the Client.
- (c) The security shall automatically become null and void once all the obligations of the Consultant under the Contract have been fulfilled, including, but not limited to, any obligations during the Warranty Period and any extensions to the period. The security shall be returned to the Consultant no later than twenty-eight (28) days after its expiration.
- (d) Upon Acceptance of the entire work, the security shall be reduced to the amount specified in the **SCC**, on the date of such Acceptance, so that the reduced security would only cover the remaining warranty obligations of the Consultant.

4.4 Taxes and Duties

4.4.1

The Consultant, Sub-consultants and Experts are responsible for meeting any and all tax liabilities arising out of the Contract unless it is stated otherwise in the **SCC**. As an exception to the above and as stated in the **SCC**, all local identifiable indirect taxes (itemized and finalized at Contract negotiations) are reimbursed to the Consultant or are paid by the Client on behalf of the Consultant.

4.4.2

If any tax exemptions, reductions, allowances, or privileges may be available to the Consultant, the Client shall use its best efforts to enable the Consultant to benefit from any such tax savings to the maximum allowable extent.

4.4.3

For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date thirty (30) days prior to the date of proposal submission (also called "Tax" in this GCC sub-Clause). If any Tax rates are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of the Contract, which was or will be assessed on the Consultant, its Subcontractors, or their employees in connection with performance of the Contract, an equitable adjustment to the Contract Price shall be made to fully take into account any such change by addition to or reduction from the Contract Price, as the case may be.

RESPONSIBILITIES

5.1 Consultant's Responsibilities

5.1.1 Standard of Performance

The Consultant shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Consultant shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with the third parties.

The Consultant shall employ and provide such qualified and experienced Experts and Sub-consultants as are required to carry out the Services.

The Consultant may subcontract part of the Services to an extent and with such Key Experts and Sub-consultants as may be approved in advance by the Client. Notwithstanding such approval, the Consultant shall retain full responsibility for the Services.

5.1.2

The Consultant shall perform the Services in accordance with the Contract and the Applicable Law and shall take all practicable steps to ensure that any of its Experts and Sub-consultants, comply with the Applicable Law.

The Client shall notify the Consultant in writing of relevant local customs, and the Consultant shall, after such notification, respect such customs.

5.1.3 Consultant to affiliate not to engage in certain activities

The Consultant agrees that, during the term of this Contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-consultants and any entity affiliated with such Sub-consultants, shall be disqualified from providing goods, works or non-consulting services resulting from or directly related to the Consultant's Services for the preparation or implementation of the project, unless otherwise indicated in the **SCC**.

5.1.4 Prohibition of conflicting activities

The Consultant shall not engage, and shall cause its Experts as well as its Sub-consultants not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this Contract.

5.1.5 Accounting, Inspection and Auditing

The Consultant shall keep, and shall make all reasonable efforts to cause its Sub-consultants to keep, accurate and systematic accounts and records in respect of the Services in such form and detail as will clearly identify relevant time changes and costs.

The Consultant shall permit and shall cause its Sub-consultants to permit, the authorities and/or persons appointed by the authorities to inspect the Site and/or all accounts and records relating to the performance of the Contract and the submission of the Proposal to provide the Services, and to have such accounts and records audited by auditors appointed by the authorities if requested by the authorities. The Consultant's attention is drawn to GCC **Clause 2.4** which provides, inter alia, that acts intended to materially impede the exercise of the authority's inspection and audit rights provided for under this GCC **Clause 5.1** constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility under the authority's prevailing sanctions procedures.)

5.1.6 Maintaining of records and reports

Unless otherwise indicated in the **SCC**, all reports and relevant data and information such as maps, diagrams, plans, databases, other documents and software, supporting records or material compiled or prepared by the Consultant for the Client in the course of the Services shall be confidential and become and remain the absolute property of the Client. The Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Client, together with a detailed inventory thereof. The Consultant may retain a copy of such documents, data and/or software but shall not use the same for purposes unrelated to this Contract without prior written approval of the Client.

If license agreements are necessary or appropriate between the Consultant and third parties for purposes of development of the plans, drawings, specifications, designs, databases, other documents and software, the Consultant shall obtain the Client's prior written approval to such agreements, and the Client shall be entitled at its discretion to require recovering the expenses related to the development of the program(s) concerned. Other restrictions about the future use of these documents and software, if any, shall be specified in the **SCC**.

5.1.7 Equipment and materials furnished by the Client

Equipment, vehicles and materials made available to the Consultant by the Client, or purchased by the Consultant wholly or partly with funds provided by the Client, shall be the property of the Client and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make available to the Client an inventory of such equipment, vehicles and materials and shall dispose of such equipment, vehicles and materials in accordance with the Client's instructions.

While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by the Client in writing, shall insure them at the expense of the Client in an amount equal to their full replacement value.

Any equipment or materials brought by the Consultant or its Experts into the Client's country for the use either for the project or personal use shall remain the property of the Consultant or the Experts concerned, as applicable.

5.1.8

Other Consultant responsibilities, if any, are as stated in the **SCC**.

5.2 Client's Responsibilities

Unless otherwise specified in the **SCC**, the Client shall use its best efforts to

5.2.1

Assist the Consultant with obtaining work permits and such other documents as shall be necessary to enable the Consultant to perform the Services.

5.2.2

Assist the Consultant with promptly obtaining, for the Experts and, if appropriate, their eligible dependents, all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in the Client's country while carrying out the Services under the Contract.

5.2.3

Facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Experts and their eligible dependents.

5.2.4

Issue to officials, agents and representatives of the Government all such instructions and information as may be necessary or appropriate for the prompt and effective implementation of the Services.

5.2.5

Assist the Consultant and the Experts and any Sub-consultants employed by the Consultant for the Services with obtaining exemption from any requirement to register or obtain any permit to practice their profession or to establish themselves either individually or as a corporate entity in the Client's country according to the applicable law in the Client's country.

5.2.6

Assist the Consultant, any Sub-consultants and the Experts of either of them with obtaining the privilege, pursuant to the applicable law in the Client's country, of bringing into the Client's country reasonable amounts of foreign currency for the purposes of the Services or for the personal use of the Experts and of withdrawing any such amounts as may be earned therein by the Experts in the execution of the Services.

5.2.7 Access to facilities

The Client warrants that the Consultant shall have, free of charge, unimpeded access to the project site in respect of which access is required for the performance of the Services. The Client will be responsible for any damage to the project site or any property thereon resulting from such access and will indemnify the Consultant and each of the experts in respect of liability for any such damage, unless such damage is caused by the wilful default or negligence of the Consultant or any Sub-consultants or the Experts of either of them.

5.2.8 Counter personnel

The Client shall make available to the Consultant free of charge such professional and support counterpart personnel, to be nominated by the Client with the Consultant's advice, if specified in SCC.

If counterpart personnel are not provided by the Client to the Consultant as and when specified in Appendix 1, the Client and the Consultant shall agree on (i) how the affected part of the Services shall be carried out, and (ii) the additional payments, if any, to be made by the Client to the Consultant as a result thereof pursuant to GCC clause **4.2.3** as specified.

Professional and support counterpart personnel, excluding Client's liaison personnel, shall work under the exclusive direction of the Consultant. If any member of the counterpart personnel fails to perform adequately any work assigned to such member by the Consultant that is consistent with the position occupied by such member, the Consultant may request the replacement of such member, and the Client shall not unreasonably refuse to act upon such request.

5.2.9 Services, facilities and Property of the Client

The Client shall make available to the Consultant and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference (Appendix 1) at the times and in the manner specified in said Appendix 1.

In case that such services, facilities and property shall not be made available to the Consultant as and when specified in Appendix 1, the Parties shall agree on

- (i) any time extension that it may be appropriate to grant to the Consultant for the performance of the Services,
- (ii) the manner in which the Consultant shall procure any such services, facilities and property from other sources, and
- (iii) the additional payments, if any, to be made to the Consultant as a result thereof pursuant to Clause GCC 4.

SUBJECT OF CONTRACT

6.1 Project Plan

6.1.1

In close cooperation with the Client and based on the Preliminary Project Plan included in the Consultant's proposal/bid, the Consultant shall develop a Project Plan encompassing the activities specified in the Contract. The contents of the Project Plan shall be as specified in the **SCC** and/or Requirements.

6.1.2

The Progress and other reports specified in the **SCC** shall be prepared by the Consultant and submitted to the Client in the format and frequency specified in the Requirements.

6.1.3

The Consultant shall formally present to the Client the Project Plan in accordance with the procedure specified in the **SCC**.

6.1.4

The Consultant shall undertake to deliver in accordance with the Agreed and Finalized Project Plan and the Contract.

6.2 Documents Approval

6.2.1 Instructions and Specifications

(a) The Consultant shall execute the work and the implementation activities necessary for successful performance of the work in compliance with the provisions of the Contract or, where not so specified, in accordance with good industry practice.

6.2.2 Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date of signing the Contract shall apply unless otherwise **specified in the SCC**. During Contract execution, any changes in such codes and standards shall be applied after approval by the Client.

6.2.3 Approval/Review of Documents by the Project Manager

- (a) The Consultant shall prepare and furnish to the Project Manager the documents as specified in the **SCC** for the Project Manager's approval or review. Any part of the Service covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval of these documents. **Sub-clause 6.2.3(b)** onwards of this clause GCC shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.
- (b) Within fourteen [14*] days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with **Sub-clause 6.2.3(a)** of this clause GCC, the Project Manager shall either return one copy of the document to the Consultant with its approval endorsed on the document or shall notify the Consultant in writing of its disapproval of the document and the reasons for disapproval and the modifications that the Project Manager proposes. If the Project Manager fails to take such action within the fourteen [14*] days, then the document shall be deemed to have been approved by the Project Manager. ¹
- (c) The Project Manager shall not disapprove any document except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good industry practice.
- (d) If the Project Manager disapproves the document, the Consultant shall modify the document and resubmit it for the Project Manager's approval in accordance with **Sub-clause 6.2.3(b)** of this clause GCC. If the Project Manager approves the document subject to modification(s), the Consultant shall make the required modification(s), and the document shall then be deemed to have been approved, subject to **Sub-clause 6.2.3(e)** of this clause GCC. The procedure set out in **Sub-clause 6.2.3(a)** through **Sub-clause 6.2.3(d)** of this clause GCC shall be repeated, as appropriate, until the Project Manager approves such documents.

¹unless otherwise specified in the SCC

- (e) If any dispute occurs between the Client and the Consultant in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) to a document that cannot be settled between the parties within a reasonable period, then, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Consultant shall proceed with the Contract in accordance with the Project Manager's instructions, provided that after the dispute resolution, the Term of contract shall be extended accordingly.
- (f) The Project Manager's approval, with or without modification of the document furnished by the Consultant, shall not relieve the Consultant of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager or inaccurate information furnished in writing to the Consultant by or on behalf of the Client.
- (g) The Consultant shall not depart from any approved document unless the Consultant has first submitted to the Project Manager an amended document and obtained the Project Manager's approval of the document, pursuant to the provisions of this **Clause 6.2.3** of this clause GCC.

6.2.4 Inspections

The Client or its representative shall have the right to inspect any of the ongoing works/activities, at any location.

6.2.5

The Client shall issue an acceptance certificate against each successful deliverable as per the implementation schedule and as further detailed in the **SCC**.

6.3 Personnel

6.3.1 Description of personnel

The title, agreed job description, minimum qualification and time-input estimates to carry out the Services of each of the Consultant's Key Experts are described in Appendix 2.

If required to comply with the provisions, adjustments with respect to the estimated time-input of Key Experts set forth in Appendix 2 may be made by the Consultant by a written notice to the Client, provided

- (i) That such adjustments shall not alter the original time-input estimates for any individual by more than 10 percentage or one week, whichever is larger; and
- (ii) That the aggregate of such adjustments shall not cause payments under this Contract to exceed the ceilings set forth.

If additional work is required beyond the scope of the Services specified in Appendix 1, the estimated time-input for the Key Experts may be increased by agreement in writing between the Client and the Consultant. In case where payments under this Contract exceed the ceilings set forth, the Parties shall sign a Contract amendment.

6.3.2 Replacement of personnel

Except as the Client may otherwise agree in writing, no changes shall be made in the Key Experts. Notwithstanding the above, the substitution of Key Experts during Contract execution may be considered only based on the Consultant's written request and due to circumstances outside the reasonable control of the Consultant, including but not limited to death or medical incapacity. In such case, the Consultant shall forthwith provide as a replacement, a person of equivalent or better qualifications and experience, and at the same rate of remuneration

6.3.3 Approval of personnel

If during execution of the Contract, additional Key Experts are required to carry out the Services, the Consultant shall submit to the Client for review and approval a copy of their Curricula Vitae (CVs). If the Client does not object in writing (stating the reasons for the objection) within twenty two [22*] days from the date of receipt of such CVs, such additional Key Experts shall be deemed to have been approved by the Client.

² The rate of remuneration payable to such new additional Key Experts shall be based on the rates for other Key Experts position which require similar qualifications and experience.

²unless otherwise specified in the SCC

6.3.4 Removal and / or Replacement of personnel

- (a) Except as the Client may otherwise agree, no changes shall be made in the key personnel. If, for any reason beyond the reasonable control of the Consultant it becomes necessary to replace any of the personnel, the Consultant shall forthwith provide as a replacement a person of equivalent or better qualifications.
- (b) If Client
 - (i) finds that any of the personnel has committed serious misconduct or has been charged with having committed a criminal action, or
 - (ii) has reasonable cause to be dissatisfied with the performance of any of the personnel, then the Consultant shall, at the Client's written request specifying the grounds therefore, forthwith provide as a replacement a person with qualification and experience acceptable to the Client.
- (c) Any of the personnel provided as a replacement under sub-clauses (a) and (b) above, the rate of remuneration applicable to such person, shall be subject to the prior written approval by the Client except as the Client may otherwise agree.
- (d) Except as the Client may otherwise agree,
 - (i) the Consultant shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and
 - (ii) the remuneration to be paid for any of the Experts provided as a replacement shall not exceed the remuneration which would have been payable to the Experts replaced or removed.

6.3.5 Working Hours, Overtime, Leave etc

Working hours and holidays for Experts are set forth in Appendix 2. To account for travel time to/from the Client's country, experts carrying out Services inside the Client's country shall be deemed to have commenced or finished work in respect of the Services such number of days before their arrival in, or after their departure from, the Client's country as is specified in Appendix 2.

The Experts shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave except as specified in Appendix 2, and the Consultant's remuneration shall be deemed to cover these items.

Any taking of leave by Key Experts shall be subject to the prior approval by the Consultant who shall ensure that absence for leave purposes will not delay the progress and or impact adequate supervision of the Services.

SPECIAL CONDITIONS OF CONTRACT

1 General Provisions And Interpretation

1.1: Definitions

1.1.1 General

1.1.1(i): Applicable Law means the laws prevalent in republic of India shall govern this Contract.

1.1.1(ii) The Client is: The Commissioner, APCRDA

The Project Manager is: Chief Engineer, APCRDA.

1.1.2(vii) The Consultant's Representative is:

Name: [insert: name and provide title and address further below, or state "to be nominated within _____ of the Effective Date"]

Title:[if appropriate, insert: title]

1.1.5(vi) The Contract shall be for a period of 36 months.

1.3: Representatives

1.3 (a) Authorized representative of client: _____

1.3.1 Project Manager Extensions and /or Limitations:

No additional extensions and/ or limitations.

1.3.2 Consultant's Representative's Extensions and/or Limitations:

1.4 Notices Address of the Project Manager :

Chief Engineer, APCRDA
Lenin Center, Governor Pet,
VIJAYAWADA- 520002.

APCRDA

Fallback address of the Client:

APCRDA
Lenin Center, Governor Pet ,
VIJAYAWADA - 520002 .
ANDHRA PRADESH - INDIA.

Address of the Consultant's Representative: 1) _____

Fallback address of the Consultant 2) _____ .

as appropriate, insert: personal delivery, postal, cable, telegraph, telex, fac-
simile, electronic mail, and/or EDI protocol

1.5 Dispute Settlement

(i) Arbitration

Any dispute between the Client and a Consultant arising in connection with the present Contract shall be referred to arbitration in accordance with the Applicable law. The arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi, or such other rules as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996.

Disputes shall be settled in accordance with the following provisions:

If any dispute arises between the parties hereto during the subsistence of this Contract Agreement or thereafter, in connection with the validity, interpretation, implementation or alleged breach of any provision of this Agreement, then the parties shall refer such dispute to their respective higher authorities the Chief Executive Officer, Client and the Chief Executive Officer of the Consultant Organization/Company or a substitute thereof for amicable settlement.

In the event that both the Chief Executive Officers or a substitute thereof are unable to resolve the dispute within thirty (30) days of it being referred to them, then either Party may refer the dispute for resolution to a sole arbitrator who shall be jointly appointed by both parties, or, in the event that the parties are unable to agree on the person to act as the sole arbitrator within 30 days after any party has claimed for an arbitration in written form, by three arbitrators, one to be appointed by each party with power to the two arbitrators so appointed, to appoint a third arbitrator. The matter shall be referred to arbitration in accordance with the provisions of Arbitration and Conciliation Act.

(ii) Arbitration

Any Dispute which is not resolved amicably by conciliation, as provided above, shall be finally decided by reference to arbitration by an Arbitral Tribunal appointed as stated above. Such arbitration shall be held in accordance with the Rules of Arbitration of the International Centre for Alternative Dispute Resolution, New Delhi, or such other rules as may be mutually agreed by the Parties, and shall be subject to the provisions of the Arbitration and Conciliation Act, 1996. The venue of such arbitration shall be Vijayawada and the language of arbitration proceedings shall be English.

The arbitrators shall make a reasoned award (the “**Award**”). Any Award made in any arbitration held pursuant to the settlement of disputes shall be final and binding on the Parties as from the date it is made, and the Consultant and the Client agree and undertake to carry out such Award without delay.

The Consultant and the Client agree that an Award may be forced against the Consultant and/or the Client, as the case may be, and their respective assets wherever situated.

This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder.

(iii) Miscellaneous

In any arbitration proceeding hereunder:

- (a) Proceedings shall, unless otherwise agreed by the Parties, be held in Vijayawada;
- (b) English language shall be the official language for all purposes; and
- (c) The decision of the sole arbitrator or of a majority of the arbitrators (or of the third arbitrator if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement.

1.6 Copyright, Confidential Information, and Ownership

1.6.6 Persons, topics, and conditions for which the confidentiality clause does not apply-Not Applicable

1.6.8 The Government of Andhra Pradesh shall have complete access to all types of technical and / or financial information it obtains or develops with respect to the Consultant and its Information Technologies.

1.6.9 Restriction about the future use, if any: Nothing shall be used for any purpose what so ever without the prior written consent of the Client.

2 GUARANTEES,LIABILITIES,INDEMNITIES, INSURANCE AND RISKS

2.1.2 Triggering of Liquidated Damages

2.1.2 (a) Liquidated damages : If the successful bidder fails to execute the work as per schedule, each day of delay will carry a liquidated damage of Rs.50,000 up to maximum of 10 percent of contract value.

2.4.1 (Limitation of Liabilities : The Consultant's liability under this Contract shall be upto one time the contract price as determined under the Applicable Law.

2.6.1 The Consultant shall maintain professional indemnity insurance cover of an amount not less than the Contract Price.

At the request of the Client, or its representatives, the Consultant shall provide evidence showing that such insurance has been taken out and maintained and that current premiums have been paid.

3. TERMINATION AND MODIFICATION OF CONTRACT

3.1 Term

3.1.1 Effectiveness conditions-

All the resources under the contract shall be deployed as per the Contract Conditions.

3.1.2 Commencement of Services The Consultant shall commence work within 15 days from the Effective Date.

3.2 Termination

3.2.1 Expiration of Contract and extension The contract shall terminate at the end of 36 months from the Effective Date and can be extended for a maximum period of 12 months at one time, not more than twice subject to approval by the authority.

3.2.3 Termination of Contract for Failure to Become Effective

The time from the date of signing of contract shall be thirty (30) days.

4 PAYMENT

4.1 Price

4.1.1 Contract price shall not exceed 130% of the agreement value in case of additional services being entrusted to the Consultant during the course of the contact. Additional service shall be paid at the same rates specified in the Price Schedule at Appendix 6.

4.1.2 Currency Ceiling - The Foreign currency ceiling shall be taken as the value of dollar up to 4th decimal as on 15th day prior to last date of bid submission

4.2 Payment Terms

- (1) Subject to the provisions of **GCC**, the Client shall pay the Contract Price to the Consultant according to the manner specified below.
 - (A.) The payment to be made based on the Invoices submitted by the consultant after acceptance of the deliverables submitted by the consultant.
 - (B.) The client to accept deliverables based on proof checking, review and recommendation undertaken by the client appointed Programme management consultant. The feedback on the deliverables OR acceptance shall be completed within 10 working days from the date of submission of the deliverables.
 - (C.) The payment shall be made in a phase wise manner as per Appendix-8. The payment percentage included in the Appendix 8 refers to the percentage of Lump-sum Fee quoted by the firm.
 - (D.) The remaining 5% of the Lump-sum Fee (LSF) as defined in the Clause-5.5.6 of the Volume-II, Bid Data Sheet to be withheld by the Client. This amount to be released after 12 months from the date of acceptance of the last deliverable (Masterplanning(Phase-II) OR DPR (Phase-III) whichever is later), provided the consultant provides the requisite technical assistance during execution as detailed in Phase-IV of Volume-I, Scope of work.

4.2.4 Mode of Billing and Payments: (a) Advance payments: No advance payments would be made by the Client.

All monetary transaction shall be in Indian Rupees.

4.3.2 Advance Payment Security Not Applicable.

4.3.3 Performance Security Performance Security equivalent to 5 (five) percent of the Contract price shall be furnished as per the terms set in the Clause 4.3.3 of GCC, in the form of a Bank Guarantee substantially in the form specified in Appendix 5 of the contract. For the successful bidder the

Performance Security will be retained by Client until the completion of the assignment by the Consultant. 50 percentage of the Performance Security shall be released upon the completion of the contract and its acceptance by the Client and the remaining 50 percentage shall be released after 1 Year from the date of completion. This 1 year period shall be termed as the "warranty period".

4.3.3 Advance Payment Security Not Applicable

5 Special Conditions of Responsibilities

5.1.8 Consultant's responsibilities

- (1) Limitation of Obligations:
- (2) Accounting, Inspecting and Auditing
Specific bases: None

5.2.7 Details of Access to Facilities

The Consultant shall have access to all the facilities required to perform the services mentioned in **Vol-I Scope** of the RFP document.

5.2.8 Details of Counter Personnel:

Not applicable.

6 SUBJECT OF CONTRACT

6.1 Project Plan

- (1) Project Plan shall be Annexure-2.
- (2) Apart from the deliverables mentioned in Appendix 8, the Consultant shall submit progress report to the client as and when requested.

Note: Other reports may be needed to monitor Contract performance/progress, for example:

6.2 Documents Approval 6.2.2 Codes and Standards

The Methodological Quality Standards adopted shall be as stated in Vol-I Scope, Part II and Part III.

6.2.3 Approval/Review of Technical Documents by the Project Manager

The list of documents shall be:[Insert:relevant codes if any]

- (1) Project Plan.
- (2) Staff deployment and 2 month roaster of staff.

(3) Document containing personnel replacements.

6.2.5 Acceptance Certificate Issuance Details: Upon receipt of every deliverable from the Consultant, the Project incharge from APCRDA, shall issue the certificate of acceptance.

APCRDA

**APPENDIX 1
DESCRIPTION OF THE SERVICES**

[Give detailed descriptions of the Services to be provided; Implementation schedule-
dates for completion of various tasks; place of performance for different tasks; specific
tasks to be approved by Client etc.]

APCRDA

APPENDIX 2

PROJECT PLAN

(WITH DELIVERABLES AND DELIVERY SCHEDULE)

[List format, frequency and contents of deliverables and reports; persons to receive them; dates of submission;]

APCRDA

APPENDIX 3

KEY PERSONNEL

Provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using the tables given hereunder for each candidate.

Propose alternative management and implementation arrangements requiring different key personnel, whose experience records should be provided.

1.	Title of position
	Name of prime candidate
	Name of alternate candidate
2.	Title of position
	Name of prime candidate
	Name of alternate candidate
3.	Title of position
	Name of prime candidate
	Name of alternate candidate
4.	Title of position—etc.

Name of member

Position		Candidate <input type="checkbox"/> Prime <input type="checkbox"/> Alternative
Candidate Information	Name of candidate	Date of Birth

	Professional Qualifications
Present Employment	Name of Employer
	Address of Employer

	Telephone	Contact (Manager/personal officer)
	Fax	Telex
	Job title of candidate	Years with present Employer

Summarize professional experience over the last twenty years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/Position/Relevant technical and management experience

APCRDA

APPENDIX 4

**HOURS OF WORK FOR KEY PERSONNEL AND SERVICE LEVEL
AGREEMENT**

[List here the hours of work for key personnel, details of SLAs etc.]

APCRDA

APPENDIX 5

Performance Security Form (Bank Guarantee)

[insert: Client's Name, and Address of Office]

Date: *[insert: date]* PERFORMANCE GUARANTEE No.: *[insert: Performance Guarantee Number]*

We have been informed that on *[insert: date of award]* you awarded Contract No. *[insert: Contract number]* for *[insert: title and/or brief description of the Contract]* (hereinafter called "the Contract") to *[insert: complete name of Consultant]* (hereinafter called "the Consultant"). Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Consultant, we hereby irrevocably undertake to pay you any sum(s) not exceeding *[insert: amount(s) in figures and words]* upon receipt by us of your first demand in writing declaring the Consultant to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

On the date of your issuing, to the Consultant, the Operational Acceptance Certificate for the System, the value of this guarantee will be reduced to any sum(s) not exceeding *[insert: amount(s) in figures and words]*. This remaining guarantee shall expire no later than *[insert: number and select: of months/of years (of the Warranty Period that needs to be covered by the remaining guarantee)]* from the date of the Operational Acceptance Certificate for the System, and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Applicable Law.

[Signature(s)]

1 The Client shall insert the amount(s) specified and denominated in the SCC for GCC Clauses 4.1.1.

[insert: Client's Name, and Address of or Office]

Date: [insert: date]

ADVANCE PAYMENT GUARANTEE No.: [insert: *Advance Payment Guarantee Number*]

We have been informed that on [insert: date of award] you awarded Contract No. [insert: Contract number] for [insert: title and/or brief description of the Contract] (hereinafter called "the Contract") to [insert: complete name of Consultant] (hereinafter called "the Consultant"). Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of [insert: amount in numbers and words, for each currency of the advance payment] is to be made to the Consultant against an advance payment guarantee.

At the request of the Consultant, we hereby irrevocably undertake to pay you any sum or sums not exceeding in total the amount of the advance payment referred to above, upon receipt by us of your first demand in writing declaring that the Consultant is in breach of its obligations under the Contract because the Consultant used the advance payment for purposes other than toward the proper execution of the Contract.

It is a condition for any claim and payment to be made under this guarantee that the advance payment referred to above must have been received by the Consultant on its account [insert: **number and domicile of the account**].

For each payment after the advance payment, which you will make to the Consultant under this Contract, the maximum amount of this guarantee shall be reduced by the [insert: ninth or appropriate figure/proportion] part of such payment. At the time at which the amount guaranteed becomes nil, this guarantee shall become null and void, whether the original is returned to us or not.

APPENDIX 6

PRICE SCHEDULES

[Any additional services during the DPR preparation phase shall be compensated based on the additional units of measure for which services are extended towards, multiplied by the Unit price bid, provided below, and mutually agreed upon based on Form F2 of Vol-II BDS.]

Sl. No.	Project	Unit	Unit Price
1	Development of arterial and sub-arterial integrated road infrastructure (around 290km with 50m RoW) & Development of east-west and north-south expressways including interchanges / grade separators (total of 41 km with 60m RoW)	km	
2	Development of smart power transmission and distribution systems for Phase-I	MW	
3	Development of source, Water treatment plant(s), storage reservoirs, distribution network, automated control and command centre and so on, for Phase I.	MLD	
4	Development of collection network, Sewerage treatment plant(s), pumping stations, disposal, reuse network, automated control and command centre and so on, for Phase I.	MLD	
5	Development of Solid Waste Management Infrastructure including automated control and command centre, required for Phase I (including seed capital area)	Tonne	
6	Development of storm water disposal system for Phase-1	sq.km.	
7	Development of tier-II infrastructure for 900 acres of Government Complex campus	Acre	
8	Development of tier-II infrastructure for 17000 acres of returnable land	Acre	

APPENDIX 7

**Minutes of Contract Finalisation Discussions and Agreed to Contract
Amendments**

APCRDA

APPENDIX 8

Payment is linked to following milestones/ deliverables.

Phase	Timeline	MASTER PLAN										DPR		Payment Schedule (Percent of LSF)
		Concept plan	Transport	Water Supply	Water	Storm water	Power	Solid waste management Smart Infra	Gas	District cooling Safety & security	Smart Infra	All Other DPRs		
I	T + 0.5 months	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	Inception report	-	-	3.0%
	T + 1 months	Stakeholder consultations	Survey	Survey	Survey	Survey	Survey	Survey	Survey	Survey	Survey	-	-	
II	T + 1.5 months	Feasibility report	Concept report	Concept report	Concept report	Concept report	Concept report	Concept report	Concept report	Concept report	Concept report	-	-	6.0%
		Final Plan												
III	T + 2.5 months	-	-	-	-	Concept report	-	-	-	-	Concept report	-	-	6.0%
	T + 3 months	-	-	-	-	-	-	-	-	-	-	-	Feasibility report	
IV	T + 3.5 months	-	Draft final report	Draft final report	Draft final report	-	Draft final report	-	Draft final report	Draft final report	Draft final report	-	-	12.0%
	T + 4 months	-	-	-	-	-	-	-	-	-	-	-	-	
V	T + 4.5 months	-	Final plan	-	-	Draft final report	-	Draft final report	-	Final plan	Final plan	Feasibility report	-	14.0%
	T + 5 months	-	-	Final plan	-	-	Final plan	-	Final plan	-	-	-	-	

Timeline	MASTER PLAN										Payment Schedule (Percent of LSF)	
	Concept plan	Transport	Water		Power	Solid waste management	Gas	District cooling	Safety & security	Smart Infra		All Other DPRs
			Water Supply	Storm water								
T + 5.5 months	-	-	-	-	-	Final plan	-	-	-	-	-	29.0%
T + 6 months	-	-	-	-	-	-	-	-	-	-	Detailed designs (detailed designs, SIA/EIA/EPM, GAD & approvals)	
T + 7 months	-	-	-	-	-	-	-	-	-	-	Final DPR	19.0%
T + 7.5 months	-	-	-	-	-	-	-	-	-	-	Detailed designs (detailed designs, SIA/EIA/EPM, GAD and approvals)	
T + 9 months	-	-	-	-	-	-	-	-	-	-	Final DPR	6.0%
T + 9.5 months	-	-	-	-	-	-	-	-	-	-	Prepare bid documents and assist during bid process	