

REQUEST FOR PROPOSAL
FOR
DEVELOPMENT OF 'SMART PARKING TOWER'
(MULTI LEVEL CAR PARKING CUM COMMERCIAL
COMPLEX) THROUGH PUBLIC PRIVATE
PARTNERSHIP ("PPP") MODE ON DESIGN, BUILD,
FINANCE, OPERATE AND TRANSFER ("DBFOT")
BASIS

AT COURT CIRCLE, HUBBALLI



HUBBALLI DHARWAD SMART CITY LIMITED
HUBBALLI

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DISCLAIMER

The information contained in this Request for Proposal (“**RFP**”) document or subsequently provided to Bidders, whether verbally or in documentary form by or on behalf of Hubballi Dharwad Smart City Limited (“**HDSCL**”) or any of its employees or advisors, is provided to Bidders on the terms and conditions set out in this RFP document and any other terms and conditions subject to which such information is provided. This RFP is being issued by the HDSCL for selection of a concessionaire for Planning, Designing, Engineering, Finance, Construction, Development, Operation and Maintenance of ‘Smart Parking Tower’ (Multi Level Car Parking cum Commercial Complex) (“**Project**”) at Hubballi in the State of Karnataka as identified in this RFP. Interested Bidders are required to submit their bids to implement the Project.

This RFP document is not an agreement and is not an offer or invitation to any other party. The purpose of this RFP document is to provide the Bidders with information to assist the formulation of their Proposal submission. This RFP document does not purport to contain all the information each Bidder may require. While the RFP has been prepared in good faith with due care and caution, the HDSCL does not accept any liability or responsibility for the accuracy, reasonableness or completeness of the information, or for any errors, omissions or miss-statements, negligent or otherwise, relating to any feasibility / detailed project report or any other reference document mentioned, implied or referred herein or pertaining to the Project. This RFP document may not be appropriate for all persons and it is not possible for HDSCL and their employees or advisors to consider the investment objectives, financial situation and particular needs of each Bidder. Certain Bidders may have a better knowledge of the proposed project than others. Each recipient must conduct its own analysis of the information contained in this RFP or to correct any inaccuracies therein that may appear in this RFP and is advised to carry out its own investigation into the proposed project, the legislative and regulatory regimes which applies thereto and by and all matters pertinent to the proposed project and to seek its own professional advice on the legal, financial, regulatory and taxation consequences of entering into any agreement or arrangement relating to the Project.

Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The HDSCL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

HDSCL and their employees and advisors make no representation or warranty and shall incur no liability under applicable law for any loss, expense or damage, accuracy, reliability or completeness of the RFP document, which may arise from or be incurred or suffered in connection with anything contained in this RFP, any matter deemed to form part of this RFP, the award of the Project, the information and any other information supplied by or on behalf of HDSCL or their employees, Consultants or otherwise arising in any way from the selection process for the Project.

No representation or warranty is given as to the reasonableness of forecasts or the assumptions on which this RFP may be based. Liability therefore, if any, is hereby expressly disclaimed. The HDSCL may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP as per its requirements.

The HDSCL further reserves the right not to proceed with the Project, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Project further with any party submitting a bid. The HDSCL accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its bid/ Proposal. No reimbursement of cost of any type will be paid to persons, or entities, submitting a bid/Proposal. The HDSCL reserves the right to reject all or any of the Proposals submitted in response to this RFP at any stage without assigning any reasons whatsoever and the issue of this RFP does not imply that HDSCL is bound to select a Bidder as the concessionaire. The HDSCL shall not be liable for any costs or damages arising from the same. The HDSCL is also not bound to take any subsequent actions.

The HDSCL reserves the right not to proceed with this RFP or to change the process or procedure to be applied. It also reserves the right to decline to discuss the process further with any party submitting a proposal. No reimbursement of cost of any type shall be paid to persons, entities, submitting a proposal.

This RFP and the information contained herein are confidential and for use only by the person to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisor). In the event that the recipient does not continue with the involvement in the project in accordance with RFP the information contained in the RFP shall not be divulged to any other party. The information contained in the RFP must be kept confidential. Mere submission of a responsive Bid does not ensure selection of the Bidder as Concessionaire.

Important Dates

S. No.	Activity	Deadline
1	Release of RFP	14.03.2018 at 11:00 hrs
2	Pre-bid Meeting date	11.04.2018 at 11:00 hrs
3	Last date of receipt of queries on RFP	04.04.2018 at 11:00 hrs
4	Last date for submission of Bids	30.05.2018 at 16:00 hrs
5	Date of opening of Technical bids	01.06.2018 at 11:00 hrs
6	Date of opening of Commercial bids	Will be informed later to technically qualified bidder.

1. Invitation for Proposal: Brief Background

Sl. No.	Indent No.	Name of work	EMD Amount (Rs.)	Concession Period
1	HDSCL/ smart parking/ 2018-19	DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI LEVEL CAR PARKING CUM COMMERCIAL COMPLEX) THROUGH PUBLIC PRIVATE PARTNERSHIP ("PPP") MODE ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER ("DBFOT") BASIS AT COURT CIRCLE, HUBBALLI	Rs. 50,00,000/-	30 years excluding execution phase of 24 months.

(2) The bidders have to participate through online procurement only the websites for "ONLINE BIDDING" is <http://www.eproc.karnataka.gov.in>. (3) All the RFP documents can be seen and obtained from website <http://www.eproc.karnataka.gov.in>. (4) All the payments to be made through E-Procurement only. (5) RFP documents will be available for bidding on above website from **14.03.2018** onwards. (6) Pre-bid meeting will be held on **11.04.2018** at 11:00 hrs at the Office of Executive Engineer (Project), HDMC, Hubballi. (7) The last date for submission of RFP is **30.05.2018** at 4:00 pm. (8) Technical Proposal will be opened on **01.06.2018** at 11:00 am. (9) Other details regarding RFP can be seen in the RFP documents. (10) Any information on Addendum / Corrigendum / Cancellation of tender can be seen in the said website. (11) For further details please contact Special Officer HDSCCL during the Office hours on Telephone No: 0836-2355331 information can also be obtained from website: <http://www.eproc.karnataka.gov.in> and smartnet.in

Sd/- Executive Engineer (Project.)
HDMC, Hubballi

Sd/- SuperIntending Engineer
HDMC, Hubballi

Sd/- Managing Director
Hubballi-Dharwad Smart City Hubballi

2. Project Background

2.1 Introduction

The details of the land parcel where the Project will be developed is as specified below:

Land parcel	Approximate area	Estimated Project Cost
Location Details – Court Circle, Hubballi	4050 SQ METER	Rs. 50 Cr (Tentative)



Site Map

2.1.1 It is proposed to develop a modern Multi Level Car Parking cum Commercial Complex facility at the above-mentioned site. The same shall be available for the Project with “Scope of Work” as given below while complying with applicable laws, including but not limited to the local building by-laws:

- Preparation of a Report (“DPR”) including proposed detailed design, technical specification and cost estimates for the Project. It is clarified that separate DPRs (by Vendor and PMC) should be prepared which shall be vetted by consultants appointed by HDSCL.
- MLCP building – 2 basements with Minimum ECS that has to be provided is 300.
- Public bicycle docking station at ground floor – 20-40 SQM. Concessionaire only need to leave space for the same and a separate vendor will come and install the station.
- All Water, sewerage (including plumbing works) and Electrical supply and facilities.
- Public toilet at ground floor to accommodate the existing Sulabh facility. This should come up near the existing public toilet site with direct access from approach road.
- Auto-rickshaw stand should be part of the site.
- Table top intersections on both sides of the site to facilitate road crossing after people have parked their cars in the MLCP.
- Provision for Solar Rooftop should be kept such that the Concessionaire will design the structure for the dead-load of solar rooftops and shall allow a separate vendor to install and maintain the solar panels. However, Concessionaire shall have rights over the electricity produced by the panels; excess generation shall be offloaded to grid.

- Vertical gardening on at least 30% of the entire surface area shall be installed and maintained by the Concessionaire.
- Installing digital advertisement billboards for at least 30% of the entire surface area. Revenue from these shall be rights of the Concessionaire during the concession period.
- The building should come with a Rain Water Harvesting (RWH) structure.
- The building itself should be a green building with at least IGBC Silver certification.
- The site has existing trees; they shall not be cut but transplanted on the same site. The minimum survival rate shall be considered at 60%, below which the Concessionaire shall attract penalties.
- The building should be designed for accessibility for the aged and differently abled and as per harmonized guidelines of MoHUA.
- The Concessionaire shall also develop the footpath around the site along with street furniture, landscaping, lighting and cycle track (if applicable).
- The Concessionaire shall take up the responsibility for shifting existing utilities as required.
- The Concessionaire will also make a provision of electric charging points.
- The Concessionaire will also make a provision of car washing unit.

To meet the above requirements, the Bidder shall have the full right to design the respective site as a whole and can propose the best options to HDSCL. The Bidder can plan the Site as a whole and provide for Multi-Level Car Parking cum Commercial Complex. The Bidder can plan for overall traffic circulation within the Site and on access roads outside the Site.

The Successful Bidder shall be required to submit five (5) copies of DPR for ‘Smart Parking Tower’ at Court Circle, Hubballi, to the HDSCL which shall be vetted by a reputed Organization / Project Management Consultants (PMC) as prescribed by the HDSCL. The same institution / PMC would perform quality check and monitor the Project progress. An Independent Engineer (IE) can also be engaged to cover various aspects of this Project.

The Successful Bidder shall develop the site by paying an annual concessions amount (bid amount) in lieu of the development rights granted for the Project for a **32-year Concession Period** including a **construction period of 24 months**. After the issue of “Notice of Award” to successful concessionaire, **design period of six months** will be reserved for approval of designs. In order to achieve the green building features and other sustainable goals HDMC will be providing a fixed grant of **INR 10 crore (Rupees ten crore only)** to the successful concessionaire. At the end of Concession Period the Project will be transferred back to HDSCL/HDMC, in accordance with provision of the Concession Agreement that will be executed in the format prescribed by the HDSCL. The Bidder should note that there will be no transfer in title to the land on which Project is being developed. The land comprising the Site of Project shall continue to vest with HDSCL / HDMC or the relevant government agency, as the case may be.

The Bidders must note that they would be required to follow the applicable laws for construction and development of the Project, including local building by-law requirements regarding floor area ratio, ground coverage, minimum parking requirement, and other statutory rules/ regulations and other prevalent applicable regulations.

- 2.1.2** The proposed Site is considered suitable for commercial development given its location, size and connectivity. The Concessionaire is encouraged to develop a ‘Smart Parking Tower’ per his plan on the site and to use his ingenuity to maximize the value from the property and factor the same in the Proposal submitted. Provided that any such development shall be subject to the Concessionaire obtaining the requisite approvals under the applicable law including the local building by-laws.
- 2.1.3** Bidders are required to carry out their own due diligence for the potential revenue generated from the public parking, Commercial Complex and advertisement rights from development of the Project at Hubballi. The HDSCL shall not take any kind of responsibility whatsoever for the generation of revenue from the aforesaid sources.
- 2.1.4** The HDSCL proposes to select a Successful Bidder for taking up the development of the aforesaid Project in DBFOT mode at Hubballi in accordance with the provisions of the Concession Agreement, which shall have a predetermined Concession Period starting from

the date of conditions precedent specified in the Concession Agreement are satisfied (such date being hereinafter referred to as the “Commencement Date”).

2.1.5 The proposed site for ‘SMART PARKING TOWER’ at Hubballi shall be licensed to the Concessionaire for the purpose of development of the Project. The Concessionaire shall develop the Project and thereafter, operate and maintain it throughout the Concession Period. The act of granting permission to develop the Project at the Site and to sub - license the use of the Project Facility or any part thereof shall not vest or create any proprietary interest in the Site or the infrastructure comprising the Project, or any part thereof including any permanent fixtures, fittings, etc. installed at the location of the Site in favor of the Concessionaire or any sublicensed(s).

2.1.6 The Concessionaire shall be entitled to sub - license the built-up space in accordance with the provisions of the Concession Agreement, and any guidelines or procedures prescribed by the HDSCL in this regard from time to time.

2.1.7 End of the Concession:

At the end of the Concession Period, by efflux of time or premature termination for any reason whatsoever, all rights given under the Concession Agreement shall cease to have effect and the possession of the Site and the entire assets of the Project including all infrastructure and facilities developed in relation thereto shall transfer back to the HDSCL / HDMC at no cost. All the immovable assets attached to the Project/Project Site shall revert to the HDSCL/HDMC without any obligation on the HDSCL/HDMC to pay or adjust any consideration or other payment to the Concessionaire. The lease deposits or security, if any, from lessees of commercial property will also be refunded back to HDSCL/HDMC at the end of the Concession period.

2.2 Development Envisaged

2.2.1 The nature of the activities and facilities that may be allowed at the proposed Sites include:

- Construction of multi-level car parking as per scope of work mentioned in 2.1.1 duly approved by the HDMC / HDSCL
- Construction of Commercial Complex as permitted by applicable law, including but not limited to local building by-laws
- Provide a contiguous built-up area, along with all related facilities/ utilities/ infrastructures to be developed in Multi-Level Car Parking -cum-Commercial Complex
- Provide a glass façade with a provision for advertisement and maintain the same as notified by the HDMC / HDSCL.
- Separate entry and exit for Commercial Complex and Multi Level Car Parking and also providing entry to commercial complex from the multi-level car parking. Provision for a public bicycle docking station just outside the building.
- Commercial Complex/ Tower may include:
 - Shopping Mall / Multiplex
 - Food Courts / Restaurants
 - Hotel with Restaurants
 - Hypermarket
 - Retail Showrooms for consumer goods / garments / electronics etc. (Banks and Banks’ ATMs / Warehouse / cold storages etc
 - Banquet Hall / Marriage Hall / Exhibition Space
 - Office spaces / Co-working spaces for commercial organizations etc.

2.2.2 The Concessionaire may use or allow the use of facilities developed for the Project for other activities, which are not envisaged in the RFP, only after prior written approval of the HDSCL. The decision of the HDSCL to allow or disallow such use shall be final in this regard.

- 2.2.3** Area earmarked for the Project shall be utilized for the development of ‘Smart Parking Tower’ and the related amenities. It would be the responsibility of the Concessionaire to develop the other facilities which are required for creation of a complete state-of-the-art Multi Level Car Parking cum Commercial Complex. The Concessionaire shall adhere to the minimum standards laid down by the HDSCL for the Multi-Level Car Parking. Please refer Technical Specification.
- 2.2.4** The development of the “Smart Parking Tower (Multi Level Car Parking cum Commercial Complex)” shall be achieved in a phased manner. The Concessionaire would be required to construct the ‘Smart Parking Tower’ amenities along-with all related facilities/ utilities/ infrastructure etc. **within twenty-four months** from the Compliance Date (the “**Construction Period**”) which should be ready to use in all respect. The HDSCL shall not unreasonably interfere with any other internal layout of the Commercial Complex, proposed by the Concessionaire, except the area where the ‘Smart Parking Tower’ is constructed.
- 2.2.5** The ‘Smart Parking Tower’ to be developed by Concessionaire must conform to the existing building regulations and by laws of the local authorities at its own cost. The responsibility to get all the necessary permits and approvals for the above shall lie solely with the Concessionaire.

2.3 Concession period

In general, concession period is the span of time granted by the government to the private sector within which the private sector is responsible for the financing, construction and operation of a project. The concession period of the project is **32 years including the Construction period of 24 months**. The Concession Period may be renewed after the completion of the original concession period if NPV is not met. The concessionaire to give request for this with justification for extension required. The employer may consider this based on the performance of the Concessionaire and city requirements at that time on the mutually agreed terms and conditions.

2.4 Revenue Streams from the Project

The revenue streams from the Project will be generated by both the ‘Smart Parking Tower’ and Advertisements, as specified below.

2.4.1 Revenue streams from the operations of the Multi-Level Car Parking:

- **License for parking areas:** - The Concessionaire shall, subject to provisions of HDSCL (as amended from time to time), be given the right to collect the parking fee from various categories of vehicles, parked in the public parking area.
- **Advertisement Rights:** - Advertisements has a massive potential considering the large number of footfalls in the ‘Smart Parking Tower’. If tapped properly, it has huge upside potential for the Concessionaire. Concessionaire has the right to locate hoardings charge for advertisements from the proposed LED façade etc. as per applicable rules, regulations, standards etc.

2.4.2 Revenue Stream from Commercial Complex

In addition to Article 2.4.1 of Section 1 of this RFP document, the revenues will be generated from the Commercial Complex. The Concessionaire should be able to generate revenues from the commercial rentals, parking in the Commercial Complex, advertisements etc. in compliance with applicable law. The Concessionaire would have the flexibility to charge any rentals from the commercial spaces licensed to the third party. However, the Concessionaire shall not have the right to out-rightly sell the facility to third party / any person.

2.5 Statutory Clearances

- 2.5.1** Commercial development is permissible on the Site. However, the Concessionaire is required to adhere to the development control norms as per the prevailing Building Bye-laws. The Concessionaire shall at its sole cost obtain the applicable clearances and sanctions from competent statutory authorities for building plans, utilities, firefighting, electric connection/ sub-station, environment etc. etc. It is to be clearly understood that all such clearances are to be obtained by the Successful Bidder and the HDSCL may only provide assistance, wherever possible, on best effort basis without any binding obligation.
- 2.5.2** The Concessionaire shall plan and install fire-detection, fire-alarm and firefighting system and obtain necessary approval from competent authority on design and installation of the same. Such fire-fighting arrangements should conform to the National Building Code of India, 2016, and other rules and regulations, as applicable with all amendments from time to time. The design and engineering specifications may also take into account the Indian Road Congress Codes of India and Unified Traffic and Transportation Infrastructure (Planning and Engineering) Centre –Street Design Guidelines.
- 2.5.3** If during the Concession Period any loss of property and/or life takes place, the loss and account of the same shall be borne entirely by the Concessionaire and the HDSCL shall not be liable for any such claims. The Concessionaire shall be responsible for the payments arising out of any third-party claims. The Concessionaire is advised to procure insurance for meeting such liabilities at his own cost.

2.6 Development Parameters to be followed

Bidders shall consider the local planning regulations for the development parameters in the concerned Bid projects and should strictly adhere to the local planning regulations while preparing their designs.

2.7 Assignability and Encumbrances

- 2.7.1** Prior approval will be sought from HDSCL / HDMC before raising loan from a lender /financial institution. The Concessionaire shall be entitled to assign any of his rights, or interests in this Agreement in favor of lenders/ financial institutions at any time, for raising finance for the Project.
- 2.7.2** However under no circumstances, the land shall be mortgaged, charged or otherwise any lien (including negative lien), charge or encumbrance be created or agreed to be created in favor of any person, including lenders / financial Institution(s) / banks.

3. GENERAL TERMS AND CONDITIONS FOR EVALUATION

The evaluation of the bids will be completed in 2 stages.

Stage 1 - Opening of Technical Bids

Stage 2 - Opening of Financial Bids of technically qualified Bidders

The entire bidding process has been explained elaborately in Section 4 of this RFP Document.

3.1 Bidder

Any person(s) including a company, private sector, sole proprietor or a registered partnership firm or a company or a LLP, or a foreign entity who submits a bid (“**Proposal**”/“**Bid**”) as per the terms of this RFP within the stipulated time for submission of Proposals is a “**Bidder**” for the purpose of this RFP.

3.2 Proposal Submitted by a Consortium

3.2.1 The maximum number of allowed members in a consortium is three (3). Each consortium must specify the proposed equity share holding and nominate a member as the “**Lead Member**” of the Consortium. This shall be enshrined in the **Joint Bidding Agreement (“JBA”)** signed by all consortium members and submitted along with bid/ proposal, in the format provided in Format J appended to this RFP.

3.2.2 Any changes in the membership of a Bidder will be rejected by the HDSCL. Proposals submitted by a consortium must provide a JBA to be signed by each member in that consortium and also, on their respective company letter-head duly signed by the authorized signatory of the company which describes the responsibilities and equity commitments of that member in the consortium.

3.2.3 In the event the Project is awarded to a Consortium / Joint Venture, shall form a Special Purpose Company (“SPC”) registered under Companies Act, 2013 or subsequent amendments to this Act in India for the implementation of the Project. The SPC shall be formed after issuance and acceptance of Notice of Award within thirty (30) days preceding signing of the Concession Agreement. The SPC would enter into the Concession Agreement and subsequently carry out all the responsibilities of the Concessionaire and undertake the Project as stipulated in the Agreement. The proposed shareholding of the members of the consortium in the SPC must be in compliance with the criteria specified in the RFP. However, the membership structure of the Bidder shall not be changed by the Bidder without the HDSCL’s prior written approval.

3.2.4 Minimum Equity requirements

- a. The aggregate shareholding of the consortium members (in case of a Consortium) or Successful Bidder (in case of individual Bidder) in the issued and paid up equity share capital of the Concessionaire shall be not less than:
 - Fifty one percent (51%) till a period of issuance of Construction Completion Certificate; and
 - Twenty six percent (26%) during the balance Operation and Maintenance Period, till the Project Transfer Date/ issuance of Concession Agreement Completion Certificate.
- b. In addition to the above obligations, the Lead Member of the Consortium shall at all times maintain a minimum equity component of twenty six percent (26%) in the stipulated issued and paid up equity share capital of Concessionaire.
- c. At no stage shall any change in the equity components/ shareholding patterns shall be made by the Consortium members or by any of the Successful Bidder without obtaining prior approval from the HDSCL. On an application made for the purpose, the HDSCL may permit the change of shareholding patterns, provided the HDSCL is satisfied that the proposed changes shall be in the interest of the implementation of the Project in future and would not be detrimental to any of the rights or interests of the HDSCL and any of the confirming authorities. However, no such change in the shareholding pattern shall be permitted by the HDSCL, which would make the consortium members

or associates or the Concessionaire non-compliant with the conditions stipulated in the RFP.

- 3.2.5** It is clarified that a Successful Bidder who/ which is not a Consortium, may also incorporate an SPC for implementation of the Project but does not have the obligation to do so. Provided however, in case of a single Bidder who is a foreign entity, it shall be mandatorily required to incorporate an SPC for implementation of the Project.
- 3.2.6** Members of the Consortium shall be liable jointly and severally for the execution of the Project in accordance with the terms of the Concession Agreement and a statement to this effect shall be included in the Joint Bidding Agreement. The HDSCL may require other such documents / undertakings/ indemnities as it may deem fit from the Consortium members before or at the time of issuance of Notice of Award/ signing of the Concession Agreement.
- 3.2.7** The Lead Member nominated at the time of submission of the Proposal shall continue to be the Lead Member of the SPC. The Lead Member shall hold authorization in the form of power of attorney. The Proposal must designate one or more person(s) to represent the Bidder in its dealings with the HDSCL. Unless specifically advised to the contrary, the HDSCL shall assume that the person (s) designated is authorized to perform all tasks, including, but not limited to, providing information, responding to inquiries and entering into contractual commitments on behalf of the company or the consortium as the case maybe. Any and all limitations on the HDSCL of the designated person(s) shall be detailed in the Proposal.
- 3.2.8** Bidders who have used the net worth and/ or technical support/ expertise of their parent/ group company to satisfy the minimum eligibility criteria mentioned in the NIT advertisement, shall be required to furnish along with their Proposals, a letter of guarantee, accompanied by a board resolution from their Parent/ Group Companies authorizing the said Bidder to take part in the bidding process and by pledging their financial strength and/ or technical support and expertise towards the development of the Project. Failure to furnish such letter of guarantee accompanied by a board resolution from the parent/ group company shall entail automatic disqualification of their proposals by the HDSCL.
- 3.2.9** Each member of the Consortium shall submit a signed letter (on the company's letter head) with the Proposal, which states that the said member:
- Has reviewed the entire Proposal.
 - Is in accord with each key element of the Proposal, including, but not limited to, its technical and price components, description of the member's
 - Responsibilities and commitments to the Project, and the designated person(s) who will represent the Consortium during the negotiation process. Any substantive exception or caveat should be addressed in the enclosed letter.
 - Has participated in only one Proposal for this Project.
 - Each of the Consortium members will be jointly and severally liable to the HDSCL.
- 3.2.10** All pertinent information that may affect the performance of the responsibilities of any Consortium member such as ongoing litigation, financial distress, or any other such matter must be disclosed. In the event of non-disclosure of such information, the Proposal will be liable to be rejected by the HDSCL.

3.3 Fee and Deposits to be paid by the Bidder

3.3.1 Proposal Security / Earnest Money Deposit

The supplier/contractor can pay the Earnest Money Deposit (EMD) in the e-Procurement portal using any of the following payment modes: **(For detailed procedures visit e-procurement portal)**

- 1 Credit Card
- 2 Direct Debit/ Net Banking
- 3 National Electronic Fund Transfer (NEFT)
- 4 Over the Counter (OTC) payment

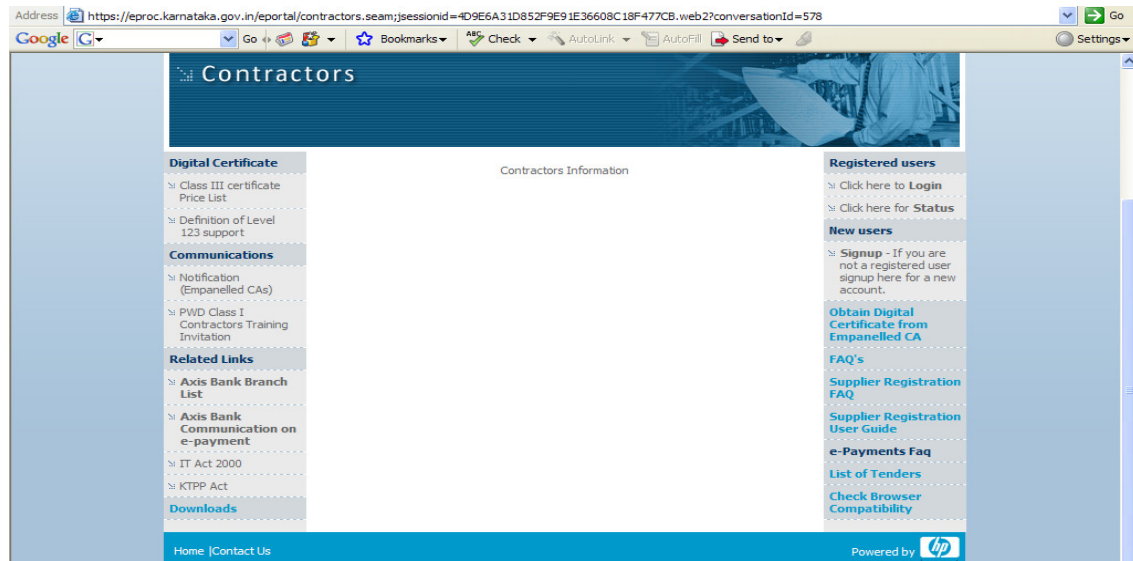
The contractor shall furnish the requisite EMD only through e-payment, **The MANAGING DIRECTOR, HUBBALLI DHARWAD SMART CITY LIMITED.**

The supplier/contractor's bid will be evaluated only on confirmation of receipt of the payment (EMD) in the Government of Karnataka central pooling a/c held at designated Bank

EMD amount will have to be submitted by the supplier/contractor taking into account the following conditions:

a. EMD will be accepted only in the form of electronic cash (and not through Demand Draft or Bank Guarantee) and will be maintained in the Govt.'s central pooling account at Designated Bank until the contract is closed.

b. The entire EMD amount for a particular tender has to be paid in a single transaction
For details on e-Payment services refer to e-procurement portal for more details on the process.



Refund of EMD

Based on the instructions of Tender Accepting Authority (TAA) the EMD amount of the unsuccessful bidders will be refunded to the respective Bank a/c's of the supplier/contractor registered in the e-Procurement system.

Instruments having fixed validity issued as earnest money deposit for the tender shall be valid for 45 days beyond the validity of the tender

Any tender not accompanied by an acceptable earnest money deposit and not secured as indicated in Sub-Clauses 3.3.1 above shall be rejected by the Employer as non-responsive.

The earnest money deposit of unsuccessful Tenderers will be returned within 30 days of the end of the tender validity period specified in Sub-Clause 3.7.

The earnest money deposit of the successful Tenderer will be discharged when the Tenderer has furnished the required Performance Security and signed the Agreement.

The earnest money deposit may be forfeited:

- (a) If the Tenderer withdraws the Tender after tender opening during the period of tender validity;
- (b) If the Tenderer does not accept the correction of the Tender Price if any.
- (c) In the case of a successful Tenderer, if the Tenderer fails within the specified time limit to
 - (i) Sign the Agreement; or
 - (ii) Furnish the required Security deposit

3.3.2 Performance Security

The Successful Bidder, for due and faithful performance of its obligations under the Concession Agreement, shall be required to provide to the HDSCL within twenty-one (21) days of the acknowledgement of Notice of Award, the following:

- "Construction Performance Security" of an amount as stipulated in the Proposal Data Sheet in the following form:

- Banker's cheque/Demand draft, /Pay Order in favour of Managing Director, Hubballi Dharwad Smart City Limited.
 - A bank guarantee in the form given in this document; or
 - Specified Small Savings Instruments pledged to the Managing Director, Hubballi Dharwad Smart City Limited payable at Hubballi.
 - Fixed Deposit Receipts pledged to the Managing Director, Hubballi Dharwad Smart City Limited payable at Hubballi.
- a. If the security deposit is provided by the successful Tenderer in the form of a Bank Guarantee, it shall be issued either by a Nationalized/Scheduled bank.
 - b. The security deposit if furnished in demand draft can, if requested, be converted to interest bearing securities at the cost of the contractor.
 - c. Failure of the successful Tenderer to comply with the requirements of RFP requirements shall constitute sufficient grounds for cancellation of the award and forfeiture of the Earnest money deposit.

3.4 One Bid per Bidder

Each Bidder shall submit only one Bid for the Project. Violation of this shall lead to disqualification of the Bidder along with the Consortium it is the part of.

3.5 Proposal Preparation and Cost

All Bidders are required to submit a detailed proposal (herein-after referred to as the "Proposal" or "Bid") in accordance with this RFP. Bidders should provide information sought herein in the prescribed formats in order to accurately establish and interpret the information provided. The cost of preparation of the Proposal and related expenses shall be borne by the Bidders themselves.

3.6 Due Diligence, Inspection and Investigation

The Bidders shall be deemed to have conducted a due diligence exercise with respect to all aspects of the Project, including a detailed survey of the site and information/ data provided by the HDSCL in the RFP Document, when they submit the Proposal. Interested Bidders are invited to visit and inspect the Site at their own expense. Failure to investigate fully the Site or subsurface conditions shall not be a valid ground to relieve the Bidder subsequently after its Proposal nor shall it relieve the Bidder from any responsibility for estimating the difficulty or costs of successfully completing the Project.

3.7 Validity of Proposal

- 3.7.1** The Proposal shall remain valid for a period not less than one hundred eighty (180) days from the due date of submission ("**Offer Validity Period**"). The HDSCL reserves the right to reject any Proposal that does not meet this requirement. Validity of Proposal shall be extended for a specified additional period at the request of the HDSCL.
- 3.7.2** A Bidder agreeing to the request will not be allowed to modify his Proposal, but would be required to extend the validity of his Proposal Security for the period of extension.
- 3.7.3** The Proposal Validity Period of the Successful Bidder shall be extended till the date of execution of the Concession Agreement.

3.8 Right to Reject Proposals

- 3.8.1** The HDSCL reserves the right to reject any / all proposals including the highest proposal or withdraw the invitation of the proposal at any stage without citing any reason. Nothing contained herein shall confer any right upon a Bidder or create any obligation/ liability upon the HDSCL of any type whatsoever.
- 3.8.2 Misrepresentation / Fraud / Breach of Terms and Conditions** If it is discovered at any point of time that the Bidder has suppressed any fact or given a false statement or has done misrepresentation or fraud or has violated any of the terms of the RFP, the bid shall be cancelled by the HDSCL. In such an event, the Bidder will not be entitled to any compensation whatsoever, or refund of any other amount paid by him.
- 3.8.3** Tenderers shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Karnataka

3.9 Disputes

All disputes between the Successful Bidder and the HDSCL shall be settled as per the dispute resolution procedure elaborated in the Concession Agreement. During the bidding process no dispute of any type would be entertained. Even in such cases where the HDSCL asks for additional information from any Bidder, the same cannot be adduced as a reason for citing any dispute.

4. TENDERING PROCEDURE AND SCHEDULE

4.1 Eligibility of the Bidders

4.1.1 Pre-Qualification Criteria

Interested bidder meeting the following eligibility criteria may submit their proposal for this project:

S. No.	Eligibility Criteria	Document Proof
1	<p>The Bidder should be:</p> <ul style="list-style-type: none"> Indian or International Firm Registered under the Companies Act 1956/2013 Or any equivalent foreign act In operation in India or abroad for a period of at least 3 years as on publication of bid. Sole proprietor or a registered partnership firm or a LLP 	<ul style="list-style-type: none"> Copy of Certificate of Incorporation / Registration under Companies Act 1956/2013 or any equivalent foreign act GST Registration Certificate Documentary proof for business operation in India or abroad International Bidder, an undertaking for registration of company under companies Act, 1956/2013 within 6 months of Issuing LOI/LOA
2	<p>The average annual Turnover in Indian Rupees 40 Crore for last 3 audited financial years (2014-15, 2015-16, 2016-17)</p>	<ul style="list-style-type: none"> Certificate from the Statutory Auditor / CA clearly specifying the annual turnover for the specified years
3	<p>The Positive Net Worth (PNW) in each of the last three (3) financial years as on 31st March 2017</p>	<ul style="list-style-type: none"> Audited and Certified Balance Sheet and Profit/Loss Account of last 3 Financial Years should be enclosed Certificate from the Statutory auditor/ CA clearly specifying the net worth of the firm
4	<p>The bidder should be a private sector contractor/empaneled with Government of India/State Government/ Public Sector undertakings as "A" class contractors with experience in construction or development in the following area: Passenger Terminals/ Parking-cum-commercial complex/ Shopping Malls/ Hotels/ Resorts/ Group Housing/ Core sector projects (Core sector would include highway/ bridges/ expressway/ tunnels/ airfields/ power/ telecom/ ports/ airports/ railway/ metro rail/ Industrial parks/ estate/ logistics parks/ pipeline/ irrigation/ water supply/ sewerage).</p> <ul style="list-style-type: none"> Bidder should have experience of having successfully completed similar works (any of the above work with a multi-level parking component with implementation and operations of ICT enabled 	<ul style="list-style-type: none"> Documentary proof for empanelment Copy of Work Orders along with the copy of the contract agreement should be enclosed Undertaking from the Parent company to support its wholly owned subsidiary Shareholding pattern of the bidding entity as per audit reports Work done certificate from the Employer. Completion Certificate from the Employer.

S. No.	Eligibility Criteria	Document Proof
	<p>parking solutions) during last 3 years as on the bid date.</p> <ul style="list-style-type: none"> • Bidder should have at least one similar work completed with costing not less than the amount equal to Rs. 35 Cr • Parking management of at least one projects with parking capacity of minimum 200 ECS each. 	

4.1.2 Technical Evaluation Framework

The bidder's proposed solution in the Technical Evaluation bid shall be evaluated as per the evaluation criteria in the following table. The mandatory and fulfillment of optional components of scope of work will also be taken into account. The bidder may also be required to make a Presentation to a Committee nominated by HDSCL.

Sl No.	Particulars	Max Marks	Marking Criteria
A	Technical Capacity: Aggregate Experience	25	Similar project within 3 years Project cost Rs 35 Cr to Rs 40 Cr – 18 Project cost Rs 40 Cr to Rs 50 Cr – 25 Project cost above Rs 50 Cr - 30
B	Financial Capacity	25	The average annual Turnover in Indian Rupees for last 3 audited financial years (2014-15, 2015-16, 2016-17) Rs 40 Cr to Rs 50 Cr – 18 Rs 50 Cr to Rs 60 Cr – 25 Project cost above Rs 60 Cr - 30
C	Project Design Capability	50	
C1	Project Concept Design	40	
	a) Design configuration – conceptual planning & architectural layouts of the facilities	12	
	b) Contingency plans – safety & disaster management plans	4	
	c) Design attractiveness – Aesthetics, façade, Environment friendliness, energy efficiency	6	
	d) Sequencing and activity time schedule	4	
	e) Detailed methodology for construction	4	
	f) Detailed methodology for operation and maintenance	10	
C2	Traffic Management Plan	10	
	Evaluation parameters include, inter-alia		
	a) Adequacy of traffic management plan during construction	2	
	b) Efficiency of circulation plan within and around Parking facility	3	

Sl No.	Particulars	Max Marks	Marking Criteria
	c) Efficiency of Pedestrian movement plan	3	
	d) Adequacy emergency traffic plan	2	
	Total	100	

Important: Bidder getting Technical Score of **80%** will qualify for Commercial Evaluation stage.

Note: Authority (or a nominated party) reserves the right to check/validate the authenticity of the information provided in the Pre-qualification and Technical Evaluation criteria and the requisite support must be provided by the Bidder.

The net worth in Indian Rupee (INR) shall be duly certified by a statutory auditor.

4.1.3 Eligible Bidders

Bidders fulfilling the eligibility criteria set out above, will be the eligible Bidders provided the Bidder is not under a declaration of ineligibility for corrupt or fraudulent practices, and the Bid is not non-responsive in terms of this RFP.

4.1.4 Pre-Bid Conference

Bidders may send their queries to the HDSCL by the date as stipulated in the Proposal Data Sheet in writing. The clarifications to queries received till the stipulated date will be uploaded on e-portal. The queries received after the prescribed date will not be entertained by the HDSCL.

- a. The purpose of the Pre-Bid Conference will be to clarify and discuss issues with respect to the Project, the RFP or any other related issues.
- b. The Bidder or his authorized representative is invited to attend a Pre-Bid Conference, which shall take place at the date and venue as prescribed in the Proposal Data Sheet
- c. It is advisable to attend the Pre-Bid Conference. Subsequent to the date of the Pre-Bid Conference, the HDSCL shall not respond to questions or inquiries from any Bidder.

4.1.5 Bidders may send their queries to the HDSCL by the date as stipulated in the Proposal Data Sheet in writing. All the Bidders will be sent the clarifications to queries received till the stipulated date. The queries received after the prescribed date will not be entertained by HDSCL.

- Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be uploaded on e-portal. Any modification of the tender documents, which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of an Addendum and not through the minutes of the pre-tender meeting.
- Non-attendance at the pre-tender meeting will not be a cause for disqualification of a tenderer.

4.2 Amendment of RFP

4.2.1 At any time prior to the Proposal Due Date, HDSCL may, for any reason, whether at its own initiative or in response to clarifications requested by a Bidder, modify the RFP through the issuance of addendum. Addendums thus issued will be uploaded on e-portal.

4.2.2 In order to give the Bidders reasonable time in which to take an addendum into account, or for any other reason, the HDSCL may, at its discretion, extend the Proposal Due Date.

4.3 Preparation and Submission of Proposal

4.3.1 Completed proposals shall be accepted on or before the Proposal Due Date through e-procurement only.

4.3.2 The HDSCL, at its sole discretion, retains the right, but is not obliged, to extend the Proposal Due Date by issuing an addendum.

- 4.3.3** Bidders shall furnish the information strictly as per the formats given in Article 5 of this document without any ambiguity. The HDSCL shall not be held responsible if the failure of any Bidder to provide the information in the prescribed formats results in lack of clarity in interpretation and consequent disqualification.
- 4.3.4** In case of a Consortium, wherever required, the Proposal must contain such information individually for each member of the Consortium.
- 4.3.5** In case of a Consortium, the members shall submit a Joint Bidding Agreement conveying their intent to jointly bid for the project, and in case the project is awarded to them, to form a SPC that will subsequently carry out all its responsibilities as the Concessionaire. The MOA (Memorandum of Association) shall also include the nomination of the Lead Member in the consortium and clearly outline the proposed shareholding and responsibilities of each member at each stage.
- 4.3.6** All proposals/bids/offers shall be signed by the duly 'Authorized Signatory' of the Bidder. In case of a consortium, the proposal shall be duly signed by the Authorized Signatory of the Lead Member. Bidders shall submit a supporting power of attorney authorizing the Authorized Signatory of the Proposal to commit the Bidder and agreeing to ratify all acts, deeds and things lawfully done by the said attorney. In case of a consortium, such power of attorney shall be signed by all members of the consortium and shall be legally binding on all of them.
- 4.3.7** The Authorized Signatory shall digitally sign the proposal.
- 4.3.8** All witnesses and sureties shall be the persons of status and probity and their full names and addresses shall be stated below their signature. All signatures in the Proposal documents shall be dated.
- 4.3.9** Bidders are required to submit only one Proposal.
- 4.3.10** Any entity which submits or participates in more than one Proposal shall be disqualified and shall also cause the disqualification of the consortium in which it is a member.

4.4 Language and Currency

- 4.4.1** The Proposal and all related correspondence and documents shall be written in English language. If any supporting document attached to the bid is in any other language, the same will be supported by an English translation and in case of any ambiguity the translation (original as translated by the HDSCL) shall prevail.
- 4.4.2** The currency for the purpose of the Proposal shall be Indian National Rupee (INR).

4.5 Bidder's Responsibility

4.5.1 It shall be deemed that prior to the submission of Proposal, the Bidder has made a complete and careful examination of:

- The requirements and other information set forth in this RFP document.
- The various aspects of the Project including, but not limited to the following: The Site, existing facilities and structures, access roads and public utilities in the vicinity of the Site;
- All other matters that might affect the Bidder's performance under the terms of this RFP, including all legal obligations, clearances, risks, costs, liabilities and contingencies associated with the Project.

4.5.2 Site Visit

- The Bidders prior to submitting their Bid for the Project, are expected to visit and examine the project site and the site surroundings at his/her own expenses, the site being offered on an "as is where is" basis and ascertain, on their own responsibility, information, technical data, traffic data, market study, etc. including actual condition of existing services which may or may not have to be shifted/removed/replaced etc.
- It shall be assumed that all these factors were accounted for by the Bidder while quoting his Bid. The Bidder shall be deemed to have full knowledge of the site whether he inspects it or not.

4.5.3 The HDSCL shall not be liable for any mistake or error or neglect by the Bidder in respect of the above. Proposals that are not substantively responsive to the requirements of this RFP document will be rejected.

4.6 Sealing and Marking of Proposals

4.6.1 The Proposals shall be submitted online in the following steps:

a. Technical Bid shall contain

- EMD / Proposal Security as per 3.3.1 of RFP
- Letter of Application and Interest (As per Format A)
- General Information on the Bidder (As per Format B)
- Affidavit (As per Format D)
- Power Of Attorney for Signing of Application (as per Format E)
- Power of attorney for Lead Member from other Member in case of Consortium (as per Format G)
- Format to establish the Technical Evaluation Framework of the Bidder as mentioned in 4.1.2 Format H)
- Format to establish the Pre-Qualification Criteria of the Bidder as mentioned in 4.1.1 (Format I)
- Joint Bidding Agreement (as per Format J)
- Original RFP Document duly signed (on each page) by an authorized representative as a token of acceptance.
- All required submissions, if the Bidder is applying through Consortium and as stated in the RFP Document.
- Documents to support pre-qualification criteria mentioned in the 4.1.1

b. Financial Bid (as per Format C)

4.6.2 Deleted.

4.6.3 Bidder cannot upload the bid after due date of submission of bid as the e-portal will not support late submission after bid closing date.

4.7 Modification and Withdrawal of Proposals

4.7.1 Bidder can modify or withdraw his proposal before the last bid submission date.

4.7.2 Withdrawal of a Proposal during the interval between Proposal Due Date and expiration of the Proposal Validity Period would result in forfeiture of the Proposal Security / EMD.

4.8 Opening of Bids

4.8.1 The technical bids received shall be opened online by the Committee constituted by the HDSCL in the presence of the Bidders who chose to be present at the venue and date as decided by HDSCL. The date for opening of financial bids shall be intimated in advance to the technically qualified Bidders.

4.8.2 In case of the following non-responsiveness of proposal in terms of Clause 3.3.1 (v) the HDSCL reserves the right to reject any Proposal and refund/ return the Proposal Security, if:

- It is not signed as stipulated in Article 4.3.7 of the RFP document.
- The information and documents have not been submitted as requested and in the formats specified in the RFP.
- There are inconsistencies between the Proposal and the supporting documents.
- It does not mention the validity period as set out in Article 3.7 of the RFP document.
- It provides the information with material deviations.

4.8.3 A material deviation or reservation is one:

- Which affects in any substantial way, the scope, quality, or performance of the Project, or
- Which limits in any substantial way, inconsistent with the RFP document, the HDSCL's rights or the Bidder's obligations, or
- Which would affect unfairly the competitive position of other Bidders' presenting substantially responsive bids.

4.8.4 No request for modification or withdrawal shall be entertained by the HDSCL in respect of such Proposals.

4.9 Evaluation of Proposals

The evaluation will be done in two (2) stages as explained below:

4.9.1 In Stage - I,

The Employer will open online the First Covers of all the Tenders received through e-procurement portal, in the presence of the Tenderers or their representatives who choose to attend at the date, time and the venue specified in the e-procurement portal. In the event of the specified date of Tender opening being declared a holiday for the Employer, the Tenders will be opened at the appointed time and location on the next working day.

The Tenderers' names, the presence or absence of earnest money deposit (amount, format and validity), the submission of qualification information and such other information as the Employer may consider appropriate will be announced by the Employer at the opening. The Employer shall prepare minutes of the Tender opening, including the information disclosed to those present.

The Employer will evaluate and determine whether each tender (a) meets the eligibility criteria, (b) is accompanied by the required earnest money deposit as per stipulations in Clause and (c) meets the minimum qualification criteria stipulated in ITT Clause. The Employer will draw out a list of qualified Tenderers.

Prior to the detailed evaluation of Tenders, the Employer will determine whether each Tender; (a) has digitally signed; and; (b) is substantially responsive to the requirements of the Tender documents.

A substantially responsive Tender is one which conforms to all the terms, conditions, and specifications of the Tender documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Tender documents, the Employer's rights or the Tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders.

If a Tender is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

Only substantially responsive bidder is called for opening of his price bid.

4.9.2 In Stage – II

The tenderer who offers the highest annual concession fees with 15% increase for every three years shall be the selected Bidder. The remaining Bidders shall be kept in reserve and may, in accordance with the process specified in the RFP, be invited to match the Tender submitted by the Prospective Tenderer in case such Prospective Tenderer withdraws or is not selected for any reason. In the event that none of the other Bidders match the Tender of the Prospective Tenderer, the Tender Inviting Authority may, in its discretion, invite fresh Tenders from the remaining Bidders or annul the Bidding Process, as the case may be. The L1 bidder may be called for negotiation, if Authority finds that the negotiation is necessary.

In the event that the Lowest Bidder withdraws or is not selected for any reason, the Authority may invite all the remaining Bidders to revalidate their quote as necessary, and match the Bid of the aforesaid Lowest Bidder (the “second round of bidding”). If in the second round of bidding, only one Bidder matches the Lowest Bidder, it shall be the Selected Bidder. If two or more Bidders match the said Lowest Bidder in the second round of bidding, then the Bidder whose Bid was lower as compared to other Bidder(s) in the first round of bidding shall be the Selected Bidder. For example, if the third and fifth lowest Bidders in the first round of bidding offer to match the said Lowest Bidder in the second round of bidding, the said third Lowest Bidder shall be the Selected Bidder.

In the event that none of the other Bidders match the Bid of the highest Bidder, Authority may, at its discretion, accept the quote of next Highest Bidder or invite fresh Bids or annul the Bidding Process, as the case may be”.

- 4.9.3** Even if only a single bid is received (and technically qualified) or a single bid amongst several is technically qualified, the HDSCL retains the right to open his Financial Bid and award the Project.
- 4.9.4** The HDSCL would have the right to review the Proposals and seek clarifications where necessary. The response from the Bidder(s) shall only be in writing but no change in the substance of the Proposal would be permitted. It is clarified that Bidders are free to make suggestions but are not allowed to submit any conditional bid as specified earlier.
- 4.9.5** Financial Proposals of Bidders who do not qualify the Stage-I of evaluation will not be opened.
- 4.9.6** The Proposal (Financial and Technical) should be unconditional and any conditionality attached with the proposal may result in the rejection of the Proposal.

4.10 Confidentiality

Information relating to the examination, clarification, evaluation and recommendation for the short-listed Bidders shall not be disclosed to any person not officially concerned with the process. The HDSCL will treat all information submitted as part of all proposals in confidence and will insist that all who have access to such material treat it in confidence. The HDSCL will not divulge any such information unless it is ordered to do so by any Government or HDSCL Board that has the power under law to require its disclosure or due to statutory compliances.

4.11 Acknowledgement of the Proposal

- 4.11.1** The Successful Bidder shall be issued Notice of Award (“NoA”) in duplicate. The Successful Bidder shall within ten (10) days of the receipt of the NOA, sign and return the duplicate copy of NOA in acknowledgement thereof. In the event duplicate copy of the NOA duly signed by Successful Bidder is not received within stipulated time, the HDSCL 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 Successful Bidder to acknowledge the NOA.
- 4.11.2** After acknowledgement of the NOA as aforesaid by Successful Bidder, Concessionaire shall execute the Concession Agreement in the format specified by the HDSCL within thirty (30) days thereof. The Successful Bidder shall not be entitled to seek any deviation, modification or amendment in the Concession Agreement.

4.12 Execution of Concession Agreement

- 4.12.1** The Successful Bidder is required to sign the Concession Agreement within 30 (thirty) days of conveying his acceptance of the NoA to the HDSCL in writing. Prior to signing of the Concession Agreement, the Successful Bidder must satisfy the conditions required to be satisfied by it. The HDSCL shall not execute the Concession Agreement until these conditions have been satisfied:
- a. The Successful Bidder has submitted the requisite Construction Performance Security to the HDSCL.
 - b. The Successful Bidder, if it is a subsidiary of a holding / parent company or part of an SPC, it shall be required to furnish a letter of guarantee from its holding / parent Company (including a board resolution of such holding / parent company) pledging such holding / parent company's irrevocable financial strength and technical support to its subsidiary (in case of SPC – in proportion to its subsidiary's holding in the SPC), at all times during the concurrency of the Concession Agreement, and even after its termination for any of the acts and liabilities of its subsidiary prior to termination.
- 4.12.2** Failure to meet the above conditions (a) to (b) will result in a breach and the HDSCL shall be entitled to cancel the award without being liable, in any manner whatsoever, to the Bidder and to appropriate the proposal security and any other amount deposited till that time as 'Damages'.
- 4.12.3** The cost of stamp duty for execution of Concession Agreement, registration charges and any other related legal documentation charges and other incidental charges will be borne by the Successful Bidder.
- 4.12.4** In case of failure to sign the Concession Agreement within the stipulated time, the HDSCL shall retain the right to cancel the Award and forfeit the Bidder's proposal security and any other amount deposited till that time without being liable in any manner whatsoever to the Bidder.

4.13 Bids of other Bidders

- 4.13.1** The HDSCL shall return the proposal security in accordance with 3.3.1, received from the Bidders who have not qualified in technical evaluation.
- 4.13.2** Proposal Security received from all the short listed Bidders after Stage – II of evaluation will be returned in accordance with 3.3.1, without payment of any interest.

5. Proposal Data Sheet

S. No.	Key Information	Details
1.	Name of the Project	Development of Multi Level Car Park cum Commercial Complex on DBFOT.
2.	Location of the Project	Court circle in Hubballi
3.	Name and Address of the Employer	Hubballi Dharwad Municipal Corporation, Sir Siddappa Kambli Marg, Hubballi – 580020 Karnataka
4.	Name of the Contact Person
5.	Institutional Structure for Implementation	In case of a Consortium or foreign entity, Mandatorily form a Special Purpose Company (SPC) under Companies Act, 2013. Single bidder may choose to form an SPC
6.	Concession Format	Design – Build – Finance- Operate - Transfer (DBFOT.) Basis
7.	Earnest Money/ Proposal security	Amount of proposal security shall be Rs.40,00,000/- (Rupees Forty Lakhs only) (Refundable)
8.	Performance Security	10% of the estimated Capital expenditure. 25% of performance security will be returned after successful construction period and award of completion certificate. 25% will be returned after commencement of commercial operation.
9.	Notice of Award	To be decided after evaluation of bids
10.	Signing of Concession Agreement	To be decided after selection of Concessioner.
11.	Concession Period	32 years including construction period
12.	Construction Period	24 (Twenty-four) months
	Core Components	<ul style="list-style-type: none"> • MLCP building – 2 basements with Minimum ECS that has to be provided is 300. • Public bicycle docking station at ground floor • Public toilet at ground floor to accommodate the existing Sulabh facility. • Provision for Solar Rooftop. • Rain Water Harvesting (RWH) structure. • Green building with at least IGBC Silver certification. • All Water Supply, sewerage connection and Electrical supply and facilities.

		<ul style="list-style-type: none"> • Auto parking bay • Table top intersections on both sides of the site • Vertical gardening on at least 25% of the entire surface • Digital advertisement billboards for at least 25% of the entire surface area. • Tree transplantation - the minimum survival rate shall be considered at 60%, below which the Concessionaire shall attract penalties. • The building should be designed for accessibility for the aged and differently abled and as per harmonized guidelines of MoHUA. • The Concessionaire shall also develop the footpath around the site along with street furniture, landscaping, lighting and cycle track (if applicable). • The Concessionaire shall take up the responsibility for shifting existing utilities as required. • The Concessionaire will also make a provision of electric charging points
13.	Proposal Due Date	March 2018
14.	Pre Bid Conference	To be decided
15.	Site Visit	Site visit is arranged on the day of pre-bid conference, the bidder who wish to visit the site at later stage may do the same with prior approval of HDSCL.
16.	Miscl.	N/A

6. Prescribed Formats

A. Letter of Application & Interest

(To be submitted and signed by the Bidder's Authorized Signatory)

The Managing Director,

HDSCL,

Sub: RFP for Development of 'Smart Parking Tower' at court circle in Hubballi in
Karnataka state: Proposal for the Project

Sir,

1. Being duly authorized to represent and act for and on behalf of.....(Hereinafter referred to as "the Bidder"), and having studied and fully understood all the information provided in the bid document, the undersigned hereby apply as a Bidder for "Development of 'Smart Parking Tower' Complex at Court circle in Hubballi in Karnataka state in accordance with the terms & conditions of the RFP Document issued by HDSCL.
2. Our Technical & Financial Bids are as per the requisite formats along with the supporting documents, duly filled and signed on each page and are unloaded as specified.
3. The Proposal Security / EMD is as per the clause 3.3.1
4. HDSCL and its authorized representatives are hereby authorized to conduct any inquiries / investigation to verify the statements, documents and information submitted in connection with the application and to seek clarification from our banker regarding any financial and technical aspects. This letter of application will also serve as authorization to any individual or authorized representative of any institution referred to the supporting information, to provide such information deemed necessary and requested by your selves to verify statements and information provided in the application or with regard to the resources, experience and competence of the applicant.
5. HDSCL and its authorized representatives may contact the following persons for any further information:
Name of the person
Address:
Phone:
Fax:
6. This application is made with full understanding that: (a) HDSCL reserves the right to reject or accept any bid, cancel the bidding process, and / or reject all bids. (b) HDSCL shall not be liable for any of the above actions and shall be under no obligation to inform the applicant of the same.
7. We, the undersigned declare the statements made and the information provided in the duly completed application forms enclosed, as complete, true and correct in every detail.
8. We hereby confirm that we have read, understood and accepted all the detailed terms and conditions of this RFP and Project related information as required for the Proposal. We have also visited the Site of the Project at Court circle, Hubballi for the assessment and have made our own due diligence and assessment regarding the Project.
9. We agree to keep our proposal valid for one hundred eighty (180) days from the date of submission of Proposal thereof, and not to make any modifications in the terms and conditions, not acceptable to the HDSCL. Should this Proposal be accepted, we hereby agree to abide by and fulfill all the terms, conditions and provisions of the aforesaid documents.
10. This application is made with the full understanding that the validity of Proposal submitted by us will be subject to verification of all information, terms and conditions submitted at the time of bidding and its final acceptance by HDSCL. We agree that, without prejudice to any other right or remedy, HDSCL shall be at liberty to forfeit the said Proposal Security absolutely.

Authorized signatory Date:

Name and seal of Bidder Place:

Enclosure:

1. The Proposal Security / EMD.
2. Power Of Attorney For Signing Of Application /Board resolution authorizing the signatory (as per the Suggested Format at Annexure E)
3. Joint Bidding Agreement in case of a Consortium
4. Relevant Submissions as per the given Formats.

B. General Information on the Bidder

1. Details of the company:

- a) Name :
- b) Country of incorporation:
- c) Address of the corporate headquarters and its branch office(s), if any, in India:

2. Details of individual(s) who will serve as the point of contact / communication for HDSCL within the Company:

- a) Name :
- b) Designation :
- c) Company :
- d) Address :
- e) Telephone Number :
- f) Fax Number :
- g) E-Mail Address :

3. In case of Consortium:

- a) The information above (1 & 2) should be provided for all the members of the consortium.
- b) Information regarding role of each member should be provided:

Sl. NO.	Name of Member	Proportion of equity to be held in the consortium	Role*

*Specify whether Lead Member / Ordinary Member

Signed
(Name of the Authorised Signatory)
For and on behalf of (Name of the Bidder)
Designation
Place:
Date

To be enclosed:

1. Documents certifying Bidder's legal status
2. Certificate of incorporation / registration
3. In case of a Consortium, Joint Bidding Agreement & Power of Attorney signed by each Consortium partner, clearly indicating the lead partner
4. Latest brochures/ organization profiles etc.

C. Format for Financial Proposal

(To be submitted and signed by the Bidder's Authorized Signatory)

The Managing Director,

HDSCL,

Sir / Madam,

Sub: Financial Proposal for Development of 'Smart Parking Tower' Complex at Court circle, Hubballi , Karnataka.

We are pleased to submit our Financial Proposal for Development of 'Smart Parking Tower' Complex at Court circle, Hubballi , Karnataka on DBFOT basis, as follows:

1. We hereby offer to pay Annual Payment of INR_____ (in words) plus applicable taxes & levies to Authority as per the terms of the RFP Documents.
2. We further agree that the above mentioned annual payment payable to HDMC / HDSCL will be incremented by 15 % for every three years. This payment payable starts with year 3rd year of the concession agreement and ends at the 32 year (end of concession period) or when terminated whichever is earlier.
3. We agree to pay the Annual Payment in accordance with the terms of the RFP Documents and draft Concession Agreement.
4. We hereby declare that our Financial Proposal is unconditional in all respects and there are no deviations from the stated terms in the RFP Documents.
5. The aforesaid Annual Payment has been quoted by us after taking into consideration all the terms and conditions stated in the RFP Documents and draft concession agreement, our own estimates of demand, costs and revenues and after a careful assessment of the Project Site and all the conditions that may affect the Proposal.

We agree to keep our offer valid for one hundred and eighty (180) days from the due date of submission of this Proposal.

Authorized signatory

Date:

Name and seal of Bidder

Place:

D. Affidavit

(To be given separately by each consortium member in case of a consortium or otherwise by the Bidder on a Stamp Paper of Rs.).

I, S/o, resident of , the (insert designation) of the (insert name of the single Bidder/consortium member if a consortium), do solemnly affirm and state as under:

1. That I am the authorized signatory of (insert name of company /consortium member) (hereinafter referred to as “Bidder/Consortium Member”) and I am duly authorized by the Board of Directors of the Bidder/Consortium Member to swear and depose this Affidavit on behalf of the Bidder/consortium member.
2. That I have submitted information with respect to our eligibility for Hubballi Dharwad Smart City Limited (HDSCL) Development of ‘Smart Parking Tower’ Complex at Hubballi in Karnataka state (hereinafter referred to as “Project”), after going through the Request For Proposal (‘RFP’) Document and I further state that all the said information submitted by us is accurate, true and correct and is based on our records available with us.
3. That I hereby affirm to furnish any information, which may be requested and as may be deemed necessary by HDSCL to verify our credentials/information provided by us under this tender.
4. That if any point of time including the Concession Period, in case HDSCL requests any further/additional information regarding our financial and/or technical capabilities, or any other relevant information, I shall promptly and immediately make available such information accurately and correctly to the satisfaction of HDSCL.
5. That I fully acknowledge and understand that furnishing of any false or misleading information by us in our RFP shall entitle us to be disqualified from the tendering process for the said project. The costs and risks for such disqualification shall be entirely borne by us.
6. I state that all the terms and conditions of the RFP Document has been duly complied with.

DEPONENT

VERIFICATION: -

I, the above-named deponent, do verify that the contents of paragraphs 1 to 6 of this affidavit are true and correct to my knowledge. No part of it is false and nothing material has been concealed.

Verified at, on this day of 2017

DEPONENT

E. Format for Power of Attorney for Signing of Application

(On a Stamp Paper of appropriate value)

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 / the Lead Member of our Consortium 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 in response to the RFP issued by the HUBBALLI DHARWAD SMART CITY LIMITED (the “HDSCL”) for the selection of a concessionaire for Planning, Designing, Engineering, Finance, Construction, Development, Operation and Maintenance of ‘Smart Parking Tower’ (Multi Level Car Parking cum Commercial Complex) Complex (“Project”) in Hubballi; 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 HDSCL, representing us in all matters before the HDSCL, signing and execution of all contracts including the Concession Agreement and undertakings consequent to acceptance of our bid, and generally dealing with the HDSCL in all matters in connection with or relating to or arising out of our bid for the said Project and/or upon award thereof to us and/or till the entering into of the Concession Agreement with the HDSCL. and we hereby agree to ratify and confirm and do hereby 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 _ _ _ _ _ 2017

For

(Signature, name, Designation and address)

Witnesses:

- 1.
- 2.

Accepted Notarized

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

F. Format for Proposal Security (Bank Guarantee)

PROPOSAL SECURITY FORMAT UNCONDITIONAL AND IRREVOCABLE BANK GUARANTEE

Bank Guarantee No.:

Dated:

Issuer of Bank Guarantee:

_____ (Name of the Bank)

(Hereinafter referred to as the "Bank")

Beneficiary of Bank Guarantee:

Hubballi Dharwad Smart City Limited,

Hubballi

Nature of Bank Guarantee:

Unconditional and irrevocable Bank Guarantee.

Context of Bank Guarantee:

Whereas the Hubballi Dharwad Smart City Limited (the "HDSCL") has invited bids by its Request for Proposal dated (the "RFP") for the selection of a concessionaire for Planning, Designing, Engineering, Finance, Construction, Development, Operation and Maintenance of 'Smart Parking Tower' Complex ("Project") at Court circle in Hubballi of Karnataka State. Whereas in accordance with the terms of the RFP,.....is submitting a bid for the Project in Hubballi, and is required to submit a security of Rs. _____ (Rupees Lakhs Only) with respect to the same.

Operative part of the Bank Guarantee:

At the request of the..... (Insert the name of the Bidder), we (name and address of the bank), hereinafter referred to as the "Bank"), do hereby unconditionally and irrevocably affirm and undertake that we are the Guarantor and are responsible to the HDSCL i.e. the beneficiary on behalf of the Bidder, up to a total sum of Rs..... (Rupees..... Lakhs Only), such sum being payable by us immediately upon receipt of first written demand from HDSCL.

We unconditionally and irrevocably undertake to pay to the HDSCL on an immediate basis, upon receipt of first written demand from the HDSCL and without argument or delaying tactics or reference by us to Bidder and without any need for the HDSCL to convey to us any reasons for invocation of the

Guarantee or to prove the failure on the part of the Bidder to repay the amount of or to show grounds or reasons for the demand or the sum specified therein, the entire sum or sums within the limits of Rs (RupeesLakhs Only). We hereby waive the necessity of the HDSCL demanding the said amount from Bidder prior to serving the Demand Notice upon us.

We further agree and affirm that no change or addition to or other modification to the terms of the Agreement, shall in any way release us from any liability under this unconditional and irrevocable Guarantee and we hereby waive notice of any such change, addition or modification. We further agree that the HDSCL shall be the sole and the exclusive judge to determine that whether or not any sum or sums are due and payable to him by Concessionaire, which are recoverable by the HDSCL by invocation of this Guarantee.

This Guarantee will not be discharged due to the change in constitution of the Bank or the Bidder. We undertake not to withdraw or revoke this Guarantee during its currency/ validity period, except with the previous written consent of the HDSCL.

We unconditionally and irrevocably undertake to pay to the HDSCL, any amount so demanded not exceeding Rs.....(Rupees.....Lakhs Only), notwithstanding any dispute or disputes raised by Bidder or anyone else in any suit or proceedings before any dispute review expert, arbitrator, court, tribunal or other authority, our liability under this Guarantee being absolute, unconditional and unequivocal. The payment so made by us under this Guarantee to the HDSCL, shall be a valid discharge of our liability for payment under this Guarantee and the Bidder shall have no claim against us for making such payment.

This unconditional and irrevocable Guarantee shall remain in full force and effect and shall remain valid until (180 days from the proposal due date).

Notwithstanding any contained herein:

1. Our liability under this Bank Guarantee shall not exceed Rs. _ _ _ (RupeesLakhs only). This unconditional and irrevocable Bank Guarantee shall be valid for a period of 180 days from proposal due date).

G. Power of Attorney by Each Member of The Consortium In Favour Of Lead Member

Dated

POWER OF ATTORNEY

TO WHOMSOEVER IT MAY CONCERN

(On a Stamp Paper of appropriate value)

Whereas the Hubballi Dharwad Smart City Limited (the "HDSCL") has invited bids by its Request for Proposal dated (the "RFP") for the selection of a concessionaire for Planning, Designing, Engineering, Finance, Construction, Development, Operation and Maintenance of Multi Level Car Parking cum Commercial Complex ("Project") at Court circle in Hubballi of Karnataka State.

Whereas, _____ and _____ and _____ (Collectively the "Consortium") being Members of the Consortium are interested in bidding for the Project in accordance with the terms and conditions of the RFP and other connected documents in respect of the Project, and

Whereas, it is necessary for the Members to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's bid for the Project in and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, _____ having our registered office at _____; and _____, having our registered office at _____, and _____, having our registered office at _____, (hereinafter Collectively referred to as the "Principals") do hereby irrevocably designate, nominate, constitute, appoint and authorize _____, having its registered Office at _____, being one of the Members of the Consortium, as the Lead Member and true and lawful attorney of the Consortium (hereinafter referred to as the "Attorney") and hereby irrevocably authorize the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the Consortium and any one of us during the bidding process and, in the event the Consortium is awarded the Contract, during the execution of the Project, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the submission of its bid for the Project, including but not limited to signing and submission of all applications, bids and other documents and writings, accept the Notice of Award, participate in bidders' and other conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of the bid of the Consortium and generally to represent the Consortium in all its dealings with the HDSCL, and/ or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium's bid for the Project in and or upon award thereof till the Concession Agreement is entered into with the HDSCL AND hereby agree to ratify and confirm and do hereby 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 Consortium.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS _____ DAY OF _____, 2017

For

(Signature, Name & Title)

For.....

Signature, Name & Title)

(Executants)

(To be executed by all the Members of the Consortium)

Accepted Notarized

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

Witnesses:

1.

2.

Notes:

- a. Each Power of Attorney submitted has to be notarized. 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.
- b. 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 favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

H. Joint Bidding Agreement for Consortium

[Stamp Paper]

THIS JOINT BIDDING AGREEMENT is entered into on this the _____ day of 2018 AMONGST

1. { _____ Limited, a company incorporated under the Companies Act, 1956/2013} and having its registered office at _____ (hereinafter referred to as the “**First Part**” which expression shall, unless repugnant to the context include its successors and permitted assigns)
AND
2. { _____ Limited, a company incorporated under the Companies Act, 1956/2013} and having its registered office at _____ (hereinafter referred to as the “**Second Part**” which expression shall, unless repugnant to the context include its successors and permitted assigns)
AND
3. { _____ Limited, a company incorporated under the Companies Act, 1956/2013} and having its registered office at _____ (hereinafter referred to as the “**Second Part**” which expression shall, unless repugnant to the context include its successors and permitted assigns)
4. The above mentioned parties of the FIRST, and SECOND, and THIRD PART are collectively referred to as the “Parties” and each is individually referred to as a “Party”

WHEREAS,

- A. HUBBALLI DHARWAD SMART CITY LIMITED (“HDSCL”) has invited bids (the “Bids”) by its Request for Proposal dated.....(the “RFP”) for selection of a concessionaire for Planning, Designing, Engineering, Finance, Construction, Development, Operation and Maintenance of Multi Level Car Parking cum Commercial Complex (“Project”) at Court circle in Hubballi of Karnataka State as identified in the RFP.
- B. The Parties are interested in jointly bidding for the Project for ‘Smart Parking Tower’ Complex (“Project”) at Court circle in Hubballi of Karnataka State as members of a Consortium and in accordance with the terms and conditions of the RFP document and other bid documents in respect of the Project, and It is a necessary condition under the RFP document that the members of the Consortium shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Bid.

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretations
In this Agreement, the capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFP.
2. Consortium
 - a) The Parties do hereby irrevocably constitute a purposes of jointly participating in the bidding process for the Project for ‘Smart Parking Tower’ Complex (“Project”) at Court circle in Hubballi of Karnataka State
 - b) The Parties hereby undertake to participate in the bidding process only through this Consortium and not individually and/ or through any other consortium constituted for the Project for ‘Smart Parking Tower’ Complex (“Project”) at Court circle in Hubballi of Karnataka State, either directly or indirectly or through any of their Associates. For the purpose of this clause, “Associates” means in relation to the Bidder/Consortium member, a person who either: (a) controls, is controlled by, or is under the common control with such Bidder/Consortium member or (b) in the event the Bidder is a company incorporated pursuant to a joint venture agreement, a joint venture partner that executed the joint venture agreement or has later joined the joint venture.
3. Covenants
The Parties hereby undertake that in the event the Consortium is declared the Successful Bidder and awarded the Project, it shall: (a) incorporate a Special Purpose Company (SPC) under the Indian Companies Act, 2013 for the implementation of the Project in accordance with the terms of the RFP; and (b) execute the Concession Agreement which is required to perform all its obligations in terms of the RFP. The Parties hereby undertake that in the event

that the Consortium is declared the Successful Bidder and is awarded the Project, they shall ensure that due implementation of the Project by the SPC is done as per the Concession Agreement.

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below: -

- a) Party of the First Part shall be the Lead member of the Consortium and shall have the power of attorney from all Parties for conducting all business for and on behalf of the Consortium during the bidding process and until the due execution of the Concession Agreement.
- b) Party of the Second Part shall be {the Technical Member of the Consortium};
- c) Party of the Third Part shall be { }.

5. Joint and Several Liabilities

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the RFP, and the Concession Agreement in the format specified by the HDSCL.

6. Lock- in Requirements

The Parties undertake that each member of the Consortium shall at all times from the date of execution of the Concession Agreement continue to hold equity share capital in the SPC as follows, and no change in the shareholding of the SPC would occur without the prior written approval of the HDSCL:

- a) Equity share of the First Part in the SPC: [...] % and
- b) Equity share of the Second Part in the SPC: [...] % and
- c) Equity share of the Third Part in the SPC: [...] %.

7. Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

- a) Such Party is duly organized, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement;
- b) The execution, delivery and performance by such Party of this Agreement has been authorized by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the delegation of power and Authority to execute this Agreement on behalf of the Consortium Member is annexed to this Agreement, and will not, to the best of its knowledge:
 - require any consent or approval not already obtained;
 - Violate any applicable law presently in effect and having applicability to it;
 - Violate the memorandum and articles of association, by-laws or other applicable organizational documents thereof;
 - violate any clearance, permit, concession, grant, license or other governmental authorization, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or
 - create or impose any liens, mortgages, pledges, claims, security interests, charges or encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;
- c) This Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and

- d) There is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its Affiliates is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this Agreement.

8. Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until the term of Concession Agreement, in case the Project is awarded to the Consortium. However, in case the Consortium is either not prequalified for the Project or does not get selected for award of the Project, the Agreement will stand terminated in case the Bidder is not pre-qualified or upon return of the Proposal Security by the HDSCL to the Bidder, as the case may be.

9. Miscellaneous

- a) This Joint Bidding Agreement shall be governed by laws of India.
- b) The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the HDSCL.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN. SIGNED, SEALED AND DELIVERED

For and on behalf of LEAD MEMBER by:

(Signature)
(Name)
(Designation)
(Address)

SIGNED, SEALED AND DELIVERED

For and on behalf of

SECOND PART

(Signature)
(Name)
(Designation)
(Address)

SIGNED, SEALED AND DELIVERED

For and on behalf of

THIRD PART (Signature)

(Name)
(Designation) (Address)

In the presence of:

- 1.
- 2.

Notes:

1. All the Joint Bidding Agreements have to be notarized. The mode of the execution of the Joint Bidding Agreement 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.
2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favor of the person executing this Agreement for the delegation of power and Authority to execute this Agreement on behalf of the Consortium Member.

7. Brief Scopes of Work

7.1 Scopes of Work

Following scopes of work are envisaged for the concessionaire.

7.1.1 Construction of Smart Parking Structure:

- Smart, iconic structure with integrated transportation facilities.
- Minimum ECS that has to be provided is 300. Additional parking shall have to be provided for the commercial area as per applicable guidelines.
- Green building with at least IGBC Silver certification.
- Public convenience facilities at ground floor.
- Provision for para-transit bays within site (auto rickshaw and Public Bike sharing station).
- Provision for table top intersections on both sides of the site to facilitate road crossing after people have parked their cars in the MLCP.
- Provision for Solar Rooftop: Separate vendor shall install & maintain on PPP; Concessionaire shall buy solar electricity at reduced rate, excess generation shall be offloaded to grid.
- Vertical gardening on at least 30% of the entire surface area.
- Digital advertisement billboards for at least 25% of the entire surface area.
- Rain Water Harvesting (RWH) structure.
- Tree transplantation in existing site.
- Accessible design as per guidelines of MoHUA.
- Footpath development around the site along with street furniture, landscaping, lights, etc.
- Shifting existing underground utilities.
- Provision for electric car recharge points.
- Provision for car wash, repair & maintenance.

7.1.2 Installing ICT infrastructure for smart parking:

- Parking sensors, boom barriers, automatic ticket collection kiosks, and common card based payment systems, etc.
- Variable message signage (VMS) at strategic locations both inside and outside the MLCP.
- Real time monitoring systems with seamless communication to upcoming Integrated Command & Control Centre (ICCC).

7.1.3 Managing and operating parking

- Management and operations of parking slots inside site and outside within the immediate influence zone.
- Concessionaire shall collect revenue from following sources:
 - Parking fees - as decided by HDMC. Any changes will need to be approved by HDMC board.
 - Rent from commercial areas that will be leased out for the duration of concession period.
 - Rent from digital advertisement boards.
- Concessionaire shall tow away or clamp vehicles that are parked illegally.
- Concessionaire shall pay Annual Concession Fees to HDMC as per agreed upon rates (as per bid parameter). Payment of concession fee shall initiate after 24 months of signing of contract.

The Technical Volume is to be referred for project background, detailed scope of work and technical specifications.

Bidders are advised to conduct site reconnaissance and financial calculations of their own.

7.2 Specifications and Drawings

7.2.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice. The Contractor shall be responsible for any discrepancies, errors or omissions in the specifications, drawings and other technical documents that it has prepared, whether such specifications, drawings and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors or omissions are not because of inaccurate information furnished in writing to the Contractor by or on behalf of the Employer.

7.2.2 The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designated by or on behalf of the Employer, by giving a notice of such disclaimer to the Project Manager.

7.3 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 twenty-eight (28) days prior to date of bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied subject to approval by the Employer.

7.3 Approval/Review of Technical Documents by Project Manager

7.3.1 The Contractor shall prepare or cause its Subcontractors to prepare, and furnish to the Project Manager the documents listed in the Appendix (List of Documents for Approval or Review) to the Contract Agreement for its approval or review as specified and in accordance with the requirements of Program Chart submitted by bidder. Any part of the Facilities covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof. Para 7.3.2 through 7.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

7.3.2 Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with para 7.3.1, the Project Manager shall either return one copy thereof to the Contractor with its approval endorsed thereon or shall notify the Contractor in writing of its disapproval thereof and the reasons therefor and the modifications that the Project Manager proposes. If the Project Manager fails to take such action within the said fourteen (14) days, then the said document shall be deemed to have been approved by the Project Manager.

7.3.3 The Project Manager shall not disapprove any document, except on the grounds that the document does not comply with the Contract or that it is contrary to good engineering practice. If the Project Manager disapproves a document, he shall specify the reasons for his decision.

7.3.4 If the Project Manager disapproves the document, the Contractor shall modify the document and resubmit it for the Project Manager's approval in accordance with para 7.3.2. If the Project Manager approves the document subject to modification(s), the Contractor shall make the required modification(s), whereupon the document shall be deemed to have been approved.

7.3.5 If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto that cannot be settled between the parties within a reasonable period, then such dispute or difference may be referred to an Dispute Board for determination. If such dispute

or difference is referred to an Dispute Board, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed.

7.3.6 The Project Manager’s approval, with or without modification of the document furnished by the Contractor, shall not relieve the Contractor 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.

7.3.7 The Contractor shall not depart from any approved document unless the Contractor has first submitted to the Project Manager an amended document and obtained the Project Manager’s approval thereof, pursuant to the provisions of this para 7.3. If the Project Manager requests any change in any already approved document and/or in any document based thereon, shall be made as per provision of RFP.

Pursuant to para 7.3.1, the Contractor shall prepare and present to the Project Manager in accordance with the requirements of Program Chart, the following documents for

(A) Approval

1. All designs
2. All drawings
3. Revisions of the above if any
4. Work Schedules
5. Any variations

(B) Review

1. Periodic performance reports

TIME SCHEDULE

Sl No.	Description of Milestones	Time for completion from the date of Receipt of LTC
1.	Commencement of Submission of layout, unit sizing desing and drawing	2 nd week
2.	Mobilisation to the site and establishment of field office and quality control laboratory	3 rd week
3.	Approval and design of drawings.	6 months
4.	Completion of civil works	2 year 2 months
5.	Completion of installation of plant and equipments	2 year 5 months
6.	Trial run and Completion of commissioning	2 year 6 months
7.	Operation and maintenance	3 rd year to 32 nd year

VOLUME II

Concession Agreement

Concessionaire Agreement for Development of 'Smart Parking Tower' (Multi-Level Car Parking-cum-Commercial Complex) on Design, Build, Finance, Operate and Transfer (DBFOT) at Court Circle in Hubballi under PPP Model

RFP No.....

Date: [.....]

**Hubballi Dharwad Smart City Limited
Hubballi**

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DRAFT CONCESSION AGREEMENT

This Concession Agreement is entered into on this [●] day of [●] 2018 at Hubballi in Karnataka State

BETWEEN

1. **HUBBALI DHARWAD SMART CITY LIMITED (HDSCL)**, represented by its Managing Director and having its principal office at I T Park, 4th Floor, B Block, Opposite Indra Glass House, Hubballi- 580 020 (hereinafter referred to as the "Authority - 1" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part;

AND

2. **HUBBALI DHARWAD MUNICIPAL CORPORATION (HDMC)**, represented by its Commissioner and having its principal office at Sir Siddappa Kambali Road, Hubballi- 580 020 (hereinafter referred to as the "Authority - 2" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part; (herein after Authority -1 and Authority -2 referred to as "Authority" or "Authorities")

AND

3. _____, a company incorporated under the Companies Act, 1956, and having its registered office at _____, through Mr. [●] (*insert name and designation*) authorized through the board resolution dated (*insert date of the board resolution*) (hereinafter referred to as the "**Concessionaire**" which expression shall, unless repugnant to the context or meaning thereof, include its permitted successors and permitted assigns) of the SECOND PART.¹

OR

_____ a company incorporated under the Companies Act, 1956, having its registered office at _____ through Mr. {insert name and designation} authorized through the board resolution dated {insert date of board resolution} (hereinafter referred to as the "**Lead Member**" which expression shall, unless repugnant to the context or meaning thereof, include its permitted successors and permitted assigns) of the SECOND PART;

AND

_____, a company incorporated under the Companies Act, 1956, having its registered office at _____ through Mr. {insert name and designation} authorized through the board resolution dated {insert date of board resolution} (hereinafter referred to as "**Consortium Member 1**" which expression shall, unless repugnant to the context or meaning thereof, include its permitted successors and permitted assigns) of the THIRD PART;

AND

_____, a company incorporated under the Companies Act, 1956, having its registered office at _____ through Mr. {insert name and designation} authorized through the board resolution dated {insert date of board resolution}

¹ Applicable if the Successful Bidder is a single entity

(hereinafter referred to as “**Consortium Member 2**” which expression shall, unless repugnant to the context or meaning thereof, include its permitted successors and permitted assigns) of the FOURTH PART;²

AND

_____, a company incorporated under the Companies Act, 1956, having its registered Office at _____ through Mr. {insert name and designation} authorized through the board resolution dated {insert date of board resolution} (hereinafter referred to as “**Consortium Member 3**” which expression shall, unless repugnant to the context or meaning thereof, include its permitted successors and permitted assigns) of the FIFTH PART;

each of which shall be jointly and severally responsible to the Authority for the due and timely execution of the Project as per the terms and conditions of the Bidding Documents, Consortium Agreement and the Concession Agreement;

(Hereinafter the Lead Member, the Consortium Member 1, the Consortium Member 2 and the Consortium Member 3 are collectively referred to as the “**Concessionaire**” of the OTHER PART)}

(Below space has been left blank intentionally)

² Applicable if the Successful Bidder is a consortium
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WHEREAS:

- A. The Government of Karnataka has established Hubballi Dharwad Smart City Limited (**'HDSCL'**) under the Smart City Mission of Government of India, for the development and planning of Hubballi Dharwad twin city as a Smart City.
- B. Hubballi Dharwad Municipal Corporation (**'HDMC'**) is the rightful lessor of the land situated at Court Circle, Hubballi, Karnataka, India, admeasuring approximately 4050 sq. mts, as marked in Schedule I (hereinafter referred to as **"the said Land"**).
- C. As a part of the development of Hubballi Dharwad as a Smart City, it is proposed to develop a Multi Level Car Park cum Commercial Complexing Complex on the said Land, to accommodate 300 equivalent car space (ECS) under PPP mode.
- D. The Concessioning Authority has invited proposals for the selection of a Concessionaire through the competitive route on the basis of Design, Build, Finance Operate and Transfer (D.B.F.O.T) from eligible persons, firms/companies/consortium by issuing the Request for Proposal (RFP) No. [●] dated containing *inter-alia* the minimum qualification for a bidder, technical and commercial parameters of the Project (as hereinafter defined) and the terms and conditions for the implementation of the Project.
- E. In response to the aforesaid RFP, the Concessionaire submitted the Bid [as the Consortium comprising of the Lead Member, the Consortium Member 1, the Consortium Member 2 and the Consortium Member 3]³;
- F. On evaluation of the submitted proposals, HDSCL has accepted the Bid submitted by the Concessionaire and issued the Letter of Award (**"LOA"**) No. [●] dated [●] to the Concessionaire.
- G. In accordance with the Bidding Documents and after considering the said RFP / tender/bid submitted by the Concessionaire, HDSCL has agreed to grant to the Concessionaire, the Concession (as hereinafter defined) for the Concession Period, to design, build, finance, operate and transfer (D.B.F.O.T) the Project and at the end of the Concession Period transfer the implemented infrastructure to HDSCL / HDMC, on the terms, conditions and covenants hereinafter set forth in this Agreement.
- H. The Concessionaire hereby accepts the Concession granted hereunder and undertakes to implement the Project in terms of this Agreement.

NOW THEREFORE IN CONSIDERATION OF THE FOREGOING AND THE RESPECTIVE COVENANTS AND AGREEMENTS SET FORTH IN THIS CONCESSION AGREEMENT, THE SUFFICIENCY AND ADEQUACY OF WHICH IS HEREBY ACKNOWLEDGED, AND INTENDING TO BE LEGALLY BOUND THE CONCESSIONING AUTHORITY AND THE CONCESSIONAIRE (HEREINAFTER REFERRED TO AS **"PARTIES"** AND INDIVIDUALLY AS **"PARTY"**) HEREBY AGREE AND THIS AGREEMENT WITNESSTH AS FOLLOWS:

³ Strike-out, if consortium is not the Concessionaire
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ARTICLE – 1: DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meanings hereinafter respectively assigned to them:

“Accounting Year” means the financial year commencing from the 1st day of April of any calendar year and ending on the 31st day of March of the next calendar year;

“Additional Auditors” shall have the meaning ascribed thereto in Clause 20.3;

“Affected Party” shall have the meaning set forth in Clause 15.1;

“Agreement” or “Concession Agreement” means this Agreement including the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement and includes the documents specified in Clause 1.4 hereinafter;

“Applicable Laws” means all laws in force and effect as of the date hereof and/or laws which may be promulgated or brought into force and effect after the date of execution of this Agreement and include statutes, rules, regulations, by-laws, notifications, ordinances, directions, orders, instructions, conditions issued by any Government Agency and all judgments, decrees, injunctions, and orders of any court, tribunal or any quasi-judicial authority, as may be in force and effect during the subsistence of this Agreement;

“Applicable Permits” / “Approvals” means all clearances, licenses, permits, authorizations, no objection certificates, consents, approvals and exemptions under or pursuant to any of the Applicable Laws or from any Government Agency or third party, required to be obtained and/or maintained by the Concessionaire in order to implement the Project and to provide the Project Assets in accordance with this Agreement, and for undertaking, performing or discharging the obligations contemplated by this Agreement;

“Bank Guarantee” means an irrevocable and unconditional bank guarantee payable on demand and issued by a bank in favour of the Concessions Authority and furnished by the Concessionaire to Concessions Authority for guaranteeing the due performance of his obligations under this Agreement;

“Bank” means any Indian Nationalized Bank or any Indian Scheduled Commercial Bank whose net worth is not less than Rs.500 crores as on 31st March 2017;

“Bid” means the documents in their entirety comprised in the bid submitted by the Concessionaire in response to the RFP No. [●] dated [●];

“Business Day” means a day on which banks are generally open for business in Hubballi Dharwad, India;

“Change in Control” in relation to a body corporate (**“Subject Person”**) means: (a) any Person or group of Persons (acting together), but excluding the existing promoters of the body corporate, becomes, directly or indirectly, the “owner” of securities of the Subject Person representing 50% or more of the combined voting power of the Subject Person's then-outstanding securities or acquires Control, direct or indirect, of the Subject Person exercisable by virtue of their management rights or voting arrangements or shareholders agreements or in any other manner, or (b) the consummation of a merger or consolidation involving the Subject Person, regardless of which entity is the survivor, other than a merger or consolidation which

would not result in the existing promoters ceasing to have direct or indirect Control over the Subject Person. For the purpose of this clause, the term “existing promoter(s)” means a Person(s) or an entity (ies) who, as on the Effective Date, has direct or indirect Control over the Subject Person;

“**Control**” (including with correlative meaning, the terms “**Controlled by**” and “**under common Control with**”) shall include the right to appoint majority of the directors or to control the management or policy decisions exercisable by a Person or Persons acting individually or in concert, directly or indirectly, including by virtue of their shareholding or management rights or shareholders’ agreements or voting agreements or in any other manner;

“**Conditions Precedent**” shall have the meaning set forth in Clause 7.1;

“**Construction Period**” shall have the meaning ascribed thereto in Clause 8.3.1;

“**Commencement Date**” means the date on which the physical possession of the Project Site is formally / officially delivered and handed over by HDSCL to the Concessionaire;

“**COD**” means the commercial operations date of the Project which shall be the date when the Construction Period ends and commercial operations starts. COD shall not be later than [●] days from the Commencement Date;

“**Consortium**” means the group of entities that have jointly submitted the proposal for the Project;

“**Consortium Member**” means each entity which has participated in the Consortium shall be referred to as a Consortium Member;

“**Concession**” shall have the meaning ascribed thereto in Clause 2.1(a);

“**Concession Period**” shall have the meaning ascribed thereto in Clause 2.2;

“**Concessioning Authority**” means Hubballi Dharwad Municipal Corporation, Hubballi, Karnataka and shall include its successors and assigns;

“**Concessionaire**” means _____ and shall include its permitted successors and permitted assigns;

“**Concessionaire Event of Default**” shall have the meaning ascribed thereto in Clause 16.2;

“**Consideration**” shall have the meaning ascribed thereto in Clause 6.1.1;

“**Contractor**” means any person with whom the Concessionaire has entered into/ may enter into all or any of the Project Agreements (excluding the Agreement) related to the execution of any works and/or operation and maintenance thereof;

“**Cure Period**” means the period specified in this Agreement under Clause 16.4(a) for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default;

“**Damages**” shall have the meaning set forth in Sub-clause (t) of Clause 1.2.1;

“**Dispute**” shall have the meaning set forth in Clause 21.1.1;

“**Dispute Resolution Procedure**” means the procedure for resolution of disputes set forth in Clause 21;

“**Earnest Money Deposit**” means the amount of Rs. 40,00,000 (Rupees Forty Lakhs only) which will be deposited by the Concessionaire to the Concessioning Authority in accordance with the terms of the RFP;

“**Effective Date**” means the date on which all the Conditions Precedent as mentioned under Clause 7 are met/satisfied or waived-off in writing by both the Parties;

“Emergency” means a condition or situation that is likely to endanger the security of the individuals on or about the Project including users thereof or which poses an immediate threat of material damage to any of the Project Assets;

“Encashment Notice” shall have the meaning set forth in Clause 16.4(b);

“Encumbrance” means any encumbrance such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of the security or other such obligations, physical encumbrances or encroachments on, and shall include without limitation any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to, Project;

“Event of Default” shall have the meaning set forth in Clause 16.1;

“Exit Management Period” shall have the meaning set forth in Clause 18.1(c);

“Exit Management Plan” shall have the meaning set forth in Clause 18.9;

“Exit Management Requirements” means the requirements to be complied with by the Concessionaire for successfully exiting from the Project, as more specifically mentioned in Clause 18.2;

“Financial Commitment” means the legally binding undertaking of the Concessionaire to mobilize the financial requirements of the project for ensuring the completion of the Project;

“Force Majeure” or “Force Majeure Event” shall have the meaning set forth in as per Clause 15;

“Good Industry Practice” means the practices, methods, techniques, designs, standards, skills, diligence, procedure, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced operator engaged in the same type of undertaking as envisaged under this Agreement and would include good engineering practices in the design, engineering, construction and project management and acting generally in accordance with the provisions of this Agreement and would include which would be expected to result in the performance of its obligations by the Concessionaire in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, environment protected, economical and efficient manner;

“Government Instrumentality” / “Government Agency”/ “Government Authority” means any department, division or sub-division of the GOI or the Government of Karnataka or any other State Government, including but not limited to the approvals of the Hubballi Dharwad Municipal Corporation, Hubballi Urban Development Authority (HUDA), Hubballi Dharwad Smart City Limited, as may be applicable and including any commission, board, body, bureau, authority, agency, instrumentality, court or other judicial or quasi-judicial or administrative body, at central, state or local level, or municipal and other local authority or statutory body including Panchayat under the control of the GOI or the Government of Karnataka, as the case may be, and having jurisdiction over the Concessionaire, the Project Assets or any portion thereof or the performance of all or any of the services or obligations of the Concessionaire under or pursuant to this Agreement;

“HDSCL Event of Default” shall have the meaning set forth in as per Clause 16.3;

“Indemnified Party” means the Party entitled to the benefit of an indemnity pursuant to Clause 17.1(d);

“Indemnifying Party” means the Party obligated to indemnify the other Party pursuant to Clause 17.1(d);

“Lenders” shall mean the banks, financial institutions, international credit agencies that extend or agree to extend a credit facility to the Concessionaire in relation to the Project;

“Maintenance Manual” shall have the meaning ascribed to it in Clause 8.5;

“Minimum Maintenance Requirements” means minimum maintenance requirements for the maintenance of the Project as set forth in Schedule V;

“Maintenance Programme” shall have the meaning ascribed to it in Clause 8.6(a);

“Maintenance Report” shall have the meaning ascribed to it in Clause 8.6(e);

“Material Adverse Effect” means adverse effect on: (a) the ability of either party to exercise any of its material rights to perform any of its material obligations under and in accordance with the provisions of this Agreement and/or; (b) the legality, validity, binding nature or enforceability of this Agreement;

“Material Breach” means a breach by either Party of any of its key obligations under this Agreement which has a Material Adverse Effect on the Project and/or on the ability of non-defaulting Party to exercise any of its material rights or perform any of its material obligations under and in accordance with the provisions of this Agreement and which the defaulting Party shall have failed to cure within the Cure Period;

“Officer-in-charge” means the nodal officer of HDSCL of the respective area or any other Person Authorized by HDSCL;

“O&M” means the operation and maintenance of the Project during Operations Period including but not limited to functions of maintenance, collection and retention of fees and charges and performance of other services incidental thereto;

“Operations Period” means the period commencing from the COD and ending at the expiry/termination of the Concession Period;

“Parties” means the parties to this Agreement collectively and **“Party”** shall mean any of the parties to this Agreement individually;

“Performance Security” shall have the meaning set forth in Clause 4.1;

“Person” includes any individual, company, corporation, partnership, joint venture, trust, unincorporated organization, government or Governmental Authority or Government Agency or any other legal entity;

“Project” shall mean Design, Build, Finance, Operate and Transfer of MLCP cum Commercial Complexing Complex facility at Court Circle in Hubballi to accommodate 300 equivalent car space within the [4050] sqmts site earmarked for the purpose in accordance with the provisions of this Agreement (more specifically as mentioned in Clause 3 of this Agreement);

“Project Agreements” means collectively this Agreement, any contract for the design, build, finance, operate and transfer of the Project and any other material contract entered into or may hereafter be entered into by the Concessionaire (excluding any arrangement or agreement entered into for availing finance/borrowings by the Concessionaire) in connection with the Project/Project Assets;

“Project Assets” means all physical and other assets relating to and forming part of the Project including but not limited to: (i) rights over the Project Site in the form of license, or otherwise, (ii) tangible assets such as civil works including embankments, pavements, lighting facilities, sign boards, electrical works for lighting and equipment, (iii) the facilities on the Project Site to be constructed, built, installed, erected or provided by the Concessionaire for use of the users by implementing the Project and more specifically set out in Schedule II;

“Project Construction Completion Date” shall mean the date on which the Concessioneing Authority has issued the Project Construction Completion Certificate after completion of the Project and shall have the meaning set forth in Clause 3.1.6;

“Project Construction Completion Certificate” shall mean the Project Construction Completion Certificate issued by the Concessioneing Authority certifying the completion of Project by the Concessioneaire;

“Project Site” means the Project Site measuring 4050 sq mts as given in Schedule I of this Agreement, which is to be developed as Multi Level Car Park cum Commercial Complex and allied facilities to be given on lease for a period of [●] years and area as commercial development to be given on lease for the initial period of [●] years;

“Project Implementation Schedule” shall have the meaning ascribed thereto in Clause 8.2(a) and as more specifically provided under Schedule IV to this Agreement;

“Rs.” or “Rupees” refers to the lawful currency of the Republic of India;

“Specifications and Standards” means the minimum parameters and standards to be achieved by the Concessioneaire in the construction, development and operations of the Project in accordance with internationally sound engineering practices and Applicable Laws and/or as determined by the relevant Governmental Authority and also means the standards, practices, methods and procedures expected from a person seeking in good faith to perform its contractual obligations and in so doing and in the general conduct of its undertaking exercising that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced Person engaged in the same type of undertaking under the same or similar circumstances and conditions including the conditions as contemplated by the basic documents;

“Taxation” or “Tax” means all forms of taxation whether direct or indirect and whether levied by reference to income, profits, gains, net wealth, asset values, turnover, added value or other reference and statutory, governmental, state, provincial, local governmental or municipal impositions, duties, contributions, rates and levies (including without limitation social security contributions and any other payroll taxes), whenever and wherever imposed (whether imposed by way of withholding or deduction for or on account of tax or otherwise) and in respect of any person and all penalties, charges, costs and interest relating to it; and

“Termination Notice” means a communication in writing issued by one Party to the other Party in accordance with the applicable provisions of this Agreement as more particularly described in Clause 16.4(a).

1.2 Principles of Interpretation

1.1.1. In this Agreement, unless the context otherwise requires,

- (a) references to any legislation or any provision thereof shall include amendment or reenactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- (b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;
- (c) references to a “person” and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust,

government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns subject to the provisions of this Agreement;

- (d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- (e) the words “include” and “including” are to be construed without limitation and shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
- (f) references to “construction” include, unless the context otherwise requires, investigation, design, developing, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and other activities that are to be completed on or before “Project Construction Completion Date” as per the scope of work as defined under Article 2, and “construct” shall be construed accordingly;
- (g) any reference to any period of time shall mean a reference to that according to Indian Standard Time;
- (h) any reference to day shall mean a reference to a calendar day;
- (i) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- (j) references to any date, period or milestone shall mean and include such date, period or milestone as may be extended pursuant to this Agreement;
- (k) any reference to any period commencing “from” a specified day or date and “till” or “until” a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- (l) the words importing singular shall include plural and vice versa;
- (m) references to any gender shall include the other and the neutral gender;
- (n) “lakh or lac” means a hundred thousand (100,000) and “crore” means ten million (10,000,000);
- (o) references to the “winding-up”, “merger”, amalgamation”, “takeover”, “dissolution”, “insolvency”, or “reorganization” of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection, change in management or relief of debtors;
- (p) any reference, at any time, to any Agreement, deed, instrument, license or document of any description shall be construed as reference to that Agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub-clause shall not operate so as to increase liabilities or obligations of the

Concessions Authority hereunder or pursuant hereto in any manner whatsoever;

- (q) any Agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party, as the case may be, in this behalf and not otherwise;
- (r) the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (s) references to Recitals, Articles, Clauses, Sub-clauses or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Agreement, and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Agreement or of the Schedule in which such reference appears; and
- (t) the damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the “**Damages**”).
- (u) Any reference to build shall mean construct and vice-versa unless the context otherwise requires.
- (v) Any reference to operate/operations shall mean operate and transfer/ operations & maintenance unless the context otherwise requires.

1.1.2. Unless expressly provided otherwise in this Agreement, any documentation required to be provided or furnished by the Concessionaire to the Concessions Authority and/or the agency or person appointed by the Concessions Authority shall be provided free of cost and in two copies, and if the Concessions Authority and/or the person appointed by the Concessions Authority is required to return any such documentation with their comments and/or approval, they shall be entitled to retain one copy thereof.

1.1.3. The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.

1.1.4. Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning.

1.3 *Measurements and Arithmetic Conventions*

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.

14 *Priority of Agreements and Errors / Discrepancies*

This Agreement, and all other agreements and documents forming part of this Agreement are to be taken as mutually explanatory of one another. If there is an ambiguity or discrepancy in the documents, the Concessions Authority shall

issue any necessary clarification or instruction to the Concessionaire, and the priority of the documents shall be as follows:

- (i) This Concession Agreement;
- (ii) The Schedules to this Agreement;
- (iii) The "Letter of Award";
- (iv) Written addenda to the RFP, if any;
- (v) RFP;
- (vi) Any written clarifications issued by HDSCL;
- (vii) The Bid submitted by the Concessionaire;
- (viii) Any other document forming part of the Concession Agreement.

ARTICLE – 2: CONCESSION AND PROJECT SITE

2.1. Grant of Concession

- a) Subject to and in accordance with the terms and conditions set forth in this Agreement, HDSCL hereby grants and authorizes the Concessionaire design, build, finance, operate and transfer the Project including the Project Assets and to exercise and/or enjoy the rights to, and earn revenue from the commercial utilization of the Project under this Agreement (viz. lease, license, advertisements, etc.), collectively known as the "**Concession**".
- b) All the title, interests, ownership and rights over or with regard to the Project implemented by the Concessionaire for HDSCL along with Project Assets shall rest with the Concessionaire until the expiry of the Agreement or its termination as per the termination provisions contained herein. Upon expiry or termination of the Agreement, as the case may be, all the aforesaid title, rights, ownership, interest, etc. in the Project shall be transferred to HDSCL. It is clarified that the title related to the land, containing the Project site(s) at which the Project is to be carried out, allowed to be used by the HDSCL shall always vest with the HDSCL, and the Concessionaire shall have no right or claim in the title/ownership or any other interest in such land or Project site except to the extent to which the Concessionaire has been permitted to use the same for the purposes of the Concession as provided in the Agreement.
- c) The Concessionaire shall not grant, transfer or assign any rights in relation to the Project in favour of any third party for the purposes of revenue generation or for any other purposes during the entire Concession Period.

2.2. Concession Period

The Concession hereby granted is for a period of 32 (thirty two) years (including 2 years of Construction Period) ("**Concession Period**") commencing from the Commencement Date during which the Concessionaire is authorized to implement and operate the Project including the Project Assets in accordance with the provisions hereof. The Concession Period may be renewed after the completion of the original concession period if NPV is not met. The concessionaire to give request for this with justification for extension required. The employer may consider this based on the performance of the Concessionaire and city requirements at that time on the mutually agreed terms and conditions.

Provided that:

- (a) in the event of the Concession being extended by the Concessioneing Authority beyond the said original period of 32 (thirty two) years in accordance with the

provisions of this Agreement, the Concession Period shall include the period by which the Concession is so extended; and

- (b) in the event of an early termination/determination of the Concession/this Agreement by either Party in accordance with the provisions hereof, the Concession Period shall mean and be limited to the period commencing from the COD and ending with the date of termination/determination of the Concession Agreement.

2.3 Acceptance of the Concession

The Concessionaire hereby accepts the Concession and agrees and undertakes to implement the Project including creation and maintenance of the Project Assets and to perform/discharge all of its obligations in accordance with the terms and conditions set forth in this Agreement. In accordance with the provisions of this Agreement and Applicable Laws and Applicable Permits, the Concessionaire shall at its costs, charges, expenses and risk, including but not limited to, foreign exchange variation risk, if any, design, build, finance, operate and then transfer the Project including the Project Assets to HDSCL or to its order as envisaged in this Agreement.

2.4 Project Site

- (a) HDSCL will provide the Concessionaire the Project Site(s) on lease/license basis.
- (b) HDSCL hereby undertakes to handover to the Concessionaire physical possession of the Project Site/Project Assets free from Encumbrance together with the necessary rights of way/way leaves for the purpose of implementing the Project in accordance with this Agreement.
- (c) HDSCL confirms that upon the Project Site being handed over pursuant to the preceding sub-clause (b), the Concessionaire shall have, subject to the terms and conditions of the lease/license obtained in respect of the Project Site, the right to enter upon, occupy and use the Project Site and to make at its costs, charges and expenses such development and improvements in the Project Site as may be necessary or appropriate to implement the Project and to provide and maintain the Project Assets subject to and in accordance with the provisions of this Agreement.
- (d) The Project Site shall comprise of the land as described in Schedule I and which shall be given on Concession by the Concessions Authority to the Concessionaire for the Concession Period, for Design, Build, Finance, Operate, Transfer of Multilevel Parking Facility and for development of commercial space over initial period of [●] years excluding Construction Period.
- (e) The Concessions Authority on providing the Performance Security and upon signing of this Agreement, shall within 15 (fifteen) days, give on Concession to the Concessionaire, the Project Site for project for [●] years and for development of commercial space over initial period of [●] years as per the Scope of the Project as mentioned in Clause 3.
- (f) It is being expressly agreed and understood between the Parties that the Concessions Authority shall have no liability whatsoever in respect of survey and investigations carried out or work undertaken by the Concessionaire pursuant hereto in the event of termination or otherwise.

- (g) It is expressly agreed between the Parties that the rights granted hereunder shall terminate automatically and forthwith, without the need for any action to be taken by the Concessions Authority to terminate the rights, upon the Termination of this Agreement for any reason whatsoever.
- (h) It is expressly agreed that mining rights do not form part of the rights granted to the Concessionaire under this Agreement and the Concessionaire hereby acknowledges that it shall not have any mining rights or any interest in the underlying minerals on or under the area where cable have been laid. For the avoidance of doubt, mining rights mean the right to mine any and all minerals or interest therein.
- (i) Access to the Concessions Authority and any person appointed as the Engineers / consultants appointed by Concessions Authority: The right of way granted for construction on the Project Site shall always be subject to the right of access of the person appointed by the Concessions Authority for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.
- (j) Special/temporary right of way: The Concessionaire shall bear all costs and charges for any special or temporary right of way required by it in connection with access to the Project Site. The Concessionaire shall obtain at its cost such facilities on or outside the Project Site as may be required by it for the purposes of the construction and the performance of its obligations under this Agreement.

2.5 Use of the Project Site

The Concessionaire shall not, without prior written consent or approval of HDSCL, use the Project Site for any purpose other than for the purposes of the Project/ the Project Assets and purposes incidental thereto as permitted under this Agreement or as may otherwise be approved by HDSCL.

2.6 Information about the Project Site

The information about the Project Site set out in Schedule I is provided by HDSCL in good faith and with due regard to the matters for which such information is required by the Concessionaire. HDSCL agrees to provide to the Concessionaire, upon a reasonable request, any further information relating to the Project Site, which HDSCL may now possess or may hereafter come to possess, as may be relevant for the implementation of this Project.

2.7 Peaceful Possession

HDSCL warrants that:

- (a) the Project Site having been acquired through the due process of law belongs to and is vested in HDSCL / HDMC, and that HDSCL / HDMC has full powers to hold, dispose of and deal with the same consistent, inter alia, with the provisions of this Agreement;
- (b) the Concessionaire shall have no obligation/liability as to payment of any compensation whatsoever to whomsoever the Project Site or any part thereof had been acquired from and that the same shall be the sole responsibility of HDSCL, however payment of rentals/other charges in terms of the lease/license obtained in respect of the Project Site shall be the sole responsibility of the Concessionaire; and
- (c) The Concessionaire shall, subject to complying with the terms and conditions of this Agreement, remain in peaceful possession and enjoyment of the Project Site during the Concession Period. In the event, the Concessionaire is obstructed by any Person claiming any right, title or interest in or over the

Project Site or any part thereof, HDSCL shall, if called upon by the Concessionaire, defend the Concessionaire against such claims and proceedings and also keep the Concessionaire indemnified against any direct or consequential loss or damages which the Concessionaire may suffer, on account of any such right, title, interest or charge.

2.8 Rights over the Project Site

- (a) The Concessionaire shall have the right to use the Project Site in accordance with the provisions of this Agreement.
- (b) The Concessionaire shall not part with or create any Encumbrance on the whole or any part of the Project including the Project Site and Project Assets unless and except as set forth and permitted under this Agreement.
- (c) Except for leasing / sub-leasing/ the use of the built space and facility at the Project Site/Project Assets as per the terms of the Agreement, the Concessionaire shall be entitled to assign any of his rights, or interests in this Agreement in favour of lenders/ financial institutions at any time, for raising finance for the Project subject to prior approval.
- (d) The Concessionaire may engage any Contractor for the performance of its obligations hereunder including for operation and maintenance of all or any part of the Project/ Project Assets. Provided that the Concessionaire shall obtain the approval of the Concessioning Authority for appointment of such Contractor.
- (e) In the event of inconsistency between the terms of this Agreement and the Project Agreements, the terms of this Agreement shall prevail.

2.9 Distribution of Grant

In order to achieve the green building features and other sustainable goals HDMC will be providing a fixed grant of INR 10 crore (Rupees ten crore only) to the successful concessionaire. The Grant component will be released only after a minimum of 50% Project Cost has been incurred by the Concessioner. The Concessioner will apply for the grant upon reaching the 50% threshold Project Cost by submitting the details of expenses. The details of expenditure will be checked by HDSCL and the Grant released within two months from the date of application.

The Concessionaire will issue a receipt after receiving capital grant, in agreement with the authority.

ARTICLE – 3: SCOPE OF THE PROJECT

3.1 Scope of the Project

- 3.1.1. The Concessionaire shall design, build, finance, operate and transfer the Project on the Project Site in accordance with the provisions of this Agreement.
- 3.1.2. The Concessionaire shall ensure the following for undertaking the Project:
 - a) Parking area whether provided in the basement or above ground will not be included in the Floor Area Ratio (FAR);
 - b) Maximum ground coverage will be %;
 - c) Maximum building height (Please refer Technical Specification);

- d) Area equivalent to of the total constructed parking area may be used for commercial, office and recreational purposes for which parking provision will have to be made; and
- e) Obtaining all Applicable Permits as may be required under the Applicable Laws for commercial operations and development of the Project not later than 6 (six) months from the Effective Date.

3.1.3. The Concessionaire shall construct the following commercial facilities under the Project:

A. Minimum Development Obligations (Essential Facilities):

- MLCP building – 2 basements with Minimum ECS that has to be provided is 300
- Public bicycle docking station at ground floor
- Public toilet at ground floor to accommodate the existing Sulabh facility.
- Provision for Solar Rooftop.
- Rain Water Harvesting (RWH) structure.
- Green building with at least IGBC Silver certification.
- All required water supply, sewage connection including plumbing works and electrical supply etc., complete.

B. Other activities:

- C. To discuss auto stand should be part of the site.
- D. Table top intersections on both sides of the site
- E. Vertical gardening on at least 30% of the entire surface
- F. Digital advertisement billboards for at least 30% of the entire surface area.
- G. The site has existing trees; they shall not be cut but transplanted on the same site. The minimum survival rate shall be considered at 60%, below which the Concessionaire shall attract penalties.
- H. The building should be designed for accessibility for the aged and differently abled and as per harmonized guidelines of MoHUA.
- I. The Concessionaire shall also develop the footpath around the site along with street furniture, landscaping, lighting and cycle track (if applicable).
- J. The Concessionaire shall take up the responsibility for shifting existing utilities as required.
- K. The Concessionaire will also make a provision of electric charging points
- L. Real time information system should be incorporated with multi-level parking along with Hubballi mobile application and integrated with Smart Parking solution being implemented under Hubballi Dharwad Smart City action plan.

3.1.4. All the facilities are to be developed as per the minimum quality standards set out for the purpose in the Technical Schedule appended in RFP.

3.1.5. While undertaking development of the Project, the Concessionaire shall adhere to latest amended National Building Code of India, other relevant IS Codes and practices, Development Control Regulations, FAR Limits, statutory requirements, laws of land, the principles of good industry practices and any other Applicable Laws as may be applicable from time to time.

3.1.6. Upon successful completion of the Project after 32 years the Concessionaire shall transfer the Project along with the land (i.e. the Project Site) to the Concessioning Authority.

3.1.7. The Concessionaire shall ensure that the Project will be ready for operations after taking all the clearance(s) within 30 (thirty) months of the Effective Date.

3.2 Change of Scope of Work

The Authority may, notwithstanding anything to the contrary contained in this Agreement, require any addition/deletion/amendment to the scope of the Project as contemplated by this Agreement, the Concessionaire shall carry out such additions/deletions/amendments on such terms and conditions as mutually agreed upon.

ARTICLE 4: PERFORMANCE SECURITY

4.1 Performance Security

4.1.1 The Concessionaire for due and punctual performance of obligations during the Construction Period and Concession Period deliver to HDSCL, the Performance Security as per this Agreement.

4.1.2 The Concessionaire shall submit to the Concessions Authority, Performance Security as prescribed in RFP.

4.1.3 The Performance Security shall be valid for a period of 12 (twelve) months and shall be renewed every year, at least 30 (thirty) days prior to the last date year till the end of the Concession Period and transfer of the Project along with the land to HDSCL. All charges, fees, costs and expenses related to the Bank Guarantee shall be borne and paid by the Concessionaire.

4.2 Appropriation of Performance Security

Upon occurrence of a Concessionaire Event of Default, the Concessions Authority shall, without prejudice to its other rights and remedies hereunder or in Applicable Law, be entitled to invoke and appropriate the relevant amounts from the Performance Security as Damages for such Concessionaire Event of Default. Upon such invocation and appropriation from the Performance Security, the Concessionaire shall, within 15 (fifteen) days thereof, replenish, in case of partial appropriation, the Performance Security to its original level, and in case of appropriation of the entire Performance Security, provide a fresh Performance Security, as the case may be, and the Concessionaire shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Concessions Authority shall be entitled to terminate this Agreement in accordance with Clause 16 (Events of Default and Termination).

4.3. Release of Performance Security

4.3.1 The Performance Security will be released as per the following:

- 25% of the Performance Security in the form of Bank Guarantee shall be released to the Concessionaire on the issuance of Project Construction Completion Certificate by the Concessions Authority;
- next 25% of the Performance Security in the form of Bank Guarantee shall be released to the Concessionaire on the start of Commercial Operation; and
- balance 50% of Bank Guarantee furnished as above shall be irrevocable and shall continue to be effective and enforceable 6 (six) months and beyond the period of 6 (six) months from the date of the expiry of the Concession Period. It shall be duly discharged and released to the Concessionaire beyond the period of 6 (six) months

from the date of expiry of the Concession Period and transfer of the Project along with the land including all formalities to HDSCL.

- 4.3.2 If the Agreement is terminated due to any event other than a Concessionaire Event of Default, the Performance Security shall, subject to the Concessioneing Authority's right to receive or recover amounts, if any, due from the Concessionaire under this Agreement, be duly discharged and released to the Concessionaire.

ARTICLE -5: REVENUE STREAMS FROM THE PROJECT

5.1 Revenue Streams from the Project

Subject to the Applicable Laws, the revenue streams from the Project and Project Assets will be generated by the Concessionaire from the Multi-Level Car Parking Complex at the Project Site during the Concession Period, as specified in the Clause 5.2 and 5.3 below:

5.2 Revenue streams from the operations of the Multi-Level Car Parking:

- a) **License for parking areas:** - The Concessionaire shall, subject to provisions of the Concessioneing Authority (as amended from time to time), be given the right to collect the parking fee from various categories of vehicles, parked in the public parking area.
- b) **Advertisement Rights:** - The Concessionaire has the right to locate hoardings charge for advertisements from the proposed LED façade etc. as per Applicable Laws.

5.3 Revenue Stream from Commercial Complex:

- a) **Commercial Rentals & Parking Charges:** The Concessionaire has the right to generate revenues from the commercial rentals and parking in the commercial complex in compliance with Applicable Law.
- b) **Lease Rentals:** The Concessionaire would have the flexibility to charge any lease rentals from the commercial spaces licensed to the third party. However, the Concessionaire shall not have the right to out-rightly sell the facility to third party / any other Person.
- c) **Advertisements Rights:** The Concessionaire has the right to locate hoardings charge for advertisements from the proposed LED façade etc. as per applicable rules, regulations, standards etc. in the commercial complex.
- d) **Maintenance Charges for use of commercial facilities:** The Concessionaire would have the right to charge maintenance charges from the user of the commercial facilities in the commercial complex.

5.4 Deposit of Revenue with Hubballi-Dharwad Municipal Corporation (HDMC)

The Concessionaire will deposit the revenues with Hubballi-Dharwad Municipal Corporation (HDMC) through an Escrow account opened by the Concessionaire for this purpose.

- a) The Concessionaire shall open an Escrow with a Bank (the "Escrow Bank") prior to entering into this agreement and all funds constituting the Grant Package for meeting the Total Project Cost shall be credited to such Escrow Account, in accordance with the guidelines in **Section 2.9**. During Operations Period all revenue collected by the Concessionaire shall be exclusively deposited therein every 6 months. This deposit

shall be credited into the Escrow account before the 5th day of the immediately following month in the next cycle.

- b) The Concessionaire shall give, at the time of the opening of the Escrow Account, irrevocable instructions by way of an Escrow Agreement to the Escrow Bank instructing, inter alia, that the deposits into the Escrow Account shall be appropriated in the pre-defined order every 6 months.
- c) In situations where the Revenues have not been deposited into the Escrow account in accordance with clause 5.4 (a), the Concessionaire will be given an additional time of 7 days to cure the breach. For any breach further to this timeline, a penalty point will be awarded to the concessionaire. In addition, each notified breach shall lead to the award of a penalty point to the Concessionaire. A total of 10 penalty points in any continuous period of 365 days shall constitute a Breach of this Agreement.
- d) The Concessionaire may delegate its right to collect revenues to any agency/person, however, that notwithstanding such delegation, the Concessionaire shall be and remain solely liable and responsible for the collection of Revenue in accordance with this Agreement and its deposit into the above-mentioned Escrow Account.
- e) The Concessionaire shall maintain full accounts of all revenues including Revenue Share and of O&M Expenses and other costs paid out of the Project Escrow Account and shall provide copies of the said accounts duly audited and certified by the Concessionaire's Statutory Auditors within 120 (one hundred twenty) days of the close of each Accounting Year to which they pertain, during the subsistence of this Agreement. Such audited accounts shall form the basis of various payments by either Party under this Agreement. The Concessionaire shall also furnish, within one week of its publication, a certified copy of the audited accounts and annual report published by the Company under the Applicable Laws.
- f) Notwithstanding anything to the contrary contained in the Escrow Agreement, upon Termination of this Agreement, all amounts standing to the credit of the Project Escrow Account shall be appropriated and dealt with in the following order:
 - all Taxes due and payable by the Concessionaire;
 - all Revenue Share payable to the HDMC under this Agreement;
 - all accrued Debt Service Payment;
 - any payments and Damages due and payable by the Concessionaire to the Authority pursuant to this Agreement, including Termination claims and repayment of Revenue Shortfall Loans;
 - all accrued O&M Expenses;
 - any other payments required to be made under this Agreement; and
 - balance, if any, on the instructions of the Concessionaire.
- g) The instructions contained in the Escrow Agreement shall remain in full force and effect until the obligations set forth in [Article 3](#) have been discharged.

ARTICLE – 6: CONSIDERATION

6.1. Consideration of the Agreement

- 6.1.1 Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and Applicable Permits, the Concessing Authority will consider a fixed Grant, for the Project for the Concession Period (“**Consideration**”) as mentioned in Section 2.9.
- 6.1.2 Subject to and in accordance with the provisions of this Agreement, the Consideration hereby given by Concessionaire, the Concessionaire shall be entitled to design, build, finance, operate, develop and transfer the Project on the Project Site given to the Concessionaire on Concession Period for the parking facility and the commercial space developed, over initial period of [●] years, subject to the following conditions :
- (a) performing and fulfilling all of the Concessionaire’s obligations under and in accordance with this Agreement;
 - (b) bear and pay all costs, expenses and charges in connection with or incidental to the performance of the Concessionaire’s obligations under this Agreement; and
 - (c) At the end of the Concession Period, the entire construction made by the Concessionaire till that date on the Project Site as part of the scope of work shall get transferred without any consideration to the Concessing Authority.
- 6.1.3 The payments to be made by Concessaire to Concessing Authority or vice versa shall be as per 6.1.1 above.

ARTICLE 7: CONDITIONS PRECEDENT TO THE AGREEMENT

7.1 Conditions Precedent

The respective rights and obligations of the Parties under this Agreement shall be subject to the satisfaction in full of the conditions precedent specified in this Clause 7.1 (the “**Conditions Precedent**”).

7.2 Conditions Precedent to be satisfied by the Concessing Authority:

- a) The Concessionaire may, upon providing the Performance Security to the Concessing Authority in accordance with Clause 4 (Performance Security), by notice require the Concessing Authority to satisfy the Conditions Precedent set forth in this Clause 7.2 within a period of 30 (thirty) days of the notice, and the obligations of the Concessing Authority hereunder shall be deemed to have been performed in full, when on the Commencement Date, the Concessing Authority have handed over to the Concessionaire, the peaceful possession of the Project Site free from all above ground encroachments as demarcated under Schedule I;
- b) The Concessing Authority will get the necessary approvals from Hubballi Dharwad Municipal Corporation, for usage of the Project Site and get the Land use converted to the requirement of the Project, if required.

7.3 Conditions Precedent to be satisfied by the Concessionaire:

7.3.1 The Concessionaire shall satisfy the Conditions Precedent within 30 (thirty) days from the date, the Concessing Authority has issued the Letter of Intent to the Concessionaire and all the Conditions Precedent shall be deemed to have been fulfilled when the Concessionaire shall have:

- (a) provided Performance Security to the Concessing Authority;

- (b) delivered to the Concessioneing Authority, a legal opinion from the legal counsel of the Concessionaire with respect to the authority of the Concessionaire to enter into this Agreement and the enforceability of the provisions thereof; and
- (c) The members of the Consortium has formed a Special Purpose Vehicle (SPV) and submitted a memorandum of understanding for the purpose of SPV.⁴
- (d) If the Concessionaire is a subsidiary of a holding / parent company or part of an SPC, it shall be required to furnish a letter of guarantee from its holding / parent Company(including a board resolution of such holding / parent company) pledging such holding / parent company's irrevocable financial strength and technical support to its subsidiary (in case of SPC – in proportion to its subsidiary's holding in the SPC), at all times during the concurrency of the Agreement, and even after its termination for any of the acts and liabilities of its subsidiary prior to Termination.

7.4 Project Compliance Certificate

Upon satisfaction of the Conditions Precedent, each Party shall forthwith issue a Project compliance certificate to the other, pursuant to which the obligations of Parties under this Agreement shall commence.

7.5 Non-Fulfillment of the Conditions Precedent by the Parties

- 7.5.1 In the event of failure by any Party to procure compliance with any of the Conditions Precedent as per the provisions of the Clause 7.2 and 7.3 and the other Party have not waived any of the conditions (partially or absolutely), the Agreement shall cease to have any effect as of that date.
- 7.5.2 In the event of the Agreement not coming into effect on account of the Concessionaire not fulfilling the Conditions Precedent, then the Concessioneing Authority shall forfeit the Earnest Money Deposit.
- 7.5.3 In the event of the Agreement not coming into effect on account of the Concessioneing Authority not fulfilling any of the Conditions Precedent then the performance Security shall be returned to the Concessionaire.
- 7.5.4 Notwithstanding anything contained in Clause 7.5, the Parties may mutually decide to extend the time period for the fulfillment of the Conditions Precedent.

ARTICLE 8: PROJECT IMPLEMENTATION AND OPERATIONS

8.1 Obligations of Concessionaire prior to the commencement of Project

- 8.1.1 Prior to the commencement of any work under the Project, the Concessionaire shall:
 - (a) submit to the Concessioneing Authority time schedule for completion of the Project in Project Implementation Schedule as defined under Clause 8.2(a) as per the format annexed to this Agreement in Schedule IV;
 - (b) appoint its representative duly authorised to deal with the Concessioneing Authority in respect of all matters under or arising out of or relating to this Agreement;
 - (c) undertake, do and perform all such acts, deeds and things as may be necessary or required before commencement of any Project work in accordance with this Agreement, the Applicable Laws and Applicable Permits; and

⁴ *Applicable in case of consortium*

- (d) Procure all such approvals/consents/permits as necessary as per Applicable Laws.

8.2 Monitoring and Supervision during the Construction Period

- (a) The Concessionaire shall submit to the Concessions Authority, a programme supported with bar chart for implementation of activities in a phased manner so as to cause least inconvenience to the public. The Concessionaire shall give to the Concessions Authority, its complete programme for different stages of execution, planning, timeline, fabrication, and erection, etc., of the Project ("**Project Implementation Schedule**") as per the format annexed to this Agreement in Schedule IV;
- (b) During the Construction Period, the Concessionaire shall furnish to HDSCL, monthly or such periodic reports as may be requested by HDSCL on actual progress of the construction works vis-à-vis the scheduled work (as per the Project Implementation Schedule) and furnish any other relevant information as may be required by HDSCL;
- (c) For the purposes of determining that the implementation/construction works are being undertaken in accordance with Specifications and Standards and Good Industry Practice and for quality assurance, the Concessionaire shall carry out such tests at such time and frequency and in such manner as mutually agreed upon with HDSCL. The Concessionaire shall, with due diligence, carry out all such tests in accordance with the instructions and under the supervision of the Concessions Authority. The Concessionaire shall promptly carry out such remedial measures as may be necessary to cure the defects or deficiencies, if any, indicated in such test results.
- (d) If HDSCL determines that the rate of progress of the construction of the Project is such that the Project commissioning is not feasible on or before the time schedule provided under the Project Implementation Schedule, it shall so notify the Concessionaire. Thereupon, the Concessionaire shall within fifteen (15) days thereof notify the HDSCL about the steps it proposes to take to expedite progress and the period within which it shall achieve COD.

8.3 Implementation of the Project

- 8.3.1 On or after the Effective Date, the Concessionaire shall undertake construction of the Project. The construction shall be completed within a maximum period of 24 (twenty four) months from the Effective Date ("**Construction Period**"), after which commercial operations must start ("**Commercial Operation Date**"). The Concessionaire agrees and undertakes that construction shall be completed on or before the Construction Period.
- 8.3.2 In the event that Project is not completed by the time schedule mentioned in the Project Implementation Schedule, unless the delay is on account of reasons solely attributable to the Concessions Authority or due to Force Majeure, the Concessions Authority shall encash 10% of the Performance Security amount per month, for a maximum period of 6 (six) months after which Concessions Authority shall be entitled to terminate this Agreement. The Performance Security shall be replenished by the Concessionaire in accordance to 16.2.f of this document.

8.4 Operation and Maintenance of the Project

The Concessionaire shall operate and maintain the Project/Project Assets and if required, modify, repair or otherwise make improvements to the Project/ Project Assets to comply with Specifications and Standards, and other requirements set forth in this Agreement, Good Industry Practice, Applicable Laws and Applicable Permits. More specifically, the Concessionaire shall be responsible for:

- (i) Undertaking cleanliness of the Project Assets;
- (ii) Ensuring the safety and security of the Project Assets;
- (iii) Undertaking maintenance works in accordance with Maintenance Manual and the Maintenance Programme.

Please refer Annexure A for Operation and Maintenance of the Project

8.5 Maintenance Manual

The Concessionaire shall in consultation with the HDSCL evolve not later than 30 (thirty) days from the Project Construction Completion Date, a manual for the regular and preventive maintenance (“**Maintenance Manual**”), and shall ensure and procure that at all times during the Operations Period, the Project and Project Assets are maintained in a manner that it complies with the Specifications and Standards and the Maintenance Manual. The Concessionaire shall supply, at least one month after the COD, 5 (five) copies of the Maintenance Manual to HDSCL.

8.6 Maintenance Programme

- (a) Not later than forty five (45) days before the beginning of each Accounting Year, the Concessionaire shall provide to HDSCL, its proposed programme of preventive and other scheduled maintenance of the Project subject to the Minimum Maintenance Requirements set forth in Schedule V necessary to maintain the Project at all times in conformity with the Specifications and Standards and the Maintenance Manual (“**Maintenance Programme**”).
- (b) Such Maintenance Programme shall include, but not be limited to, the following:
 - (i) Intervals and procedures for the carrying out of inspection of all elements of the Project;
 - (ii) Criteria to be adopted for deciding maintenance needs;
 - (iii) Preventive maintenance schedule;
 - (iv) Intervals at which the Concessionaire shall carry out periodic maintenance; and
 - (v) intervals for major maintenance and the scope thereof.
- (c) The maintenance shall include replacement of equipment, consumables and repairs to equipment, structures and other works, which are part of the Project/Project Assets.
- (d) The Concessionaire will endeavor to keep the Project Assets in a clean, tidy and orderly condition free of litter and debris and empty the litterbins into suitable garbage bags.
- (e) The Concessionaire shall undertake periodic inspection of the Project in accordance with the Maintenance Manual, the Maintenance Programme, Specifications and Standards and this Agreement and shall submit reports of such inspection (“**Maintenance Reports**”) to the Authority;

8.7 Emergency De-commissioning

- (a) If HDSCL, in public interest, is of the opinion that there exists an Emergency or any other situation, which warrants decommissioning and closure of whole or any part of the Project/Project Assets, HDSCL shall notify to the Concessionaire to decommission and close the whole, or the relevant part of the Project for so long as such Emergency and the consequences thereof warrant. HDSCL may issue such directions as it may deem appropriate to the Concessionaire for dealing with such Emergency and the Concessionaire shall abide by the same.
- (b) The Concessionaire shall re-commission the Project/Project Assets or the affected part thereof on receiving the instructions from HDSCL in this regard. In such a case the cost of relocation of the Project Assets shall be borne by HDSCL at the prevailing schedule of rates or rates adopted by the bidder in DPR whichever is less at that time (if such work is executed by the Concessionaire).
- (c) In case the decommissioning or closure is of permanent nature, then HDSCL will allocate alternative sites if available. In case alternative locations are not made available HDSCL shall pay the depreciated cost (arrived at as per the Companies Act, 2013 and any amendments thereto), and incidental costs, expenses and charges relating to or arising out of decommissioning of Project Assets to the Concessionaire.

8.8 Rectification of Defects

- (a) If the Project or any part thereof shall suffer any defect not attributable due to HDSCL during the Construction Period and the Concession Period, the Concessionaire shall, at its own cost and expense, rectify and remedy such defect in a manner so as to make the Project conform in every respect to the Specifications and Standards, quality and performance as prescribed by this Agreement.
- (b) In the event the Concessionaire does not maintain and/ or repair the defect or part thereof up to and in accordance with the Specifications and Standards and / or in accordance with the Maintenance Programme or the Maintenance Manual, as the case may be, and have failed to commence remedial works within reasonable time, HDSCL shall, without prejudice to its rights/remedies under this Agreement, including Termination, be entitled to undertake to cause the repair and maintenance of the defect at the risk and cost of the Concessionaire. The Concessionaire shall reimburse to HDSCL within 21 (twenty-one), days of demand the costs and expenses incurred by HDSCL for undertaking such repairs and maintenance. The costs will be worked out based on the prevailing Schedule of Rates or on the rates adopted by the bidder while preparing DPR, whichever is more.
- (c) If the Concessionaire commences any works for curing any defects or deficiencies in the Project, it shall complete such works expeditiously in accordance with Good Industry Practice.
- (d) The Concessionaire shall not be considered in breach of its obligations under this Agreement if any part of the Project is not available on account of any of the following, for the duration thereof:
 - (i) Force Majeure Event;
 - (ii) compliance with a request from HDSCL or the directions of any Government Agency the effect of which is to close all or any part of the

Project.

- (e) Notwithstanding the above, the Concessionaire shall keep all unaffected parts of the Project for use provided they can be safely operated and kept open for users.

8.9 Completion of the Project

The Concessionaire shall, after completion of the Project, inform in writing to the Concessioneing Authority that it has completed the construction as per Project Implementation Schedule. And shall also submit 6 copies of asbuilt drawing and detailed design, operation and maintenance manual to the Concessioneing Authority. Upon receipt of such intimation and deliverables, and to its full satisfaction of the completion of the Project, the Concessioneing Authority shall issue the Project Construction Completion Certificate.

8.10 Delay in commercial operations

If the commercial operations for the Project are not achieved within the time period stipulated in the Project Implementation Schedule, for reasons not attributable to the Concessionaire, the Concessioneing Authority may determine any extension of the dates set forth in the Project Implementation Schedule to which the Concessionaire is reasonably entitled. The Concessioneing Authority shall extend such dates and the Concession Period shall deemed to be extended by a period equal in length to the period extended.

ARTICLE 9: FINANCING ARRAGEMENT

9.1. Financing Arrangement

- (a) The Concessionaire shall at its cost, expenses and risk make such financing arrangement as would be necessary to finance the Project and to meet its obligations under this Agreement in a timely manner.
- (b) It is expressly agreed between the Parties that for availing such financial arrangements, under no circumstances, the land shall be mortgaged, charged or otherwise any lien (including negative lien), charge or Encumbrance be created or agreed to be created in favor of any Person, including lenders / financial Institution(s) / banks.
- (c) The Concessionaire shall before executing the financing documents submit to HDSCL, a finalized set of financing documents sufficiently in advance so that HDSCL may provide its observations on such documents. The observations provided, if any, by HDSCL shall be given due consideration by the Concessionaire while finalizing the financing documents pursuant to receipt of such observations.

9.2. Financing Documents

- (a) It shall be a pre-condition for raising finance by the Concessionaire that the financing documents shall not provide for sale of Project Assets by the lenders in case the Concessionaire commits a default under the financing documents. The financing documents shall rather provide for finding a suitable replacement of the Concessionaire so as to ensure the continuity of the Project.
- (b) For the avoidance of doubt the Parties agree that no amendment made to the financing documents without express written consent of HDSCL shall have the effect of enlarging

in any manner, the obligation of HDSCL in respect of any payment to be made to the Concessionaire under this Agreement

- (c) The financing documents shall contain a specific reference of this Clause 9.2.

ARTICLE 10: OBLIGATIONS OF THE CONCESSIONAIRE

10.1 General Obligations of the Concessionaire

- 10.1.1 Subject to and on the terms and conditions of this Agreement, the Concessionaire shall at its own cost and expense, procure finance for and undertake the Project scope of work as mentioned in Clause 3 and observe, fulfill, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 10.1.2 The Concessionaire shall comply with all Applicable Laws in the performance of its obligations under this Agreement.
- 10.1.3 Before the commencement of Construction Period, the Concessionaire shall have requisite organization and designate and appoint suitable officers/ representatives as it may deem appropriate to supervise the Project and to liaison with the HDSCL and to be responsible for all necessary exchange of information required pursuant to this Agreement; a Project office shall be opened by the concessioner as mentioned in the RFP.
- 10.1.4 The Concessionaire shall, at all times, afford access to the Project Site, to the authorized representatives of HDSCL and officer of any Government Agency having jurisdiction over the Project, including those concerned with safety, security or environmental protection, to inspect the Project and to investigate any matter within their authority and upon reasonable notice, the Concessionaire shall provide to such persons all the assistance as necessary to carry out their respective duties and functions.
- 10.1.5 In case of loss due to theft or damage to the Project Assets created at the Project Site, the Concessionaire shall be responsible for making good the same at its own cost and shall continue to keep the Project Sites operational and available for public use, at all times, within the Concession Period.
- 10.1.6 Without prejudice to Clauses 10.1.1 and 10.1.2 above, the Concessionaire shall discharge its obligations as per the National Building Code, Development Control Rules, and the principles of Good Industry Practice and as a reasonable and prudent person, statutory requirements, laws of the land and any other Applicable Laws, which may be applicable from time to time.
- 10.1.7 The Concessionaire shall get prior approval of the Concessions Authority in case there is any change in the facilities defined under the Project during the Concession Period.
- 10.1.8 The Project Site shall be used for the purpose as mentioned in Clause 3 only. Any other usages of the Project Site shall not be permitted during the Concession Period without prior approval of the Concessions Authority.
- 10.1.9 Without prejudice to Clauses 10.1.1 and 10.1.2 above the Concessionaire shall, at its own cost and expense observe, undertake, comply with and perform, in addition to and not in derogation of, its obligations elsewhere set out in this Agreement, the following:
- (a) investigate, study, design, finance, construct, implement, operate and maintain the Project including the Project Assets in accordance with the provisions of this Agreement, Good Industry Practice and Applicable Laws;

- (b) make, or cause to be made, necessary applications to the relevant Government Agencies with such particulars and details, as may be required for obtaining all Applicable Permits in conformity with the Applicable Laws and be in compliance thereof at all times during the Concession Period. Provided however that HDSCL shall provide reasonable assistance, as may be required by the Concessionaire and shall coordinate with the concerned Government Agencies, for obtaining the above mentioned Applicable Permits from the appropriate Government Agencies. Provided further that it is acknowledged by the Concessionaire that providing reasonable assistance by HDSCL shall not be treated as a representation on the part of HDSCL that the Concessionaire would be granted all the Applicable Permits by the concerned Government Agencies and therefore, the obligation to obtain such permits shall solely be of the Concessionaire;
- (c) procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems to be used or to be incorporated into development and operations of the Project;
- (d) not to damage any other infrastructure or any other utility developed by the Concessioneing Authority or any other utilities developed and maintained by any other authority or person and in case of any such damage to undertake the repair and also to pay for any losses that is incurred by the Concessioneing Authority or any authority or any other person, as the case may be.
- (e) procure at its own costs, expenses and risk all services necessary for the construction and operations of the Project including without limitation electricity, water, materials and labour and ensure that services of water supply, sewerage, drainage, electricity, and telephone. etc., encountered on or in the vicinity of Project Site during the Construction Period as well as the Concession Period are not damaged or interrupted. In case these are required to be shifted, the same shall be done by the Concessionaire at its own cost.
- (f) ensure and procure that each Project Agreement contains provisions that would entitle HDSCL or a nominee of HDSCL to step into such Project Agreement at HDSCL discretion, in place and substitution of the Concessionaire in the event of termination pursuant to the provisions of this Agreement;
- (g) ensure and procure that the Concessionaire shall comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Concessionaire's obligations under this Agreement;
- (h) not to do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
- (i) not to create any third-party rights, except for the purpose of borrowing from banks (with prior permission of HDSCL), on the land given on Concession under this Agreement. But also to ensure that Government of Karnataka /Concessioneing Authority are not adversely affected in any way;
- (j) shall make payment towards the Concessioneing Authority within 15th day of every month after payment of applicable Taxes as per provisions of this Agreement;
- (k) shall ensure reservation in matters of employment as per applicable Government of Karnataka policies;

- (l) be responsible for safety, soundness and durability of the Project including the Project Assets including all structures forming part thereof and their compliance with the Specifications and Standards;
- (m) operate and maintain the Project at all times during the Construction Period and Concession Period in conformity with this Agreement including but not limited to the Specifications and Standards and Good Industry Practice;
- (n) shall complete construction of the Project and get necessary approvals for commercial operations within a period of 24 months from the Effective Date; and
- (o) transfer the Project assets in working condition on the date of termination of Concession to the Concessioneing Authority / HDMC.

10.2 Obligations relating to Project Agreements

- 10.2.1 It is expressly agreed that the Concessionaire shall, at all times, be responsible and liable for all its obligations under this Agreement, notwithstanding anything contained in any other agreement, and no default under any agreement shall excuse the Concessionaire from its obligations or liability hereunder.
- 10.2.2. The Concessionaire may undertake development of Project by itself or through one or more Contractors possessing requisite technical, financial and managerial expertise/capability; but in either case, the Concessionaire shall remain solely responsible to meet the scope of work as mentioned under Clause 3.
- 10.2.3 The Concessionaire shall:
 - a) appoint, supervise, monitor and control and be liable for the activities of Contractors under their respective Project Agreements as may be necessary;
 - b) ensure that the all Contractors, agents and/or employees comply with all the relevant provisions of the Agreement;
 - c) remain fully and primarily responsible for the performance of all acts, omissions or faults of such Contractors, agents and/or employees as if they were the acts, omissions, faults of the Concessionaire;
 - d) be solely liable for any costs or liabilities whatsoever that may arise in relation to Project Agreements executed with the Contractor(s) as a result of the expiry or termination of the Agreement;
 - e) be solely liable for all costs, liabilities, taxes, payments, remuneration, compensation and other monetary liabilities and compliance with all the Applicable Laws including labour and safety laws in relation to engagement of its Contractor(s), agents, employees and other personnel deployed for the purposes of the Agreement;
 - f) be solely and absolutely liable for any liabilities and costs that may arise as a result of accidents at work, occupational diseases and any contingency that may arise from the engagement of its Contractor(s), agents, employees and other personnel deployed
 - g) be liable for any bodily injury or accident or death of any person or damage to the property of any Person due to acts, omissions, commissions or negligence on the part of the Concessionaire, Contractor, the agents, employees or personnel deployed by them for the purpose of the Project; and

- h) shall ensure that each of the Project Agreements, executed if any, by the Concessionaire with a Contractor or any other third party shall include a clause to the effect that upon the expiry or termination of the Concession Agreement for any reason whatsoever, the Project Agreement shall, if so chosen by the Concessions Authority, stand assigned to and in favour of HDSCL or to its nominated agency, without any further act or action on the part of HDSCL, nominated agency, the Concessionaire or counter party to such Project Agreement and if because of the Applicable Laws any action or any deed/document is required to be taken/executed by the Concessionaire and such counter party to the Project Agreement, then the Concessionaire and such counter party to the Project Agreement shall forthwith take such action and execute such deed/document as may be necessary for the aforesaid assignment in favour of HDSCL or its nominated agency.

10.3 Obligations relating to Change in Control

The Concessionaire shall not undertake or permit any Change in Control, except with the prior written approval of the Concessions Authority as per the provisions of this Clause 10.3.

- 10.3.1 No change in Consortium Members shall be allowed till the completion of the Project or a minimum of 3 years (whichever is later). However, the Lead Consortium Member shall not be allowed to be changed over the entire Concession Period and shall continue to hold 51% stake in the Consortium till the commencement of Commercial Operations. The Lead Consortium Member shall be allowed to dilute the stake after the commercial operations date with the approval of the Concessions Authority such that the stake of the Lead Consortium Member in the consortium shall not fall below 26% at any time till the end of Concession Period.
- 10.3.2 Each Consortium Member shall invest minimum 11% stake in SPV. None of the Consortium Member shall be allowed to dilute its stake till the completion of the Project or a minimum of 3 years from the date of signing of the Concession Agreement (whichever is later).
- 10.3.3 Lead Consortium Member shall invest minimum 51% stake in the SPV. Lead Consortium Member shall not be allowed to dilute its stake to a level below 51% till the start of commercial operations. The Lead Consortium Member shall be allowed to dilute the stake after the commercial operations date with the approval of the Concessions Authority such that the stake of the Lead Consortium Member in the consortium shall not fall below 26% at any time till the end of Concession Period.
- 10.3.4 This holds for the single entity bidder also and hence no bidder who has 100% equity in the Project can dilute it to a level below 51% till the start of commercial operations. Remaining stake can be diluted as per the provisions of Clause 10.3.3.
- 10.3.5 The Concessionaire may be allowed to novate the agreement after completion of three consecutive years of commercial operations and realization of the full project land value (at circle rates) by the Concessions Authority. The Concessionaire shall submit the details of the proposed **novatee** along with its other qualifications (financial and technical capabilities) to the Concessions Authorities for its due approval. Novatee, the Concessionaire and the Concessions Authority shall enter into a tripartite agreement. Concessions Authority shall reserve the right to reject any novation at any time. No further novation shall be permitted.

10.4 Risk of Loss:

The Concessionaire shall bear the risk of loss and damage, physical or otherwise, with respect to the Project/Project Assets until the transfer of the same to HD SCL in terms of the Agreement.

10.5 Obligations of Member of the Consortium⁵

M/s. _____, the parties of the second part, third part, and fourth part respectively to this Agreement hereby jointly and severally, agree and undertake that during the entire Concession Period they shall remain responsible to HD SCL for the due performance by the Concessionaire / Consortium Members of their respective obligations under this Agreement. Notwithstanding anything else contained above in this clause, all the members of the consortium, namely, the Lead Member, the Consortium Member 1, the Consortium Member 2 and the Consortium Member 3 hereby agree and declare that they shall be jointly and severally liable for the due and timely execution of the Project and performance of all the obligations of the Concessionaire hereunder.

ARTICLE 11: OBLIGATIONS OF THE CONCESSIONING AUTHORITY

The Concessioning Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement.

- 11.1 The Concessioning Authority agrees to provide support to the Concessionaire and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and the Applicable Laws, the following:
- (a) upon written request from the Concessionaire, and subject to the Concessionaire complying with Applicable Laws, provide all reasonable support and assistance to the Concessionaire in procuring Applicable Permits required from any Government Instrumentality for implementation and operation of the Project;
 - (b) upon written request from the Concessionaire, assist the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at commercial rates and on terms no less favourable to the Concessionaire than those generally available to commercial customers receiving substantially equivalent services;
 - (c) extend the assistance of its good offices on a reasonable effort basis to assist the Concessionaire in the provision of electricity;
 - (d) procure that no barriers are erected or placed on the Project Site or the way towards the Project Site by the Concessioning Authority, by any Government Instrumentality or Persons claiming through or under it, except for reasons of Emergency or national security law;
 - (e) assist the Concessionaire in procuring Police assistance for regulation of movement of any person on the Project Site, removal of trespassers and for security of the material, labour and machinery;
 - (f) not to do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement; and

⁵ Applicable in case of Consortium

- (g) support, cooperate with and facilitate the Concessionaire in the implementation of the Project.
- (h) facilitate the Concessionaire in getting advertisement rights in the parking complex from the competent authority.
- (i) facilitate the concessionaire in getting towing away rights within a radius of 500 meters of the Project Site of the parking and any parking within this area shall be treated as unauthorized (excluding residential areas).

ARTICLE 12 : REPRESENTATIONS AND WARRANTIES

12.1 Representations and Warranties of the Concessionaire

The Concessionaire represents and warrants to the Concessioneing Authority that:

- (a) it is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (b) it has taken all necessary corporate and other actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- (c) it has the financial standing and capacity to undertake the Project in accordance with the terms of this Agreement;
- (d) `this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- (e) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising there under including any obligation, liability or responsibility hereunder;
- (f) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- (g) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its Memorandum and Articles of Association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (h) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- (i) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such

proceedings that would adversely affect the performance of its obligations under this Agreement;

- (j) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;
- (k) the existing Lead Consortium Members hold not less than 51% (fifty – one percent) of it's issued and paid up Equity and together with the existing consortium member hold not less than 100% as on the date of this Agreement and the respective holding of each Consortium Member conforms to the representation made by the Consortium and accepted by the Concessioneing Authority as part of the Bid and that no member of the Consortium shall hold less than 11% (eleven per cent) of such as per the provisions of Article 10.3;
- (l) no order has been made and no resolution has been passed for the winding up of the Concessionaire or for a provisional liquidator to be appointed in respect of the Concessionaire and no petition has been presented and no meeting has been convened for the purpose of winding up the Concessionaire. No receiver has been appointed in respect of the Concessionaire or all or any of its assets. The Concessionaire is not insolvent or unable to pay its debts as they fall due.
- (m) no representation or warranty by it contained herein or in any other document furnished by it to the Concessioneing Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading; and
- (n) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the grant of land or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Concessioneing Authority in connection therewith.
- (o) It shall not novate the Concession Agreement and any rights and obligation arising therefrom to any party without any written approval from the Concessioneing Authority

12.2 Representations and Warranties of the Concessioneing Authority

The Concessioneing Authority represents and warrants to the Concessionaire that:

- (a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement
- (b) it has taken all necessary action under the Applicable Laws to authorise the execution, delivery and performance of this Agreement; it has the financial standing and capacity to perform its obligations under the Agreement;
- (c) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (d) there are no actions, suits or proceedings pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the default or breach of this

Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform its obligations under this Agreement;

- (e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Concessionaire's ability to perform its obligations under this Agreement;
- (f) it has complied with Applicable Laws in all material respects;
- (g) it has not entered into any other Agreement, contract, transaction, arrangement or understanding in relation to the same Project or part of the Project with any third party, or the sale, Concession assignment, or other disposition in whole or in part in respect of the said land other than the disclosed in this Agreement;
- (h) all information provided by it in the tender notice and invitation to bid in connection with the Project is, to the best of its knowledge and belief, true and accurate in all material respects;
- (i) it has good and valid right for construction of the Project, and has power and authority to give land on [•] years Concession to the Concessionaire; and
- (j) upon the Concessionaire completing the Project as per this Agreement, and performing the covenants herein, it shall not at any time during the years Concession, interfere with peaceful enjoyment of the land by the Concessionaire, except in accordance with the provisions of this Agreement.
- (k) it has good and valid right for construction of commercial space and has power and authority to give land on lease for years for parking.

12.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

ARTICLE 13: DISCLAIMER

13.1 Disclaimer

The Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has, after a complete and careful examination, made an independent evaluation of the Tender Notice, Scope of the services to be provided, Project Site, Specifications and Standards set for providing quality of services, local conditions, possible demand and all information provided by the Concessioning Authority, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Unless as provided in Clause 12.2, the Concessioning Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy and/or completeness of the information provided by it and the Concessionaire confirms that it shall have no claim whatsoever against the Concessioning Authority in this regard.

- 13.2 The Concessionaire acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 13.1 above and hereby acknowledges and agrees that the Concessioneing Authority shall not be liable for the same in any manner whatsoever to the Concessionaire or any person claiming through or under this Agreement.

ARTICLE 14: INSURANCE

14.1 Insurance during the Construction Period

The Concessionaire shall, at its own cost and expense, purchase and maintain during the Construction Period such insurances as are necessary to fully insure the Project/Project Assets, including but not limited to the following:

- (a) workmen's compensation insurance;
- (b) comprehensive third party liability insurance including accidents, injury or death to the personnel of the Authority, users of the Project and others who may enter the Project Site;
- (c) loss, damage or destruction of the Project Assets, at insured declared value.
- (d) any other insurance that Concessionaire may deem fit or as requested by HDSCL.

14.2 Insurance during the Operations Period

The Concessionaire shall, at its cost and expense, purchase and maintain during the Operations Period insurance to cover against:

- (a) loss, damage or destruction of the Project Assets, at insured depreciated value;
- (b) the Concessionaire's general liability arising out of the Concession;
- (c) comprehensive third party liability insurance including accidents, injury or death to the personnel of the Authority, users of the Project and others who may enter the Project Site; and
- (d) any other insurance that may be required to protect the Concessionaire, HDSCL and their employees, including Force Majeure Events that are insurable and not otherwise covered in items (a) to (c).

14.3 Insurance Companies

The Concessionaire shall insure all insurable assets comprised in the Project Site and/or the Project Assets through IRDA approved insurance company(ies) and if so permitted by the Authority, through foreign insurance companies backed by Indian companies, to the extent that insurances are necessary to be affected through them.

14.4 Evidence of Insurance Cover

The Concessionaire shall, from time to time, provide to Authority copies of all insurance policies or appropriate endorsements, certifications or other satisfactory evidence of insurance obtained by the Concessionaire in accordance with this Agreement.

14.5 Application of Insurance Proceeds

All moneys received under insurance policies shall be promptly applied by the Concessionaire towards construction, repair or renovation or restoration or substitution of the Project Assets or any part thereof which may have been damaged or destroyed and in respect of which the claim is lodged. The Concessionaire shall carry out such repair or renovation or restoration or substitution to the extent possible and in such manner that the Project Assets or any part thereof, shall, after such repair or renovation or restoration or

substitution, be as reasonably in the same condition as it was before such damage or destruction, normal wear and tear excepted.

14.6 Validity of the Insurance Cover

The Concessionaire shall pay the premium payable on such insurance policy(ies) so as to keep the policy(ies) in force and valid throughout the Concession Period and thereafter till 3 (three) months of expiry of agreement by providing certifications or other satisfactory evidence of insurance to the Authority. In the event of non-compliance of this clause the Authority will pay and recover the same from Concessionaire from the deposited Bank Guarantee. The Concessionaire shall be solely responsible for any amount of premium to be paid to obtain the insurance as provided in this Clause 14.

ARTICLE 15: FORCE MAJEURE

15.1 Force Majeure

For the purposes of this Agreement, the expression "Force Majeure" shall mean occurrence in India of any or all of events, as defined in Clause 15.2 below, if it affects the performance by the Party claiming the benefit of Force Majeure (the "**Affected Party**") of its obligations under this Agreement and which act or event: (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by exercise of due diligence, reasonable efforts, skill and care and by following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

15.2 Force Majeure Events

A Force Majeure Event shall mean one or more of the following acts or events:

- (a) act of God, plague, lightning, storm, earthquake, landslide, cyclone, flood, drought, volcanic eruption, radioactive contamination or other natural calamities or acts of God;
- (b) an act of war (whether declared or undeclared), sabotage, terrorism or blockades, embargoes, civil disturbance, strike of third party (other than Concessionaire and its Contractor, personnel, fire), invasion, armed conflict or act of foreign enemy)
- (c) any failure of another service provider/Contractor to the extent caused by any of the Force Majeure Event mentioned above affecting the performance of the Agreement; and
- (d) any event or circumstances of a nature analogous to any of the foregoing;

15.3 Duty to Report Force Majeure Event

15.3.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by a written notice, report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- (a) the nature and extent of each Force Majeure Event with evidence in support thereof;
- (b) the estimated duration and effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;

(c) the measures which the Affected Party is taking or propose to take for alleviating the impact of such Force Majeure Event; and

(d) any other information as may be relevant to the Affected Party's claim.

15.3.2 The Affected Party shall not be entitled to any relief under the Agreement for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event not later than 24 (twenty four) hours after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable Material Adverse Effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

15.3.3 For so long as the Affected Party continues to claim to be affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) written reports containing information as required by this Clause and such other information as the other Party may reasonably request the Affected Party to provide.

15.4 Effect of Force Majeure Event

Upon the occurrence of any Force Majeure Event, the following shall apply:

- a) there shall be no termination of this Agreement;
- b) where the Force Majeure Event occurs before COD, the dates set forth in the Project Implementation Schedule and the Concession Period shall be extended by the period for which such Force Majeure Event shall subsist;
- c) Where a Force Majeure Event occurs after COD, the Concessionaire shall continue to make all reasonable efforts to operate the Project and/or to collect revenue, but if it is unable or prevented from doing so, the Concession Period shall, having due regard to the extent of the impact thereof as determined by the Concessions Authority, be extended by the period for which collection of revenue remains affected on account thereof; and
- d) Costs arising out of or concerning such Force Majeure Event shall be borne in accordance with the provisions of the Clause 15.5 hereinafter.

15.5 Allocation of Costs Arising out of Force Majeure

15.5.1 Subject to Clause 15.4 hereinabove, upon occurrence of any Force Majeure Event, the Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs thereof. Neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.

15.5.2 The Concessions Authority may at its option reimburse the Force Majeure costs to the Concessionaire in cash or compensate the Concessionaire for such costs by appropriate extension of the Concession Period, which extension shall also be given effect within the period of 90 (ninety) days specified in preceding Clause 15.5.1 above.

15.5.3. For avoidance of doubt, Force Majeure costs shall not include loss of revenues or any debt repayment obligations but shall include interest payments on such debt, operation and maintenance expenses and all other costs directly attributable to the Force Majeure Event.

15.6 Dispute Resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure as mentioned in Clause 21; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

15.7 Liability for other losses, damages, etc.

Unless and except as expressly provided in this Clause 15, neither Party hereto shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant to this Clause 15.

15.8 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event provided that:

- a. the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- b. the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence: and
- c. when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party written notice to that effect and shall promptly resume performance of its obligations hereunder.

ARTICLE 16: EVENTS OF DEFAULT AND TERMINATION

16.1 Event of Default

Event of Default means the Concessionaire Event of Default or the HDSCL's Event of Default, as the case may be.

16.2 Termination for Concessionaire Event of Default

Any of the following events shall constitute as event of default by the Concessionaire ("**Concessionaire Events of Defaults**") unless such event has occurred as a result of HDSCL Event of Default, or a Force Majeure Event:

- (a) the Concessionaire has failed to materially perform or discharge any of its obligation in accordance with the provisions of this Agreement;
- (b) the Concessionaire has failed to achieve COD;
- (c) Any representation made or warranty given by the Concessionaire under this Agreement is found to be false or misleading;

- (d) The Concessionaire creates any Encumbrance on the Project Site/ Project Assets in favour of any Person unless and except as otherwise expressly permitted under this Agreement;
- (e) Subject to Clause 12.1, the transfer or an attempt to transfer or assign: (a) the rights and/or obligations of the Concessionaire under any of the Project Agreements, or (b) any of its obligations contained hereunder by the Concessionaire;
- (f) the Performance Security has been partially or fully invoked and appropriated by the Concessions Authority as per the Concession Agreement and the Concessionaire fails to replenish or provide fresh Performance Security within a Cure Period of 15 (fifteen) days;
- (g) the Concessionaire does not make payment to the Concessions Authority as per the terms of this Agreement and remains in default for a period of more than 15 (fifteen) days from the due date of payment;
- (h) the Concessionaire does not complete the Project as per the date mentioned in the Agreement and continues to be in default for 180 (One Hundred and Eighty) days;
- (i) the Concessionaire does not construct and operate any of the items mentioned in Clause 3 (scope of work);
- (j) the Concessionaire suspends or abandons the operations of the Project without the prior written consent of the Concessions Authority, provided that the Concessionaire shall be deemed not to have suspended/abandoned the operation or has delayed the Project if such suspension/abandonment or delay was as a result of Force Majeure Event and is only for the period such Force Majeure is continuing;
- (k) the Concessionaire has failed to make any payment towards damages to any user or any utility within the period specified in this Agreement;
- (l) the Concessionaire repudiates this Agreement or otherwise takes any action or evidences or conveys an intention not to be bound by the Agreement;
- (m) In the event of Change in Control of the Concessionaire [or any of the members of Consortium] which according to the Concessions Authority may have Material Adverse Effect towards the completion of the Project.
- (n) the Concessionaire is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Concessionaire or for the whole or material part of its assets at any time before the Project Construction Completion Date;
- (o) the Concessionaire has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Concessions Authority, a Material Adverse Effect;
- (p) a resolution is passed by the shareholders of the Concessionaire for the voluntary winding up of the Concessionaire;
- (q) Appointment of a provisional liquidator, administrator, trustee or receiver of the whole or substantially whole of the undertaking of the Concessionaire by a court of competent jurisdiction in proceedings for winding up or any other legal proceedings;

- (r) An application for initiating corporate insolvency resolution process is filed against the Concessionaire or a petition for winding up of the Concessionaire is admitted by a court of competent jurisdiction or the Concessionaire is ordered to be wound up by the court except for the purpose of amalgamation or reconstruction, provided that, as part of such amalgamation or reconstruction, the property, assets and undertaking of the Concessionaire are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Concessionaire under this Agreement and the Project Agreements, and provided that:
- the amalgamated or reconstructed entity has the technical capability and operating experience necessary for the performance of its obligations under this Agreement and the Project Agreements;
 - the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and the Project Agreements and has a creditworthiness at least as good as that of the Concessionaire as at the Commencement Date; and
 - each of the Project Agreements remains in full force and effect.
- (l) the Concessionaire commits a Material Breach in complying with the provision of this Agreement;
- (m) Occurrence of any event or act of the Concessionaire which gives right to the Authority under the Bidding Documents to terminate the Agreement;
- (n) The Concessionaire has neglected or failed to keep the Project Assets in a state of good repair at its own cost;
- (o) An event of default of the Concessionaire under any of the financing documents has occurred or any of the lenders has recalled its loan under any of the financing documents;
- (p) the Concessionaire novates and / or assigns the agreement to any third party without any prior written approval from the Concessioneing Authority.

16.3 HDSCL's Event of Default

Any of the following events shall constitute an event of by HDSCL (“**HDSCL Event of Default**”) unless such event has occurred as a result of a Force Majeure Event or the Concessionaire Event of Default:

- a) in the event of failure to provide assistance to the Concessionaire in obtaining the Applicable Permits/Approvals from all concerned authorities relating to the Project;
- b) revocation or restrictions in respect of all Project Sites in enjoyment of rights of lease and other rights granted to the Concessionaire under this Agreement;
- c) stay by any competent authority against or in relation to the Project;
- d) any Material Breach of the terms and conditions of this Agreement.

16.4 Procedure to issue Termination Notice

- (a) In case any Event of Default occurs, the non-defaulting Party shall have the right to give a written notice to the other Party and may give up to 15 (fifteen) days' time to the defaulting Party for curing the Event of Default ("**Cure Period**"). In case the Event of Default continues till/after the expiry of such Cure Period, then the non-defaulting Party will have the option to terminate the Agreement by sending a termination notice ("**Termination Notice**") specifying the date from which the termination of the Agreement shall take effect. Further, the non-defaulting Party may afford a reasonable opportunity to the other Party to explain the circumstances leading to such Event of Default and may increase the time limit, at its discretion, for curing the same before terminating the Agreement. Any notice served pursuant to this Clause shall give reasonable details of the breach.
- (b) Without prejudice to any other right or remedy which the Authority may have in respect of the Concessionaire Event of Default under this Agreement and notwithstanding anything contained in Clause 16.4(a) above, if the Concessionaire Event of Default is not cured within the Cure Period or during the extension of the Cure Period, if there be any, then the Concessions Authority shall be entitled to encash the Performance Security with a notice to the Concessionaire ("**Encashment Notice**") and if the said Event of Default is not cured within next 30 (thirty) days of the Encashment Notice and a fresh Performance Security is not furnished within the same period in accordance with Clause 4 (Performance Security), the Authority may issue the Termination Notice.

16.5 Effect of Termination

- 16.5.1 Upon Termination as per Clause 16, the Concessionaire hereby acknowledges that no payment pursuant to Termination shall be due or payable by the Concessions Authority. The Concessionaire acknowledges that within 10 (ten) days of termination, the Concessionaire vacates the Project Site.
- 16.5.2 The Concessionaire acknowledges that once the Agreement has been terminated the Project Site allocated to the Concessionaire shall be returned back to the Concessions Authority. In such case, the lease deed will stand cancelled *ipso facto* and land is returned back to the Concessions Authority automatically.
- 16.5.3 The entire construction made by the Concessionaire till the date of Termination on the Project Site, as part of the scope of work, shall get transferred without any consideration to the Concessions Authority. The Concessions Authority at its own discretion may repay the consideration already paid by the Concessionaire after adjusting for any direct or indirect losses that Concessions Authority might have incurred due to delay in completion of the Project. No liability with respect to the Project Site or Project Assets shall devolve on Concessions Authority. If the termination is due to concessionaire default, and the construction carried out by the concessionaire is useful to the authority, the cost of construction can be arrived based on SoR prevailing during construction / bidder quoted rate (which shall be collected during bidding process) and the payment shall be least of the two. And the 30% of the balance work shall be withheld representing the Employer's Additional cost for completing the Works. And in case the termination is due to Authorities default, the payment shall be as above, without deducting the 30%.
- 16.5.4 Notwithstanding anything to the contrary contained in this Agreement, any termination pursuant to the provisions of the Agreement shall be without prejudice to accrued rights of either Party including its right to claim and recover monetary damages and other rights and remedies which it may have in law or contract. All rights and obligations of either Party under the Agreement, shall survive the termination of the Agreement to the extent such survival is necessary for giving effect to such rights and obligations.

16.6 Rights of the Concessioneing Authority on Termination

16.6.1 Upon Termination of this Agreement for any reason or default whatsoever, the Concessioneing Authority shall have the power and authority to:

- (a) have taken possession and control of the Project Site/Project Assets and any construction made on such Project Site till the date of Termination;
- (b) take possession and control of all materials, stores, implements and construction on or about the Project;
- (c) to restrain the Concessioneing Authority and any person claiming through or under the Concessioneing Authority from entering upon the Project Site and Project Assets or dealing with the Project or any part thereof;
- (d) invoke the Performance Security as part Damages;
- (e) step-in and succeed upon, without the necessity of any further action by the Concessioneing Authority, to the interests of the Concessioneing Authority under such Project Agreements as Authority may in its discretion deem appropriate with effect from the date of communication of such election to the counter party to the relative Project Agreements. Provided any sums claimed by such counter party as being due and owing for the works and services performed or accruing on account of any act, omission or event prior to such date of election, shall and shall always constitute debt between the Concessioneing Authority and such counter party and Authority shall in no way or manner be liable or responsible for such sums.
- (f) The Concessioneing Authority shall ensure that the Project Agreements contain provisions necessary to give effect to the provision of this Clause 16.6.
- (g) The Concessioneing Authority shall not be entitled for any interest on any security/advance/earnest money deposit including the Performance Security, etc.

16.6.2 In case termination is done by the Concessioneing Authority not because of the Concessioneing Authority Event of Default, then in such condition the Concessioneing Authority will pay for all the financial losses incurred by the Concessioneing Authority and the quantum of the financial losses will be decided by the Arbitrator as per Clause 21 (Dispute Resolution Procedure).

16.6.3 The Concessioneing Authority shall have at all times right to reject any name which has been proposed in relation to the novation of this Agreement.

16.7 Rules governing the Cure Period

The following shall apply in respect of cure of any of the defaults and / or breaches of this Agreement:

- (a) The Cure Period provided in this Agreement shall not relieve the Concessioneing Authority from liability for damages caused by its breach or default;
- (b) The Cure Period shall not in any way be extended by any period of suspension under this Agreement;

- (c) If the cure of any breach by the Concessionaire requires any reasonable action by the Concessionaire that must be approved by Authority or any Government Agency hereunder the applicable Cure Period shall be extended by the period taken by Authority or the Government Agency to accord the required approval.

ARTICLE 17: LIABILITY AND INDEMNITY

17.1 General indemnity

- a) The Concessionaire shall indemnify, defend, save and hold harmless the Concessioneing Authority and its officers, employees, agents and consultants against any and all loss, expenses, suits, proceedings, damages, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of any breach by the Concessionaire of any of its obligations under this Agreement or any related agreement, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach of this Agreement on the part of the Concessioneing Authority indemnified persons.
- b) The Concessioneing Authority will indemnify, defend, save and hold harmless the Concessionaire against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of, except that any such claim has arisen due to Concessionaire Event of Default:
 - (i) defect in title and/or the rights of the Concessioneing Authority in the land given on Concession to the Concessionaire;
 - (ii) breach by the Concessioneing Authority of any of its obligations under this Agreement or any related Agreement, which materially and adversely affect the performance by the Concessionaire of its obligations under this Agreement, unless and except that where any such claim, suit, proceeding, action, and/or demand has arisen due to a negligent act or omission, or breach of any of its obligations under any provision of this Agreement or any related Agreement and/or breach of its statutory duty on the part of the Concessionaire, its subsidiaries, affiliates, Contractors, employees or agents and the same shall be the liability of the Concessionaire.
- c) Without limiting the generality of this Clause 17.1, the Concessionaire shall fully indemnify, save harmless and defend Authority including its officers servants, from and against any and all loss and damages arising out of or with respect to:
 - (i) failure of the Concessionaire to comply with Applicable Laws and Applicable Permits,
 - (ii) failure in payments of taxes relating to the Concessionaire's Contractors, suppliers and representatives income or other taxes required to be paid by the Concessionaire without reimbursement hereunder, or
 - (iii) non-payment of amounts due as a result of materials or services furnished to the Concessionaire or any of its Contractors which are payable by the Concessionaire or any of its Contractors.
 - (iv) damages which the Authority may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Concessionaire or by the Concessionaire's

Contractors in performing the Concessionaire's obligations or in any way incorporated in or related to the Project. If in any such suit, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Concessionaire shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the suspension of the injunction or restraint order. If, in any such suit claim or proceedings, the Project, or any part thereof or comprised therein is held to constitute an infringement and its use is permanently injected, the Concessionaire shall promptly make every reasonable effort to secure for the Authority a license, at no cost to the Authority, authorizing continued use of the infringing work. If the Concessionaire is unable to secure such license within a reasonable time, the Concessionaire shall, at its own expense and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or parts or process, or modify the same so that it becomes non-infringing.

- d) In the event that either Party receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under this Clause 17.1 ("**Indemnified Party**") it shall notify the other Party ("**Indemnifying Party**") within 14 (fourteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, such approval not to be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim it may conduct the proceedings in the name of the Indemnified Party subject to the Indemnified Party being secured against any costs involved to its reasonable satisfaction.

17.2 Defense of Claims

- (a) The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder and its reasonable costs and expenses shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Clause 17.2, the Indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding and the liabilities, payments and obligations at its expense and through counsel of its choice provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable costs and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defense. The Indemnifying Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnified Party unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.
- (b) If the Indemnifying Party has exercised its rights under Clause 17.2 (Defense of Claims) above, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the indemnifying Party (which consent shall not be unreasonably withheld or delayed).
- (c) If the Indemnifying Party exercises its rights under Clause 17.2 (Defense of Claims) above, then the Indemnified Party shall nevertheless have the right to employ its own counsel and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party, when and as incurred, unless:

- (i) the employment of counsel by such party has been authorized in writing by the Indemnifying Party; or
- (ii) the Indemnified Party has reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defense of such action; or
- (iii) the Indemnifying Party shall not in fact have employed independent counsel reasonably satisfactory to the Indemnified Party to assume the defense of such action and shall have been so notified by the Indemnified Party; or
- (iv) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
- (v) that there may be specific defenses available to it which are different from or additional to those available to the Indemnifying Party; or
- (vi) that such claim, action, suit or proceeding involves or could have a Material Adverse Effect upon it beyond the scope of this Agreement,

provided that if sub-clauses (ii), (iii) or (iv) of Clause 17.2 (c) shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defense of such claim, action, suit or proceeding on behalf of the Indemnified Party and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

17.3 Indirect and consequential damages

- (a) Notwithstanding anything to the contrary contained in the Agreement, in no event shall either Party be liable to the other Party for indirect or consequential damages and for the following types of damages, whether or not they are considered as direct or indirect damages: loss of production, loss of use, loss of business, loss of access, loss of market share, loss of revenue, loss of savings, and loss of profit, whether or not the possibility of such damages could have been reasonably foreseen and whether as a result of breach of this Concession Agreement, warranty or in tort. These limitations shall not apply in case of breach of confidentiality or non-payment by the Concessionaire.
- (b) In the event of delay or any gross negligence, for causes attributable to the Concessionaire, in meeting the deliverables, HDSCL shall be entitled at its option to recover from the Concessionaire as agreed, liquidated damages (LD), as per the criteria mentioned in Service Level Conditions as mentioned in the Agreement. For causes or breach for which no amount of LD has been specified, the Authority shall be liable for such direct or consequential damages as it may suffer due to such cause or breach. In case of breach which is not solely attributable to the Concessionaire, the Concessionaire shall be liable for such portion of LD or damages, which are attributable to the breach on its part.
- (c) No action, regardless of form, arising out of any alleged breach of this Agreement shall be brought by either Concessionaire or HDSCL more than three (3) years after the cause of action has occurred.
- (d) HDSCL or Concessionaire suffering loss or damages shall take all reasonable measures to mitigate such loss or damage.

ARTICLE 18: EXIT MECHANISM

18.1 Purpose and Exit Management Period

- ✓ This clause sets out the provisions which shall apply in case of the expiry or termination of the Agreement, as the case may be.

- ✓ The Parties shall ensure that their respective associated entities, in case of the HDSCL or its nominated agencies and any nominated agencies in case of the Concessionaire, carry out their respective obligations set out in this Exit Management Clause.
- ✓ The Exit Management Period shall mean:
 - (i) In case of expiry of the Concession due to efflux of time, commence from a date as notified by the Authority and end with the last day of the Concession Period;
 - (ii) In case of expiry of the termination of the Agreement for any reason whatsoever, commence from the effective date of the termination and end on the 180th day from such effective date.
 - (iii) Notwithstanding anything else contained herein above, this Clause is valid and continue to be in full force till all the Project Site and the Project Assets are transferred to HDMC / HDSCL or to its order and all other requirements under this Clause 18 are completed to the satisfaction of HDSCL. Any delay in competing the aforesaid transfer and compliance with the other requirements as above within the Exit Management Period shall render the Concessionaire the liquidated damages of a sum per day of delay which is equal [●] % [●] of the average yearly revenue generated by the Concessionaire during the Concession Period or prior to the termination, as the case may be.
 - (iv) Upon the commencement of the Exit Management Period, the Concessionaire shall conform to the following Exit Management Requirements without delay as specified in Clauses 18.2 to 18.10 herein below.

18.2 Exit Management Requirements

- ✓ **Rectification of defects:** All the Project Assets including the equipment, hardware, software, and devices shall have been renewed and cured of all defects and deficiencies as necessary so that the Project is compliant with the Specifications and Standards set forth in the Agreement.
- ✓ **Transfer of Project Assets:**
 - 5...1. The Concessionaire will provide to the Authority or to any agency/Person nominated by HDSCL with a complete and up to date list of the Project Assets within thirty (30) days of the commencement of the Exit Management Period.
 - 5...2. During the Exit Management Period, the Concessionaire will transfer all the Project Assets in good working condition and as per the specifications under this Agreement including the ones being upgraded to the HDSCL. The Concessionaire shall comply with the Applicable Laws including payment of charges, taxes, etc., as applicable on such transfer of the Project Assets.
- ✓ As soon as possible upon the commencement, but in any case before the expiry of the Exit Management Period:
 - (i) All risk in and title to the Project Assets including the Project Agreements shall be transferred Encumbrance free to HDSCL. All expenses including applicable taxes in relation to the said transfer of the Project Assets shall be borne by the Concessionaire.

- (ii) The Concessionaire and any individual assigned for the performance of the services under this clause must hand over all HDSCL confidential information and all other related materials in its possession, including all the software and hardware supplied by Concessionaire under this clause to the Authority.
- (iii) As the Concessionaire is supposed to provide during the Concession Period, the comprehensive maintenance of all the Project Assets as detailed in this Agreement, therefore the Concessionaire shall ensure that at the time of transfer of the Project Assets to HDSCL under this Clause, all the Project Assets are in proper working condition with support of OEM related to repair/replacement/availability of spare parts for a further period of one years post expiry of the Concession Period.

✓ The Concessionaire, if not already done, shall transfer all the right to use software licenses and all other intellectual property rights of whatever description in the name of HDSCL during the Exit Management Period. The Concessionaire shall also transfer all the relevant software passwords, user names and keys and other intangible assets.

✓ **Use of Project Assets**

The Concessionaire shall be entitled to use the Project Assets for the duration of the Exit Management Period.

✓ **Execution of deeds and documents**

5...1. The Concessionaire shall execute such deeds of conveyance, documents and other writings as the Authority may require to convey, divest and assign all the rights, title and interest of the Concessionaire in the Project including the Project Assets free from all Encumbrances absolutely and free of any charge or tax unto the Authority; and

5...2. The Concessionaire shall comply with all other requirements as may be prescribed under Applicable Laws to complete the transfer and divestment and assignment of all the rights, title and interest of the Concessionaire in the Project including the Project Assets free from all Encumbrances absolutely and free of any charge or tax unto the Authority.

18.3 Cooperation and Provision of Information

During the Exit Management Period:

- (a) The Concessionaire shall permit HDMC / HDSCL access to information reasonably required to classify the current mode of operation related with the provision of the services to enable HDSCL assess the existing services being delivered.
- (b) The Concessionaire shall provide access to and copies of all information held or controlled by it which it has prepared or maintained in accordance with the Agreement, the Project Implementation, the O&M and SoW (Scope of Work). HDSCL shall be entitled to copy all such information. Such information shall, inter alia, include details pertaining to the services rendered and other performance data. The Concessionaire shall permit HDSCL to have reasonable access to its employees and facilities as reasonably required to understand the methods of delivery of the services employed by the Concessionaire and such other aspects of the Project as HDSCL may deem fit and to support appropriate knowledge transfer.

18.4 Confidential Information, Security and Data

- (a) On the commencement of the Exit Management Period, the Concessionaire shall forthwith and without any delay supply to the Authority the following:
- (i) all records and reports pertaining to the Project and its design, engineering, construction, operation, and maintenance including all operation and maintenance records and programmes and manuals pertaining thereto and complete as on the commencement of Exit Management Period;
 - (ii) Information relating to the present services provided and customer satisfaction surveys if carried out by the Concessionaire;
 - (iii) Documentation pertaining to Project related data and confidential information;
 - (iv) All current and updated data as is needed for the purposes of the HDSCL or Nominated Agency for transitioning the services either to HDSCL;
 - (v) All other information (including but not limited to documents, records and agreements) relating to the services compulsory to enable HDSCL to carry out due diligence in order to transition the Project to the HDSCL, as the case may be.
- (b) Before the Exit Management Period expires, the Concessionaire shall deliver to HDSCL or the Nominated Agency(ies) all new or up-dated materials from the categories set out in sub-clause point (a) above and shall not keep any copies thereof, except that the Concessionaire shall be permitted to keep one copy of such materials for archival purposes only.
- (c) The Concessionaire shall, subject to Applicable Laws, restraints and regulations (including in particular those relating to privacy), provide to the Authority or its Nominated Agency(ies) a list of all employees (with job titles) of the Concessionaire dedicated to providing the services at the beginning of the Exit Management Period.
- (d) Before the Exit Management Period expires, unless otherwise provided under the Agreement, HDSCL shall deliver to the Concessionaire all forms of Concessionaire's confidential data which is in the possession or control of HDSCL.

18.5 Employees

- (a) Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the Concessionaire to the Authority applies to any or all of the employees of the Concessionaire, then the Parties shall comply with their respective obligations under such transfer regulations.
- (b) To the extent that any transfer regulation does not apply to any employee of the Concessionaire, the Authority may make an offer of employment or contract for services to such employee of the Concessionaire and the Concessionaire shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the Authority or by any replacement Concessionaire.

18.6 Transfer of Certain Agreements

On request by the HDSCL, the Concessionaire shall effect such assignments, transfers, novation, licenses and sub-licenses in favor of HDSCL in relation to any equipment lease, maintenance or service provision agreement between Concessionaire and third party lessors and which are related to the services and reasonably necessary for the carrying out of replacement of Concessionaire.

18.7 Right of Access to Premises

- (a) At all the time during the Exit Management Period, where any Project Assets are located at the Concessionaire's premises, the Concessionaire shall be obliged to give full rights of access to (or, in the case of Assets located on a third party's premises, procure reasonable rights of access to) HDSCL in order to carry out the inventory of such Project Assets.
- (b) The Concessionaire shall also give the HDSCL, right of access to the Concessionaire's premises and shall procure rights of access to relevant third-party premises during the Exit Management Period and for such period of time following expiry of the Agreement as is reasonably necessary to migrate the services to HDSCL, or to a replacement concessionaire.

18.8 General Obligations of the Concessionaire

- (a) The Concessionaire shall provide all support and all such information as may reasonably be necessary to effect a seamless handover of the Project as practicable in the circumstances to HDSCL or its nominated agencies and which the Concessionaire has in its possession or control at any time before and during the Exit Management Period.
- (b) For the purposes of this Clause, information/assets in the possession or control of Concessionaire's associated entity is deemed to be in the possession or control of the Concessionaire.
- (c) The Concessionaire shall commit adequate resources to comply with its obligations under this Exit Management Clause.

18.9 Exit Management Plan

The Concessionaire shall provide HDSCL with recommended exit management plan (“**Exit Management Plan**”) which shall deal with the Agreement as a whole and in relation to the Project Implementation Schedule, the O&M and SOWs.

18.10 End of Support

While handling over completely the working and functional network and systems, Concessionaire will endeavor to procure from OEM of all hardware/software/equipment support for repair/replacement/availability of its spare parts for further five years post Concession Period. It shall be part of exit plan to submit letter from OEMs in this regard.

18.11 Verification of compliance of Exit Management Requirements

Not less than 15 (fifteen) days before the expiry of Exit Management Period, an independent consultant appointed by the Authority shall verify, in the presence of a representative of the Concessionaire, compliance by the Concessionaire with the Exit Management Requirements set forth in Clauses 18.2 to 18.10 in relation to the Project and, if required, cause appropriate tests to be carried out at the Concessionaire's cost for determining the compliance therewith. If any shortcomings in the Exit Management Requirements are found by either Party, it shall notify the other of the same and the Concessionaire shall rectify the same at its cost.

ARTICLE 19: HANDOVER OF THE PROJECT ASSETS

19.1 Handing Over of the Project Assets

Before or on the expiry of the Exit Management Period, the Concessionaire shall hand over encumbrance free and peaceful possession of the Project Assets in working conditions including Project Site/facility at no cost to the Authority.

19.2 Joint Inspection and Removal of Deficiency

The handing over process shall be initiated at least 6 (six) months before the actual date of expiry of the Concession Period by a joint inspection by the engineer appointed by the Authority and the Concessionaire. In case of termination of the Agreement, the handing over process shall be initiated from the next day following the termination. In either case, the engineer of the Authority shall, within 15 (fifteen) days of such inspection, prepare and furnish to the Concessionaire a list of works/jobs/additions/alterations, if any, to be carried out to bring the Project to the prescribed level of service condition as stipulated in the Agreement including compliance with the Exit Management Requirements –

- (i) in case of expiry of Concession by efflux of time, at least two months prior to the date of expiry of the Concession Period;
- (ii) in case of termination of the Agreement, within such time as directed by the engineer of the Authority. In case the Concessionaire fails to carry out the above works within the stipulated time period as above, the Authority shall be at liberty to have these works executed by any other Person at the risk and cost of the Concessionaire and any cost incurred by the Authority in this regard shall be reimbursed by the Concessionaire to Authority within 30 (thirty) days of receipt of demand. For this purpose, Authority shall without prejudice to any other right/remedy available to it under this Agreement, have the right to appropriate the Performance Security and/or to set off any amounts due, if any, and payable by Authority to the Concessionaire to the extent required/ available and to recover deficit amount, if any, from the Concessionaire.

19.3 Handover expenses

- a) The Concessionaire shall be responsible for the costs and expenses, including stamp duties, legal fees and expenses incurred in connection with the transfer/handover of the Project Assets and the Project to the Authority or its nominated agency. These costs can initially be borne by the Authority as well if the Concessionaire is found to deliberately delaying the transfer of assets.
- b) For recovering such costs from the Concessionaire, the Authority have the right to appropriate the Performance Security and/or to set off any amounts due, if any, and payable by Authority to the Concessionaire to the extent required/ available and to recover deficit amount, if any, from the Concessionaire.

ARTICLE 20: ACCOUNTS AND AUDIT

20.1 Audited accounts

- (a) The Concessionaire shall maintain the appropriate books, accounts and other records thereby recording all the revenue received and earned, expenditure, payments, assets

and liabilities, etc., relating to the Project in accordance with the Agreement, Good Industry Practice, Applicable Laws and Applicable Permits. The Concessionaire shall provide 2 (two) copies of the revenue and expenditure statement, balance sheet, cash flow statement relating to the Project, along with a report thereon by its Statutory Auditors, within 90 (ninety) days of the close of the Accounting Year to which they pertain.

- (b) The Concessionaire shall, within 10 (ten) days of the close of each quarter, furnish to the Authority its records and accounting entries, duly certified by its statutory auditors, showing the revenue earned in respect of such quarter, in the manner and form agreed between the Parties to enable the Authority to carry out the reconciliation. The Authority shall have the right to call for such additional information/records as it thinks fit for the purpose of such reconciliation.

20.2 Right of inspection

- (a) The Authority shall have the right to inspect the books, accounts, documents and records maintained by the Concessionaire relating to the Project during office hours and require copies of relevant extracts thereof, duly certified by the Statutory Auditors.
- (b) Any claim or document provided by the Concessionaire to the Authority in connection with or relating to receipts, payments, costs, expenses, accounts or audit, and any matter incidental thereto shall be valid and effective only if certified by its Statutory Auditors. For the avoidance of doubt, such certification shall not be required for exchange of information in the normal course of business.

20.3 Additional Auditors

- (a) Notwithstanding anything to the contrary contained in this Agreement, the Authority shall have the right, but not the obligation, to appoint at its cost from time to time and at any time, another auditor/firm of auditors ("**Additional Auditors**") to audit and verify all those matters, expenses, costs, realizations and things which the statutory auditors are required to do, undertake or certify pursuant to this Agreement.
- (b) In the event of there being any difference between the findings of the Additional Auditors and the certification provided by the statutory auditors, the findings of the Additional Auditors shall prevail.

ARTICLE 21 : DISPUTE RESOLUTION PROCEDURE

21.1 Amicable Resolution

21.1.1 Unless where expressly stated otherwise in this Agreement, any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement, including non-completion of the Project (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "**Dispute**") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 21.2.

21.1.2. The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

21.2 Conciliation

In the event of any Dispute between the Parties, either Party may call upon the CEO of the Concessioning Authority to mediate and assist the Parties in arriving at an amicable settlement thereof. Failing mediation by the CEO of the Concessioning Authority within 7 (seven) days from the date of reference to discuss and attempt to amicably resolve the Dispute, either Party may require such Dispute to be referred to the Principle Secretary, MOUD, Govt of Karnataka for amicable settlement. If the Dispute is not resolved as evidenced by the signing of written terms of settlement within 30 (thirty) days of the notice in writing referred to in Clause 21.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the provisions of Clause 21.3.

21.3 Arbitration

21.3.1. Procedure: Any Dispute which is not resolved amicably by conciliation, as provided in Clause 21.2, shall be decided by reference to Arbitral Tribunal appointed in accordance with Clause 21.3.2. Arbitration shall be held in accordance with the provisions of Arbitration and Conciliation Act, 1996

21.3.2 Language and Place of Arbitration: The venue of arbitration shall be Hubballi / Bangalore, and the language of arbitration proceedings shall be English.

21.3.2. Arbitrators: The Arbitral Tribunal shall consist of three arbitrators. Each Party shall appoint one arbitrator, and the third arbitrator shall be appointed by the two arbitrators so appointed, and in the event of disagreement between the two arbitrators, the appointment shall be made in accordance with the Arbitration and Conciliation Act, 1996.

21.3.3. Enforcement of Award: The arbitrators shall make a reasoned award (the "Award"). Any Award made in any arbitration held pursuant to this Clause 21 shall be final and binding on the Parties as from the date it is made, and the Concessionaire and the Concessioning Authority agree and undertake to carry out such Award without delay. The Parties hereto agree that an Award may be enforced against the Parties, as the case may be, and their respective assets wherever they may be found and that a judgement upon the arbitral award may be entered in any court having jurisdiction thereof.

21.3.4 Fees and Expenses: The fees and expenses of the arbitrators and all other expenses of the arbitration shall be initially borne and paid by respective Parties subject to determination by the arbitrators. The arbitrators may provide in the arbitral award for the reimbursement to the prevailing party of its costs and expenses in bringing or defending the arbitration claim, including legal fees and expenses incurred by the said Party.

21.3.5 Performance during Arbitration: Pending the submission of and/or decision on a Dispute, difference or claim or until the arbitral award is published, the Parties shall continue to perform all of their obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

ARTICLE 22: MISCELLANEOUS

22.1 Governing Law and Jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India and the courts at Hubballi / Karnataka, India shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

22.2 Waiver of Immunity

Each Party unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction.

22.3 Delayed Payments

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 15 (fifteen) days of receiving a demand notice along with the necessary particulars. In the event of delay beyond such period, the defaulting Party shall pay penalty for the period of delay calculated at a rate equal to 12% (twelve) per annum and recovery thereof shall be without prejudice to the rights of the Parties under this Agreement including Termination thereof.

22.4 Waiver

22.4.1. Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:

- (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions or obligations under this Agreement;
- (b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and
- (c) shall not affect the validity or enforceability of this Agreement in any manner.

22.4.2. Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

22.5 Liability for Inspection of Documents

Except to the extent expressly provided in this Agreement:

- (a) no review, comment or inspection by the Concessioning Authority of any document submitted by the Concessionaire nor any observation or inspection of any document or operations conducted at the Project Site hereunder shall relieve or absolve the Concessionaire from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and

- (b) the Concessioneing Authority shall not be liable to the Concessionaire by reason of any review, comment, approval, observation or inspection referred to in sub-clause (a) above.

22.6 Exclusion of Implied Warranties

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other Agreement between the Parties or any representation by either Party not contained in a binding legal Agreement executed by both Parties.

22.7 Survival

22.7.1. Termination of this Agreement shall:

- (a) not relieve the Concessionaire or the Concessioneing Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

22.7.2. All obligations surviving Termination shall only survive for a period of 5 (five) years following the date of such Termination.

22.8 Entire Agreement

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the Agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn.

22.9 Severability

If for any reason whatever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Clause [●] (Dispute Resolution) of this Agreement or otherwise.

22.10 No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into

any Agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

22.11 Third Parties

This Agreement is intended solely for the benefit of the Parties and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement, unless expressly provided in this Agreement.

Any agreements that the Concessionaire enters into with third parties towards revenue generation streams needs to be shared with the Authority along with the corresponding Contract Documentation (all forms of sub-contracts).

22.12 Successors

This Agreement shall be binding upon and inure to the benefit of the Parties and their lawful successors, as per the provisions of this Agreement.

22.13 Assignment and Charges

- (a) Except as provided in Clause 2.8(c), this Agreement and/or any rights or obligations contained herein shall not be assigned by the Concessionaire unless and except with prior consent in writing of the Authority.
- (b) The Concessionaire shall not create nor permit to subsist any Encumbrance over or otherwise transfer or dispose of all or any of its rights and benefits under this Agreement or any Project Agreement to which Concessionaire is a party except with prior consent in writing of Authority.

22.14 Notices

Unless otherwise stated, all notices, approvals, instructions and other communications for the purposes of this Agreement shall be given in writing and may be given by facsimile, by personal delivery or by sending the same by prepaid registered mail addressed to the Party concerned at its address stated in the title of this Agreement or the fax numbers set out below and/or any other address subsequently notified to the other Parties for the purposes of this Clause 21.14 and shall be deemed to be effective (i) 10 (ten) calendar days after posting, in the case of registered mail, (ii) 2 (two) Business Days after receipt of a transmission report confirming dispatch, in the case of facsimile or (iii) at the time of delivery, in the case of personal delivery or (iv) in case of any communication made by email when it reaches the recipient.

If to Concessioneing Authority:

Address: Hubballi Dharwad Smart City Limited.
Attention: Managing Director,

If to the Concessionaire:

Address :
Telephone :
Fax :
Attention :

22.15 Language

All notices required to be given by one Party to the other Party and all other communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English.

22.16 Damages

In the event a Party delays or fails to fulfil its obligations, then the other Party shall, in addition to its other remedies hereunder, be entitled to claim damages from the defaulting Party arising out of such delay or failure.

22.17 Set-off

In the event any amount is due and payable by the Authority to the Concessionaire, it may set-off any sums payable to it by the Concessionaire and pay the balance remaining. Any exercise by the Authority of its rights under this Clause shall be without prejudice to any other rights or remedies available to it under this Agreement or otherwise.

22.18 Continuance of Obligations

Notwithstanding the existence of any dispute or difference between the Parties which is referred for resolution or, as the case may be to arbitration, the Parties shall, during the pendency of the process of resolution or, as the case may be, arbitration, continue to act on matters under the Agreement which are not the subject matter of the dispute or difference as if no such dispute or difference had arisen.

22.19 Exclusive remedies

The Parties agree that different remedies/rights provided in the Agreement for the breach of any provision of the Agreement are cumulative and not exclusive to each other. Notwithstanding the existence of any dispute or difference between the Parties which is referred

22.20 Amendments

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the Agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless agreed to by all the Parties hereto and evidenced in writing. All previous documents, undertakings and agreements, whether verbal, written or otherwise, between the Parties concerning the subject matter hereof are hereby cancelled or superseded and shall not affect or modify any of the terms or obligations set forth in the Agreement, except as the same may be made part of the Agreement in accordance with its terms including the terms of any of the Schedules.

22.21 Counterparts

This Agreement may be executed in 2 (two) counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

22.22 Validity

This Agreement shall be valid for the entire Concession Period.

IN WITNESS WHEREOF this Agreement have executed by the duly authorized representatives of the Parties hereto on the day, month and year first above written.

SIGNED, SEALED AND
DELIVERED

SIGNED, SEALED AND
DELIVERED

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX) ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP MODEL

For and on behalf of
Hubballi Dharwad Smart City Limited
by
(Signature)
(Name)
(Designation)

For and on behalf of
(insert name of the Concessionaire)
(Signature)
(Name)
(Designation)

Witnesses:

In the presence of:

- 1.-----
- 2.-----

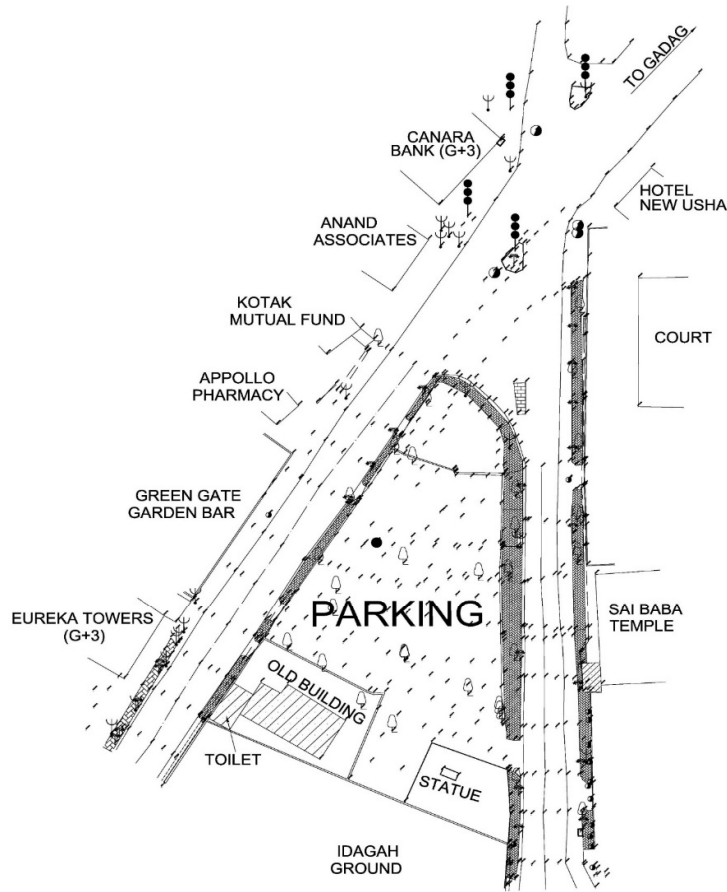
SCHEDULE I: PROJECT SITE

The project site is located near Rani Chennamma Circle, opposite the court and adjacent to the Idgah Maidan. It falls at the junction of National Highway 218 and 63. The site is highlighted in the map below.



The site is of 4050 sq.m. area as per topographic survey. It is owned by Hubballi Dharwad Municipal Corporation.

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX) ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP MODEL



LEGEND :

CONCRETE ROAD		COMPOUND WALL		SIGNAL POLE	
ASPHALT ROAD		STRUCTURE		LAMP POLE	
WBM ROAD		SHED / OTTA		TBM	
FOOT PATH		ELECTRIC POLE & LINE		BORE WELL	
PEVAR BLOCK		PIPE CULVERT/ VIADUCT/ BRIDGE / SLAB DRAIN		WELL	
CART TRACK		CHEMBER		TEMPLE	
GATE		MAN HOLE		TREE	
DRAIN		FENCING		TELEPHONE BOX	
TELEPHONE POLE		ELETRIC LINE.BOX		HAND PUMP	

Topo survey map of the site.

SCHEDULE II: BRIEF SCOPES OF WORK

A. Construction of Smart Parking Structure:

The structure shall be a smart, iconic building with integrated transportation facilities. The core components of the building shall be as follows.

Sl.	Core Components	Details
1	Smart Parking Tower Building (Floors & Ground Coverage)	(2 Basement + Ground + 4 Floors) @ 50% ground coverage.
2	Minimum ECS Provision	300 ECS (with EV charging points for at least 10% vehicles)
3	Public Bike Sharing Docking Station	Space needs to be left for 2 docking station (30 cycles) at the Entry and Exit Gates. Separate vendor shall install and maintain them.
4	Public Convenience	Minimum facility shall be one unit with 5 WC + 5 urinals +2 bathrooms at ground floor.
5	Auto Stand	10 ECS space with separate entry and exit
6	Table Intersections	Top 2 Nos, at Entry and Exit for pedestrian crossings.
7	Solar Roof Top	Dead-load of solar panels shall be considered in structural design. Separate vendors shall install and maintain the solar panels. Concessionaire shall purchase the solar electricity at fixed rates (as per KERC norms); excess electricity shall be right of the solar operator.
8	Digital Advertisement board	At least 25% of the building façade shall be covered with digital advertisement boards. Concessionaire shall operate and maintain them; revenue shall come to concessionaire.
9	Rain Harvesting	Water To be included
10	Green Building	At-least GRIHA/IGBC silver certification
11	Accessible Building	Accessible to all aged and All abled (MoHUA Guidelines)
12	Shifting utilities	existing If any structure is there, shifting the same shall be responsibility of Concessionaire.

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX) ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP MODEL

13	Vertical Gardening	At least 25% of the building façade should be covered with vertical gardening.
14	Site curvature correction and Footpath development	Turning radius on the Northern end of the site shall be corrected and space left for road development. Footpath development around the site along with street furniture, landscaping, lights, etc.
15	Tree transplantation	All trees within the site shall be transplanted either on the same site or another site as provided by HDMC. A minimum survival rate of 60% shall be considered, beyond which a penalty will be imposed at the rate of 50,000/- per tree.
16	Ancillary facilities	Provision for car wash, repair, maintenance, etc.

B. Installing ICT infrastructure for smart parking:

- Parking sensors, boom barriers, automatic ticket collection kiosks, and common card based payment systems, etc. – on-street and off-street.
- Variable message signage (VMS) at strategic locations both inside and outside the MLCP.
- Real time monitoring systems with seamless communication to upcoming Integrated Command & Control Centre (ICCC).

C. Managing and operating parking

- Management and operations of parking slots inside site and outside within the immediate influence zone and the smart parking locations as provided by HDMC.

SCHEDULE III: TECHNICAL SCHEDULE- CIVIL CONSTRUCTION

- Parking Structure Design Specifications**

Design of Parking Structure

Fixed Design Parameter	Permissible
Minimum dimension and weight of a car (SUV category) to be considered	Length – 5.20m Width – 2.20m Height – 2.20m Weight -2500 Kg
Required arrangement for convenient parking by physically challenged drivers (2% of Total ECS capacity) will have to be provided	

Covenants

Sr. No.	Item Description	Covenants
1	Construction below ground	Should not exceed 3 basement floors
2	Height of parking without elevators	Should not exceed 3 floors
3	Height of each basement floor	Clear floor height should be not less than 3.60 M
4	Depth of construction below ground	Should not exceed three basement levels or 12.0m below ground whichever is less.
5	Space for calculation one ECS including circulation within parking structure	Not less than 28m ² per ECS for ground floor covered parking and 32m ² per ECS for underground
6	Parking bay/slot dimension per car space	Not less than 5.6m long and 2.4m width
7	Air Conditioning	Preferable but not mandatory. However, mechanical ventilation must be provided to permit a minimum of 15 air changes per hour for normal ventilation and 30 air changes per hour in case of fire of distress call.
8	Gradient of ramp	Not steeper than 1:6 ratio with minimum transition space of 5 m at termination of the ramp
9	Width of ramp	Minimum of 6.5 m width for two way traffic and only 4.5m for one way traffic
10	Carriageway of pavement for circulation space within parking facilities	Not less than 4.5 m, if one way, and not less than 6.0 m if it is two ways flow.

Maximum queue Length at any of the entry area the facility shall not ideally exceed three cars, at any point of time, except under exceptional circumstances.

- **Column Center**

In a smart car park facility there should be no columns to impede access to parking spaces. Designers should allow for adequate clear space between column edges so that full width spaces are available to users.

- **Head Clearance**

Flat ceilings are preferable in all car parks. Structural beams should not be located in the vicinity of parking spaces, and if this cannot be avoided then allowance must be made not only for the height of car roofs but also for the height of hatchback doors which swing up. For

- **Entry and Exit Specifications**

- ✓ **Location**

Location of the Entry and Exit Areas and of the driveways along with their connection to the road system should be made properly and at least three exits are required to be provided for access to and from the site. Besides the ramps for vehicles the concessionaire is obligated to provide at least 2 elevators and 2 staircases for movement of users throughout the building.

- ✓ **Size**

The Entry and Exit Areas must be sized to allow drivers to safely and comfortably drive in and out the vehicle. Turning radius and width of drive aisles and minimum clear width of Entry and Exit Area shall be designed according to the respective needs and leaving adequate space to the left and right of the car for passengers to leave / enter the car and in accordance with Applicable Codes.

- ✓ **Components**

1. Motion detectors and CCTV cameras or similar devices shall be installed inside the Entry and Exit Areas to ensure that no person or animals are inside the Entry and Exit Areas or vehicle when the machine starts moving. Cameras shall be installed to record digital photos of the physical condition of the car entering and exiting the premises. The images are also helpful to locate cars for drivers with a lost ticket and to validate damage claims as well as to detect any suspicious activity in the parking area.
2. The Entry and Exit Areas entrance doors shall be mounted, secured and operated safely, isolating the passengers from the Entry and Exit Areas during movement of the machinery and vehicles. Safety locks / emergency switches shall be installed to stop any machinery if a person or animal is detected in this area.
3. The Entry and Exit Areas entrance doors shall be mounted, secured and operated safely, isolating the passengers from the Entry and Exit Areas during movement of the machinery and vehicles. Safety locks / emergency switches shall be installed to stop any machinery if a person or animal is detected in this area.
4. Recesses in the floor area shall be minimized to the need of guiding the drivers in the “drive-in” process. All other areas shall be flat for pedestrian traffic. Gaps between moving parts and platforms need to be limited as per Applicable codes.
5. All Entry and Exit Areas must comply with disability requirements.
6. The driveways for inbound and outbound traffic shall be designed to provide sufficient queuing spaces; simple visual signage and guidance shall clearly direct

approaching traffic off the street and into the Entry and Exit Areas. Respective commands via a visual message center shall be applied inside the Terminals for the drivers in such manner that an easy use of the system is possible.

7. Inbound / outbound traffic crossing shall be prevented
8. Inside and outside Entry and Exit doors shall be provided to prevent drivers and animals from coming into contact with any moving elements of the system.
9. As Entry and Exit Areas are the exchange station of the Parking Structure, special attention shall be directed to ease the “drive-in” and positioning of the car by the drivers (preferably by means of physical aids).
10. Means of catching of debris and drippings from the incoming cars shall be applied to avoid such drippings to cars and machinery inside the terminals, during transportation and storage inside the system.
11. The Ticketing Station or access system shall be located outside the Entry and Exit Areas on the right side of the inbound traffic.
12. If the system has installed radio frequency access system, the readers shall have enough range to detect approaching vehicles from at least 9 meter outside of the Entry and Exit Areas.

- **Throughput Capability**

The throughput of a system is the minimum number of cars a system can store or retrieve (measures in by any random one way traffic), in the timeframe of one hour. Dwell time is defined as the total time a driver takes to drive into the system, leave the car, exit the system and buy a parking ticket. In case of exiting the system, Dwell Time is the time taken by the driver to return the parking ticket, identify his car, and drive it out of the system. A reasonable average dwell time (entering/exiting) of 30 seconds per car driving into the Entry and Exit Areas can be assumed if physical driving guidance is provided. In the absence of such physical guidance system, an average dwell time of 60 seconds shall be considered.

- **Fire Safety**

1. Fire safety measures as recommended in applicable codes shall be implemented.
2. Provisions shall be made in the Parking Facility that leakage of fuel tanks or other flammable fluids are collected during transportation and storage of the vehicle.
3. Construct the ‘Parking Facilities’ structure and the equipment with noncombustible construction. In addition, those portions of the facility used for the transport and / or storage shall have a finish of non-absorbent, noncombustible material. Where the Automated Parking Facility is located below a building, 2-hour fire resistance rated separation shall be provided between the Automated Parking Facility and the adjacent space use.
4. As the nature of an Automated Parking facility provides the means to transport a vehicle without human interference, provisions shall be provided to detect a vehicle on fire and to transport it to a fire extinguishing cell at a space on ground floor, easy accessible for fire fighters.
5. Concessionaire shall make all provisions in the construction as per the Relevant Fire Safety Act as well as take all measures as per the rules and regulations including guidelines from Central Government, State Government and drafted by the ULB and any agency appointed by the government on the subject.

- **Ventilations/ Air conditioning**

1. Areas accessible to the public / drivers shall be equipped with sufficient air conditioning and ventilation.
2. The storage area of the System in which no driver enter but only maintenance crews, may be unconditioned space although some ventilation emissions is required inside the storage area. Depending on the design of the Entry and Exit Areas, a ventilation of emissions may be required in that area.

- **Lighting/Accessibility for Maintenance**

1. Lighting in areas accessible to the drivers / public shall be properly illuminated.
2. Old recommendations on internal lighting standards e.g. of 50 lux, have long ago been discarded by the industry and replaced by minimum standards of 100 lux and 250 to 350 lux at entrance/exits. White fluorescent bulbs provide the best quality of light. Tungsten lamps generally give yellow tints and leave "cave" effects unless used in high densities. Lighting in stairwells and lobbies need to be to a very high specification to minimize perceptions of personal isolation.
3. The parking structure shall be designed such, that maintenance personnel has access to all storage spaces, machinery and electronic components in a safe manner. The usage of harnesses is acceptable as long as OSHA criteria are followed.
4. Graphical User Interface/ON – Line Support
5. Automated parking Facilities shall be furnished with a Graphical User Interface (hereafter referred as "GUI") or Human Machine Interface (hereafter referred as "HMI"). This interface shall be positioned in the Control-Room. The GUI shall show the geometry of the entire system with occupancy and all installed machines moving in real time. The GUI shall be capable of running fully automated without human assistance; it shall have manual and maintenance mode and the capability of System Diagnostic of all critical mechanical, electrical and electronic equipment.
6. The parking facility shall have an installed and all time workable capability to the manufacturer / technical operator with a short response time to handle any alarms generated by the system.

- **Lines of Sight**

Personal security is greatly enhanced in car parks where lighting levels are high and clear lines of sight are designed into a facility e.g. at access points to lift lobbies, stair lobbies, at corners on pedestrian routes. In addition all doors, including lift doors, should have large glass panels, all walls should have large glass windows so patrons can check whether it is safe to pass through or not. Structural walls can have 'openings' cut into them, to increase natural light penetration and improve sight lines.

- **Lifts**

Thirteen-person lifts are increasingly essential if any reasonable comfort is to be provided, and these need to be in pairs. Smaller lifts are discouraged.

- **Stairs**

In all car parks, there are significant numbers of patrons who refuse to use lifts, and so all stairs should be designed to a high standard to accommodate this and should be alarmed for easy access in the event of a fire.

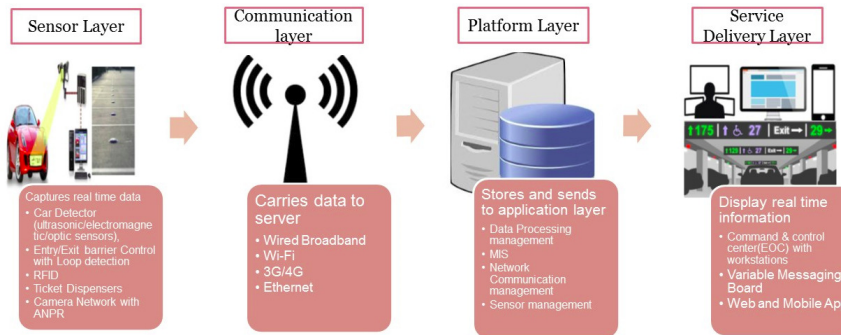
SCHEDULE IV: TECHNICAL SCHEDULE- SMART PARKING

- **Scope of Work for Concessionaire**

The envisaged solution should be automated, cost effective, scalable, secure, environment friendly, energy efficient and must entail minimum human intervention for day-to-day parking management. The following scope of work has been envisaged for this project:

- Post takeover of each parking space from Authority civil work and mechanical work (only to make minor space adjustments, no construction of parking lot is to be done by concessionaire), maintenance of the parking slots, cleanliness of parking lots.
- Deployment of trained manpower for operating parking slots.
- Concessionaire will be responsible for complete operations and maintenance of all the parking spaces during the lease period.
- To provide and install necessary complete hardware and software solutions, such as but not limited to boom barriers, auto pay station, handheld devices, porta-cabins, switches, gateway, and guidance system, for on street, off street parking system.
- Provide Parking Management and Parking Guidance System to direct drivers to available parking slots through LED signage for user information.
- Citizen App for parking services: App shall show the available slot on real time basis, booking of parking space, payment mechanism through various modes of payment, reservation for specially-abled citizens, facility for extension of pre-booked parking space.
- Comprehensive operation and maintenance of all hardware and software installed for this project throughout Concessionaire period.
- Unique identification of each vehicle entering any of the parking lots through barcoded tickets, NFC enabled Smart Cards, QR Coded entry etc. as applicable. Integration with the smart card and smart payment system of Hubballi Dharwad will be required.
- To manage and collect fees as per tariff fixed by Authority for all the parking lots defined in this RFP
- Using the data generated through the parking solution software for analytics purposes, such as time based (hourly/ daily/ weekly/ monthly/ annually) trends, area specific trends, vehicle (car – SUV/sedan/hatchback, scooter, etc.) specific trends, usage and vacancy periods, premium parking demand etc. for the purpose of better management of parking.
- The solution must integrate with e-Vahan/ National Vehicle Registration Database along with any other stolen vehicle database proposed in the future.
- The Smart card that will be implemented through separate tender will also be integrated with the smart parking solution.
- Integration with Asset Management system to keep a track and maintain identity of all assets used in this project.
- Shall undertake minor civil repair works, cabling works and road marking works, if required, in the parking lots as per Authority requirement from time to time.

• **Smart Parking – Proposed Solution Architecture**



Sensor Layer:

All edge devices including ticket dispensers are part of this layer. It is the layer that directly interfaces with the end-user. It is in this layer that physical counting of vehicles through touchpoints would happen. The sensors used serve as the backbone for the entire Parking Management System. These Geo-magnetic/Infrared/Ultrasonic sensors and devices send real time update and parking availability to the Parking Command Centre or the Parking Management Software which manages the Parking data for the entire city. The availability is then communicated to the citizens and platforms which are looking for parking information. This data can be used to enable payment systems, manage enforcement and maximize capacity of space. The Sensor Layer shall also enable payments through Smart Cards, and allow the use of handheld by on-ground personnel to collect parking charges from users.

Smart parking systems can be implemented using variety of technical solutions and some of the commonly used techniques are as following:

- a. Vehicle detection at entry and exit by use of inductive loops and parking slot detection via photo sensors.
- b. Vehicle detection at entry and exit by camera based detection and parking slot detection via ultrasonic/infrared/magnetic sensors.
- c. Vehicle detection at entry and exit by use of RFID tags and parking slot detection via ultrasonic/infrared/magnetic sensors
- d. A combination of any of the aforementioned

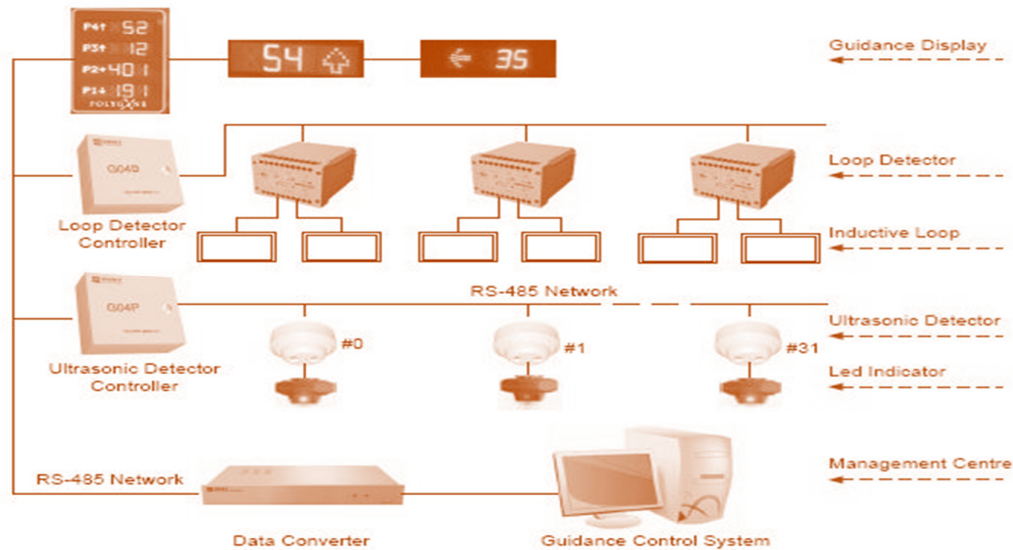
It shall collect and display real-time information on parking availability for drivers, utilize detection mechanism to count the vehicles as they enter and leave parking lots, display real-time information to drivers via variable display signs(VDS) located at the ‘Decision Points’ and mobile applications and this real-time information can be based on:

- Inductive loop
- Ultrasonic/Magnetic detector

Communication Layer:

All the edge devices, data center devices and service delivery devices would interact with each other through this layer.

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX) ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP MODEL



Smart Parking Platform:

All the management servers and data processing servers are part of this layer. The entire logic of the smart parking solution shall reside on this layer. The Parking Command Centre or the Parking Management System is a powerful tool which interacts with all the sensors deployed for the Smart Parking project. The system collates data from the sensors and the mobile app and directs the citizens to the nearest available parking slots. Alerts related to asset theft and asset maintenance are also an important feature of the system software. The control and monitoring software collects all the information generated by the sensors and allows parking operators to make adjustments remotely. Furthermore, it stores historic data of the use of the parking facility to ease decision-making and predict future trends.

EOC:

This is the administrator layer. Various agencies shall use shall use workstations and other mobile devices to monitor these parking. Data such as Occupancy Rate, Peak Occupancy, Daily, Weekly and Monthly collections, etc. must be made available through MIS reports.

Service Delivery Layer:

The end-user shall be able to book parking spaces through web-based portal as well as through a mobile app. The mobile app will allow citizens to check availability of parking slots on their smartphones before setting out. The driver gets full details of the parking options available including prices, out of hour's times and restrictions if any. The citizens can then choose the parking slots which are best suited to their requirements. The mobile app will also have the functionality to guide the drivers to the best available spaces with clear directions.

- **Key Design Considerations**

The following technical architecture has been designed taking into consideration some of the following aspects as guiding principles:

1. **Scalability** - Important technical components of the architecture must support scalability to provide continuous growth to meet the growing demand of the city traffic. The system should also support vertical and horizontal scalability so that depending on changing requirements from time to time, the system may be scaled upwards. There must not be any system imposed restrictions on the upward scalability in number of field devices. Main technological components requiring scalability are Storage, Bandwidth, Computing Performance (IT Infrastructure), and Software / Application performance.
2. **Availability** - Components of the architecture must provide redundancy and ensure that there are no single points of failure in the key project components. Considering the high sensitivity of the system, design should be in such a way as to be resilient to technological sabotage. To take care of remote failure, the systems need to be configured to mask and recover with minimum outage. The bidder shall make the provision for high availability for all the services of the system.
3. **Security** - The architecture must adopt an end-to-end security model that protects data and the infrastructure from malicious attacks, theft, natural disasters etc. Successful bidder must make provisions for security of field equipment as well as protection of the software system from hackers and other threats. Using Firewalls and Intrusion detection systems such attacks and theft should be controlled and well supported (and implemented) with the security policy. The virus and worms attacks should be well defended with Gateway level Anti-virus system, along with workstation level Anti-virus mechanism. There will also be an endeavour to make use of the SSL/VPN technologies to have secured communication between Applications and its end users. Furthermore, all the system logs would be properly stored & archived for future analysis and forensics whenever desired. The Authority may carry out the Security Audit of the entire system in approx. 3 months of Acceptance / operationalization through a Third Party Auditor (TPA). The following guidelines need to be observed for security:
 - Build a complete audit trail of all activities and operations using log reports, so that errors in system – intentional or otherwise – can be traced and corrected.
 - The most appropriate level of security commensurate with the value to that function for which it is deployed must be chosen.
 - Access Controls must be provided to ensure that the system is not tampered or modified by the system operators.
 - Implement data security to allow for changes in technology and business needs.
4. **Manageability** - Ease of configuration, ongoing health monitoring, and failure detection are vital to the goals of scalability, availability, and security and be able to match the growth of the environment.
5. **Interoperability** - The system is designed to take inputs from other third party systems as per situational requirements.

6. **Open Standards** - System is designed to use open standards and protocols to the extent possible without compromising on the security.

- **Network Architecture**

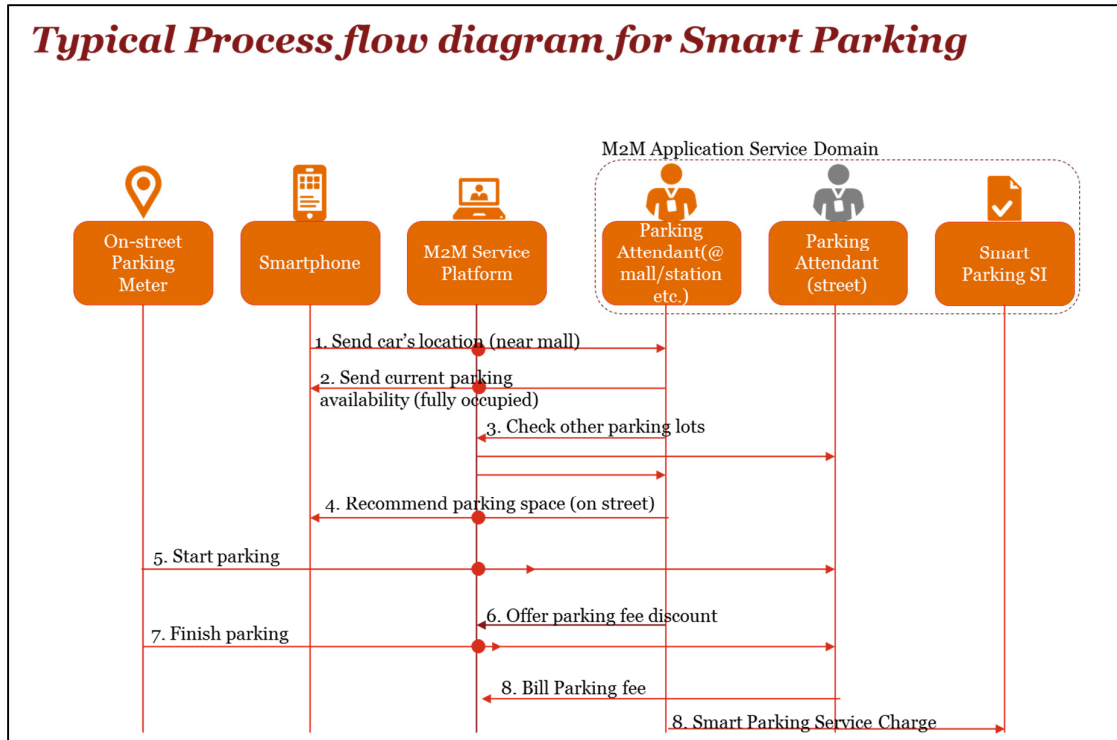
The network architecture is divided into 2 parts.

1. The network at the parking area which is the backhaul that will be provided by the service provider to the implementation agency
2. Consists of a last mile network that is needed to connect the edge devices with the backhaul network and will be required to be built to ensure converged communication.

For meeting the objectives of the Smart parking project, connectivity for all edge equipment, access/ aggregation points, storage and Data Centre will rely on the bandwidth services to be provided by the Network Service Provider. Initially, it has been envisaged to operate on shared network bandwidth services of Network Service Provider. Further, the connectivity of edge equipment's with the Data Centre would be migrated and served by optical fibre which may be laid by Authority in their future smart solutions projects.

The proposed network will be a MPLS backbone of the network service provider depending on the feasibility & commercial viability at every region. However, any options that are suggested will be built on the above mentioned blocks.

- **Smart Parking – Proposed Functional Specifications**



The smart parking solution is envisaged for both closed parking lots and open parking lots.

- a. Indoor Parking Spaces- Such parking spaces are managed through sub contracted vendors and the parking lots have boundary walls, closed terrace and a defined entry and exit points.
- b. Outdoor Parking Spaces- Such locations are managed through sub contracted vendors and have a boundary wall and defined entry and exit points. These kind of parking spaces have specified number of slots available, typically on an open ground or road.

1. Identifying vehicles at Entry/Exit

- a. The smart parking solution should be able to count the number of vehicles entering and exiting any parking structure.
- b. The smart parking solution may use video camera based analytics or other sensor based solutions to determine number of vehicles entering and exiting parking lots. The smart parking solution should do so at each floor, in case of multilevel parking and communicate the data.
- c. The smart parking solution must geo-reference all the parking lots.

2. Visibility of vacant parking spaces and Fare Revision

- a. The total number of slots and free slots for parking must be displayed on a digital signboard near the entrance of the parking lots
- b. The smart parking solution should report occupancy of parking lots to a central software application deployed at the Integrated Command and Control Center.
- c. The smart parking solution should enable Authority to obtain real time situational awareness about the occupancy of parking lot through smart dashboard.
- d. The smart parking solution should enable citizens to obtain real time space availability and slot reservation capability via mobile app or web client.
- e. The smart parking solution should facilitate real time revision of parking fees and should enable real time communication of rules to handheld terminal, parking kiosks and smart card readers.

3. Ticketing

- a. The smart parking solution should enable Authority or any other appointed third party to facilitate generation of parking receipts and tickets based on occupancy of parking lots.
- b. The smart parking solution needs to have parking ticket vending machine at the entrance where the ticket can be issued by the machine on pressing the button by the user/ operator. Further, the solution will have provision for a handheld device through which parking receipts can be generated on payment of fees through card or cash.
- c. The ticket, QR Code and Smart Parking Card or any other technology used by the SI should be capable of capturing data that is easily retrievable at the exit.
- d. Should include the provisions for the following types of parking reservations:

Walk-In Parking: This category of parking will include the citizens who drive in to the parking without any prior booking. The citizens can be provided with a QR coded ticket or any other advanced technology as deemed fit by the System Integrator.

Online Reservation of Parking spots: The citizens should be able to reserve parking spots through online web application or the Citizen Mobile app. The pre-booking would be retained for a specific period of time and reassigned in case of no show. The motorists booking parking slots under this category can be identified with a QR code based or any other advanced technology as deemed fit by the System Integrator.

Pass Based Parking: There should be an option for users to buy Monthly, Quarterly or yearly passes for hassle free experience. The motorists opting for this category would be identified using RFID based, NFC based smart card or any other advanced technology as deemed fit by the System Integrator.

Premium Paid Parking: There should be an option for users to choose premium

parking spaces for e.g.: near the entrance or exit. The corporate offices can also choose this option to reserve premium parking space for their employees. The motorists opting for this category would be identified using RFID based, NFC based smart card or any other advanced technology as deemed fit by the System Integrator

Smart Card based Parking: There should also be an option for users to be able to enter by flashing the smart card without any need to generate ticket.

4. Payment

- a. The payment collection can be done via card as well as cash (manually) at the kiosk where parking ticket can be shown/ given to the staff at the exit. Parking staff should be able to scan the ticket and provide the printed receipt.
- b. The system must be tamperproof.
- c. Smart Cards shall be provided to regular users of the parking lots. The Smart Card must have the details of the user, the registered vehicle number and
- d. Along with paper ticket, the SI can propose a cost effective smart parking solution to include NFC enabled prepaid Smart Card System for premium customers and customers opting for monthly reserved parking passes
- e. The NFC enabled smart card reader would be available at pay station and would automatically deduct the requirement payment towards parking

5. Compliance

- a. The smart parking solution should retain videos of car entering /exiting the parking zone as per the security parameters defined in the tender.
- b. The SI must ensure that all parking slots are individually and clearly marked. The smart parking solution should enable accounting and mapping of individual parking spots. All newly proposed parking spots must have one-to-one mapping with parking sensors. From existing ones, except for the very small ones, all rest will eventually have one-to-one mapping with parking sensor by phase-2 of implementation as suggested in both options of implementation strategy.
- c. There should be a provision to increase or decrease the number of parking spaces that can be reserved online through web client or mobile App, and same must reflect on web clients or mobile apps.

6. Accessibility of real time Parking space availability over Web client and Mobile App

- a. The smart parking solution should provide real time location based view to citizens about proximity of parking lots and availability of parking lots.

- b. The smart parking solution should have a mobile and a web delivery channel for citizens to get real time parking availability and pre book parking lots using online payment of parking charges facilitated through a payment gateway.
- c. A mobile application and web based user interface should be provided with the following features:
 - i. The application should have citizen module and officer module.
 - ii. The citizen should be able to see all the parking lots with exact available space in a real time mode.
 - iii. While locating nearest parking lot, the most updated parking slot availability should be given to the user.
 - iv. Through the citizen module, the user should be able to locate nearest parking lot and also pre-book based on his geographical coordinates. The same information must be made available on map with routing information.
 - v. Citizens should be given an option to extend the pre-booked parking space
 - vi. Reservation should be permitted for specially-abled citizens too.
 - vii. A convenience fee will be charged for all online booking, and there will be some penalty levied in case of cancellation after the specified time period.
 - viii. The application should have a compliance officer module where HUBBALLI DHARWAD designated inspector / operator will be able to check compliance of slot occupancy against the fees paid by the citizen.
 - ix. The citizens should be able to generate MIS report to view their occupancy of parking lots over a defined time period.
 - x. The administrators should be able to generate MIS report to view occupancy, collection and other usage statistics over a defined time period.

7. Integration

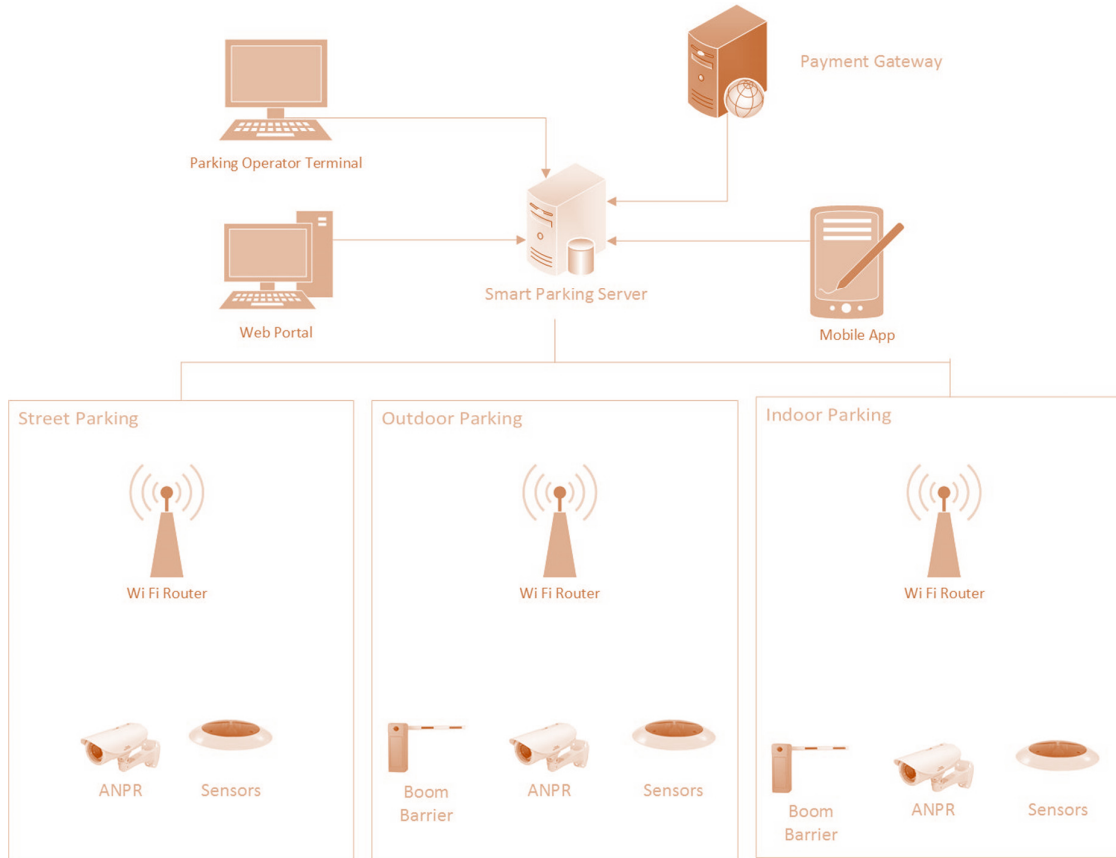
- a. Hardware: Integration information related to all Smart Parking components, including hardware components like Entry and Exit devices, barriers, handheld wireless devices, sensors, Smart Cards and software applications to perform parking related functions like payment, reporting, tracking, providing guidance etc. This information will be monitored and managed in the Emergency Operations Center.
- b. Smart Card: Integration with Smart Parking solution w.r.t identification of vehicle as well as recording time and deducting parking fees at the time of exit.

- c. Integrated Command and Control Center: Integration with ICCC for continuous monitoring and be able to respond for any failure of hardware components or any emergency situation at Parking lot.
- d. Mobile App or web client: Integration with Mobile App and web client to provide real time information on the availability of spaces in nearest or all parking lots.

8. Accounting

- a. Should provide an application with analytics capability for providing details such as Usage and Vacancy periods, premium parking demand etc.
- b. The solution should be automated, reliable, cost effective, secure, scalable, environment friendly, energy efficient, and must entail minimum human intervention for day-to-day parking management.
- c. System should be able to integrate with ITMS application, In order to identify restricted or not listed vehicles etc.
- d. The smart parking solution should enable the above functions with minimum manual intervention
- e. The Concessionaire would conduct a detailed Survey to study, validate and submit all updated documents, survey reports and maps as part of the proposed solution to Authority
- f. The existing parking management contracts would be honored till the expiry of the contract. The existing Parking Contractors would continue to pay a Fixed Parking Revenue to Authority. After expiry of the existing parking contracts, the Concessionaire would pay Fixed Parking Revenue to adjusted with annual inflation at the start of each year
- g. The Concessionaire would be responsible for implementation and maintenance of all elements of Smart Parking initiatives for all existing Authority parking slots for the entire duration of the project
- h. The Concessionaire will be responsible for all civil and installation work related to last mile connectivity, power supply extensions to devices, installing devices and equipment, and any other networking, communication, and infrastructure requirement related to Smart Parking
- i. The Concessionaire shall provide comprehensive warranty for all hardware, software and networking components, both on-field and inside the Emergency Operations Center
- j. The operations and maintenance (O&M) shall be for a period of 7 years, post go-live.

• **Smart Parking – Proposed Technical Specifications**



A. Entry/Exit Barriers

1. Three phase 0,37 CV motor
2. Scaled, self-lubricating motor
3. Movement transmission is done by ball-bearing-supported connecting rods
4. Opening/ closing time: from 0,8 secs. to 8 secs. Depending on the mounted arm (standard: 1,2 secs. For an arm of 3m.)
5. Low maintenance rate: soft start and stop movements without arm oscillations
6. Emergency stop feature by a photocell or pressure strip (optional)
7. Optional UPS (Uninterrupted Power Supply) to continue operating when mains supply's fails (max. 100 up/ down movements)
8. Internal memory of 7 pulses with Automatic reset on down signal loose
9. Polyester powder painted and oven-dried steel housing
10. Operating temperature: -20 °C a +55 °C
11. Single phase power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. optional)
12. Operating consumption: 330 w. maximum
13. The Barrier unit must conform to ISO 9001 Quality Assurance Standard
14. CE, Ukr - Sepcro certified

15. Degree of Protection: IP34D

B. Handheld Ticketing Dispenser

1. The wireless handheld device should be able to dispense a ticket (with printed QR Code)
2. The same device should be able to scan the same QR code ticket while leaving and generate and print receipt after receiving payment
3. The handheld should have the capability to allow personnel to enter the Unique Booking Code of the motorist
4. The handheld should also have NFC capabilities to be able to read NFC enabled Smart Card, Monthly passes, etc.
5. The handheld should be IP based and Wi-Fi enabled and should be monitored from the Emergency Operations Center
6. The handheld device will have the basic parking metering and management application, which will be synced with the overall Parking Management System, and its data will be communicated back and forth from the centralized Emergency Operations Center

C. Automatic Ticket Dispenser

1. Ticket dispenser with magnetic recording and printing of date, time and other data of car entrance to parking, side and central strip versions
2. Magnetic reader of season cards on the same reader mouth as ticket issuer device.
3. Smart card reader (option)
4. Credit card access control system available as an option
5. Proximity card (contactless smart-card) reader for season cards control (optional)
6. Automatic/ manual ticket issue activated by car presence detector
7. Checking/ validation of season cards, full/ partial time, residents, restricted areas cards as well as master cards, monetary value, time limit and other system card as. Anti-pass back controls on cards
8. Control of vehicle passage sequence, sending ticket code as “cancelled” to the Central Unit in case of abnormal operation
9. Barrier alarm control and management and controls manual barrier opening
10. Electronic self-adjusting vehicle presence detector that prevents ticket extraction by pedestrians
11. User-oriented alphanumeric information display in two languages with TFT monitor in option
12. Date and time visualization on display while inactive
13. Ticket loading container with capacity for 5000 tickets with Ticket level control
14. Motorized magnetic ISO strip reader/ recorder
15. Ethernet communications connection to the central unit with Optional RS-422 connection
16. Pocket terminal connection for maintenance processes
17. Autonomous operation
18. Electronically controlled internal heating/ ventilation system

19. Polyester powder painted and oven-dried steel housing
20. Operating temperature: -20 °C a +55 °C
21. Protected environment use (roofed)
22. Power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. optional)
23. Maximum consumption 70 w (270w with heater option)
24. Conform ISO 9001 Quality Assurance Standard
25. CE, FCC, IC, CNRTLUS certified

D. Parking Sensors

1. Sensors should be used for detecting the real-time status of the parking space
2. It should be able to upgrade its firmware/functionality remotely from the Emergency Operations Center
3. It should be able to permit an optimal angle between the sensor output and target
4. Sensor should be able to work in all weather conditions relevant to the project site
5. Sensors should preferably have magnetic or optic technology
6. Conform ISO 9001 Quality Assurance Standard
7. Protection Level: IP67

E. Ticket validator

1 Specifications

1. Motorized magnetic strip reader/ recorder ISO standard, side and central strip versions
2. Control/ validation of exit tickets and different types of season cards
3. Allow up to 4 periods of grace to be chosen for different exits
4. Inner container to collect exit tickets
5. Control/ validation of season cards, full/ partial time, residents, restricted areas cards, QR code or BAR code recognition from mobile devices as well as monetary value, time limit and others system cards
6. Anti-pass back control on cards
7. Control of vehicle passage sequence, sending to the Central Unit the ticket/ card code as to include it in the black list
8. Barrier alarm control and management. Controls manual barrier opening
9. Self-adjusting electronic vehicle presence detector. Impedes ticket or card validation by pedestrians
10. User-oriented alphanumeric information display in two languages. TFT monitor in option
11. Date and time visualization on display while inactive
12. Ethernet communications connection to the central unit. Optional RS-422 connection
13. Pocket terminal connection for maintenance processes
14. Autonomous operation
15. Electronically controlled internal heating/ ventilation system
16. Polyester powder painted and oven-dried steel housing

17. Operating temperature: -20 °C a +55 °C
18. Protected environment use (roofed)
19. Power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. optional)
20. Maximum consumption 70 w (270w with heater option)

F. Parking Management and Guidance Solution

1. The solution will be implemented in the Integrated Industry Standard Open Platform to manage, monitor and control HUBBALLI DHARWAD's Smart Parking initiative. Integrated Industry Standard Open Platform should have API based access to the Parking Management and Guidance System as well as the devices utilized for parking.
2. The solution should be able to monitor and configure all devices with respect to parking (sensors, displays, and signal converters).
3. It should control the system functionality and monitoring should be done from other computers and remotely.
4. It should provide capability to create full report of exact location with respect to floors, areas, levels, etc. It should be customizable and update about occupation and movements of vehicles in real time.
5. It should provide real time monitoring of all system status.
6. It should report alarms when devices are not connected or when any equipment failure occurs.
7. The software should notify alarms after a period of time if a car is abandoned.
8. The software should provide full graphical plan information of the car park with exact locations.
9. The software should allow downloading the information and configuration of fields for maintenance purpose.
10. The software application should have built in tools for third party integration to obtain real time information
11. Should provide access at user levels with passwords.
12. The software should have historic log for available spaces, period of time.
13. The software should be able to handle manual overriding of available spaces, special parking requirements for reserved spaces and handicapped lots.

G. Payment Kiosk

1. Accept up to different types of coins and returns changes.
2. Programmable automatic recharge of out-of-stock coins by means of a safe container with an approximate 500 coins capacity
3. Banknote acceptor for different notes types in any of the 4 insertion directions with two deposits for recycling, storage and change returns (optional) and a capacity of 120 banknotes for cassette
4. Safety banknote collection box (optional)
5. Thermal printer (no printer ribbon required) for receipts, payment vouchers, liquidation and accounts states

6. Automatically issues liquidation voucher on withdrawal of safety boxes (coins or notes). The voucher specifies the content of box number of coins/ notes of each type and total
7. Accepts payment with discount, money and time vouchers
8. Accepts credit card payment
9. Payment allowed for expended extra time by part-time season holders
10. Multilingual information display with 12" TFT monitor
11. Motorized magnetic ISO lateral strip reader/ recorder
12. Optional magnetic card reader/collector
13. Ethernet communications connection to the central unit. Optional RS-422 connection
14. Pocket terminal connection for maintenance processes
15. Powerless Operation: Incorporating a UPS to enable the credit pay station to complete operations in progress in the event of a power supply failure
16. Polyester powder painted and oven-dried steel housing
17. Operating temperature: -5 °C a +50 °C
18. Protected environment use (roofed)
19. Power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. option)
20. Maximum consumption: 200 w. (400 w. with heater option)

H. Variable Messaging Board

1. Source of light: High intensity LEDs
2. Colour: True Colour
3. Brightness: >8000 cd/m²
4. Luminance Class: L-3 as per EN 12966
5. Contrast Ratio: R2-R3 as per EN 12966
6. Beam Ratio: B-3 as per should be wide angle B6 or B7 or B4
7. Viewing distance: >300 meters
8. Display capability: Alpha-numeric, Pictorials, Graphical & Video
9. Display Front Panel: 100% anti-glare
10. Language: Multilingual (Hindi/English) and all fonts supported by windows.
11. Auto Dimming: Auto dimming adjust to ambient light level.
12. In built sensor: Photoelectric sensor
13. Storage capacity: Minimum 100 GB
14. Display area: Display size of VMD should be 3x2 mtr.
15. Number of Lines & Characters: The number of lines and characters can be customized as per the requirements (Min. 3 lines & 10 characters)
16. Brightness & control: Controlled through software
17. Display Driving method: Direct current control driving circuit. Driver card of display applies Direct Current Technology.
18. Display Style: Stay on and flashing
19. Connectivity: IP based

- 20. Access control: Access control mechanism would be also required to establish so that the usage is regulated.
- 21. Integration: With smart city operations centre and service providers for offering G2C and B2c services.
- 22. Construction: Cast Iron Foundation and M.S. Pole, Sturdy Body for equipment.
- 23. Battery: Internal Battery with different charging options (Solar/Mains)
- 24. Power: Automatic on/off operation
- 25. Casing: IP-55 rated for housing
- 26. Operating conditions: 0 Degree to 55 degree C

I. Emergency Call Box

- 1. IP rating: IP66
- 2. Front panel: Stainless steel cover
- 3. Internal speaker amplifier: 10W class D
- 4. Microphone technology: Digital (MEMS)
- 5. Echo cancellation: YES
- 6. Noise cancelling (static): YES
- 7. Web browser configuration: YES
- 8. Software configuration: YES
- 9. General Purpose I/O: 6 (configurable)
- 10. Power Option: PoE or external supply
- 11. Operating temperature: -25°C to 70°C (-13°F to 158°F)
- 12. Relative humidity: 0% - 95% Weight 800g (1.73 lb.)
- 13. Dimensions: 180 x 120 x 70 mm (7.1 in. x 4.7 in. x 2.75 in.)

J. Wireless Gateway/ Root AP

- 1. Wireless Gateway shall communicate with northbound network through dedicated leased lines connecting central control centre or through pre-terminated MPLS circuits over fiber network
- 2. Wireless Gateway shall communicate wirelessly at 2.4Ghz/5 Ghz ISM band with 128 bit AES encryption with southbound devices like wireless Repeaters and parking sensors
- 3. Every Repeater shall have battery backup for 6 hours of operation and powered through AC mains
- 4. Wireless Gateway shall have IP67 protection
- 5. Wireless Gateway shall connect upto minimum 10 repeaters within its radio range

K. CCTV Camera

#	Parameters	Minimum Specifications
1.	Video Compression	H.264
2.	Video Resolution	1920 X 1080
3.	Frame rate	Min. 25 fps
4.	Image Sensor	1/3" OR 1/4" Progressive Scan CCD / CMOS

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5.	Lens	Fixed 3.6mm or better
6.	Minimum Illumination	Colour: 0.5 lux, B/W: 0 lux with IR On
7.	IR Range	20 Mtrs or better
8.	Day/Night Mode	Colour, Mono, Auto
9.	S/N Ratio	≥ 50Db
10.	Auto adjustment + Remote Control of Image settings	Colour, brightness, sharpness, contrast, white balance, exposure control, backlight compensation, Gain Control, Wide Dynamic Range
11.	Protocol	HTTP, HTTPS, FTP, RTSP, RTP, TCP, UDP, RTCP, DHCP, UPnP, QoS, IPV4, IPV6, ONVIF Profile S
12.	Security	Password Protection, IP Address filtering, User Access Log, HTTPS encryption
13.	Operating conditions	0 to 50°C (temperature), 50-90% humidity
14.	Casing	NEMA 4X / IP-66 rated and IK10 rated
15.	Certification	UL/EN,CE,FCC
16.	Local storage	Micro SDXC up to 64GB (Class 10) In the event of failure of connectivity to the central server the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the server recording such that no manual intervention is required to transfer the SD card based recordings to server.
17.	Power Source	PoE, 12V

L. Smart card reader

S.No	Parameter	Technical Requirements
1	Display	7" inches or higher scratch resistant multi point capacitive touch screen with minimum WSVGA resolution (1024 X 600). 3.5" QVGA with backlight, TFT-LCD, 260K, 240 x 320
2	Dimensions (W X H X D)	87 (min.74) x 218 x 56.2 (min.29)mm
3	Weight	497g to 502 g
4	CPU/Processor	520MHz
5	RAM	128MB RAM
6	Memory	128MB ROM (Optional)
7	Expansion slot	At least a micro SD slot supporting up to 16 GB memory card
8	Audio	Good quality Speaker with 1W or higher output for announcements. Speaker, Headset jack
9	External Keyboard support	Device should support keyboard through USB or Bluetooth interface
10	Connectivity	Device should support both 3G, GPRS and Wi-Fi, should support GPS feature
11	USB Port	At least one free USB port shall be available after setting up the entire solution including peripheral devices
12	Battery	Rechargeable, 3.7V, 4,000mAh, Li-ion. Battery should be minimum 3000 MaH for the hand held terminal (HHT).
13	Operating system	Should support latest versions of iOS, Android and windows
14	Certification	RoHS (Restriction of Hazardous substance)CE or UL
15	Indicators	Status indicator provides ease of use, Indicators for connectivity (presence/absence), signal strength, battery status etc.,
16	Camera	2 megapixel camera w/ LED Flash.
17	Barcode Reader	Barcode reader capable of reading 1D Laser Class II or 1D&2D CMOS Imager
18	SIM/ SAM Slots	Minimum 1 SIM and 2 SAM Slots (Security encryption of MI Card) to support secure loading of signed applications
19	Biometric Sensor	STQC certified Finger Print Module

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20	IRIS Scanner (Optional)	STQC certified IRIS scanner Module
21	Smart Card Reader	ISO 7816 Compliant
22	Printer	Integrated or external. 2" thermal Printer (max. 90mm/sec)
23	Antenna (mandatory)	Internal
24	Terminal Management	Device should be remotely manageable in secured mode
25	Warranty	Suitable Warranty support
26	Certification	PCI / EMV Certification (Bank Certified)
27	RFID Reader	Optional, ISO 14443 A/B (MIFARE, Calypso), ISO 15693; ISO 14443 A/B (MIFARE, Calypso), ISO 18092 (NFC), Felica
28	Radio	<ul style="list-style-type: none"> • WWAN Radio- Optional, CDMA 1x for Korea SKT, LGT; GSM/GPRS/eGPRS for global • WLAN Radio- IEEE 802.11b/g • WPAN Radio- Bluetooth V2.0+EDR Class II
29	Capabilities for Transaction and Payment	<ul style="list-style-type: none"> • MSR- Bi-directional, Track1,2,3, ISO 7810, ISO 7811, ISO 7813 • Contact Payment- EMV Level 1&2, ISO 7816 • Contactless Payment- Optional, EMV Contactless Level 1 & 2 (Master PayPass, Visa Wave) • PIN Transaction- Optional, PCI PED 2.0; APACS Common Criteria; GIE CB Approved
30	GPS	<ul style="list-style-type: none"> • Optional, Integrated GPS w/ AGPS and DGPS PERFORMANCE CHARACTERISTICS
31	Environment Durability &	<ul style="list-style-type: none"> • Operating -20°C to 55°C / -4°F to 131°F • Storage- -30°C to 70°C / -22°F to 158°F • Humidity- 93% non-condensing • Damp heat Cyclic --operating-40°C, 95%RH for (12+12 hrs.)), No. of cycles: 2 • Drop/Free Fall Specification- 4ft. / 1.2m drop to steel surface with silicon case, 2drops per 6 sides • Vibration Test should be in packed condition, switched off conditions (10-150Hz, 0.15mm/2g, 10 sweep, cycles/axes) • Bump test should be in packed condition, switched off condition.(1000Bumps, 40g, in vertical position)

M. Loop detector

S.No	Parameter	Technical Requirements
1.	Power supply	200 - 260VAC 50Hz 1.5VA
2.	NMI/MI Input	This input may be activated by a potential free relay contact or open collector NPN transistor output. This input is isolated from the logic.
3.		This input may be activated by a potential free relay contact or open collector NPN transistor output. This input is isolated from the logic and is used to keep the barrier open when a vehicle has broken the beam.
4.	Raise/Lower Output Relay	These outputs are a relay contact rated at 5A/220VAC.
5.	TVI Output Relay	This output is a normally closed relay output rated at 0.5A/35VDC.
6.	Indicators	LED indicators show: Power, Barrier Raised and Loop Detector.
7.	Detector tuning range	15 - 1500uH
8.	Loop Frequency	Approx. 23 – 130KHz
9.	Environmental tracking	Automatic Compensation
10.	Protection	Loop isolation transformer with zener diodes and gas discharge tube.
11.	Connector	11 Pin Connector on rear of unit.
12.	Dimensions	80mm (height) X 40mm (width) X 79mm (Depth excl. connector).
13.	Operating Temperature	-40°C to +80°C
14.	Storage Temperature	-40°C to +85°C

• **Other Activities**

✓ **Survey and Commencement of Works**

Prior to starting the site clearance, the SI shall carry out survey of field locations as specified in list of Proposed Locations. Authority shall be fully informed of the results of the survey and the amount and extent of the demolition and site clearance shall then be agreed with Authority.

✓ **Electrical works and power supply**

The SI shall directly interact with Discoms for provision of mains power supply at all desired locations for Smart Parking field solution. Authority shall facilitate the same.

✓ **Lightning-proof measures**

The SI shall comply with this technical specifications, take into account of lightning-proof and anti-interference measures for system structure, equipment type selection, equipment

earthing, power, signal cables laying. SI shall describe the planned lightning-proof and anti-interference measures in the technical documents.

Corresponding lightning arrester shall be erected for the entrance cables of power line, video line, data transmission cables. All crates shall have firm, durable shell. Shell shall have dustproof, antifouling, waterproof functions; capable to bear certain mechanical external force. Common equipment protection needs 25KA surge suppression device and important device shall have 50KA surge suppression device.

Signal separation of low and high frequency; equipment protective field shall be connected with their own public equal power bodies; small size/equipment signal lightning arrester shall be erected before the earthing.

✓ ***UPS Lightning Protection***

All the lightning protection devices of the power supply system are installed in the low voltage distribution system, forming the lightning protection system of bipolar input protection for the protection of UPS power supply system.

✓ ***IT Equipment Lightning Protection***

IT includes servers, switch, and routers and so on. To make sure the absolute safety of the equipment, with the all-pervasiveness of lightning strikes, along with the impact of the electrical network surge upon the equipment, it is necessary to install a third level lightning protection components on the power distribution cabinet of the IT equipment.

1. Lightning protection equipment
 - a. Single-phase power supply lightning arrester
 - i. Nominal working voltage: 220V AC
 - ii. Maximum sustained working voltage: 380V AC
 - iii. Nominal discharge current: 20 kA
 - iv. Maximum discharge current: 40kA
 - v. Protection level: (20kA, 8/20 μ s) 1200V
 - vi. Protection mode: +/-PE
 - vii. Response time: \leq 25ns
 - viii. Protection grade: IP20
 - b. Network signal lightning arrester
 - i. Maximum sustained working voltage: 5V DC
 - ii. Maximum discharge current: 5kA
 - iii. Protection level: \leq 20V(3kA,8/20 μ s)
 - iv. Response time: \leq 1ns
 - v. Transmission speed: 100Mbps
 - vi. Insertion loss: \leq 0.5dB
 - vii. Protection circuit: 1/2,3/6
 - viii. Interface model: (IN/OUT) RJ45
 - ix. Protection grade: IP20
 - c. Earthing System

Lightning protection components first function is to absorb and release lightning current, also a way of equi-potential connector. The protection theories for all the lightning protection components quickly respond to the lightning strikes in an instant, to make sure that the equipment, the earth, buildings and affiliated buildings can be connected into one

equi-potential entity, to avoid the damage done by over-voltage. The key to realize being equi-potential lies in the ground wire system of the whole computer room.

d. Cabling Infrastructure

The SI shall ensure the installation of all necessary cables and connectors between the field sensors /devices assembly , outstation cabinets, for pole or cantilevers mounted field sensors /devices on sign bridges, the cables shall be routed down the inside of the pole or sign bridge and through underground duct to the outstation cabinet field sensors /devices mounted on rooftops, the cables shall be routed through ducts within the building and through underground duct to the outstation cabinet All ducts shall be HDPE as per TEC Specification (Govt. of India).

All cables and labels shall be clearly labelled with indelible indications that can clearly be identified by maintenance personnel. The proposed cables shall meet the valid directives and standards. Thus Cabling has to be carried out according to BIS standards IS-694, 8130, 5831, 3975, 1554, etc. All cabling shall be documented in a cable plan by the SI and not be paid separately. Fire retardant cables must be considered in all critical locations including data centers, CCC etc.

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SCHEDULE V: SMART PARKING LOCATIONS

Package No.	Road	Parking Stretch	Length	Pvt . Parking	Tendered Length	Vehicle Type	No. of parking slots	
							2-wheeler	4-wheeler
							1m/v ehicle	2m/v ehicle
Package 2	Kopikkar Road	Kathariya Shop to Geetanjali Shop	48		48	Two wheeler	48	
		Geetanjali Shop to Shri Tailar	108	8	100	Four wheeler		50
		Karavali Hotel Cross to Setlight Building	120		120	Four wheeler		60
		Setlight buidling to Axid Battery	50	9	41	Two wheeler	41	
		Axid Battery to Vennessions Cross	76	4	72	Four wheeler		36
Package 3	Bradway	Metrani Building to Durgad bail Auto Stand	38		38	Four wheeler		19
Package 4	Coin Road	Kathariya Shop to New Sukhsagar Hotel	106		106	Two wheeler	106	
		Shreyas Hospital to Sudarshan Takies	20		20	Two wheeler	20	
Package 5	Durgad bail	Sarround Durgad bail circle	120		120	Four wheeler		60
Package 7	Station Road	Parag cross to Jain temple	60		60	Two wheeler	60	
		Roopam Takies to Jain Temple	105	5	100	Four wheeler		50
		Jain Temple to Shrungar Taikes	105	10	95	Two wheeler	95	
		Chandrakala Taikes to Ayanagar Bekary	54		54	Four wheeler		27
		Ayanagar Bekary to Onida Show room	50		50	Two wheeler	50	
		Onida Show room to Sai Mobile Shop	36	6	30	Four wheeler		15
		Sai Mobile shop too Ganeshpet Police station	29		29	Two wheeler	29	
		Ranajeet Trading Company to Niranjn Cycle Shop	46		46	Four wheeler		23
Package 9	Subhas Road	Niranjn Cycle shop to Bakalegalli shop	46		46	Two wheeler	46	
		Gheesulal Shop to Rege shop	16		16	Two wheeler	16	

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		Gheesulal Shop opp	30		30	Four wheeler		15
		Busstand circle to Kandkur Shop cross	82		82	Two wheeler	82	
		Marudar Aravatagi to Shivsagar hotel	34		34	Four wheeler		17
		Shahar police station gate to Police quarters gate	70		70	Four wheeler		35
		Super market first gate to Super market second gate	67		67	Four wheeler		34
		KCC bank to gandhi chowk	84		84	Two wheeler	84	
		Naveen footwear to Vijayalaxmi gift centre	25		25	Four wheeler		13
		KCC bank to social library	60	10	50	Two wheeler	50	
		Manisha saree centre to Kamat hotel	65		65	Two wheeler	65	
		Silection center shop to Uday shooting shop	67		67	Four wheeler		34
		Mahendrakar Saree centre to Vernekar Jewlers	28		28	Two wheeler	28	
		New show track to paste sweets shop	11		11	Two wheeler	11	
		Shivsagar Hotel to Durga hotel	41		41	Two wheeler	41	
Package 10	Railway station Road Dharawad	BDO office to court circle	152		152	Two wheeler	152	
		BDO office to court circle	142		142	Two wheeler	142	
	Laxmi Talkies Road	Laxmi talkies to Sangam circle	123		123	Two wheeler	123	
	SBI Road	Basappa Khanavali to Bhaigani samaj	85		85	Two wheeler	85	
	cosmos club road	Court circle to kittel college road	45		45	Two wheeler	45	
		Total	2444	52	2392		1419	488

SCHEDULE VI: PROJECT ASSETS

All constructed and installed components shall be considered as project assets and all shall be handed over to HDSCL/HDMC after the concession period. This will include but not be limited to:

1. Smart Parking Tower Building and all its civil components
2. All smart parking infrastructure such as sensors, meters, wires, etc.
3. All software and monitoring systems such as dashboards, monitors, etc.

The facility has been designed by considering the environmental sustainability by providing roof top solar panels for energy independency of the SMART PARKING TOWER. Green wall in the elevation of the facility is a value addition and not only help in improving aesthetic of the surrounding but maintain the internal temperature of the facility. On the same note, rain water harvesting has been introduced in the facility to reduce the dependence on water in a sustainable manner. The rain water shall be used for watering the green wall in the elevation. The facility shall have at-least IGBC silver certification rating.

✓ **Green Wall**

The green wall is partially or completely covered with the greenery that includes a growing medium such as soil or substrate. The green all around the facility will increase the aesthetic of the surrounding and help in maintain the overall temperature as well as the pollution of the facility. More the plant surface on the façade of the facility less will be the heat generated inside the building.

The wall shall also be a medium of water reuse. The grey water from the toilets of the SMART PARKING TOWER can be used to water the plants of the green wall thereby reducing the dependency on water.

✓ **Rain Water Harvesting**

The 2850 sq. m. of the roof area could be a great source to harvest rainwater for daily needs of the facility. Since, the Hubballi city falls in the arid region of Karnataka with an average of 838mm of rainfall yearly, Rain water harvesting would be a rational approach towards environmental sustainability.

With provision of roof top rainwater harvesting in the facility, we shall be able to save 2346 cubic meter of water. This rainwater shall be stored in the storage tank below the basement of the facility and ensures the availability of around 6500 liters of water daily for the facility which could be used for toilets, cleaning and watering the vertical garden.

✓ **Roof Top Solar**

The roof top solar panels setup in a terrace area of 2850 sq.m. Shall make the facility partially energy independent. Design structure shall include dead-load of solar roof top. Separate vendors shall be appointed to install and maintain the services. The energy produced shall be used for functioning of the facility

✓ **Pedestrian crossing**

For the user's safety at the entry and exit, two table top pedestrian crossing shall be provided along with stop button integrated with traffic light at the junction.

✓ **Tree Plantation**

All the trees within the site shall be transplanted either on the same site or another site as provided by HDMC. A minimum survival rate of 6% shall be considered beyond which a penalty will be imposed at the rate of 50,000 INR per tree.

• **Key Components of a Smart Parking**

- Parking Managements System
 - Off Street Parking (Covered parking lots – multi level car parking)
 - Entry Stations - Automated ticketing system
 - Exit parking systems
 - Auto pay stations/Central Pay stations
- Parking Guidance System
 - Variable messenger signs and Facility guidance systems
- Web Portal and Mobile app for consumers
 - Parking Identification, Pre booking, payment and navigation
- Control and command center
 - Integration with city command and control system
 - Data management, analytics and Business Intelligence on real time basis
 - Monitoring of real time transactions, parking availability, pre booking, season parking and parking enforcement
 - Management of Equipment status and alarms on real time basis
 - Dash boards and reports

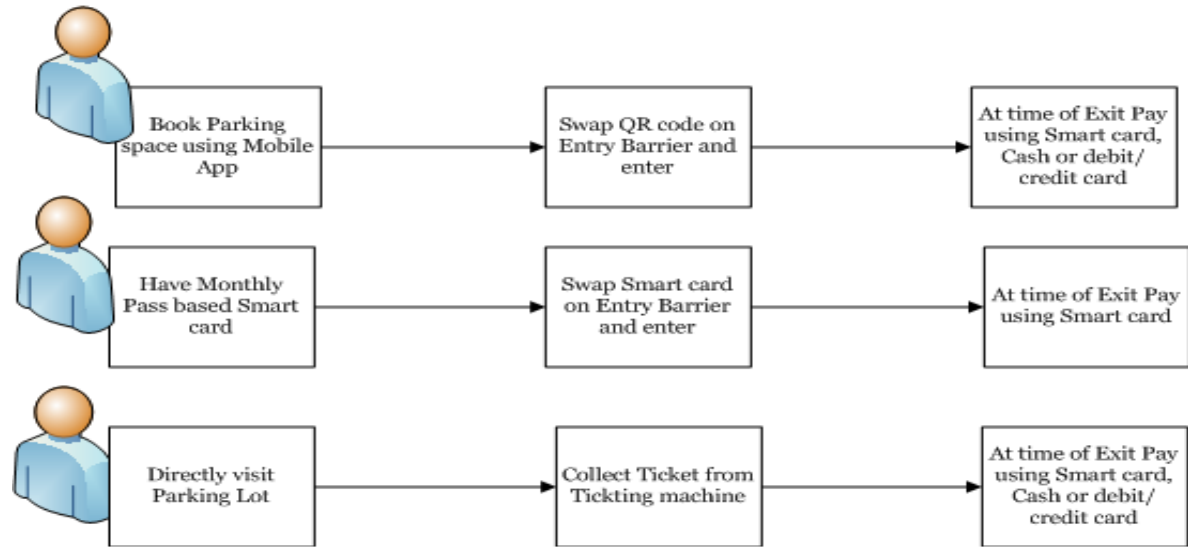
• **Proposed Parking Lots for concessionaire**

HDMC currently own parking lots in the city. All of these parking lots are considered to be converted to smart parking. However, based on size and other parameters the quantum of Smart Parking Intervention is proposed.

All Parking lots will have facility for parking of 2 wheeler and 4 wheelers. However, ability to book parking slots in advance using mobile App or Portal would be allowed only for 4-wheeled vehicles.

The user will be able to use the parking lots in three ways:

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- **Integrations**

- The centralized smart parking solution will be integrate with the Integrated Command and Control Center (ICCC) and provide real-time statistics and data along with control to the operators and other stakeholders in the ICCC.
- The Smart Parking solution needs dedicated Wi-Fi connectivity as enabler for communication layer for all data communication from Sensors to parking servers.
- The solution must integrate with e-Vahan/ National Vehicle Registration Database along with any other stolen vehicle database proposed in the future.
- The parking solution also needs to be integrated with PEP-OSS for allowing online slot reservations and payments.




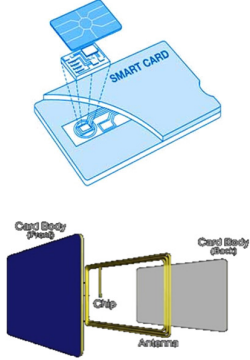
- **Proposed To-Be Intervention**

The Smart Parking System will includes the following five basic elements:




- **Parking facility monitoring subsystem:** Monitors the ingress and egress of vehicles at the parking facilities.
- **Parking information signs:** Provides parking lot occupancy and directional information to drivers at decision points
- **Communications subsystem including vehicle detectors:** Facilitates communication between the central computer, vehicle detector system, and the parking information signs.
- **Central computer system:** Calculates lot occupancies from vehicle detectors, commands signs to show required message and allows operator intervention.
- **External interfaces:** Facilitates communication between the central computer and

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external systems.

Component	Component Name	Description
	<ul style="list-style-type: none"> Entry/Exit barrier with loop detection For Parking And Vehicle Access Remote Control 	<ul style="list-style-type: none"> Generally Installed at Entry / Exit barriers, these are unmanned station which allows entry / exit based upon the information logged in scanner installed nearby
	<ul style="list-style-type: none"> Handheld Ticket Dispenser 	<ul style="list-style-type: none"> A hand-held device to dispense ticket to incoming users along-with other necessary details
	<ul style="list-style-type: none"> Automatic Ticket Dispenser 	<ul style="list-style-type: none"> A Do-It-Yourself machine which enables users to print ticket themselves as per their convenience
	<ul style="list-style-type: none"> Smart Cards & Readers 	<ul style="list-style-type: none"> The SMART cards are cards that can be loaded and reloaded with money It includes an embedded integrated circuit (IC) chip that can be either a microcontroller with internal memory or a memory chip alone The card connects to a reader with direct physical contact (i.e. a contact smart card) or through a remote contactless electromagnetic interface (i.e. contactless smart card)

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	<ul style="list-style-type: none"> Inductive Loop Detector 	<ul style="list-style-type: none"> Physical Loops installed to capture the count of vehicles crossing over a designated line / area
	<ul style="list-style-type: none"> Parking sensors 	<ul style="list-style-type: none"> Sensors installed in Parking Areas assisting users in Parking their vehicles safely and only in designated Area without encroaching upon other parking lot
	<ul style="list-style-type: none"> Variable Messaging Displays 	<ul style="list-style-type: none"> To be installed outside Parking Lot in visible Public Areas displaying Real Time Availability in one or more Parking Lots
	<ul style="list-style-type: none"> CCTV Camera 	<ul style="list-style-type: none"> Use of Camera and relevant Video Software to capture designated area of Parking virtually
	<ul style="list-style-type: none"> Car wheel lock 	<ul style="list-style-type: none"> Enforcement Device for users who haven't paid the dues or parked in non-designated Area
	<ul style="list-style-type: none"> Payment Kiosk 	<ul style="list-style-type: none"> A Do-It-Yourself machine which enables users to pay for parking usage by themselves through cash or card as per their convenience
	<ul style="list-style-type: none"> Parking Management and Guidance Solution 	<ul style="list-style-type: none"> To Guide the vehicle owner about the parking slots availability etc

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	<ul style="list-style-type: none"> • Controller 	<ul style="list-style-type: none"> • High Performance TCP/IP intelligent vehicle counting system Controller with display to indicate available parking slots & other accessories, Capable of connecting with multiple displays, loop sensors, Enclosed in Tamper
	<ul style="list-style-type: none"> • Ticket Validator 	<ul style="list-style-type: none"> • To allow users to validate their paper tickets or QR code/bar code generated from mobile app and gain access to the exit boom barrier for an hassle free exit
	<ul style="list-style-type: none"> • Mobile App 	<ul style="list-style-type: none"> • To provide users with information like the Availability of Parking Spaces, Near most Parking Lot Available or any relevant information pertaining to Parking Management
	<ul style="list-style-type: none"> • Emergency Call Box 	<ul style="list-style-type: none"> • It's an electronic device that is used to alert and call someone in emergency situation
	<ul style="list-style-type: none"> • Wireless Gateway/ Root AP 	<ul style="list-style-type: none"> • It is required for dedicated connectivity across all parking lots.

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SCHEDULE VII: PROJECT IMPLEMENTATION SCHEDULE

To be inserted during contract negotiation, after obtaining from proposal of selected concessionaire.

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**SCHEDULE VIII: PROJECT CONCEPT DESIGN AND TRAFFIC MANAGEMENT
PLAN**

To be inserted during contract negotiation, after obtaining from proposal of selected
concessionaire.

SCHEDULE IX: MINIMUM MAINTENANCE REQUIREMENTS

- **Operation and Maintenance (O&M) Guidelines**

The concessionaire shall follow the following Operation and Maintenance guidelines:

- The concessionaire has to adhere to the operation and maintenance policies and procedures, to be defined in SOPs to be developed by Concessionaire within 3 month from engagement in consultation with HDSCL, HDMC and consultant of HDSCL, for managing and operating the Project. This includes (but not limited to) approach related to manpower, resources, vendor management, security, customer service, repair and maintenance and other primary functions, user manuals, technical manuals, financial management, risk management, life/safety management, employee management and administrative policies and procedures. It also includes the key elements of a management plan for this project to include considerations for customer service improvement, enhanced economic impact generation which is the key to this project operation.
- Concessionaire will be responsible to deploy on-field resources for appropriate up-keeping, maintenance, and operation of all equipment, hardware, and software components, and ensure smooth functioning of the project throughout the entire concession period of Seven years. The Bidder has to manage all on street and off street parking and collect revenue.
- The comprehensive Operations and Maintenance (O&M) period for all sensors, devices, equipment and its related hardware, software, electrical and network infrastructure components supplied and installed for this project including configuration of servers, desktops, routers, switches, firewall, LED signage, parking sensors and various other active and passive components along with repair, replacement of parts, sensors, providing spare parts, updating, security alerts and patch updating, regular backup of the data etc. shall be upto a period of Seven years from the date of handing over of all agreed Parking lots to the concessionaire. The concessionaire shall provide comprehensive on-site warranty for all the hardware items and peripherals throughout the concession period.
- The concessionaire shall depute adequate manpower as full time dedicated onsite team. The team shall be deputed to identify, acknowledge, troubleshoot, manage, replace and repair the hardware/ system software. The team shall undertake day-to-day troubleshooting and maintenance requirements for this project.
- The team shall be also be responsible for regular monitoring of all the equipment, proactively perform warranty checks, and generate Service Level Agreement reports from the SLA monitoring tool.
- The team shall be required to take regular backup of the application data as per the frequency defined by Authority. Security and safety arrangements for safe custody of the backup data shall also be the responsibility of concessionaire.
- The concessionaire shall ensure that the team has appropriate skill-sets for managing networking, hardware and application software tools.
- All patches and updates to any software and hardware devices shall be provided by the Bidder without any additional costs throughout the tenure of the Concession Agreement.

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX) ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP MODEL

- Periodic Revenue audit & Quality Audits to be performed every quarter by AUTHORITY team.
 - There has to be Functional and Behavioral Training to be provided to the staff once a year by the concessionaire and relevant report to be submitted to the authorities of Authority. These reports will be part of the quality audit reports.
 - Insurance coverage for the Parking lots up-to 1cr covering the damage or theft of the vehicle and injury to a personnel in the parking lot. Any claim related to damage or theft of the vehicle and injury to a personnel in the parking lot are responsibility of the concessionaire.
 - Relevant number of fire extinguishing equipment has to be installed and necessary clearance to be taken by Concessionaire.
 - All statutory compliances like Labor License, Professional Tax registration, Coverage of all applicable employees under ESI and PF act to be taken care by the concessionaire.
 - General maintenance, upkeep and cleanliness of the parking lots is the responsibility of Concessionaire.
 - Concessionaire has to replace the hardware, software or manpower in case of fault, Malfunction etc.
- **Scope of Operation and Maintenance services of the Green and Sustainable Smart Parking Tower**

Sr.No.	Scope	Clauses
1	Green initiatives	To adopt green practices as and when the buildings go for retrofitting and renovation, thereby reducing the environmental impacts
2	Waste Collection & Disposal	Segregate building waste at source and facilitate proper disposal for recycling, thereby avoiding such waste being sent to land fills
3	Building Operations & Maintenance	Ensure sustained performance of the building systems, so as to achieve benefits during the lifetime of the building systems & facility. Have in place an operation & maintenance plan for the following, as applicable: <ul style="list-style-type: none"> • HVAC systems (including chillers, cooling towers etc.) • Lighting systems • Onsite renewable energy systems • Rain Water harvesting structures • Power back-up systems (Generator sets, gas turbines etc.) • Elevators and escalators • Building management systems
4	Eco-friendly Refrigerants & Halons	To encourage the use of eco-friendly refrigerants and halons in the facility, thereby minimizing leakage in the atmosphere and the resultant impact on the ozone layer
5	Minimum Energy Performance	Enhance energy efficiency of the building to reduce environmental impacts from excessive energy use.
6	No Smoking Area	Premise shall be No smoking area.

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX) ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP MODEL

7	Security and Surveillance	Provision of security personnel and surveillance cameras at entry-exit and common areas shall be maintained.
8	Smart Parking	All smart parking components be always functional. Defection should be rectified as early as possible. Not to hinder the functionality of the facility.
9	Fire fighting	Adequate measures for firefighting as per the prevailing byelaws. Readiness of the equipment and personnel shall be maintained.

Facility management

- Maintenance and updating the technical manuals regarding mechanical equipment, plumbing, electrical, elevators and structural aspects of the building.
- Provide reports on the conditions of the building and projections of future repairs as needed for the entire property, and monitoring the energy consumption;

Schedule Operation and Maintenance of the Following Systems

- **Elevators and dumbwaiters:** “full service” 24 hour maintenance year round including Annual Maintenance for all six elevators and for the dumbwaiters.
- **Mechanical equipment/system:** Full maintenance and inspection of the mechanical system, including manual and inspection labor along with the limited necessary materials to keep the mechanical equipment/systems in proper running condition.
- **Electrical and fire systems:** full maintenance both preventive and emergency calls for the electrical and the fire systems. The purchase of all necessary materials (lamps, switches, etc.) will be at Contractor’s expense.
- **Water system:** full maintenance of the water system, including inspection for the proper functioning of the water systems, including periodic cleaning of the storage tanks etc.,
- **Landscaping:** keeping in good condition all landscaping, mowing of grass and maintenance of proposed vertical gardening; trimming of the areas surrounding bushes and trees; periodic fertilization, weeding and repairs; aesthetic trimming of bushes, trees and hedges, cleaning of foliage during fall and as needed, including watering, manuring etc.,
- **Drainage and sewerage connections:** full maintenance of the internal plumbing, sewer system including inspection for the proper functioning of the systems.

Cleaning of the premises (interior and exterior) as follows

- Daily cleaning of the interior of the building on work days, including major cleaning to be done following all events, official and otherwise, that have taken place in the Embassy spaces;
- Daily cleaning and sanitization of restrooms on work days;
- Hourly cleaning of bathroom / toilet facilities on ground floor during
- Quarterly cleaning of all windows/Jalis on the second, third and fourth floor, inside and outside or as needed. Cleaning of the skylight once every three months
- All windows glasses and door glasses in the first floor, inside and outside, shall be cleaned monthly or as needed;
- Cleaning of the garage and driveway monthly or as needed;
- Areas and driveway areas used by pedestrians and vehicles as required.

All cleaning and needed supplies are furnished by the Contractor at its sole expense.

SCHEDULE X: RESPONSIBILITIES OF AUTHORITY AND CONCESSIONAIRE

Authority

- Authority will provide permission in writing, for use of right of way (ROW) (Concessionaire has to reinstate the site at its own cost), electric supply provision, civil works, flooring of the parking lots.
- Minimum space required for installation of Gateway, Switches, Routers, Cameras, LED/LCD displays etc. for smart parking services will be provided free of cost by Authority. Existing infrastructure like electricity/camera pole (if any) can be leveraged on Authority approval for mounting such devices.
- Authority will provide support for integration with ICCC.
- At the end of the concession period, all rights given to the Concessionaire, shall be terminated automatically.
- Authority shall provide single window clearance, where Authority has full control and jurisdiction, to the Concessionaire for the purpose of this RFP document.
- Authority shall undertake civil repair works, resurfacing and road marking works, if required, in the parking lots as requested by the concessionaire and approved by Authority from time to time.
- Areas for no parking are to be defined by Authority in consultation with Traffic Police department.
- Parking yard for towed vehicles shall be provided by Authority
- Mark all the boundaries of each parking slot in all the parking lots under this RFP document

Concessionaire

- Design, develop, provide, install, manage, operate and maintain the smart parking and payment system as defined under BoQ section, as per the Service Level Agreement (SLA) throughout the concession period. Penalty will be imposed as per SLA in the Penalty Clause of this RFP document for non-adherence of the terms and conditions of the RFP.
- Operate, maintain and manage all hardware, software and services covered in this RFP document throughout the concession period.
- The Concessionaire will be responsible for all civil and installation work related to network connectivity, power supply extensions to devices, installation of devices and equipment, and any other networking, communication, and infrastructure requirements related to any work under this RFP document.
- Watch and ward of the assets/ services created in this project. The Concessionaire has to replace the material(s) / equipment(s) /device(s) in case of any theft or loss due to any other reasons, which affects the services/ assets under this project.
- To provide FTTH / broadband connection at each of the parking lot to bring (i) parking related data on real-time basis;
- Erect suitable steel structures at its own cost for installation of LED signage for parking guidance and management system. These structures/ poles shall be of stainless steel, and aesthetically designed and structurally stable and as per Authority specifications.

The concessionaire shall also indemnify Authority for any damage due to such structures.

- May utilize street light poles, with prior permission from Authority, for installation of repeaters/Gateways, switches/routers as necessary and used exclusively for the purpose of this project, without compromising the aesthetic sense and strength of pole.
- Authority will be the owner of all dismantled existing equipment from the parking lots and all such equipment shall be handed over to Authority, not later than a fortnight from date of such dismantling.
- Provide adequate battery bank to ensure uninterrupted power supply to all hardware (equipment, devices, etc.) covered under this RFP document.
- All physical assets created under this RFP as per Bill of Materials (BoM), will become the property of Authority at the end of Concession period or at termination of the concession, whichever is earlier, and the Concessionaire will not have any legal right on these assets.
- At the end of the concession period of Seven (7) years of O&M, the Concessionaire has to hand over all physical assets belonging to Authority in proper working condition. In case of any deficiency noticed at the time of such handing over, the Concessionaire has to get it rectified at his own cost within 15 days of such handing-over, otherwise, Authority will get it rectified at the risk and cost of the Concessionaire. Performance guarantee of Concessionaire will be released only after successful handing over of the all physical assets in working condition to Authority.
- Any damage to other services arising due to installation or execution or repair or maintenance work by the Concessionaire, shall have to be made good by the Concessionaire within 72 hours of such damage, failing which Authority will issue a notice to concessionaire asking for justification. Concessionaire will be required to respond to such notice within 3 working days. In case it is found out that the current issue at hand is out of control of Concessionaire then problem will be solved jointly by Authority and Concessionaire based on their agreement. Else, Concessionaire will be required to do the needful within 72 hours of the decision made by Authority.
- The location of Parking lots and area given under this RFP document is based on preliminary survey. Area and location may change while preparing detailed design and execution of this project. During the Concession period, new parking lot(s) may be added by Authority and the Concessionaire has to cover such lot(s) under the scope of this project with the agreed Parking Tariff.
- The concessionaire shall pay Concession Fee or revenue share whichever is higher to Authority.
- For any complaint registration by users, provisions shall be made by the concessionaire in Citizen App and web portal. Dedicated WhatsApp number/ Help line number shall be provided to citizens for any complaints/suggestions/feedback with regards to parking. The same shall be monitored by the concessionaire and adequate responses shall be delivered to citizens within 48 hours. The concessionaire shall provide a weekly report to the Secretary, Authority every Monday on the number of complaints received during the previous week (Monday to Sunday) and the number of replies furnished by it to the complainants along with number of complaints on which no response has been made by the concessionaire.

- The concessionaire shall honor the 'Parking Passes/Stickers' issued by Authority and will not charge any parking fees from the user of such vehicles having 'Parking Passes/Stickers' issued by Authority. Such non-charging of parking fees by the concessionaire shall have no interference on concession fees to be paid by the concessionaire to the Authority, and the concessionaire cannot make any claim on the account of non-charging of parking fees from such vehicles. Such 'Parking Passes/Stickers' shall be valid on calendar year basis, and maximum number of such passes/stickers issued by Authority should not exceed 50 numbers every year. Authority shall provide the database of passes/stickers (Vehicle Number, pass/sticker No., Type of Vehicle – Car, Scooter, Motorcycle etc.) issued by it to the concessionaire in the software provided by the concessionaire for this purpose on real-time basis.
- Apply for road cutting permission to Authority, in one-month advance, showing its requirements, layout plan for services to be laid, plan for restoration with timelines. Authority will get it approved as per feasibility at site. The final route will be decided/ approved by Authority keeping in view the requirements of the Concessionaire and the site conditions. As such, any instructions/policy of Authority, Government of Karnataka and Government of India issued from time to time will be applicable on the Concessionaire.
- Restoration of roads, footpath, green portion etc. will be done by the Concessionaire at its own cost as per plan approved by Authority or within 15 days (whichever is earlier) from the date of any road cutting done by the concessionaire or by Authority in relation to the work for parking solution under this project. Restoration has to be done with equivalent specifications provided by Authority so that after restoration the aesthetics and purpose of use will not compromise. Restoration work shall be carried out as per CPWD specifications.
- The Concessionaire shall take metered electricity for parking sensors, gateway, router/switches, LED signage / displays, Parking guidance system and all systems for on-street, off-street & underground parking equipment etc. and for all equipment installed in Central Control Centre.
- The Concessionaire shall integrate the parking mobile app and the web portal with the People Empowerment Platform (PEP) – One Stop Solution mobile/web platform Authority App, and with the Integrated Command & Control Centre, as and when such Integrated Command Control Centre will be set-up by the Authority by itself or through any other concessionaire.
- At the time of completion of implementation period (i.e. six months from the date of handover of the parking lots to the concessionaire by Authority), the Concessionaire shall inform the Authority in writing for the same along with a list of all the assets (details of equipment, software, services etc.) deployed during the implementation period under this RFP document, including their costs. The Concessionaire shall update such assets list on yearly basis throughout the concession period.
- Ensure that all the vehicles will be parked in the space defined for each vehicle in the parking lot. The parking attendant will ensure proper parking of vehicles in each slot.
- The concessionaire shall be responsible for any theft/ damage/ loss of vehicles parked in parking lots and shall be responsible for settlement of the dispute, if any, including under the Court of Law, and also follow all instructions and guidelines issued by

Hubballi Dharwad Police / statutory rules & regulations / Authority for prevention of misuse of parking lots, including usage by anti-social elements, terrorist(s) etc.

- Undertake all measures for Cyber security, protection of information and communication technology systems of this project from cyber-attacks that are purposeful attempts by unauthorized persons to access ICT systems in order to achieve the target of theft, disturbance, damage, or other illegal actions. The Concessionaire will detect, analysis and do mitigation of vulnerabilities and protect Integrated Command Control Centre including Data Centre from cyber-attacks throughout the concession period.
- Propose additional measures to increase occupancy of parking lots. However, the Concessionaire will be required to take approval from Authority before implementation of any measures to improve the parking efficiency.
- Ensure at all times that the parking lots are utilized by cars, cabs, two- wheelers, and other small vehicles, but no heavy or medium commercial vehicles are parked in specified parking lots unless the parking slot / lot is dedicated to buses.
- The Concessionaire will provide necessary support, data and other required information for integration of smart parking solution with Integrated Command Control Centre of Authority, as and when such Integrated Command Control Centre will be set-up by Authority by itself or through any other concessionaire in future.
- Responsible for and provide security at the parking lots, and shall report crimes in parking lots to Hubballi Dharwad Police and Authority without fail.

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX)
ON DESIGN, BUILD, FINANCE, OPERATE AND TRANSFER (DBFOT) AT COURT CIRCLE IN HUBBALLI UNDER PPP
MODEL

SCHEDULE XI: SMART PARKING SCOPE DISTRIBUTION

No.	Activity	MSI*	LSI^	MLCP Concessionaire (Smart Parking Solution)
1.	Procurement, deployment and commissioning of IT Infrastructure (ex: Servers) at KMDS & DR	√		
2.	Procurement and installation of the OS & licensing for Smart Parking application at KMDS & DR		√	√
3.	Estimating the requirement for storage and compute required at KMDS & the DR for Smart Parking application		√	√
4.	Provisioning of rack space at KMDS & DR for the requirement of the city	√		
5.	Hosting the Smart Parking application at the servers in KMDS (production) & DR		√	√
6.	Back-up to secondary storage devices at DC & DR	√		
7.	DR setup for ICOP	√		
8.	DR setup for Smart Parking application	√		
9.	Integration (development, testing and staging) between Smart Parking application and the ICCC application at KMDS	√	√	√
10.	Information/Data flow between DC & DR	√	√	
11.	Integration (development, testing and staging) between Smart Parking application and the ICOP application at KMDS and DR in case of DC failure	√	√	√
12.	Ensure the availability of IT Infrastructure at DC (KMDS)	√		
13.	Ensure the availability of ICOP Application	√		
14.	Ensure the availability of Smart Parking Application		√	√
15.	Customization, development and functional testing of ICOP	√		
16.	User Acceptance testing of ICOP		√	
17.	Ensuring the availability of GIS platform	√		
18.	Updating the data layers (relevant to MLCP project) at GIS		√	

RFP FOR DEVELOPMENT OF 'SMART PARKING TOWER' (MULTI-LEVEL CAR PARKING-CUM-COMMERCIAL COMPLEX)
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MODEL

19.	Network connectivity between field devices and KMDS		√	√
20.	Network connectivity between KMDS and ICCC facility	√		
21.	Network connectivity between KMDS and DR	√		
22.	Scheduling & communicating the planned down time at Data Centre	√		
23.	Coordination & assistance for planned down time for the respective applications at Data Centre	√	√	√
24.	Provision of DNS	√		
25.	Procure, Install, Commission and Operate the Centralized Helpdesk	√		
26.	Integration between external applications and Smart Parking application		√	√

* **Master System Integrator (MSI):** The MSI is the bidder identified through a tender process for the set-up of centralized Data Centre at KMDS & Disaster Recovery (DR) on cloud and also provides the Integrated City Operations platform.

^**Local System Integrator (LSI):** The LSI is the bidder identified through a tender process for the setup of Integrated Command and Control Centre (ICCC) at the city level and also for the implementation of city specific applications.

Hubballi-Dharwad Smart City

Annexure Volume

*Smart Parking Tower
Court Circle, Hubballi*

23 February, 2018





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Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

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Abbreviations

ABD	Area Based Development
BRT	Bus Rapid Transit
ECS	Equivalent Car Space
HDMC	Hubballi Dharwad Municipal Corporation
ISO	International Organization of Standards
KUIDFC	Karnataka Urban Infrastructure Development and Finance Corporation
MOUD	Ministry of Urban Development
MLCP	Multi-Level Car Parking
PPP	Public Private Partnership
PWD	Public Works Department
SCM	Smart City Mission
SCP	Smart City Proposal
ULB	Urban Local Body

Annexure 1: Statutory Documents from HDMC



ಹುಬ್ಬಳ್ಳಿ-ಧಾರವಾಡ
HUBBALLI - DHARWAD

ಮಹಾನಗರ ಪಾಲಿಕೆ
MUNICIPAL CORPORATION



No.: HDMC/Ex Eng North/ MLCP NOC/2017-18 Date: 04/01/2018

NO OBJECTION CERTIFICATE

This is to certify that HDMC have no objection on construction of Multi-Level Car Parking wide survey number:- CTS173 under smart city PPP project. However, HDMC given its consent on operating multi-level car parking under PPP mode. This no objection certificate and consent is given for establishment of Multi-Level Car Parking project under Smart City.



Commissioner
Hubballi-Dharwad Municipal Corporation
Hubballi, Karnataka

ಸರ್ ಸಿದ್ದಪ್ಪ ಕಂಬಲಿ ರಸ್ತೆ, ಹುಬ್ಬಳ್ಳಿ - 580 020. ಕರ್ನಾಟಕ ರಾಜ್ಯ
Sir Siddappa Kambli Road, HUBBALLI - 580 020. Karnataka State
Ph. : 0836-2213800, Fax : 0836-2350855, Control Room-Assistance : 2213898, 2213888, Website : www.hdmc.gov.in

ಹುಬ್ಬಳ್ಳಿ ಧಾರವಾಡ



ಮಹಾನಗರ ಪಾಲಿಕೆ

Dated 15th Feb 2018

To
Managing Director
Hubli-Dharwad Smart city Limited
Hubli

Subject: Letter of assurance by Hubballi Dharwad Municipal Corporation (HDMC) for the proposed Smart Parking Tower at Court Circle, Hubballi

To whom so ever it may concern,

A multi-story Smart Parking Tower at Court Circle Hubballi has been proposed on Public Private Partnership framework as a part of Smart City Mission under Hubballi Dharwad Smart City Limited. On behalf of HDMC we assure cooperation and support for the implementation parking regulations around the 500 meter radii of the proposed building site.

It is to be noted that within the 500 meter radii of the court circle site, all the on-street parking sites under the jurisdiction of HDMC shall be allotted to the winning vendor as a part of the PPP framework under revenue share model. All the on-street parking sites awarded to vendor are to be provided with Smart Parking Components and will be maintained by the vendor of the Smart Parking tower. This Vendor shall be responsible for the maintenance of the parking discipline in and around the 500 meter radii.

In order to maintain the parking discipline, the vendor shall be allowed to create no parking zones, vehicle clamping and towing of the vehicles, apply fines for the illegally parked vehicles as per the agreed terms and conditions.

On behalf of HDMC

Commissioner

Hubli-Dharwad Municipal Corporation
Hubli

Copy to

- Commissioner Traffic Police Hubli Dharwad

Annexure 2: Public Convenience at the site

Location



The court circle MLCP site is also present with a public convenience operated and maintained by Sulabh International. The area covered by the facility is around 300 sq. ft. (27sq. m).





Available Infrastructure

Sr. No.	Infrastrucutre Available	Details
1	Urinals	4 Nos

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

			
<p>2</p>	<p>Wash Basins</p> 	<p>2 Nos</p>	
<p>3</p>	<p>Bathrooms</p> 	<p>2 Nos</p> <ul style="list-style-type: none"> • Gents- 1 Nos Women- 1 Nos 	
<p>4</p>	<p>Pots</p>	<p>5 Pots</p> <ul style="list-style-type: none"> • Indian style- 3 Nos Western style- 2 Nos • Gents- 3 Nos, Ladies- 2 Nos 	

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

		
5	Caretakers room 	Area ~ 150 sq.ft (with kitchen stand and area for bed)
6	Collection counter – Management and operation 	Space for keeping the table and chair for the caretaker
7	Water tank	Underground water tank available
8	Overhead tank	Available with 2000 liters capacity
9	Security	Shutter at the gates with no CCTV surveillance cameras.
10	Underground well	Available but not working

Operation and Management

Sr. No.	Details	Information
1	User charges	Toilet – INR 1 Washroom/ Bathroom- INR 5
2	Daily earning	INR 1000-1500
3	Monthly earning	INR 30,000-45000
4	Electricity charges	INR 1200-1500 per month
5	Caretaker salary	INR 10,000 per month
6	Alternate source of water	Water tank / per tank basis monthly ~8 tanks
7	Cleaner salary	2 Nos @ INR 3000 per cleaner

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

Annexure 3: Establishment Survey

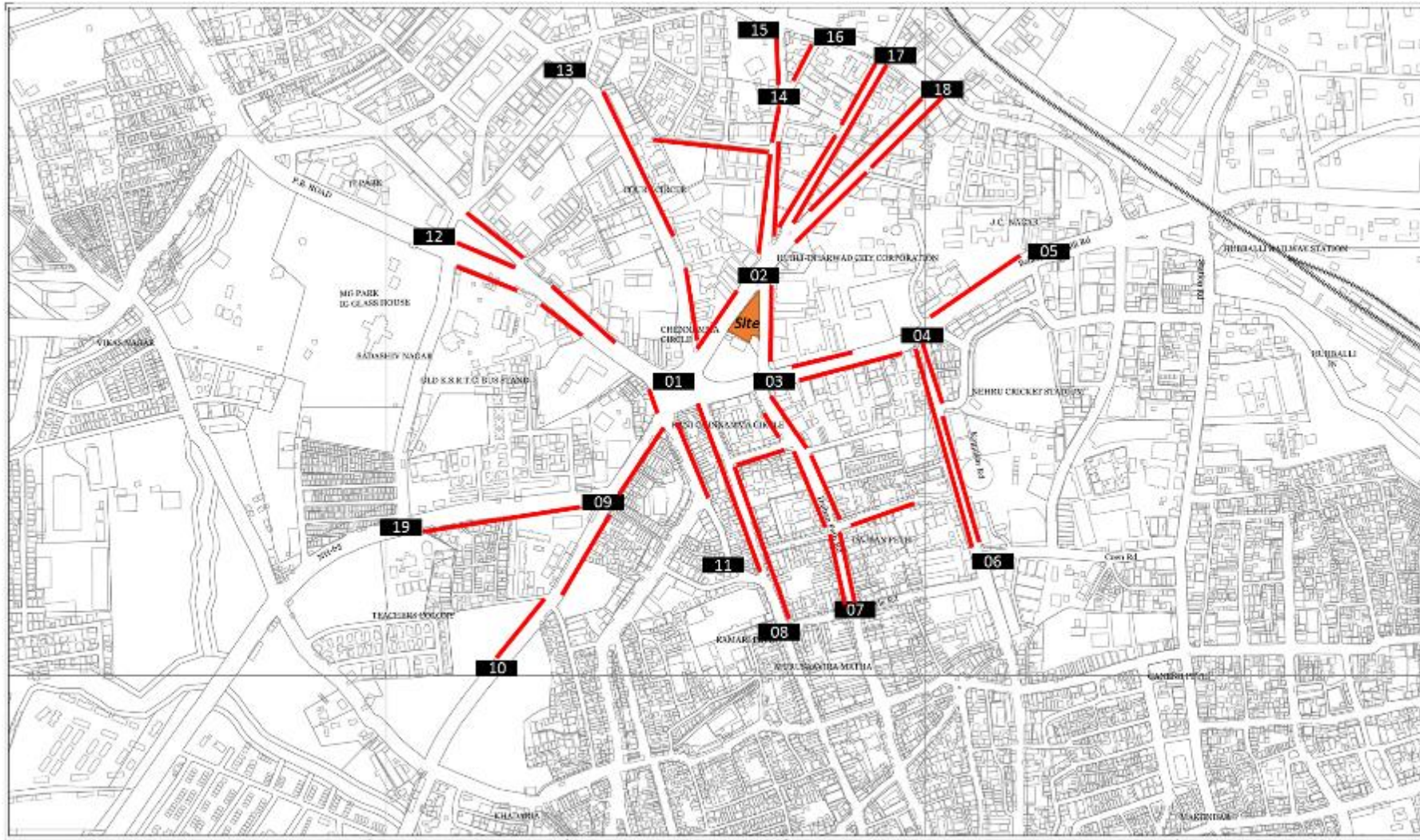
Rani Chinnamma Circle MLCP- Establishment Survey													
Sr. No.	Name of the Street	Name of Shop/Complex	Type of Establishment Commercial / Residential / Public- Semi Public/ Institutional	No. of Shops Available	Working Hours per day	Total Hours	Parking type Basement/Stilt	No. of Vehicle parked		Area covered M2	Parking Capacity		
								2 Wheelers	4 wheelers		2W	4W	Area
1	Niligin Road	Ureka Tower	Commercial	25	10am To 8 pm	14	Base And GF	35	0	109.375	45	0	140.625
2	Niligin Road	Laxmi Complex	Commercial	30	10am To 8 pm	14	GF	85	70	1123.125	100	80	1292.5
3	Niligin Road	Shiva Krupa Complex	Commercial	10	10am To 6 pm	12	GF	12	0	37.5	20	0	62.5
4	Niligin Road	Madiman Complex	Commercial	6	10am To 8 pm	14	GF	8	10	147.5	10	10	153.75
5	Niligin Road	Chikkaveerayyanavar Comple	Commercial	5	10am To 8 pm	14	GF	10	0	31.25	15	0	46.875
6	Niligin Road	Ureka Blue Star	Commercial	7	10am To 6 pm	12	GF	25	4	127.125	40	10	247.5
7	Niligin Road	Shrinath Complex	Commercial/Public	8	10am To 6 pm	12	GF	25	7	163.875	30	7	179.5
8	Niligin Road	Karnataka Bank	Public	1	10am To 6 pm	12	GF	20	3	99.25	30	3	130.5
9	Niligin Road	Swastik Centre	Commercial	2	10am To 6 pm	12	Base	25	4	127.125	45	33	544.875
10	Niligin Road	Shinde Complex	Commercial	5	10am To 6pm	14	Base And GF	42	12	278.25	50	20	401.25
11	Niligin Road	Dee Jay Complex	Commercial	4	10am To 8 pm	14	GF	12	6	111	20	8	160.5
12	Niligin Road	Madhura Chaitanya	Commercial	4	10am To 6 pm	12	GF	11	0	34.375	15	0	46.875
13	Niligin Road	Tirumala Trade Centre	Commercial	20	10am To 6 pm	12	Base And GF	115	20	604.375	120	25	681.25
14	Bijapur Road	Laxmi Complex	Commercial	30	10am To 7 pm	13	Base	45	25	446.875	80	50	862.5
15	Bijapur Road	Kundgol Complex	Commercial	18	10am To 8 pm	14	Base	20	22	332	50	25	462.5
16	Bijapur Road	Devi Complex	Commercial	9	10am To 6 pm	12	GF	45	3	177.375	80	15	433.75
17	Bijapur Road	Divate Complex	Commercial	6	10am To 6 pm	12	GF	12	0	37.5	20	0	62.5
18	Bijapur Road	Neela Complex	Commercial	2	10am To 6 pm	12	GF	8	0	25	20	0	62.5
19	Bijapur Road	K V M Plaza	Public	2	10am To 7 pm	13	Base	20	10	185	35	25	415.625
20	Bijapur Road	Belankal Complex	Commercial	3	10am To 6 pm	12	Base	25	18	298.625	30	25	400
21	Bijapur Road	Krishna Apatment	Residential				GF	18	5	117.5	20	12	209.5
22	Bijapur Road	Club Avenue Apartment	Residential				Base	20	8	160.5	20	12	209.5
23	Bijapur Road	Giriyas	Commercial	1	10am To 9 pm	15	Base	8	0	25	12	0	37.5
24	Bijapur Road	Kalburgi Compllex	Commercial	3	10am To 7 pm	13	GF	12	0	37.5	25	0	78.125
25	Bijapur Road	SVC City Centre	Commercial	2	10am To 6 pm	12	Base	15	12	193.875	25	20	323.125
26	Bijapur Road	R V Baddi Complex	Commercial	2	10am To 6 pm	12	GF	8	0	25	10	0	31.25
27	Bijapur Road	N M R Scan Centre	Institutional	1	10am To 9 pm	15	GF	12	2	62	15	0	46.875
28	Bijapur Road	Club	Public	1	10am To 6 pm	12	GF	15	22	316.375	20	30	430
29	Corporation (HDMC) Road	Sub Urban Police Station	public	1		24	GF	30	0	93.75	45	0	140.625
30	Corporation (HDMC) Road	mini vidhan sauda	public	1	10am To 6 pm	12	GF	115	25	665.625	120	30	742.5
31	Corporation (HDMC) Road	HDMC	public	1	10am To 6pm	12	GF	60	38	653	80	40	740
32	Corporation (HDMC) Road	Corporation Complex	Commercial	20	10am To 8 pm	14	GF	18	0	56.25	25	0	78.125
33	Corporation (HDMC) Road	Sony TV Show Room	Commercial	1	10am To 7 pm	13	GF	16	0	50	20	0	62.5
34	Corporation (HDMC) Road	LIC Office	public	1	10am To 7 pm	13	GF	23	9	182.125	30	15	277.5
35	Corporation (HDMC) Road	Mahadevi sarees Centre	Commercial	1	10am To 7 pm	13	GF	5	7	101.375	10	10	153.75
36	Corporation (HDMC) Road	Ashoka Lodge	Commercial	1	10am To 7pm	15	GF	21	0	65.625	30	0	93.75
37	Corporation (HDMC) Road	sri krishna Comlex	Commercial	5	10am To 7 pm	13	GF	21	0	65.625	25	0	78.125
38	Corporation (HDMC) Road	Vikas Building	Commercial	3	10am To 7 pm	13	GF	48	0	150	50	0	156.25
39	Corporation (HDMC) Road	Hubli Co operative Bank	public	1	10am To 6 pm	12	GF	6	0	18.75	10	0	31.25
40	Corporation (HDMC) Road	Star Apex	public	5	10am To 7 pm	13	GF	18	0	56.25	20	0	62.5



Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

41	Corporation (HDMC) Road	Pacific Plaza	Commercial	4	10am To 7 pm	13	GF	6	0	18.75	12	0	37.5
42	Corporation (HDMC) Road	Swati Lodge	Commercial	1	10am To 9 pm	15	Base	38	12	265.75	40	20	370
43	Corporation (HDMC) Road	Corporation Co Operative	public	1	10am To 7 pm	13	GF	10	1	43.5	20	10	185
44	Corporation (HDMC) Road	Auto Scan centre	Commercial	1	10am To 7 pm	13	GF	9	5	89.375	20	10	185
45	Corporation (HDMC) Road	Swati complex	Commercial	1	10am To 7 pm	13	Base	14	7	129.5	30	25	400
46	Coffie Day Road	Revankar Copmlex	Commercial	6	10am To 7 pm	13	Base	35	6	182.875	50	18	376.75
47	Coffie Day Road	Revankar Comfforts	Commercial	1	10am To 9 pm	15	Base	25	15	261.875	25	15	261.875
48	Coffie Day Road	HDFC Bank	Public	1	10am To 6 pm	12	Base	120	0	375	180	0	562.5
49	Coffie Day Road	Galagali shushrusha(Hospital)	Public	1	10am To 9 pm	15	GF	0	6	73.5	0	10	122.5
50	Coffie Day Road	Maruthi Suzuki	Commercial	1	10am To 7 pm	13	GF	0	9	110.25	0	15	183.75
51	Coffie Day Road	Eureka Junction	Commercial	25	10am To 7 pm	13	Base	73	17	436.375	90	25	587.5
52	Coffie Day Road	Giriraj Annex	Commercial	8	10am To 7 pm	13	Base	62	0	193.75	70	0	218.75
53	Banglore Road	Laxmi Plaza	Comertial	12	10am To 7 pm	13	Base	15	0	46.875	15	0	46.875

Annexure 4: Parking Demand Survey





Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

Sr. No.	Map Reference Point	Road Name	Length of the Part (Meters)	Side	2W Parking	4W Parking	3 W Parking	Angle
1	01-02	NH218	200	Left	33	12	3	Parallel
2	02-03	Court Circle to Bellary Hubballi Road	150	Left	45	-	-	Perpendicular
3	03-04	Bellary Hubballi Road (HDMC)	270	Left	20	12	-	Parallel
4	04-03	Bellary Hubballi Road (Swathi Hotel)	270	Left	20	4	3	Parallel
5	04-05	Bellary Hubballi Road (Lamington School)	320	Left	-	7	-	Parallel
6	04-06	Koppikar Road	400	Left	141	16	-	Angular
7	04-06	Koppikar Road	400	Right	24	38	-	Angular
8	03-07	Dajiban Peth Road	420	Left	164	76	-	Parallel
9	03-07	Dajiban Peth Road	420	Right	38	2	-	Parallel



Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

10	01-08	Janata Bazaar Road	350	Left	-	90	-	Angular
11	01-08	Janata Bazaar Road	350	Right	65	-	-	Perpendicular
12	01-11	Basel Mission Road	300	Left/Right	40	10	-	Perpendicular
13	01-09	Maier Memorial Church	180	Left	70	5	-	Perpendicular
14	09-19	Hubballi Karwar Road	340	Left	69	19	-	Perpendicular
15	01-12	PB Road	430	Left/Right	-	8	20	Parallel
16	01-13	Neeligin Rd	510	Right	200	60	-	Perpendicular
17	02-14	Sangeet talkies Road	250	Left	300	90	25	Angular
18	02-14	Sangeet Talkies Road	250	Right	75	70	-	Parallel
19	14-15	Sangeet Talkies Road	125	Right	25	10	-	Parallel
20	14-16	Sangeet Talkies Road	120	Left	-	5	-	Parallel




Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

21	02-17	Dugain Road	380	Left	70	45	10	Perpendicular
22	02-18	NH218	350	Left	39	24	-	Parallel
23	02-18	NH218	350	Right	72	45	10	Parallel
24	14-13	Sangeet to Neeligin Rd	250	Right	-	20	-	Parallel



Annexure 5 : Willingness-to-pay Survey



Hubballi Dharwad Smart City Limited
Smart Parking Tower (MLCP cum Commercial Complex)
Willingness to Pay Survey

Survey Location _____

Date and Time _____

* Required

1. Name of the Respondent _____

2. Gender *

Mark only one oval

- Female
 Male
 Prefer not to say

3. Age *

Mark only one oval

- Below 18
 18-30
 30-45
 45-60
 above 60

4. Occupation *

Mark only one oval.

- Government Services
 Private Employee
 Business
 Self Employed
 Unemployed
 Student

5. Vehicle Owned

Mark only one oval.

- Four Wheeler
 Three Wheeler
 Two Wheeler

6. Why are you parking at this location today?

- Live in the building
 Work or Work Related
 Entertainment
 Visiting Family/Friends
 Pickup/Delivery Passengers
 Pickup Delivery Goods
 Medical Appointment
 Government Work
 Shopping

7. What is the reason for not using public transit/Intra para transit today?

- Timing/Scheduling (Transit Schedule and Stops do not fit my needs)
 I need my vehicle for work
 Cost
 Comfort
 Other _____

8. Importance of following factors when you make a parking decision (1: Least Important, 5: Very Important)

- | | | | | | |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Parking cost | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| Comfort, convenience, and easy of parking | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| Safety and security | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| Easy and fast access to destination | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |
| Boosting business by increasing parking turnover | <input type="radio"/> 1 | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 |

8. How much do you pay for parking today?

- 5/-
 10/-
 15/-
 20/-
 Paid Nothing
 Monthly Charges _____

9. How long do you intend to park here?

- About 30 Minutes
 Around one hours
 One hour to 2 hours
 More than 2 Hours
 Day long parking

10. How often do you park here?

Mark only one oval.

- Days per Week
 1
 2
 3
 4
 5
 6
 7

Occasionally

11. Do you feel any threat for your vehicle after parking?

- Yes
 No
 Sometimes

12. Do you find it difficult to identify vacant parking location to park?

- Yes
 No
 Sometimes

12. If you are provided with smart parking component here ensuring the safety of your vehicle, would you be willing to use it?

- Yes
 No
 Sometimes

13. How much would you be willing to pay to use the smart parking services for two hours?

Mention amount _____

Please share your email Id for future correspondence _____

Please share your contact number _____

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

Survey Location	Date	Name of the Respondent	Gender	Age	Occupation	Vehicle Owned	Why are you parking at this location today?	What is the reason for not using public transit/Intra para transit today	Importance of following factors when you make a parking decision (1: Least Important, 5 Very Important)--- Parking Cost	Importance of following factors when you make a parking decision (1: Least Important, 5 Very Important)--- Comfort, Convenience and Easy of Parking	Importance of following factors when you make a parking decision (1: Least Important, 5 Very Important)--- Safety and Security	Importance of following factors when you make a parking decision (1: Least Important, 5 Very Important)--- Easy and Fast Access to Destination	How much do you pay for the parking today?	How long do you intend to park here?	How often do you park here in a week?	Do you feel threat for your vehicle after parking?	Do you find it difficult to find the vacant location to park?	If you are provided with smart parking component here ensuring the safety of your vehicle, would you be willing to use it?	How much would you be willing to pay to use smart parking services for two hours?
Dajibanpeth	15/02/2018		Male	45 - 60	Private Employee	Four Wheeler	Work or Work Related	Comfort	3	5	5	5	Paid Noting	Around One Hour	1	Yes	Yes	Yes	20
DajibanPeth	15/02/2018	Harsha	Male	45 - 60	Private Employee	Four Wheeler	Shopping	Comfort	3	5	5		Paid Noting	Around One Hour	1	Yes	Yes	Yes	20
court circle	02/12/2001	prakash konapur	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	4	5	5	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	uhmesh sadal	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	4	5	5	10/-	One Hour to 2 Hours	7	No	Yes	Yes	10
court circle	02/12/2018	nagesh siddapur	Male	30 - 45	Bussiness	Four Wheeler	Work or Work Related	Comfort	5	4	5	5	10/-	Around One Hour	7	Yes	Yes	Yes	10
court circle	02/12/2018	shiva kattimani	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	Comfort	5	4	4	4	5/-	Around One Hour	7	Yes	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle	01/12/2018	manjunath patil	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	4	5	5	5	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
ganesh harihar	02/12/2018			45 - 60	Bussiness	Two Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	4	5/-		7	No	Yes	Yes	10
court circle	02/12/2018		Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4	4	5	10/-	One Hour to 2 Hours	7	Sometimes	Yes	Yes	10
court circle	0018-12-22	sanjay hadapad	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	4	5	5	10/-	One Hour to 2 Hours	7	No	Yes	Yes	10
court circle	02/12/2018	rahul kanpeth	Male	45 - 60	Bussiness	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4	5	5	5/-	One Hour to 2 Hours	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	ajay nayak	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5	5	4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	amruth hosamath	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5	5	5	10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	thikesh hanagal	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	Comfort	4	5	5	5	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	mukundh s s	Male	30 - 45	Bussiness	Two Wheeler	Pickup/ Delivery Passengers	Comfort	4	5	5	5	10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	purushotam garag	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	4	5	5	5	5/-	About 30 Minutes	7	No	Yes	Yes	5
court circle	02/12/2018		Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	2	5	5	5	10/-	Around One Hour	7	Yes	Yes	Yes	10
court circle	02/12/2018	prajwal somspur	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	Comfort	4	5	5	5	10/-	Around One Hour	7	No	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

axis bank	02/12/2018	rahul kudari	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5	5	5	10/-	Around One Hour	7	No	Yes	Yes	10
axis bank	02/12/2018	shankar kuder	Male	30 - 45	Bussiness	Two Wheeler	Work or Work Related	I need my vehicle for work	4	5	5	5	5/-	About 30 Minutes	7	No	Yes	Yes	10
court circle	02/12/2018	ningappa morbad	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	preem kumar	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	Comfort	4	5	5	4	10/-	Around One Hour	7	No	Yes	Yes	10
		amith kumar	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	3	5	5	5	10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	manikant ha	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	5	4	4	10/-	Around One Hour	7	No	Yes	Yes	10
	02/12/2018	megaraj k	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	5	5	4	5	5/-	About 30 Minutes	7	No	Yes	Yes	10
axis bank	02/12/2018	dhanajaya	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
axis bank	02/12/2018	ram anantpur	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	3	5	10/-	One Hour to 2 Hours	7	Yes	Sometimes	Yes	10
court circle	02/12/2018		Male	30 - 45	Private Employee	Two Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	3	5	4	10/-	Around One Hour	7	No	Yes	Yes	10
andhra bank	02/12/2018	jagannad h ap	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	4	10/-	Around One Hour	7	No	Yes	Yes	10
axis bank	02/12/2018	manjappa adpad	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	4	4	5	5	10/-	Around One Hour	7	Sometimes	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle	02/12/2018	prakash patil	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5	5	4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	venkatesh gadag	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4	5	4	5/-	Around One Hour	7	No	Yes	Yes	10
axis bank	02/12/2018	sunil more	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	4	5	5	4	5/-	Around One Hour	7	Sometimes	Yes	Yes	10
axis bank	02/12/2018	adithya kumbar	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	4	5	5	5	10/-		7	Sometimes	Yes	Yes	10
axis bank	02/12/2018		Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4	5	4	5/-	Around One Hour	7	Sometimes	Yes	Yes	5
court circle	02/12/2018	chandrkant	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	4	5	5	4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
axis bank	02/12/2018		Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4	5	5	10/-	One Hour to 2 Hours	7	No	Yes	Yes	10
axis bank	02/12/2018	manjunath	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	3	5	5	4	5/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	suman pure	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	4	4			5/-	Around One Hour	7	Sometimes	Yes	Yes	5
court circle	02/12/2018	guru ballary	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	Comfort	4	5			5/-	Around One Hour	7	No	Yes	Yes	5
court circle	02/12/2018		Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	4	5	4		10/-	Around One Hour	7	Sometimes	Yes	Yes	
court circle	02/12/2018	rakesh ntr	Male	30 - 45	Bussiness	Four Wheeler	Work or Work Related	Comfort	4	4			10/-	Around One Hour	7	Sometimes		Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

axis bank	02/12/2018	khadar sab nadaf	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	4	5			5/-	About 30 Minutes	7	Sometimes	Yes	Yes	5
axis bank	02/12/2018		Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5			10/-	Around One Hour	7	Sometimes	Yes	Yes	10
rhoit kanpur	02/12/2018		Male																
axis bank	02/12/2018	manu tharak	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	Comfort	4				10/-	Around One Hour	7		Sometimes	Yes	10
court circle		venkatesh samrani	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	Comfort			5	4	10/-	Around One Hour		Sometimes	Yes	Yes	10
court circle	02/12/2018	harish hublikar	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4			10/-	Around One Hour	7	Sometimes	Yes	Yes	10
sreenivas kusugal	02/12/2018		Male	30 - 45	Bussiness	Four Wheeler	Work or Work Related	I need my vehicle for work	5		3		10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	gangadhar kanvi	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	4		5		5/-	Around One Hour	7	Sometimes	Yes	Yes	5
court circle	02/12/2018	malanna kore	Male	45 - 60			Pickup/ Delivery Passengers	I need my vehicle for work	4	5			10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	goveend	Male	30 - 45	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	3			10/-		7	Sometimes	Yes	Yes	10
court circle	02/12/2018	kiran sanaki	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	4				10/-	Around One Hour	7	Sometimes	Yes	Yes	10
		appaya	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	Cost	4	4		5	5/-	About 30 Minutes	5	No		Yes	5

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle	02/12/2018	pradeep	Male																10
court circle	02/12/2018	tikesh hangal		45 - 60	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	Comfort	4	4		4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle		govtham vadda	Male																10
court circle		murali dath	Male	45 - 60	Self Employed	Four Wheeler	Work or Work Related	Comfort	2	5			10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle			Male	45 - 60	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5	4		10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	balveer sing	Male	45 - 60	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	3	5	5	2	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018		Male	30 - 45	Bussines	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4	4		5/-	About 30 Minutes	7	No	Yes	Yes	5
court circle	02/12/2018	kumar rk	Male	45 - 60	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	4	5			10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	parasuram	Male	45 - 60	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5		10/-	About 30 Minutes	7	Sometimes	Yes	Yes	10
court circle	02/12/2018	manjunath hiremath	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	3	5	4	4	5/-	About 30 Minutes	7	Yes	Yes	Yes	5
court circle		akash akki	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	Cost	4	5	4	5	5/-	Around One Hour	7	Sometimes	Yes	Yes	5
court circle		gopal penagond	Male	18 - 30	Private Employee	Four Wheeler	Visiting Family/Friends	Comfort	4	5			5/-	Around One Hour	7	No	Yes	Yes	5

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle		ravi hadapad	Male	18 - 30	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	4	5			5/-	About 30 Minutes	6	Yes	Yes	Sometimes	5
court circle		komal jakkathi	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	2	4	4	10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	kumar halapati	Male	30 - 45	Bussiness	Four Wheeler	Work or Work Related	I need my vehicle for work		5			10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018		Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5				10/-		7		Sometimes	Yes	10
circle	02/12/2018	ashok hadapad	Male	30 - 45	Bussiness	Four Wheeler	Work or Work Related	I need my vehicle for work	5				10/-	Around One Hour	7	Sometimes	Yes	Yes	10
circle	02/12/2018	allabakash bepari	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5		4		10/-	Around One Hour	7		No	Yes	10
court circle	02/12/2018	nagaraj adargunchi	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5		10/-	Around One Hour	7	No	Yes	Yes	10
circle	02/12/2018	somshekar kattimani	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5		3		10/-		7	No	Yes	Yes	10
court circle	02/12/2018	anilkumar more	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5		3		10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	nagraj patil	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5		5		10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	siddarth sangu	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	5		4		10/-	Around One Hour	7	No	Yes	Yes	
court circle	0018-12-22	kariyappa	Male	45 - 60	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5		5		10/-	About 30 Minutes	7	No	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle	02/12/2018	naresh katrimal	Male	45 - 60	Private Employee	Two Wheeler	Work or Work Related	Comfort	5		4		5/-	Around One Hour	7	No	Yes	Yes	5
court circle		shivraj aras	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5		3	5	10/-	About 30 Minutes	7	Sometimes	Yes	Yes	10
court circle		vinayak kudri	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	4	4	5	5	10/-;Monthly Charges		7	Yes	Yes	Yes	10
court circle		subu mushti	Male	30 - 45	Self Employed		Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	5	10/-		7	No	Yes	Yes	10
court circle		vijay moosale	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5		4	5	10/-	Around One Hour	7	No	Yes	Yes	10
court circle	02/12/2018	manish pande	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5		4	5	10/-	Around One Hour	7	No	Yes	Yes	10
court circle		vijay kumar	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	4	5	5	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court circle		youraj konapur	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5		5	5	10/-	Around One Hour	7	No	Yes	Yes	10
karabasu math			Male	45 - 60	Bussines	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5	4	5		10/-	Around One Hour	7	Yes	Yes	Yes	10
court circle		jagadish shinde	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5			4	10/-	Around One Hour	7	No	Yes	Yes	10
court circle		bheemanna	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4	5	4	10/-	Around One Hour	7	No	Yes	Yes	10
icici bank		ramakrishna	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related;Medical Appointment	Cost	5		4	4	10/-	Around One Hour	7	No	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle		jeevan k	Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5			3	10/-	Around One Hour	7	No	Yes	Yes	10
court			Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5		3		10/-	Around One Hour	7	No	Yes	Yes	10
court		veeresh	Male	18 - 30	Bussiness	Two Wheeler	Work or Work Related	I need my vehicle for work	3		4		10/-	Around One Hour	7	No	Yes	Yes	10
court			Male	30 - 45	Self Employed	Four Wheeler	Live in the Building	Cost	4		5		10/-	Around One Hour	7	No	Yes	Yes	10
court		chetan badiger	Male	30 - 45	Self Employed		Pickup/ Delivery Passengers	I need my vehicle for work	4		5		10/-	Around One Hour	6	No	Yes	Yes	10
court		santosh chadavri	Male	30 - 45	Private Employee		Work or Work Related	I need my vehicle for work	5	5	3	4	10/-		7	No	Yes	Yes	10
court		suraj patil	Male	18 - 30	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5		5		5/-	About 30 Minutes	4	No	Yes	Yes	10
court		vikram patil	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5		5		5/-		7	No			10
court		kitti baddad	Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4			10/-	Around One Hour	7	No	Yes	Yes	10
court		anirhudh v	Male	18 - 30	Bussiness	Two Wheeler	Work or Work Related	I need my vehicle for work	5		3	5	5/-		6	No	Yes	Yes	10
court		vinayak akki	Male	30 - 45	Private Employee	Three Wheeler	Work or Work Related	I need my vehicle for work	4			5	10/-	Around One Hour	7	No	Yes	Yes	10
court circle		raghunath shabad	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4			10/-	Around One Hour	7	Sometimes	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court circle		raghunath shabad	Male	30 - 45	Private Employee		Work or Work Related	Comfort	5	4	5		10/-	Around One Hour	7	Sometimes	Yes	Yes	
court		ajay kumar	Male	18 - 30	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5				10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court		manju ready	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4		4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court		krishnappa		30 - 45	Private Employee	Four Wheeler	Work or Work Related	Comfort	5	4			10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court		santhosh b	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	Comfort	5			4	5/-	Around One Hour	7	Sometimes	Yes	Yes	5
court		shan nawaz	Male	30 - 45		Two Wheeler	Work or Work Related	I need my vehicle for work	5	4			5/-	Around One Hour	7	Sometimes	Yes	Yes	5
court			Male	30 - 45	Self Employed														
court		ramesh sadal	Male	30 - 45	Bussines	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	4	10/-	Around One Hour	7	Sometimes	Yes	Yes	10
court			Male	30 - 45	Private Employee	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4			10/-	About 30 Minutes	7	Sometimes	Yes	Yes	10
court			Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4		4	10/-	Around One Hour	7	Sometimes		Yes	10
court		anjinaya	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4		3	10/-		7	Sometimes	Yes		10
court		muniswami	Male	45 - 60	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5				10/-	Around One Hour	7	Sometimes	Yes	Yes	10

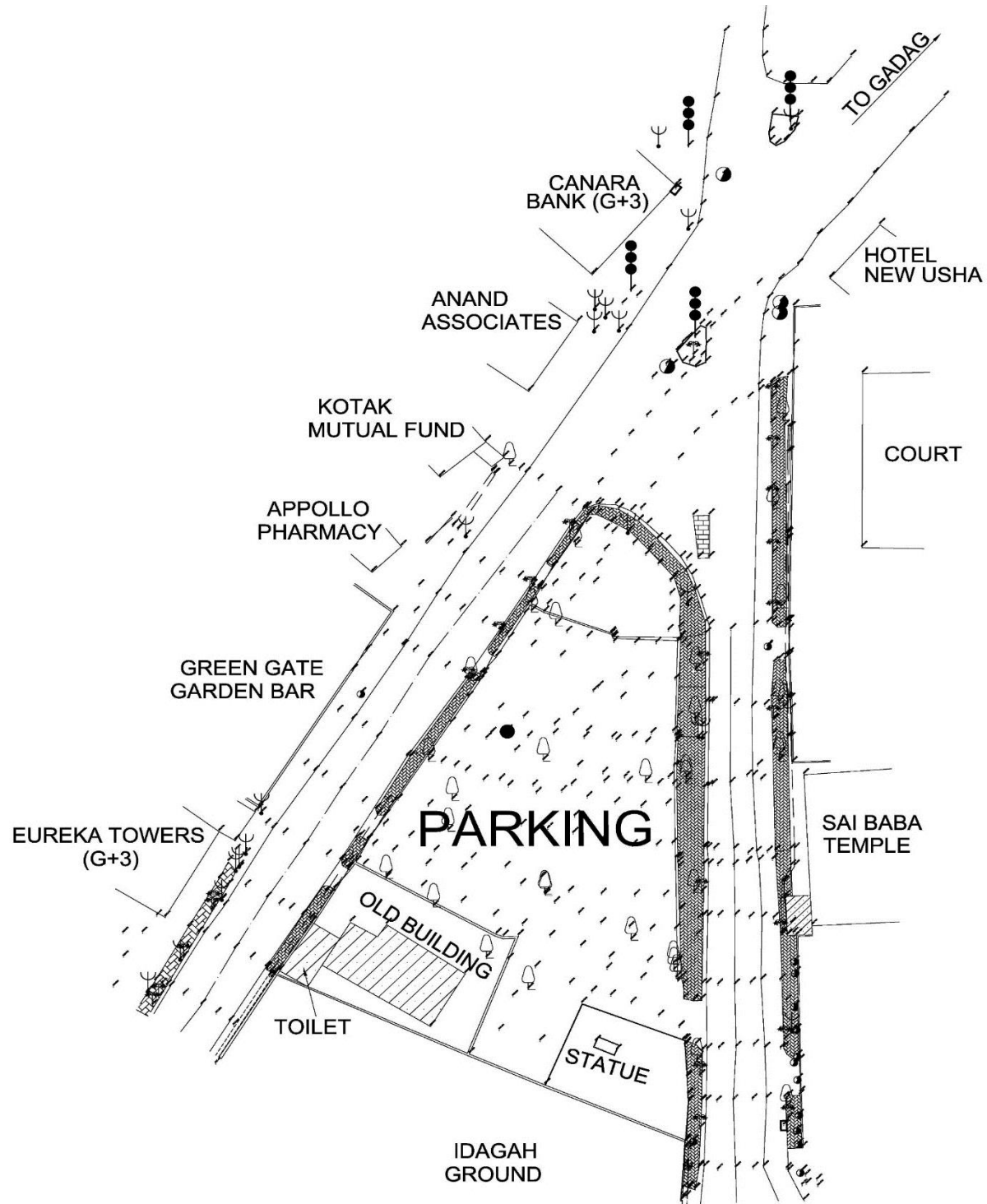
Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

court		shankar gadag	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4			10/-	About 30 Minutes	7	Sometimes	Yes		10
court		anil perur	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5			5	10/-	Around One Hour	7	Sometimes	Yes		10
court			Male	30 - 45	Private Employee	Two Wheeler	Work or Work Related	Comfort	5	4	4	5	5/-	Around One Hour	7	Sometimes	Yes	Yes	10
court		chandru	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5				10/-		6	No	Yes		10
icici bank		datha kuder	Male	45 - 60	Bussiness	Four Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	4	10/-	Around One Hour	7	No	Yes	Yes	10
court		nagesh hanagal	Male	30 - 45	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4			10/-	Around One Hour	7	No	Yes	Yes	10
court		ghurunath	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4	4	5	5/-	One Hour to 2 Hours	7	No	Yes	Yes	10
court		jagdish ambiger	Male	45 - 60	Bussiness	Four Wheeler	Work or Work Related	I need my vehicle for work	5	5	4	5	10/-	One Hour to 2 Hours	7	Sometimes	Yes	Yes	10
court		kumar yamanal	Male	45 - 60	Private Employee	Four Wheeler	Work or Work Related	I need my vehicle for work	5			5	10/-	About 30 Minutes	7	No	Yes	Yes	10
court		malikarjun	Male	45 - 60	Bussiness	Four Wheeler	Live in the Building; Pickup/ Delivery Passengers	I need my vehicle for work	5	2			10/-	One Hour to 2 Hours		Yes	Yes	Yes	10
axis bank		manjunath	Male	45 - 60	Self Employed	Two Wheeler	Pickup/ Delivery Passengers	I need my vehicle for work	5	4	5	5	10/-	Around One Hour	7	No	Yes	Yes	10
court		manikya	Male	45 - 60	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4	5		10/-	One Hour to 2 Hours	7	Yes	Yes	Yes	10

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

hdmc		mhantesh	Male	18 - 30	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5			5	10/-	About 30 Minutes	7	No	Yes	Yes	10
h d m c		navin kattimani	Male	30 - 45	Self Employed	Two Wheeler	Work or Work Related	I need my vehicle for work	5	4	5		5/-	Around One Hour	7	No	Yes	Yes	10
court		venkatesh	Male	30 - 45	Self Employed	Four Wheeler	Work or Work Related	I need my vehicle for work	5	4		5	10/-	About 30 Minutes	7	Sometimes	Yes	Yes	10
court		shankar talapur	Male	30 - 45	Self Employed	Four Wheeler	Pickup/ Delivery Passengers	Comfort	5				10/-	Around One Hour	7	Sometimes	Yes	Yes	10

Annexure 6 : TOPO survey of the MLCP site



LEGEND :

CONCRETE ROAD		COMPOUND WALL		SIGNAL POLE	
ASPHALT ROAD		STRUCTURE		LAMP POLE	
WBM ROAD		SHED / OTTA		TBM	
FOOT PATH		ELECTRIC POLE & LINE		BORE WELL	
PEVAR BLOCK		PIPE CULVERT/ VIADUCT/ BRIDGE / SLAB DRAIN		WELL	
CART TRACK		CHEMBER		TEMPLE	
GATE		MAN HOLE		TREE	
DRAIN		FENCING		TELEPHONE BOX	
TELEPHONE POLE		ELETRIC LINE.BOX		HAND PUMP	

Annexure 7: Geo tech survey at court circle site

**REPORT ON
THE GEOTECHNICAL INVESTIGATION
FOR THE PROPOSED HUBLI SMART CITY PROJECT**

LOCATION: MLCP CAR PARKING AREA (BH-2)

GPS Location: 15°21'04.7"N 075°08'19.3"E

CLIENT: THE PWC TCEL, AHCEPL



Field Investigation & Sampling conducted by

**Premier Foundation Consultants &
Material Testing Laboratory**

Engineering & Surveying Consultants
(An ISO 9001:2015 Certified Company)

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Laboratory Investigation and Report by



Department of Civil Engineering
Bangalore University, Bangalore – 560 056

**REPORT ON THE GEOTECHNICAL INVESTIGATION FOR THE
HUBLI SMART CITY PROJECT
CONTENTS**

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**REPORT ON THE GEOTECHNICAL INVESTIGATION FOR THE
PROPOSED FOR THE HUBLI SMART CITY PROJECT
LOCATION: M.L.C.P CAR PARKING AREA (BH-2)
(GPS: 15°21'04.7"N 075°08'19.3"E)**

CLIENT: PWC, TCEL, AHCEPL

1.0 INTRODUCTION:

The task of carrying out the soil investigation work for Hubli Smart City project was entrusted to M/s Premier Foundation Consultants & Material Testing Laboratory, Hospete by the client PWC, TCEL, AHCEPL.

Field Investigation and soil / Rock sampling was carried out by M/s Premier Foundation Consultants & Material Testing laboratory, Hospet. The collected soil/rock samples were sent to the Department of Civil Engineering, Bangalore University, Bangalore – 56 for conducting laboratory investigation and the report preparation.

The scope of the work includes **drilling ONE borehole** to a maximum depth of 12m to obtain the Geotechnical details of the site. The Field investigation including Drilling of Boreholes at specified locations, Conducting Field tests and the Collection of Soil / Rock Samples was carried out by M/s Premier foundation, Hospet. M/s Premier foundation, Hospet drilled the borehole using Mechanical Rotary drilling procedure and the soil / Rock samples were supplied to the **Geotechnical Laboratory of the Department of Civil Engineering, Bangalore University, and Bangalore – 56**. The laboratory testing of soil / Rock samples for various geotechnical parameters are conducted at the Geotechnical Laboratory of the Department of Civil Engineering, Bangalore University.

This technical report consists of the details about the various field tests and laboratory tests performed, their results and the recommendations made based on the results of these tests.

2. OBJECTIVES

The primary objectives of this investigation is,

1. to establish the type of subsoil and Rock type
2. to assess the allowable bearing pressure at different depths based on field and laboratory testing and hence to recommend on the depth and type of foundation

3.0 SCOPE OF THE WORK

The scope of work includes,

- i) Drilling the bore holes at the specified location using rotary drilling up to 12m depth or up to 3m continuously in rock, whichever is earlier (Fig. 1)
- ii) Conducting Standard Penetration test in soil at every 3.0m depth or where ever strata changes up to the Refusal Strata or in weathered rock with RQD less than 20%
- iii) Collecting undisturbed and Representative samples in each of the strata for the laboratory tests.
- iv) Collecting Rock core samples continuously with a record of Core recovery.
- v) Conducting suitable laboratory tests on Soil and Rock samples for different Index and Engineering properties.
- v) Collecting water samples, if encountered, and conducting various laboratory tests on collected water sample.

4.0. NUMBER OF BOREHOLES:

ONE bore holedrilled to obtain the geotechnical details at location MLCP Car parking area. The location and number of the Bore holes are selected as per the directions of the client. The locations of these boreholes is shown in Fig.1

5.0 FIELD INVESTIGATION

5.1 Boring and Sampling

150 mm dia boring was carried out in accordance with IS: 1892: -1979 Code of Practice for sub-surface investigation of foundation (1992) using Rotary drilling. The depth and location of Bore holes drilled is shown in Table.1. Standard penetration tests were conducted at different depths as the borehole was advanced down. The samples collected were used for different laboratory test.

Table: 1 Depth of Bore hole drilled

Site location	Bore hole Number	Co-Ordinates		Depth of drilling, m
		N	E	
MLCP Car parking area	BH:2	15 ^o 21' 04.7"	75 ^c 08' 19.3"	12.0m

5.2 Field testing

(a) Standard penetration test.

Standard penetration tests (SPT) were conducted at different depths in all the bore holes as the bore hole was advanced down and the 'N' values were recorded. The SPT was carried out according to IS 2131-1981 SPT (Standard penetration test, Re affirmed in 1992). The number of blows required to drive a 50mm diameter split spoon sampler for a depth of 30cm using a 65 kg hammer is recorded as 'N' value. The test is halted if,

- i) 50 blows are required for any 150 mm penetration
- ii) 100 blows are required for 30cm penetration
- iii) 10 successive blows produce no advance

and correspondingly the N – value is recorded as "REFUSAL".

Table. 2 give the detail about the SPT tests performed

5.3 Laboratory tests

Laboratory Tests were performed to evaluate both index and engineering properties of the soil and Rock samples collected during boring. All the tests are performed as per IS recommendations. Table 3 presents these details.

Table: 2 Details of Standard Penetration tests performed

Sl. No	Location	Borchole Number	Depth at which SPT conducted
1	MLCP Car parking area	BH:2	1.5, 3.0, 4.5, 6.0, 7.5

Table: 3 Indian Standard Codes followed

For soils:

Sl. No	Type of Test	IS Code
1	Natural water content	IS 2720 (Part:2) 1973 (Reaffirmed 2007)
2	Particle size distribution test	IS 2720 (Part 4) – 1985 (Reaffirmed 2007)
3	Atterberg limits	IS 2720 (Part 5) 1985 (Reaffirmed 2007)
4	Free swell Index test	IS 2720 (Part 40) – 1977 (Reaffirmed 2007)
5	Swelling pressure test	IS-2720 (Part 41) – 1977 (Reaffirmed 2007)
6	Laboratory permeability test	IS 2720 (Part 36) – 1987 (Reaffirmed 2007)
7	Laboratory C.B.R test	IS-2720 (Part 31) – 1990 (Reaffirmed 2007)
8	Determination of pH value	IS-2720 (Part 26) – 1987 (Reaffirmed 1997)
9	Consolidation test	IS-2720 (Part 15) – 1986 (Reaffirmed 2007)
10	Unconfined compressive strength	IS-2720 (Part 10) – 1991 (Reaffirmed 2007)
11	Standard compaction test	IS-2720 (Part 7) – 1980 (Reaffirmed 2007)
12	UU Triaxial test	IS-2720 (Part 11) – 1993 (Reaffirmed 2007)
13	CUTriaxial test	IS 2720 (Part 12) 1985 (Reaffirmed 2007)
14	Determination of total sulphates	IS 2720 (Part 27) – 1977 (Reaffirmed 2007)

For Rocks:

Sl. No	Type of Test	IS Code
1	Unit Weight	IS-13030 – 1991 (Reaffirmed 1996)
2	Specific Gravity	IS-13030 – 1991 (Reaffirmed 1996)
3	Water Absorption	IS 13030 – 1991 (Reaffirmed 1996)
4	Unconfined Compressive Strength	IS-9143 – 1979 (Reaffirmed 1987)

6.0. GEOLOGY OF THE AREA

Geological structure of a region has bearing not only on the physical setting and geomorphology of a region but also on the distribution of rocks, minerals and soil. It provides the background for a proper understanding of the resource base and economy of a region. The geological structure not only influences relief but also the distribution of rocks and minerals. The geological formation of Dharwad district is related to those of peninsular India. The geological formations of the region can be classified into pre-Cambrian Kaladgi series of Cuddaph age. Pre- Cambrian age, the Dharwad district represents the oldest rocks and comprises of schists, phyllites, argillite, felsites, hematite, quartzites and limestones, the schist and talc schist. Dark grey massive gritty, schists are best developed in valley running North West from narrow bands of hornblende schist are noticed mainly in the central and southern portions of the district, they are hard blocks and compact.

SEISMIC ZONE: The area under investigation falls in to ZONE – II as per Seismic Map of India. IS: 1893 (Part I) -2002.

7.0 TEST RESULTS

At location – BH 2

- 0 to 3.0 m - Brownish Clayey sand
- 3.0 to 9.0 - Brownish to Grayish brown Clayey sand with Pebbles
- 9.0 to 10.5 - Reddish Brown Weathered / Soft Rock
- 10.5 to 12.0 - Grayish brown Hard Rock

No Ground water was encountered during the investigation.

The field test results in the form of Bore logs are presented in Fig.2.

The Laboratory test results are presented In Table 4 to Table 9.

8.0 RECOMMENDATIONS

Based on the extensive field investigation and laboratory testing, the following conclusions and recommendations are drawn.

8.1 ALLOWABLE BEARING PRESSURE

Both shear failure and settlement criteria are considered while arriving at the final value of Allowable Bearing pressure as per IS 6403- 1982, IS 8009 (Part-1)-1993. The following allowable bearing pressure, which gives a factor of safety of 3.0 against shear failure and for an allowable settlement of 25mm, is recommended. The recommendation is restricted to the location around the investigation points only.

Location: MLCP Car parking area (BH-2)
(15°21'4.70"N 75° 8'19.30"E)

For Square footing

Depth below ground level m	Allowable bearing pressure, T/m ²					
	B = 1.0m	B = 2.0m	B = 3.0m	B = 4.0m	B = 5.0m	B = 6.0m
2.0	20	20	21	22	25	25
3.0	30	30	30	30	30	30
4.0	40	40	40	40	40	40

For Strip footing

Depth below ground level m	Allowable bearing pressure, T/m ²					
	B = 1.0m	B = 2.0m	B = 3.0m	B = 4.0m	B = 5.0m	B = 6.0m
2.0	18	18	20	22	24	25
3.0	29	27	28	30	30	30
4.0	40	40	40	40	40	40

Note: Allowable bearing pressure is limited considering the soil type as per I.S. 1904-specifications

8.2 MINIMUM DEPTH:

The minimum depth of foundation should be at least 1.5m below the natural ground level. Any compressible, loose, filled –up top soil should be avoided as the foundation base. For the present structure the minimum depth of foundation is 2.0m below Existing ground level

8.3 TYPE OF FOUNDATION

The type of foundation at a given Allowable bearing pressure is controlled by the magnitude and type of loading.

* Individual footing may be designed with the above recommended Allowable Bearing pressures and all the column footings should be proportioned for equal settlement.

* The area of coverage of the footings should not be more than half of the total construction area. If so a **Raft foundation** system is recommended.

The raft shall be placed at a minimum depth of 1.5m below the ground level.

8.4 MODULUS OF SUB GRADE REACTION

The modulus of sub grade reaction can be determined from the Triaxial test data as per IS 2950 – Part – 1 and IS 2720 – Part XI

$$k = 0.65 \sqrt[12]{\frac{E_s B^3}{E I} \cdot \frac{E_s}{1 - \mu^2} \cdot \frac{1}{B}}$$

where

E_s = Modulus of elasticity of soil

E = Young's modulus of foundation material,

μ = Poisson's ratio of soil and

I = Moment of inertia of structure if determined or of the foundation.

From the test result, $E_s = 4.0 \times 10^4 \text{ kg/cm}^2$ and $\mu = 0.3$

Substitute this data in above equation with suitable E and I to obtain the values of Modulus of Sub grade Reaction. Alternatively, from Table – 1, Appendix – B, IS 2950 – Part – I, the value of Modulus Sub grade Reaction can be taken as 6.5 kg/cm^2 .

8.5 Coefficient of Permeability

The following is the coefficient of permeability of the laboratory tested soil sample and is in the range $4.45 \times 10^{-5} \text{ cm/s}$.

Depth	2.0m	3.0m
Coefficient of PERMEABILITY	$4.45 \times 10^{-5} \text{ cm/s}$	$4.50 \times 10^{-5} \text{ cm/s}$
Type of soil	Semi Pervius	Semi Pervius

8.6 OTHER CONCLUSIONS

* No Ground water was encountered during investigation.

*The results of laboratory Chemical tests conducted on soil samples indicated that the soil is not aggressive for corrosion. Results of chemical tests carried out on soil samples indicated that the sulphate content is within the limits as per IS: 456 – 2000. This does not call for use of any special treatment or special cement.

- * Any accumulation of water in the foundation trench should be avoided before Concreting for the foundation.
- * The bottom of the foundation trench should be well compacted before Concreting.
- * The soil encountered is non-swelling on nature and hence swelling pressure test is not conducted
- * Hard rock is encountered at 10.5m depth and the properties of the rock is presented in Table 9.



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***BORE HOLE
LOCATION***

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

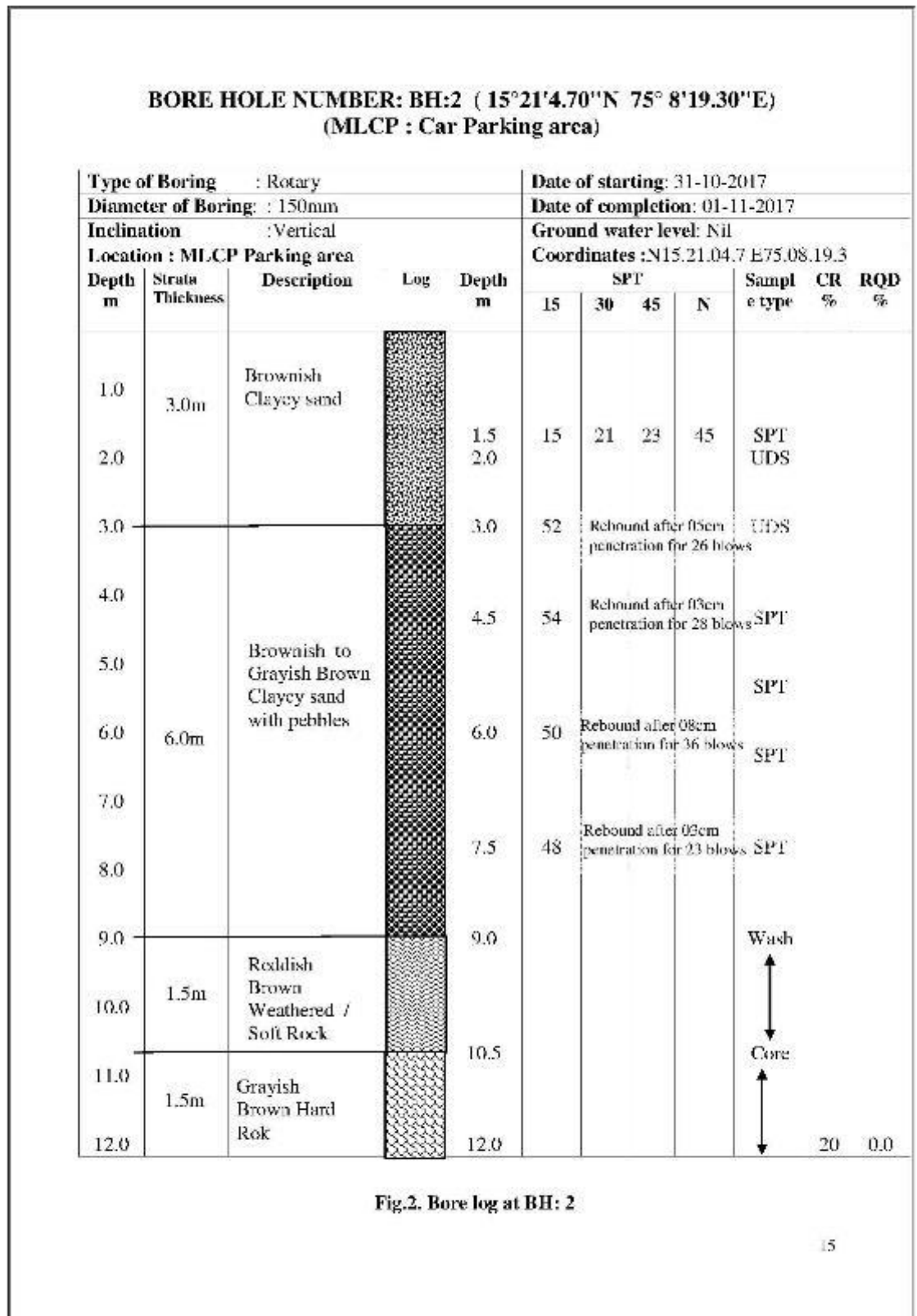


Fig 1. Location of Boreholes



BORELOGS

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad



TEST RESULTS

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

Table:4 SOIL PROPERTIES

Bore hole No	Depth below ground level, m	Specific Gravity	Atterberg Limits				Grain size distribution %					IS Classification	
			Liquid limit, %	Plastic limit, %	Shrinkage limit %	Plasticity Index %	% Clay	% Silt	% Sand				% Gravel
									F	M	C		
BH: 2	2.0	2.58	42	26	11	16	36	34	06	09	08	13	CI
	3.0	2.59	38	28	12	13	20	32	08	12	05	23	CI
	4.5*	--	--	--	--	--	28	--	20	16	10	16	--
	6.0*	--	30	21	--	09	35	--	15	16	08	26	SC
	7.5*	--	30	19	--	11	--	--	--	--	--	--	--

*SPT samples only, UDS could not be retrieved
 *Hydrometer test on Soil sample at depth 4.5m and 6.0m is not conducted

Table: 5 SHEAR TEST RESULTS

Bore hole No.	Depth below ground level, m	In-situ parameters		Shear Strength Parameters *	
		Density g/cc	Water Content, %	Cohesion, kg/cm ²	Angle of Internal friction, Degrees
BH:2	2.0	1.91	10.5	0.045	22
	3.0	1.93	9.8	0.035	23

* Results of Unconsolidated Undrained (UU) triaxial test

TABLE: 6. CONSOLIDATION TEST RESULTS

Bore Hole Number		BH:2
Depth		2.0
1	Initial dry density Initial Voids Ratio	17.0kN/m ³ 0.52
2	Compression Index C _c	0.232
3	Pre – Consolidation pressure	85kN/m ²
4	Coefficient of Volume Compressibility (m _v) for pressure	
	100 to 200 kN/m ²	3.37 × 10 ⁻⁴ m ² /kN
	200 to 400 kN/m ²	2.76 × 10 ⁻⁴ m ² /kN
	400 to 800 kN/m ²	2.02 × 10 ⁻⁴ m ² /kN
5	Coefficient of Consolidation (C _v) for pressure	
	100 to 200 kN/m ²	3.45 × 10 ⁻⁵ cm ² /s
	200 to 400 kN/m ²	4.92 × 10 ⁻⁵ cm ² /s
	400 to 800 kN/m ²	3.60 × 10 ⁻⁵ cm ² /s

TABLE: 7.PERMEABILITY TEST RESULTS

Bore Hole Number		BH:2	BH:2
Depth		2.0	3.0
1	Initial density	19.0kN/m ³	19.0kN/m ³
	Initial Water content	12.3 %	13.5 %
2	Coefficient of PERMEABILITY	4.45 ×10⁻⁵ cm/s	4.50 ×10⁻⁵ cm/s

Note: The Same range of K-values shall be consider for other depths.

Table 8. Chemical test on soil

Bore hole No.	Depth	Chloride as Cl	Sulphate as So ⁴	pH
BH:2	1.5	Nil	Nil	7.0
	3.0	Nil	Nil	7.0

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Table – 9 PROPERTIES OF ROCK SPECIMENS

Bore hole No.	Depth , m	Unit weight Kg/m ³	Water absorption %	Specific Gravity	Porosity %	Point load strength kg/cm ²	Hardness on a scale of 10	Modulus of Elasticity kg/cm ²	Unconfined Compressive Strength kg/cm ²
BH:2	10.5 to 12.0	1989	0.62	2.81	0.03	51.2	7	-	742

Note: i) Unconfined compression test could not be conducted as the core length is very small and hence modulus of elasticity could not be calculated.
 ii) unconfined compressive strength is based on Point load Strength

CALCULATIONS

Calculation of Net Safe Bearing Capacity

Ref: I.S. 2131-1963, I.S. 6403-1981, I.S. 8009 (PART I)-1976

Soil Parameter:

$G = 2.58$, $\gamma_s = 1.91 \text{ g/cc}$, $w = 12.5\%$, $\gamma_w = 1.70 \text{ g/cc}$ $\therefore e = 0.52$
Hence General shear failure is considered (IS 6403 : 1981)

FOUNDATION	Soil parameters			Depth D_f m	Width of footing, (B), m	Shape factors			Bearing capacity factors			Depth factors		Net Ultimate Bearing capacity Q_u t/m^2	Net Safe Bearing capacity Q_s t/m^2
	γ t/m^3	C t/m^2	ϕ degrees			S_c	S_q	S_γ	N_q	N_c	N_γ	d_c	$d_\gamma = d_q$		
SQUARE foundation	1.91	0.45	22	2	1	1.3	1.2	0.8	7.82	16.88	7.13	1.59	1.30	63.33	21.11
	1.91	0.45	22	2	2	1.3	1.2	0.8	7.82	16.88	7.13	1.30	1.15	61.22	20.41
	1.91	0.45	22	2	3	1.3	1.2	0.8	7.82	16.88	7.13	1.20	1.10	64.14	21.38
	1.91	0.45	22	2	4	1.3	1.2	0.8	7.82	16.88	7.13	1.15	1.07	68.32	22.77
	1.91	0.45	22	2	5	1.3	1.2	0.8	7.82	16.88	7.13	1.12	1.06	73.01	24.34
	1.91	0.45	22	2	6	1.3	1.2	0.8	7.82	16.88	7.13	1.10	1.05	77.96	25.99
SQUARE foundation	1.93	0.35	23	3	1	1.3	1.2	0.8	8.66	18.05	8.20	1.91	1.45	102.21	34.07
	1.93	0.35	23	3	2	1.3	1.2	0.8	8.66	18.05	8.20	1.45	1.23	92.76	30.92
	1.93	0.35	23	3	3	1.3	1.2	0.8	8.66	18.05	8.20	1.30	1.15	93.83	31.28
	1.93	0.35	23	3	4	1.3	1.2	0.8	8.66	18.05	8.20	1.23	1.11	97.53	32.51
	1.93	0.35	23	3	5	1.3	1.2	0.8	8.66	18.05	8.20	1.18	1.09	102.29	34.10
	1.93	0.35	23	3	6	1.3	1.2	0.8	8.66	18.05	8.20	1.15	1.08	107.57	35.86

FOUNDATION	Soil parameters			Depth D_f , m	Width of footing, (B), m	Shape factors			Bearing capacity factors			Depth factors		Net Ultimate Bearing capacity Q_u , t/m ²	Net Safe Bearing capacity Q_s , t/m ²
	γ t/m ³	C t/m ²	ϕ degrees			S_c	S_q	S_γ	N_q	N_c	N_γ	d_c	$d_q = d_\gamma$		
STRIP foundation	1.91	0.45	22	2	1	1	1	1	7.82	16.88	7.13	1.59	1.30	54.71	18.24
	1.91	0.45	22	2	2	1	1	1	7.82	16.88	7.13	1.50	1.15	55.40	18.47
	1.91	0.45	22	2	3	1	1	1	7.82	16.88	7.13	1.20	1.10	60.17	20.06
	1.91	0.45	22	2	4	1	1	1	7.82	16.88	7.13	1.15	1.07	65.96	21.99
	1.91	0.45	22	2	5	1	1	1	7.82	16.88	7.13	1.12	1.06	72.15	24.05
	1.91	0.45	22	2	6	1	1	1	7.82	16.88	7.13	1.10	1.05	78.55	26.18
STRIP foundation	1.93	0.35	23	3	1	1	1	1	8.66	18.05	8.20	1.91	1.45	88.01	29.34
	1.93	0.35	23	3	2	1	1	1	8.66	18.05	8.20	1.45	1.23	83.01	27.67
	1.93	0.35	23	3	3	1	1	1	8.66	18.05	8.20	1.30	1.15	86.62	28.87
	1.93	0.35	23	3	4	1	1	1	8.66	18.05	8.20	1.23	1.11	92.38	30.79
	1.93	0.35	23	3	5	1	1	1	8.66	18.05	8.20	1.18	1.09	99.00	33.00
	1.93	0.35	23	3	6	1	1	1	8.66	18.05	8.20	1.15	1.08	106.06	35.35

Bearing Capacity factors:	Depth factors :	Shape factors :
$N_q = e^{\tan \phi} \tan^2 (45 + \phi/2)$	$d_c = 1 + 0.2 (D_f/B) \tan (45 + \phi/2)$	For Square $S_c = 1.3, S_q = 1.2, S_\gamma = 0.8$
$N_c = (N_q - 1) \cot \phi$	$d_q = d_\gamma = 1 + 0.1 (D_f/B) \tan (45 + \phi/2)$	For Strip $S_c = 1.0, S_q = 1.0, S_\gamma = 1.0$
$N_\gamma = 2 (N_q + 1) \tan \phi$		
Water Table Factor, $R_w = 1.0$		

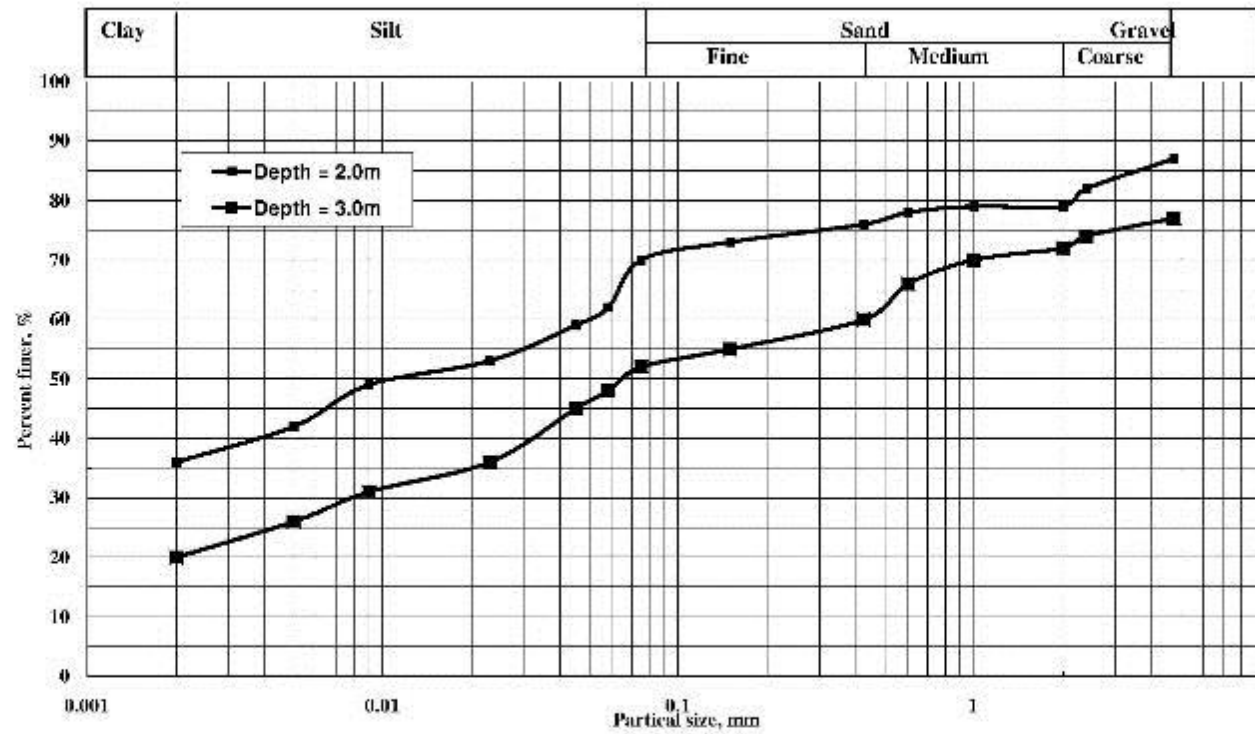
Ultimate Net Bearing capacity $Q_f = cN_c S_c d_c + \gamma D_f (N_q - 1) S_q d_q + 0.5 \gamma B N_\gamma S_\gamma d_\gamma R_w$

Using a factor of safety of 3.0, the **Net safe Bearing capacity Q_s** is calculated

Calculation of allowable bearing pressure

Weighted N Value	Width of footing, (B), m	Settlement for a pressure of 10 t/m ² mm	CORRECTION FACTOR			Final corrected settlement S _{sc}	Allowable settlement mm S _u	Net allowable bearing pressure, t/m ²
			For water table C _w	For Rigidity C _r	For embedment C _d			
50 (Limited)	1.0	4.0	0.5	0.8	0.68	4.36	25	57.33
	2.0	4.8	0.5	0.8	0.77	4.92	25	50.81
	3.0	5.1	0.5	0.8	0.85	6.90	25	36.23
	4.0	5.5	0.5	0.8	0.90	7.92	25	31.56
	5.0	5.6	0.5	0.8	0.92	8.24	25	30.33
	6.0	5.8	0.5	0.8	0.94	8.72	25	28.67

- i) Weighted N value is calculated considering the influence zone
- ii) Settlement for a pressure of 10t/m² is from IS: 8009 (Part I)
- iii) Net allowable bearing pressure = $S_u \cdot 10 / S_{sc}$
- iv) Allowable bearing pressure is limited considering the soil type as per I.S. 6403-1981 specifications.



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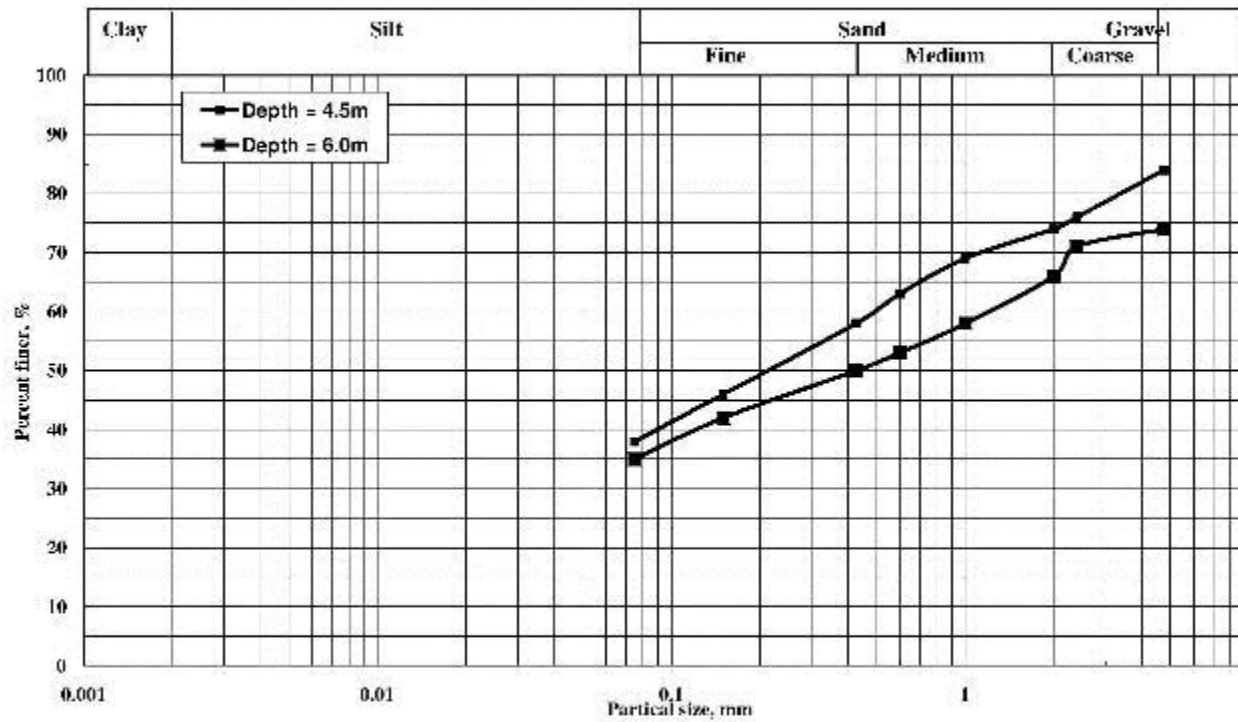


Fig 4 Grain Size Distribution curves for SOIL Samples Collected at BH: 2

Annexure 8: Smart Parking Scope Distribution

No.	Activity	MSI*	LSI^	MLCP Concessionaire (Smart Parking Solution)
1.	Procurement, deployment and commissioning of IT Infrastructure (ex: Servers) at KMDS & DR	√		
2.	Procurement and installation of the OS & licensing for Smart Parking application at KMDS & DR		√	√
3.	Estimating the requirement for storage and compute required at KMDS & the DR for Smart Parking application		√	√
4.	Provisioning of rack space at KMDS & DR for the requirement of the city	√		
5.	Hosting the Smart Parking application at the servers in KMDS (production) & DR		√	√
6.	Back-up to secondary storage devices at DC & DR	√		
7.	DR setup for ICOP	√		
8.	DR setup for Smart Parking application	√		
9.	Integration (development, testing and staging) between Smart Parking	√	√	√



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	application and the ICCC application at KMDS			
10.	Information/Data flow between DC & DR	√	√	
11.	Integration (development, testing and staging) between Smart Parking application and the ICOP application at KMDS and DR in case of DC failure	√	√	√
12.	Ensure the availability of IT Infrastructure at DC (KMDS)	√		
13.	Ensure the availability of ICOP Application	√		
14.	Ensure the availability of Smart Parking Application		√	√
15.	Customization, development and functional testing of ICOP	√		
16.	User Acceptance testing of ICOP		√	
17.	Ensuring the availability of GIS platform	√		
18.	Updating the data layers (relevant to MLCP project) at GIS		√	
19.	Network connectivity between field devices and KMDS		√	√
20.	Network connectivity between KMDS and ICCC facility	√		
21.	Network connectivity between KMDS and DR	√		



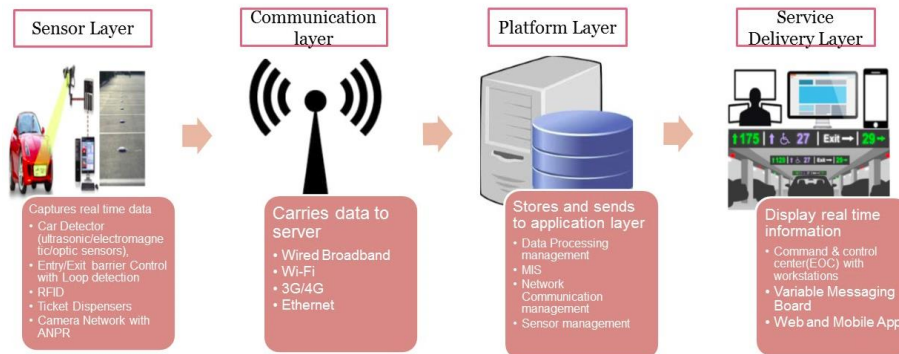
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22.	Scheduling & communicating the planned down time at Data Centre	√		
23.	Coordination & assistance for planned down time for the respective applications at Data Centre	√	√	√
24.	Provision of DNS	√		
25.	Procure, Install, Commission and Operate the Centralized Helpdesk	√		
26.	Integration between external applications and Smart Parking application		√	√

* **Master System Integrator (MSI):** The MSI is the bidder identified through a tender process for the set-up of centralized Data Centre at KMDS & Disaster Recovery (DR) on cloud and also provides the Integrated City Operations platform.

^ **Local System Integrator (LSI):** The LSI is the bidder identified through a tender process for the setup of Integrated Command and Control Centre (ICCC) at the city level and also for the implementation of city specific applications.

Annexure 9 : Smart Parking – Proposed Solution Architecture



Sensor Layer:

All edge devices including ticket dispensers are part of this layer. It is the layer that directly interfaces with the end-user. It is in this layer that physical counting of vehicles through touchpoints would happen. The sensors used serve as the backbone for the entire Parking Management System. These Geomagnetic/Infrared/Ultrasonic sensors and devices send real time update and parking availability to the Parking Command Centre or the Parking Management Software which manages the Parking data for the entire city. The availability is then communicated to the citizens and platforms which are looking for parking information. This data can be used to enable payment systems, manage enforcement and maximize capacity of space. The Sensor Layer shall also enable payments through Smart Cards, and allow the use of handheld by on-ground personnel to collect parking charges from users.

Smart parking systems can be implemented using variety of technical solutions and some of the commonly used techniques are as following:

- a. Vehicle detection at entry and exit by use of inductive loops and parking slot detection via photo sensors.
- b. Vehicle detection at entry and exit by camera based detection and parking slot detection via ultrasonic/infrared/magnetic sensors.
- c. Vehicle detection at entry and exit by use of RFID tags and parking slot detection via ultrasonic/infrared/magnetic sensors
- d. A combination of any of the aforementioned

It shall collect and display real-time information on parking availability for drivers, utilize detection mechanism to count the vehicles as they enter and leave parking lots, display real-time information to drivers via variable display signs(VDS) located at the ‘Decision Points’ and mobile applications and this real-time information can be based on:

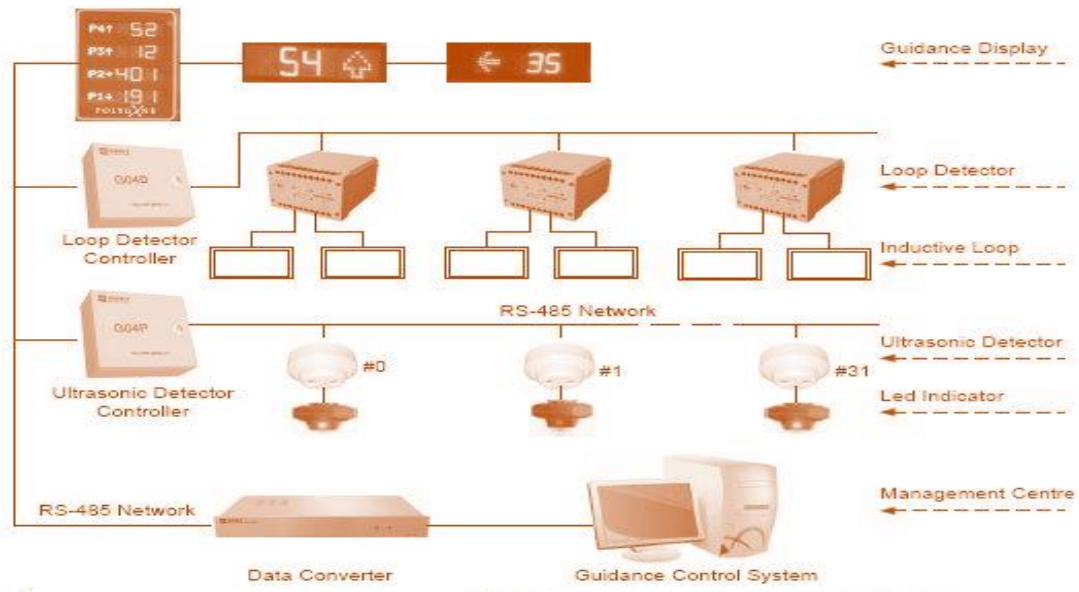
- Inductive loop
- Ultrasonic/Magnetic detector

Communication Layer:

All the edge devices, data center devices and service delivery devices would

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interact with each other through this layer.



Smart Parking Platform:

All the management servers and data processing servers are part of this layer. The entire logic of the smart parking solution shall reside on this layer. The Parking Command Centre or the Parking Management System is a powerful tool which interacts with all the sensors deployed for the Smart Parking project. The system collates data from the sensors and the mobile app and directs the citizens to the nearest available parking slots. Alerts related to asset theft and asset maintenance are also an important feature of the system software. The control and monitoring software collects all the information generated by the sensors and allows parking operators to make adjustments remotely. Furthermore, it stores historic data of the use of the parking facility to ease decision-making and predict future trends.

EOC:

This is the administrator layer. Various agencies shall use shall use workstations and other mobile devices to monitor these parking. Data such as Occupancy Rate, Peak Occupancy, Daily, Weekly and Monthly collections, etc. must be made available through MIS reports.

Service Delivery Layer:

The end-user shall be able to book parking spaces through web-based portal as well as through a mobile app. The mobile app will allow citizens to check availability of parking slots on their smartphones before setting out. The driver gets full details of the parking options available including prices, out of hour’s times and restrictions if any. The citizens can then choose the parking slots which are best suited to their requirements. The mobile app will also have the functionality to guide the drivers to the best available spaces with clear directions.

Key Design Considerations

The following technical architecture has been designed taking into consideration some of the following aspects as guiding principles:

1. **Scalability** - Important technical components of the architecture must support scalability to provide continuous growth to meet the growing demand of the city traffic. The system should also support vertical and horizontal scalability so that depending on changing requirements from time to time, the system may be scaled upwards. There must not be any system imposed restrictions on the upward scalability in number of field devices. Main technological components requiring scalability are Storage, Bandwidth, Computing Performance (IT Infrastructure), and Software / Application performance.
2. **Availability** - Components of the architecture must provide redundancy and ensure that there are no single points of failure in the key project components. Considering the high sensitivity of the system, design should be in such a way as to be resilient to technological sabotage. To take care of remote failure, the systems need to be configured to mask and recover with minimum outage. The bidder shall make the provision for high availability for all the services of the system.
3. **Security** - The architecture must adopt an end-to-end security model that protects data and the infrastructure from malicious attacks, theft, natural disasters etc. Successful bidder must make provisions for security of field equipment as well as protection of the software system from hackers and other threats. Using Firewalls and Intrusion detection systems such attacks and theft should be controlled and well supported (and implemented) with the security policy. The virus and worms attacks should be well defended with Gateway level Anti-virus system, along with workstation level Anti-virus mechanism. There will also be an endeavour to make use of the SSL/VPN technologies to have secured communication between Applications and its end users. Furthermore, all the system logs would be properly stored & archived for future analysis and forensics whenever desired. The Authority may carry out the Security Audit of the entire system in approx. 3 months of Acceptance / operationalization through a Third Party Auditor (TPA). The following guidelines need to be observed for security:
 - Build a complete audit trail of all activities and operations using log reports, so that errors in system – intentional or otherwise – can be traced and corrected.
 - The most appropriate level of security commensurate with the value to that function for which it is deployed must be chosen.
 - Access Controls must be provided to ensure that the system is not tampered or modified by the system operators.
 - Implement data security to allow for changes in technology and business needs.
4. **Manageability** - Ease of configuration, ongoing health monitoring, and failure detection are vital to the goals of scalability, availability, and security and be able to match the growth of the environment.



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5. **Interoperability** - The system is designed to take inputs from other third party systems as per situational requirements.

6. **Open Standards** - System is designed to use open standards and protocols to the extent possible without compromising on the security.

Network Architecture

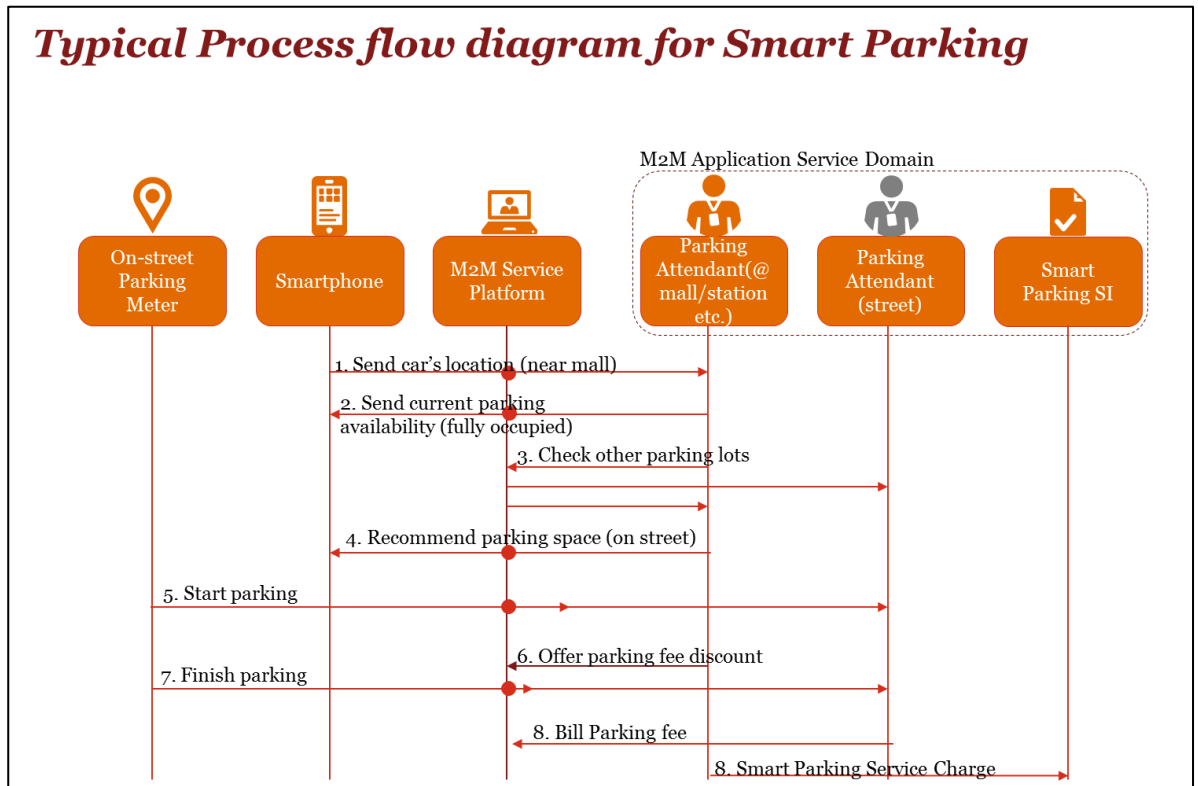
The network architecture is divided into 2 parts.

1. The network at the parking area which is the backhaul that will be provided by the service provider to the implementation agency
2. Consists of a last mile network that is needed to connect the edge devices with the backhaul network and will be required to be built to ensure converged communication.

For meeting the objectives of the Smart parking project, connectivity for all edge equipment, access/ aggregation points, storage and Data Centre will rely on the bandwidth services to be provided by the Network Service Provider. Initially, it has been envisaged to operate on shared network bandwidth services of Network Service Provider. Further, the connectivity of edge equipment's with the Data Centre would be migrated and served by optical fibre which may be laid by Authority in their future smart solutions projects.

The proposed network will be a MPLS backbone of the network service provider depending on the feasibility & commercial viability at every region. However, any options that are suggested will be built on the above mentioned blocks.

Annexure 10 : Smart Parking – Proposed Functional Specifications



The smart parking solution is envisaged for both closed parking lots and open parking lots.

- a. Indoor Parking Spaces- Such parking spaces are managed through sub contracted vendors and the parking lots have boundary walls, closed terrace and a defined entry and exit points.
- b. Outdoor Parking Spaces- Such locations are managed through sub contracted vendors and have a boundary wall and defined entry and exit points. These kind of parking spaces have specified number of slots available, typically on an open ground or road.

1. Identifying vehicles at Entry/Exit

- a. The smart parking solution should be able to count the number of vehicles entering and exiting any parking structure.
- b. The smart parking solution may use video camera based analytics or other sensor based solutions to determine number of vehicles entering and exiting parking lots. The smart parking solution should do so at each floor, in case of multilevel parking and communicate the data.

- c. The smart parking solution must geo-reference all the parking lots.

2. Visibility of vacant parking spaces and Fare Revision

- a. The total number of slots and free slots for parking must be displayed on a digital signboard near the entrance of the parking lots
- b. The smart parking solution should report occupancy of parking lots to a central software application deployed at the Integrated Command and Control Center.
- c. The smart parking solution should enable Authority to obtain real time situational awareness about the occupancy of parking lot through smart dashboard.
- d. The smart parking solution should enable citizens to obtain real time space availability and slot reservation capability via mobile app or web client.
- e. The smart parking solution should facilitate real time revision of parking fees and should enable real time communication of rules to handheld terminal, parking kiosks and smart card readers.

3. Ticketing

- a. The smart parking solution should enable Authority or any other appointed third party to facilitate generation of parking receipts and tickets based on occupancy of parking lots.
- b. The smart parking solution needs to have parking ticket vending machine at the entrance where the ticket can be issued by the machine on pressing the button by the user/ operator. Further, the solution will have provision for a handheld device through which parking receipts can be generated on payment of fees through card or cash.
- c. The ticket, QR Code and Smart Parking Card or any other technology used by the SI should be capable of capturing data that is easily retrievable at the exit.
- d. Should include the provisions for the following types of parking reservations:

Walk-In Parking: This category of parking will include the citizens who drive in to the parking without any prior booking. The citizens can be provided with a QR coded ticket or any other advanced technology as deemed fit by the System Integrator.

Online Reservation of Parking spots: The citizens should be able to reserve parking spots through online web application or the Citizen Mobile app. The pre-booking would be retained for a specific period of time and reassigned in case of no show. The motorists booking parking slots under this category can be identified with a QR code based or any other advanced

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technology as deemed fit by the System Integrator.

Pass Based Parking: There should be an option for users to buy Monthly, Quarterly or yearly passes for hassle free experience. The motorists opting for this category would be identified using RFID based, NFC based smart card or any other advanced technology as deemed fit by the System Integrator.

Premium Paid Parking: There should be an option for users to choose premium parking spaces for e.g.: near the entrance or exit. The corporate offices can also choose this option to reserve premium parking space for their employees. The motorists opting for this category would be identified using RFID based, NFC based smart card or any other advanced technology as deemed fir by the System Integrator

Smart Card based Parking: There should also be an option for users to be able to enter by flashing the smart card without any need to generate ticket.

4. Payment

- a. The payment collection can be done via card as well as cash (manually) at the kiosk where parking ticket can be shown/ given to the staff at the exit. Parking staff should be able to scan the ticket and provide the printed receipt.
- b. The system must be tamperproof.
- c. Smart Cards shall be provided to regular users of the parking lots. The Smart Card must have the details of the user, the registered vehicle number and
- d. Along with paper ticket, the SI can propose a cost effective smart parking solution to include NFC enabled prepaid Smart Card System for premium customers and customers opting for monthly reserved parking passes
- e. The NFC enabled smart card reader would be available at pay station and would automatically deduct the requirement payment towards parking

5. Compliance

- a. The smart parking solution should retain videos of car entering /exiting the parking zone as per the security parameters defined in the tender.
- b. The SI must ensure that all parking slots are individually and clearly marked. The smart parking solution should enable accounting and mapping of individual parking spots. All newly proposed parking spots must have one-to-one mapping with parking sensors. From existing ones, except for the very small ones, all rest will eventually have one-to-one mapping with parking sensor by phase-2 of implementation as suggested in both options of implementation strategy.

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- c. There should be a provision to increase or decrease the number of parking spaces that can be reserved online through web client or mobile App, and same must reflect on web clients or mobile apps.

6. Accessibility of real time Parking space availability over Web client and Mobile App

- a. The smart parking solution should provide real time location based view to citizens about proximity of parking lots and availability of parking lots.
- b. The smart parking solution should have a mobile and a web delivery channel for citizens to get real time parking availability and pre book parking lots using online payment of parking charges facilitated through a payment gateway.
- c. A mobile application and web based user interface should be provided with the following features:
- i. The application should have citizen module and officer module.
 - ii. The citizen should be able to see all the parking lots with exact available space in a real time mode.
 - iii. While locating nearest parking lot, the most updated parking slot availability should be given to the user.
 - iv. Through the citizen module, the user should be able to locate nearest parking lot and also pre-book based on his geographical coordinates. The same information must be made available on map with routing information.
 - v. Citizens should be given an option to extend the pre-booked parking space
 - vi. Reservation should be permitted for specially-abled citizens too.
 - vii. A convenience fee will be charged for all online booking, and there will be some penalty levied in case of cancellation after the specified time period.
 - viii. The application should have a compliance officer module where HUBBALLI DHARWAD designated inspector / operator will be able to check compliance of slot occupancy against the fees paid by the citizen.
 - ix. The citizens should be able to generate MIS report to view their occupancy of parking lots over a defined time period.
 - x. The administrators should be able to generate MIS report to view occupancy, collection and other usage statistics over a defined time period.

7. Integration

- a. Hardware: Integration information related to all Smart Parking components, including hardware components like Entry and Exit devices, barriers, handheld wireless devices, sensors, Smart Cards and software applications to perform parking related functions like payment, reporting, tracking, providing guidance etc. This information will be monitored and managed in the Emergency Operations Center.
- b. Smart Card: Integration with Smart Parking solution w.r.t identification of vehicle as well as recording time and deducting parking fees at the time of exit.
- c. Integrated Command and Control Center: Integration with ICCC for continuous monitoring and be able to respond for any failure of hardware components or any emergency situation at Parking lot.
- d. Mobile App or web client: Integration with Mobile App and web client to provide real time information on the availability of spaces in nearest or all parking lots.

8. Accounting

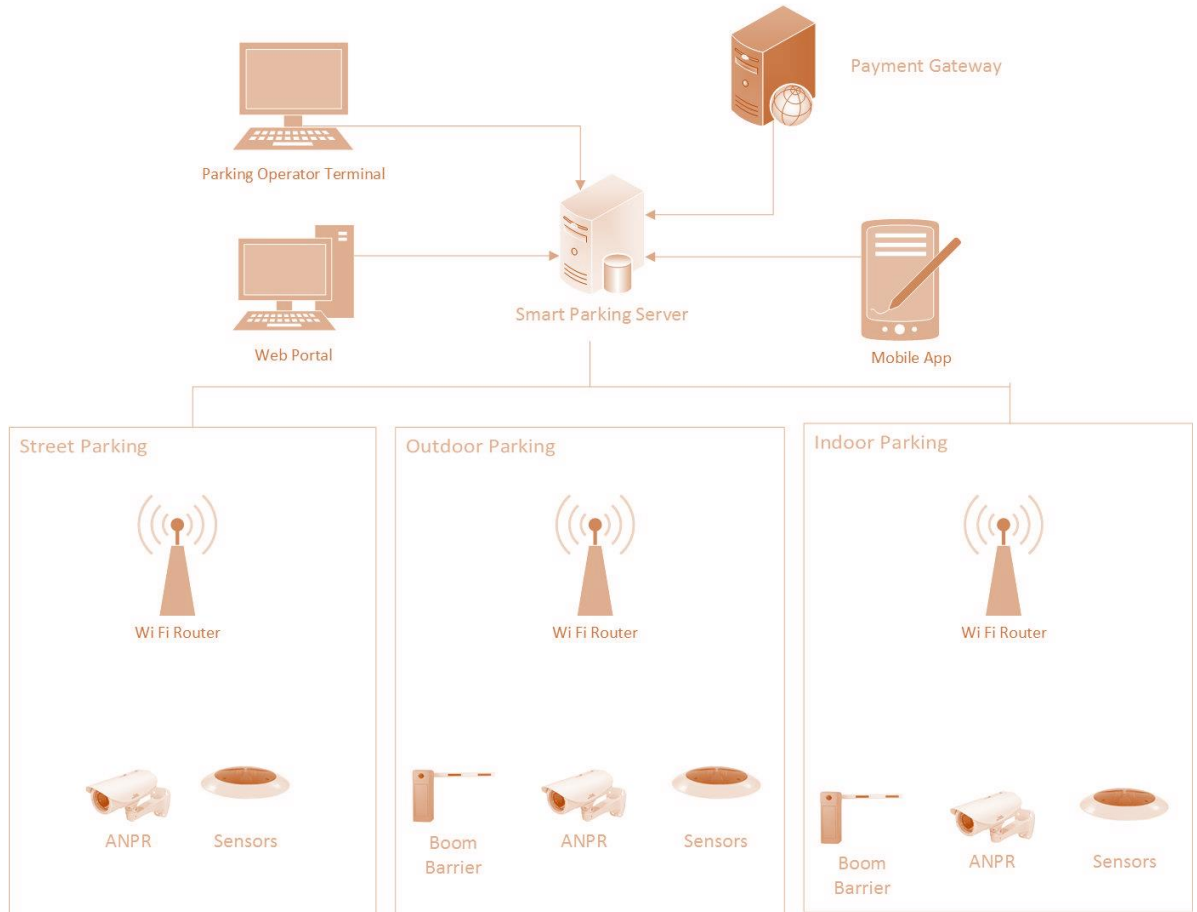
- a. Should provide an application with analytics capability for providing details such as Usage and Vacancy periods, premium parking demand etc.
- b. The solution should be automated, reliable, cost effective, secure, scalable, environment friendly, energy efficient, and must entail minimum human intervention for day-to-day parking management.
- c. System should be able to integrate with ITMS application, In order to identify restricted or not listed vehicles etc.
- d. The smart parking solution should enable the above functions with minimum manual intervention
- e. The Concessionaire would conduct a detailed Survey to study, validate and submit all updated documents, survey reports and maps as part of the proposed solution to Authority
- f. The existing parking management contracts would be honored till the expiry of the contract. The existing Parking Contractors would continue to pay a Fixed Parking Revenue to Authority. After expiry of the existing parking contracts, the Concessionaire would pay Fixed Parking Revenue to adjusted with annual inflation at the start of each year
- g. The Concessionaire would be responsible for implementation and maintenance of all elements of Smart Parking initiatives for all existing Authority parking slots for the entire duration of the project



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- h. The Concessionaire will be responsible for all civil and installation work related to last mile connectivity, power supply extensions to devices, installing devices and equipment, and any other networking, communication, and infrastructure requirement related to Smart Parking
- i. The Concessionaire shall provide comprehensive warranty for all hardware, software and networking components, both on-field and inside the Emergency Operations Center
- j. The operations and maintenance (O&M) shall be for a period of 7 years, post go-live.

Annexure 11 : Smart Parking – Propsoed Techncial Specifications



A. Entry/Exit Barriers

1. Three phase 0,37 CV motor
2. Scaled, self-lubricating motor
3. Movement transmission is done by ball-bearing-supported connecting rods
4. Opening/ closing time: from 0,8 secs. to 8 secs. Depending on the mounted arm (standard: 1,2 secs. For an arm of 3m.)
5. Low maintenance rate: soft start and stop movements without arm oscillations
6. Emergency stop feature by a photocell or pressure strip (optional)
7. Optional UPS (Uninterrupted Power Supply) to continue operating when mains supply's fails (max. 100 up/ down movements)
8. Internal memory of 7 pulses with Automatic reset on down signal loose
9. Polyester powder painted and oven-dried steel housing
10. Operating temperature: -20 °C a +55 °C
11. Single phase power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. optional)
12. Operating consumption: 330 w. maximum

13. The Barrier unit must conform to ISO 9001 Quality Assurance Standard
14. CE, Ukr - Sepcro certified
15. Degree of Protection: IP34D

B. Handheld Ticketing Dispenser

1. The wireless handheld device should be able to dispense a ticket (with printed QR Code)
2. The same device should be able to scan the same QR code ticket while leaving and generate and print receipt after receiving payment
3. The handheld should have the capability to allow personnel to enter the Unique Booking Code of the motorist
4. The handheld should also have NFC capabilities to be able to read NFC enabled Smart Card, Monthly passes, etc.
5. The handheld should be IP based and Wi-Fi enabled and should be monitored from the Emergency Operations Center
6. The handheld device will have the basic parking metering and management application, which will be synced with the overall Parking Management System, and its data will be communicated back and forth from the centralized Emergency Operations Center

C. Automatic Ticket Dispenser

1. Ticket dispenser with magnetic recording and printing of date, time and other data of car entrance to parking, side and central strip versions
2. Magnetic reader of season cards on the same reader mouth as ticket issuer device.
3. Smart card reader (option)
4. Credit card access control system available as an option
5. Proximity card (contactless smart-card) reader for season cards control (optional)
6. Automatic/ manual ticket issue activated by car presence detector
7. Checking/ validation of season cards, full/ partial time, residents, restricted areas cards as well as master cards, monetary value, time limit and other system card as. Anti-pass back controls on cards
8. Control of vehicle passage sequence, sending ticket code as “cancelled” to the Central Unit in case of abnormal operation
9. Barrier alarm control and management and controls manual barrier opening
10. Electronic self-adjusting vehicle presence detector that prevents ticket extraction by pedestrians
11. User-oriented alphanumeric information display in two languages with TFT monitor in option
12. Date and time visualization on display while inactive
13. Ticket loading container with capacity for 5000 tickets with Ticket level control
14. Motorized magnetic ISO strip reader/ recorder
15. Ethernet communications connection to the central unit with Optional RS-422 connection
16. Pocket terminal connection for maintenance processes

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17. Autonomous operation
18. Electronically controlled internal heating/ ventilation system
19. Polyester powder painted and oven-dried steel housing
20. Operating temperature: -20 °C a +55 °C
21. Protected environment use (roofed)
22. Power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. optional)
23. Maximum consumption 70 w (270w with heater option)
24. Conform ISO 9001 Quality Assurance Standard
25. CE, FCC, IC, CNRTLUS certified

D. Parking Sensors

1. Sensors should be used for detecting the real-time status of the parking space
2. It should be able to upgrade its firmware/functionality remotely from the Emergency Operations Center
3. It should be able to permit an optimal angle between the sensor output and target
4. Sensor should be able to work in all weather conditions relevant to the project site
5. Sensors should preferably have magnetic or optic technology
6. Conform ISO 9001 Quality Assurance Standard
7. Protection Level: IP67

E. Ticket validator

1 Specifications

1. Motorized magnetic strip reader/ recorder ISO standard, side and central strip versions
2. Control/ validation of exit tickets and different types of season cards
3. Allow up to 4 periods of grace to be chosen for different exits
4. Inner container to collect exit tickets
5. Control/ validation of season cards, full/ partial time, residents, restricted areas cards, QR code or BAR code recognition from mobile devices as well as monetary value, time limit and others system cards
6. Anti-pass back control on cards
7. Control of vehicle passage sequence, sending to the Central Unit the ticket/ card code as to include it in the black list
8. Barrier alarm control and management. Controls manual barrier opening
9. Self-adjusting electronic vehicle presence detector. Impedes ticket or card validation by pedestrians
10. User-oriented alphanumeric information display in two languages. TFT monitor in option
11. Date and time visualization on display while inactive
12. Ethernet communications connection to the central unit. Optional RS-422 connection
13. Pocket terminal connection for maintenance processes
14. Autonomous operation



Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

15. Electronically controlled internal heating/ ventilation system
16. Polyester powder painted and oven-dried steel housing
17. Operating temperature: -20 °C a +55 °C
18. Protected environment use (roofed)
19. Power supply: 220 Vac. \pm 10% 50 Hz (110 Vac. \pm 10% 60 Hz. optional)
20. Maximum consumption 70 w (270w with heater option)

F. Parking Management and Guidance Solution

1. The solution will be implemented in the Integrated Industry Standard Open Platform to manage, monitor and control HUBBALLI DHARWAD's Smart Parking initiative. Integrated Industry Standard Open Platform should have API based access to the Parking Management and Guidance System as well as the devices utilized for parking.
2. The solution should be able to monitor and configure all devices with respect to parking (sensors, displays, and signal converters).
3. It should control the system functionality and monitoring should be done from other computers and remotely.
4. It should provide capability to create full report of exact location with respect to floors, areas, levels, etc. It should be customizable and update about occupation and movements of vehicles in real time.
5. It should provide real time monitoring of all system status.
6. It should report alarms when devices are not connected or when any equipment failure occurs.
7. The software should notify alarms after a period of time if a car is abandoned.
8. The software should provide full graphical plan information of the car park with exact locations.
9. The software should allow downloading the information and configuration of fields for maintenance purpose.
10. The software application should have built in tools for third party integration to obtain real time information
11. Should provide access at user levels with passwords.
12. The software should have historic log for available spaces, period of time.
13. The software should be able to handle manual overriding of available spaces, special parking requirements for reserved spaces and handicapped lots.

G. Payment Kiosk

1. Accept up to different types of coins and returns changes.
2. Programmable automatic recharge of out-of-stock coins by means of a safe container with an approximate 500 coins capacity
3. Banknote acceptor for different notes types in any of the 4 insertion directions with two deposits for recycling, storage and change returns (optional) and a capacity of 120 banknotes for cassette
4. Safety banknote collection box (optional)
5. Thermal printer (no printer ribbon required) for receipts, payment vouchers, liquidation and accounts states
6. Automatically issues liquidation voucher on withdrawal of safety boxes (coins or notes). The voucher specifies the content of box number of coins/ notes of each type and total
7. Accepts payment with discount, money and time vouchers
8. Accepts credit card payment

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9. Payment allowed for expended extra time by part-time season holders
10. Multilingual information display with 12" TFT monitor
11. Motorized magnetic ISO lateral strip reader/ recorder
12. Optional magnetic card reader/collector
13. Ethernet communications connection to the central unit. Optional RS-422 connection
14. Pocket terminal connection for maintenance processes
15. Powerless Operation: Incorporating a UPS to enable the credit pay station to complete operations in progress in the event of a power supply failure
16. Polyester powder painted and oven-dried steel housing
17. Operating temperature: -5 °C a +50 °C
18. Protected environment use (roofed)
19. Power supply: 220 Vac. ± 10% 50 Hz (110 Vac. ± 10% 60 Hz. option)
20. Maximum consumption: 200 w. (400 w. with heater option)

H. Variable Messaging Board

1. Source of light: High intensity LEDs
2. Colour: True Colour
3. Brightness: >8000 cd/m²
4. Luminance Class: L-3 as per EN 12966
5. Contrast Ratio: R2-R3 as per EN 12966
6. Beam Ratio: B-3 as per should be wide angle B6 or B7 or B4
7. Viewing distance: >300 meters
8. Display capability: Alpha-numeric, Pictorials, Graphical & Video
9. Display Front Panel: 100% anti-glare
10. Language: Multilingual (Hindi/English) and all fonts supported by windows.
11. Auto Dimming: Auto dimming adjust to ambient light level.
12. In built sensor: Photoelectric sensor
13. Storage capacity: Minimum 100 GB
14. Display area: Display size of VMD should be 3x2 mtr.
15. Number of Lines & Characters: The number of lines and characters can be customized as per the requirements (Min. 3 lines & 10 characters)
16. Brightness & control: Controlled through software
17. Display Driving method: Direct current control driving circuit. Driver card of display applies Direct Current Technology.
18. Display Style: Stay on and flashing
19. Connectivity: IP based
20. Access control: Access control mechanism would be also required to establish so that the usage is regulated.
21. Integration: With smart city operations centre and service providers for offering G2C and B2c services.
22. Construction: Cast Iron Foundation and M.S. Pole, Sturdy Body for equipment.
23. Battery: Internal Battery with different charging options (Solar/Mains)

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- 24. Power: Automatic on/off operation
- 25. Casing: IP-55 rated for housing
- 26. Operating conditions: 0 Degree to 55 degree C

I. Emergency Call Box

- 1. IP rating: IP66
- 2. Front panel: Stainless steel cover
- 3. Internal speaker amplifier: 10W class D
- 4. Microphone technology: Digital (MEMS)
- 5. Echo cancellation: YES
- 6. Noise cancelling (static): YES
- 7. Web browser configuration: YES
- 8. Software configuration: YES
- 9. General Purpose I/O: 6 (configurable)
- 10. Power Option: PoE or external supply
- 11. Operating temperature: -25°C to 70°C (-13°F to 158°F)
- 12. Relative humidity: 0% - 95% Weight 800g (1.73 lb.)
- 13. Dimensions: 180 x 120 x 70 mm (7.1 in. x 4.7 in. x 2.75 in.)

J. Wireless Gateway/ Root AP

- 1. Wireless Gateway shall communicate with northbound network through dedicated leased lines connecting central control centre or through pre-terminated MPLS circuits over fiber network
- 2. Wireless Gateway shall communicate wirelessly at 2.4Ghz/5 Ghz ISM band with 128 bit AES encryption with southbound devices like wireless Repeaters and parking sensors
- 3. Every Repeater shall have battery backup for 6 hours of operation and powered through AC mains
- 4. Wireless Gateway shall have IP67 protection
- 5. Wireless Gateway shall connect upto minimum 10 repeaters within its radio range

K. CCTV Camera

#	Parameters	Minimum Specifications
1.	Video Compression	H.264
2.	Video Resolution	1920 X 1080
3.	Frame rate	Min. 25 fps
4.	Image Sensor	1/3" OR 1/4" Progressive Scan CCD / CMOS
5.	Lens	Fixed 3.6mm or better
6.	Minimum Illumination	Colour: 0.5 lux, B/W: 0 lux with IR On
7.	IR Range	20 Mtrs or better
8.	Day/Night Mode	Colour, Mono, Auto
9.	S/N Ratio	≥ 50Db
10.	Auto adjustment + Remote Control of Image settings	Colour, brightness, sharpness, contrast, white balance, exposure control, backlight compensation, Gain Control, Wide Dynamic Range

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11.	Protocol	HTTP, HTTPS, FTP, RTSP, RTP, TCP, UDP, RTCP, DHCP, UPnP, QoS, IPV4, IPV6, ONVIF Profile S
12.	Security	Password Protection, IP Address filtering, User Access Log, HTTPS encryption
13.	Operating conditions	0 to 50°C (temperature), 50-90% humidity
14.	Casing	NEMA 4X / IP-66 rated and IK10 rated
15.	Certification	UL/EN,CE,FCC
16.	Local storage	Micro SDXC up to 64GB (Class 10) In the event of failure of connectivity to the central server the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically merged with the server recording such that no manual intervention is required to transfer the SD card based recordings to server.
17.	Power Source	PoE, 12V

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L. Smart card reader

S.No	Parameter	Technical Requirements
1	Display	7" inches or higher scratch resistant multi point capacitive touch screen with minimum WSVGA resolution (1024 X 600). 3.5" QVGA with backlight, TFT-LCD, 260K, 240 x 320
2	Dimensions (W X H X D)	87 (min.74) x 218 x 56.2 (min.29)mm
3	Weight	497g to 502 g
4	CPU/Processor	520MHz
5	RAM	128MB RAM
6	Memory	128MB ROM (Optional)
7	Expansion slot	At least a micro SD slot supporting up to 16 GB memory card
8	Audio	Good quality Speaker with 1W or higher output for announcements. Speaker, Headset jack
9	External Keyboard support	Device should support keyboard through USB or Bluetooth interface
10	Connectivity	Device should support both 3G, GPRS and Wi-Fi, should support GPS feature
11	USB Port	At least one free USB port shall be available after setting up the entire solution including peripheral devices
12	Battery	Rechargeable, 3.7V, 4,000mAh, Li-ion. Battery should be minimum 3000 MaH for the hand held terminal (HHT).
13	Operating system	Should support latest versions of iOS, Android and windows
14	Certification	RoHS (Restriction of Hazardous substance)CE or UL
15	Indicators	Status indicator provides ease of use, Indicators for connectivity (presence/absence), signal strength, battery status etc.,
16	Camera	2 megapixel camera w/ LED Flash.
17	Barcode Reader	Barcode reader capable of reading 1D Laser Class II or 1D&2D CMOS Imager
18	SIM/ SAM Slots	Minimum 1 SIM and 2 SAM Slots (Security encryption of MI Card) to support secure loading of signed applications
19	Biometric Sensor	STQC certified Finger Print Module
20	IRIS Scanner (Optional)	STQC certified IRIS scanner Module
21	Smart Card Reader	ISO 7816 Compliant
22	Printer	Integrated or external. 2" thermal Printer (max. 90mm/sec)

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23	Antenna (mandatory)	Internal
24	Terminal Management	Device should be remotely manageable in secured mode
25	Warranty	Suitable Warranty support
26	Certification	PCI / EMV Certification (Bank Certified)
27	RFID Reader	Optional, ISO 14443 A/B (MIFARE, Calypso), ISO 15693; ISO 14443 A/B (MIFARE, Calypso), ISO 18092 (NFC), Felica
28	Radio	<ul style="list-style-type: none"> • WWAN Radio- Optional, CDMA 1x for Korea SKT, LGT; GSM/GPRS/eGPRS for global • WLAN Radio- IEEE 802.11b/g • WPAN Radio- Bluetooth V2.0+EDR Class II
29	Capabilities for Transaction and Payment	<ul style="list-style-type: none"> • MSR- Bi-directional, Track1,2,3, ISO 7810, ISO 7811, ISO 7813 • Contact Payment- EMV Level 1&2, ISO 7816 • Contactless Payment- Optional, EMV Contactless Level 1 & 2 (Master PayPass, Visa Wave) • PIN Transaction- Optional, PCI PED 2.0; APACS Common Criteria; GIE CB Approved
30	GPS	<ul style="list-style-type: none"> • Optional, Integrated GPS w/ AGPS and DGPS PERFORMANCE CHARACTERISTICS
31	Environment Durability &	<ul style="list-style-type: none"> • Operating -20°C to 55°C / -4°F to 131°F • Storage- -30°C to 70°C / -22°F to 158°F • Humidity- 93% non-condensing • Damp heat Cyclic --operating-40 °C, 95%RH for (12+12 hrs.)), No. of cycles: 2 • Drop/Free Fall Specification- 4ft. / 1.2m drop to steel surface with silicon case, 2drops per 6 sides • Vibration Test should be in packed condition, switched off conditions (10-150Hz, 0.15mm/2g, 10 sweep, cycles/axes) • Bump test should be in packed condition, switched off condition.(1000Bumps, 40g, in vertical position)

M. Loop detector

S.No	Parameter	Technical Requirements
1.	Power supply	200 - 260VAC 50Hz 1.5VA
2.	NMI/MI Input	This input may be activated by a potential free relay contact or open collector NPN transistor output. This input is isolated from the logic.
3.	Beam Input	This input may be activated by a potential free relay contact or open collector NPN transistor output. This input is isolated from the logic and is used to keep the barrier open when a vehicle has broken the beam.

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4.	Raise/Lower Output Relay	These outputs are a relay contact rated at 5A/220VAC.
5.	TVI Output Relay	This output is a normally closed relay output rated at 0.5A/35VDC.
6.	Indicators	LED indicators show: Power, Barrier Raised and Loop Detector.
7.	Detector tuning range	15 - 1500uH
8.	Loop Frequency	Approx. 23 – 130KHz
9.	Environmental tracking	Automatic Compensation
10.	Protection	Loop isolation transformer with zener diodes and gas discharge tube.
11.	Connector	11 Pin Connector on rear of unit.
12.	Dimensions	80mm (height) X 40mm (width) X 79mm (Depth excl. connector).
13.	Operating Temperature	-40°C to +80°C
14.	Storage Temperature	-40°C to +85°C

7.1 Other Activities

7.1.1 Survey and Commencement of Works

Prior to starting the site clearance, the SI shall carry out survey of field locations as specified in list of Proposed Locations. Authority shall be fully informed of the results of the survey and the amount and extent of the demolition and site clearance shall then be agreed with Authority.

7.1.2 Electrical works and power supply

The SI shall directly interact with Discoms for provision of mains power supply at all desired locations for Smart Parking field solution. Authority shall facilitate the same.

7.1.3 Lightning-proof measures

The SI shall comply with this technical specifications, take into account of lightning-proof and anti-interference measures for system structure, equipment type selection, equipment earthing, power, signal cables laying. SI shall describe the planned lightning-proof and anti-interference measures in the technical documents.

Corresponding lightning arrester shall be erected for the entrance cables of power line, video line, data transmission cables. All crates shall have firm, durable shell. Shell shall have dustproof, antifouling, waterproof functions; capable to bear certain mechanical external force. Common equipment protection needs 25KA surge suppression device and important device shall have 50KA surge suppression device.

Signal separation of low and high frequency; equipment protective field shall be connected with their own public equal power bodies; small size/equipment signal lightning arrester shall be erected before the earthing.

7.1.4 UPS Lightning Protection

All the lightning protection devices of the power supply system are installed in the low voltage distribution system, forming the lightning protection system of bipolar input protection for the protection of UPS power supply system.

7.1.5 IT Equipment Lightning Protection

IT includes servers, switch, and routers and so on. To make sure the absolute safety of the equipment, with the all-pervasiveness of lightning strikes, along with the impact of the electrical network surge upon the equipment, it is necessary to install a third level lightning protection components on the power distribution cabinet of the IT equipment.

1. Lightning protection equipment
 - a. Single-phase power supply lightning arrester
 - i. Nominal working voltage: 220V AC
 - ii. Maximum sustained working voltage: 380V AC
 - iii. Nominal discharge current: 20 kA
 - iv. Maximum discharge current: 40kA
 - v. Protection level: (20kA, 8/20µs) 1200V
 - vi. Protection mode: +/-PE
 - vii. Response time: ≤25ns
 - viii. Protection grade: IP20
 - b. Network signal lightning arrester
 - i. Maximum sustained working voltage: 5V DC
 - ii. Maximum discharge current: 5kA
 - iii. Protection level: ≤20V(3kA,8/20µs)
 - iv. Response time: ≤1ns
 - v. Transmission speed: 100Mbps
 - vi. Insertion loss: ≤0.5dB
 - vii. Protection circuit: 1/2,3/6
 - viii. Interface model: (IN/OUT) RJ45
 - ix. Protection grade: IP20
 - c. Earthing System

Lightning protection components first function is to absorb and release lightning current, also a way of equi-potential connector. The protection theories for all the lightning protection components quickly respond to the lightning strikes in an instant, to make sure that the equipment, the earth, buildings and affiliated buildings can be connected into one equi-potential entity, to avoid the damage done by over-voltage. The key to realize being equi-potential lies in the ground wire system of the whole computer room.

d. Cabling Infrastructure

The SI shall ensure the installation of all necessary cables and connectors between the field sensors /devices assembly , outstation cabinets, for pole or cantilevers mounted field sensors /devices on sign bridges, the cables shall be routed down the inside of the pole or sign bridge and through underground duct to the outstation cabinet field sensors /devices mounted on rooftops, the cables shall be routed through ducts within the building and through underground duct to the outstation cabinet All ducts shall be HDPE as per TEC Specification (Govt. of India).

All cables and labels shall be clearly labelled with indelible indications that can clearly be identified by maintenance personnel. The proposed cables shall meet the valid directives and standards. Thus Cabling has to be carried out according to BIS standards IS-694, 8130, 5831, 3975, 1554, etc. All cabling shall be



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documented in a cable plan by the SI and not be paid separately. Fire retardant cables must be considered in all critical locations including data centers, CCC etc.

Annexure 12 : Smart Parking – On-Street Parking Locations

Package No.	Road	Parking Stretch	Length	Pvt. Parking	Tendered Length	Vehicle Type	No. of parking slots	
							2-wheeler 1m/vehicle	4-wheeler 2m/vehicle
Package 2	Kopikkar Road	Kathariya Shop to Geetanjali Shop	48		48	Two wheeler	48	
		Geetanjali Shop to Shri Tailar	108	8	100	Four wheeler		50
		Karavali Hotel Cross to Setlight Building	120		120	Four wheeler		60
		Setlight buidling to Axid Battery	50	9	41	Two wheeler	41	
		Axid Battery to Vennessions Cross	76	4	72	Four wheeler		36
Package 3	Bradway	Metrani Building to Durgad bail Auto Stand	38		38	Four wheeler		19
Package 4	Coin Road	Kathariya Shop to New Sukhsagar Hotel	106		106	Two wheeler	106	
		Shreyas Hospital to Sudarshan Takies	20		20	Two wheeler	20	



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Package 5	Durgad bail	Sarround Durgad bail circle	120		120	Four wheeler		60
Package 7	Station Road	Parag cross to Jain temple	60		60	Two wheeler	60	
		Roopam Takies to Jain Temple	105	5	100	Four wheeler		50
		Jain Temple to Shrungar Taikes	105	10	95	Two wheeler	95	
		Chandrakala Taikes to Ayanagar Bekary	54		54	Four wheeler		27
		Ayanagar Bekary to Onida Show room	50		50	Two wheeler	50	
		Onida Show room to Sai Mobile Shop	36	6	30	Four wheeler		15
		Sai Mobile shop too Ganeshpet Police station	29		29	Two wheeler	29	
		Ranajeet Trading Company to Niranjn Cycle Shop	46		46	Four wheeler		23
		Niranjn Cycle shop to Bakalegalli shop	46		46	Two wheeler	46	



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Package 9	Subhas Road	Gheesulal Shop to Rege shop	16		16	Two wheeler	16	
		Gheesulal Shop opp	30		30	Four wheeler		15
		Busstand circle to Kandkur Shop cross	82		82	Two wheeler	82	
		Marudar Aravatagi to Shivsagar hotel	34		34	Four wheeler		17
		Shahar police station gate to Police quarters gate	70		70	Four wheeler		35
		Super market first gate to Super market second gate	67		67	Four wheeler		34
		KCC bank to gandhi chowk	84		84	Two wheeler	84	
		Naveen footwear to Vijayalaxmi gift centre	25		25	Four wheeler		13
		KCC bank to social library	60	10	50	Two wheeler	50	
		Manisha saree centre to Kamat hotel	65		65	Two wheeler	65	



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		Silection center shop to Uday shooting shop	67		67	Four wheeler		34
		Mahendrakar Saree centre to Vernekar Jewlers	28		28	Two wheeler	28	
		New show track to paste sweets shop	11		11	Two wheeler	11	
		Shivsagar Hotel to Durga hotel	41		41	Two wheeler	41	
Package 10	Railway station Road Dharawad	BDO office to court circle	152		152	Two wheeler	152	
		BDO office to court circle	142		142	Two wheeler	142	
	Laxmi Talkies Road	Laxmi talkies to Sangam circлле	123		123	Two wheeler	123	
	SBI Road	Basappa Khanavali to Bhaigani samaj	85		85	Two wheeler	85	
	cosmos club road	Court circle to kittel college road	45		45	Two wheeler	45	
		Total	2444	52	2392		1419	488

Hubballi-Dharwad Smart City

Technical Volume

*Smart Parking Tower
Court Circle, Hubballi*

23 February, 2018



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Abbreviations

ABD	Area Based Development
BRT	Bus Rapid Transit
ECS	Equivalent Car Space
HDMC	Hubballi Dharwad Municipal Corporation
ISO	International Organization of Standards
KUIDFC	Karnataka Urban Infrastructure Development and Finance Corporation
MOUD	Ministry of Urban Development
SMART PARKING TOWER	Multi-Level Car Parking
PPP	Public Private Partnership
PWD	Public Works Department
SCM	Smart City Mission
SCP	Smart City Proposal
ULB	Urban Local Body

Project Data Sheet

Name of Project	:	Smart Parking Tower
Location of Project	:	Parking area at Court Circle, Hubballi
Project area	:	4050 SQ. M.
Land Ownership	:	HDMC
Target population	:	N/A
2. Costing Details		
Project cost	:	50.00 Cr (preliminary estimate)
Source of funds (State Govt./Central Govt./PPP/Others)	:	Central Govt.
If State/Central, name of scheme	:	Smart City Grant
3. Implementing Agency		
Name of Implementing Agency	:	HDSCCL
4. Social Aspects		
Rehabilitation proposed	:	No
If yes, Social Impact Assessment to be conducted	:	
5.Environmental Sustainability		
Applicable EIA notification	:	Environmental compliance as per S.O. 3999 (E), dated December 9, 2017, MoEF and Climate change
6. Project Status		
Feasibility Report	:	Submitted
Detailed Project Report	:	NA
RFP/tender Document	:	Submitted
Selection of vendor/ contractor	:	Due
Implementation	:	Due

Document Control

Client		Hubballi Dharwad Municipal Corporation (HDMC)				
Intended Audience		HDMC Management				
Title of the Document		Multi-Level Car Parking (SMART PARKING TOWER)				
Purpose of the Document		To assess the technical, commercial, social and environmental feasibility of the project				
Restriction on Circulation		Internal to HDMC Management				
Version	Document/ File Name	Date	Author	Description of Changes	Reviewed by	Approved By
Revised	Smart Parking Tower Technical Volume	14/02/18	Sutanu Sen	As per KUIDFC TC + IDD Review	Rajeev Chadha, Anveshi Gutta	Harsha Annigeri
Initial Draft	Feasibility Study for SMART PARKING TOWER at Court Circle	04/10/17	Arpit Sahu, B S Shiri, Venkatesh	Nil	Sutanu Sen Rajeev Chadha	Anveshi Gutta

Approval by HDMC

On behalf of HDMC		On behalf of PwC	
Name		Name	
Signed		Signed	
Date		Date	

1. Introduction

1.1. Background

The city of Hubballi is continuously refining itself in terms of infrastructure and services. To push the swiftness of development, provision of responsive infrastructure services has been introduced in the ambitious smart city plan of the city.

The city being the commercial hub attracts traffic from other nearby cities such as Karwar, Goa, and Sholapur etc. with parking all around the road side makes the city more congested. The exponentially growing vehicle affordability creates a challenge for the city when insatiable parking space for them is required. Additionally, the pedestrians need a better infrastructure to ensure safety at all times while crossing the traffic filled roads of Hubballi Dharwad.

The Multilevel Car Parking facility or “Smart Parking Tower” proposed at court circle on a site of 4050 sq.m. The project was originally proposed to be funded from Mission funds, however, after due deliberation with Ministry experts and city stakeholders, it was proposed to be taken under PPP framework in DBFOT (Design-Build-Finance-Operate-Transfer) model with a Construction Grant from SCM Fund, if need be.

The proposed project is envisaged as an iconic, smart and green building with smart ICT components for operations & management, with digital ad-boards & vertical gardens and para-transit and PBS integration within the same complex. The endeavor is also aimed to take care of surrounding streetscapes and accessibility factors.

Provision of the facility at the heart of the city will eventually reduce the obstacles from carriage way thereby improving the steady flow of traffic and increasing the carriage way capacity. It shall also contribute to city’s economic activities by ensuring a ‘turnover’ of different vehicles rather than long stay vehicles in commercial areas.

Smart parking component will ensure complete smart city experience to the along with the environmentally sustainable component like solar roof top and rain water harvesting which will ensure independency of the facility for water and electricity. With the aim to provide last mile connectivity and improvise public health, bike sharing system has been integrated with the facility.

1.2. Overview of Hubballi-Dharwad

“Hubballi-Dharwad”, the twin cities of Karnataka state together create the second biggest urban settlement in the state next to Bangalore. The city agglomeration consist of people belonging to different cultures, religions and languages coming from different parts of the state working together in the commercial hub of north Karnataka region. While Hubballi acts as the commercial and trading center for the region, the city of Dharwad situated 20 km away in the North West of Hubballi works as administrative Headquarters.

The twin cities are also important for Indian Railways, being the headquarters for south western railway zones and the Hubballi Railway Division. The district has an average rainfall of 838mm yearly which proves to be moderate for cotton and peanuts cropping.

1.3. About Hubballi Dharwad Municipal Corporation

The Hubballi Dharwad Municipal Corporation (HDMC) was earlier established as municipal council in 1855-56. Later in year 1962, it was converted to Municipal Corporation. The city corporation comprises of 67 Wards, out of which 22 lies in Dharwad and rest falls in Hubballi, mutually covers an area of 200.23 sq.km. With development concentrated in 72.78 Sq. Km.

With all the standards and policies set, HDMC has been awarded with ISO certification. The city has an advantageous location being surrounded by a number of important historical and mythological places with in the radius of about 200Kms.

Major cities such as Belgaum, Karwar, Davangere, and Bellary are located within 50 Km radius of the city.

1.4. Traffic intense areas in Hubballi city

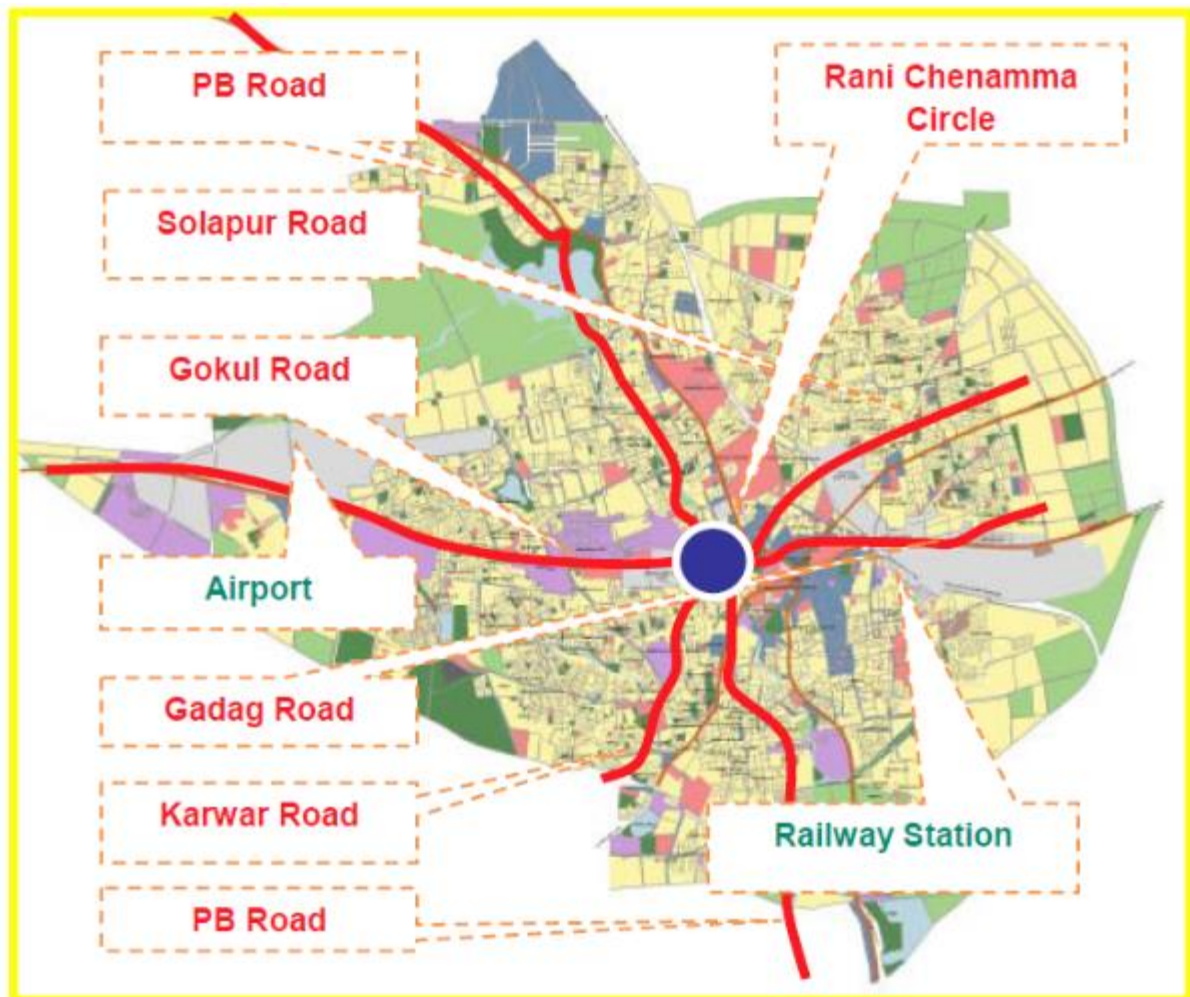


Figure 1: Major roads and prominent locations in Hubballi

North Hubballi: IB Road, New Cotton Market road, P.B. Road, Neeligin, Court Road, Byahatti Plot Road, Swimming Pool Road, New Cotton Market Road, Lamington Road, Old PB Road, Karwar Road.

South Hubballi: Station Road, Koppikar Road, Javali Sal, Maratha Galli, Coen Road, J.C. Nagar Road.

1.5. Need for the Parking Spaces

The city of Hubballi has a high volume of traffic flow from other nearby cities such as Karwar, Goa, Sholapur etc. making it a congested cross over city. The intensity and capacity of floating population keeps increasing because of city being the commercial and trade center for the region. The city attracts substantial amount of cars and two wheelers.

The vehicles are parked on the road sides as well as on the pedestrian walks. The already limited space for vehicle movement is consumed by the parked vehicles, leaving low no space for them to move. Currently the parking system is decentralized and is predominantly on surface parking lots, the capacity of the parking lots is not sufficient to cater to the present demand. The intensively severe issue of parking for vehicle demands the formal parking spaces to park for short term & long term and on street & Off Street Parking.

1.6. About Hubballi-Dharwad Smart City

The twin cities of Hubballi-Dharwad were selected to be a part of renowned Smart City Mission (SCM) by Ministry of Urban Development (MOUD) in the first phase among the top 20 cities in the country. The Smart City Proposal (SCP) has been divided into two components, one being the Area Based Development and other being the Pan city. The SMART PARKING TOWER track of SCP has been selected under ABD component of Hubballi Dharwad Smart City.

1.7. Area Based Development



Figure 2: ABD area in Hubballi Dharwad Smart City

The Area Based Development (ABD) component of Hubballi Dharwad Smart City covers an area of 992 acres or 3.2 sq. km. with 1.17 lakh population (including 6037 slum population of the city) which is 11% population share of the city.

The ABD area includes 32,485 Households and incorporated 41% commercial and industrial land-use of the city. Area being the commercial and industrial predominant zone of the city, has a floating population of 1.1 lakh per day.

1.8. Parking in SCP

Hubballi Dharwad aspires to be the gateway to southern Deccan region, for trade, business and commerce. The city of Hubballi, being the commercial and trade hub has floating population. This has led to innumerable count of vehicles coming to the city on day-to-day basis. These vehicles are parked on the road sides illegally in absence of legal parking spaces at city centers which eats up space for vehicle movement. In attempt to overcome this challenge, provision of better transport infrastructure is proposed which also includes endowment of Multi Level Car Parking to cater the insatiable parking challenge of the city.

The SCP talks about provision of technology enables parking spaces for both on street and off street spaces through smart zones. SMART PARKING TOWER has been proposed at four major locations in the city of Hubballi under ABD component.

1.9. Project Grant

The SCP has a total budget of 1662 crores, which includes 1417 crores for ABD and 245 crores for Pan City Development. The proposal has differentiated the total budget for SMART PARKING TOWER in estimated 66.1 crores Out of this budget, 59.5 crores has to be given as smart city grant and 6.6cr through convergence from Public and Private Partnership.

Particulars	Estimated Cost (Rs. In Crs)	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Grant - Smart City (Centre/State)	Central Missions			Other Missions/Schemes		SFC	PPP	Other Sources	
								AMRUT	SMA	Digital India	WNR Solar City Program	IPD Scheme			ULB Surplus/ Tax increments/ Other proceeds	Other Sources (Other Central State Schemes)
MICP	66.1	-	20	33	13	-	59.5	-	-	-	-	-	-	6.6	-	-

Figure 3: Source: Smart City Proposal Hubballi Dharwad

1.10. Project Background

The city administration has decided to build a SMART PARKING TOWER and implement smart parking under smart city project. This initiative of providing high end technology enabled parking facilities at prominent nodes of the city will be a step towards mitigating the parking challenge of the city.

Provision of SMART PARKING TOWERS at the city centers will not only help to overcome the off-street parking demand, but also reduce the unwanted traffic congestion resulting due to unauthorized on-street parking. Technology enabled smart parking spaces will help users to get information of available vacant bays for both on street and off street parking and pay the parking charges through mobile application.

Through centralized command and control center, HDSCL will keep the real time record of the parking spaces. Environmentally sustainable measures in the proposed SMART PARKING TOWER will be a step towards making a green and healthy city.

1.11. Identified Locations

In the SCP, as mentioned in the previous chapter, four location was identified for providing SMART PARKING TOWER. These locations were strategically selected after analysis of the maximum need of the parking spaces at city nodes. These are the places

where vehicular traffic is at peak due to commercial and trading spaces. The presently available on street parking spaces at these sites is insatiable to the demand. Through providing SMART PARKING TOWER at these locations, HDSCL is trying to improve the parking infrastructure in the city.



Figure 4 Identified locations for SMART PARKING TOWER

The locations which were identified for smart SMART PARKING TOWER are:-

1. Court Circle
2. Medar Oni
3. HDMC land behind state warehouse at Hosur junction
4. M G Park

1.12. Justification for way forward

Out of the selected locations for SMART PARKING TOWER in SCP, two of the locations, Medar Oni and M G Park have been selected for development of smart parking under smart parking development track of smart city development.

HDMC land behind state warehouse has been found appropriate for Iconic Building Development for Central Command and Control Center. Additionally, there is a SMART PARKING TOWER coming up in the vicinity of Hosur Junction at Transport Terminal Hub developed by BRTS Limited.

The court circle site which falls at the junction of major roads of the city and is already being used for Off-street parking has been selected for smart parking tower development under this project. This shall include the construction of multi-floor parking facility at the court circle with smart parking technology and commercial spaces.

2. Site Study

The court circle site for proposed SMART PARKING TOWER is located at the most strategically prominent location in the city. It falls at the junction of road links to major cities in the region. National Highway 218 passes through Rani Chinnamma circle. Roads to cities such as Dharwad, Solapur, Gamanagatti, Karwar, Bellary meet at Rani Chinnamma and court circle. Rani Chinnamma circle is the junction of National Highway 218 and 63.



Figure 5: Court circle SMART PARKING TOWER site and Major roads

2.1. Site Descriptions

The site of 4050 sq.m. area is owned by Hubballi Dharwad Municipal Corporation (**Annexure 1**) and surrounded by the Court Complex on one side, well developed Shopping Complex, Multi Storied Hotels, and Commercial Complex on other side with Idgah Maidan on adjoining the boundary of the site. The famous Sai Baba temple is at the one face of the site adjacent to court complex. The site is surrounded by pedestrian walk which is used by informal vendors. There is a famous statue of ex Chief Minister of Karnataka, which is also a landmark for the site.

The site is presently used as a parking space. An old Public Works Department (PWD) building is present inside the site which is in deteriorating condition along with a newly built public convenience facility which shall be demolished, detail in **Annexure 2**. The facility has two different entry gates at both faces of the triangle.



Figure 6: Statue adjacent to SMART PARKING TOWER site at Court Circle

2.2. Site surroundings and Characteristics

The site on survey no. CTS172, is a junction point where Dajibanpet Road, Circuit House Road, Solapur Road, Niligin Road meets. It is surrounded by the Court Complex, well developed Shopping Complex, Multi Storied Hotels, and Commercial Complex.

The site is very close to the Janata Bazaar (Super Market), people from villages and towns surrounding the city visit for shopping in Hubballi. The site is also well connected with state highways such as SH 73, national highways such as NH 63 & 218 has easy access to bus terminals, railway station, and airport. Hence the traffic around the site is expected to grow in future.

The commercial development around is growing rapidly which would gradually increase the traffic intensity in the city. The site is surrounded by various notable establishments. The site is very near to Hubballi Municipal Corporation, Hubballi court, Police station near to the site area, it has easy access to various government organizations within few distance from the site.

2.3. Commercial Development around the Site

The Commercial development around the site is highly developed. The Court circle has three big complexes namely Eureka Tower, Revankar Complex, Giriraj which has well developed shops, space for offices and it is been surrounded by banks such as ICICI, Canara Bank, KVB, Cooperative Bank, SBI, HDFC etc.

Both the Janata Bazaar & Dajibanpet roads are high retail area where people get all kinds of goods related to household and other items. Niligin Road consists of Hardware Stores and Steel Merchants. Apart from these, many hotels like Swathi International, Basant Tripti International hotel, are situated near to the site. The site is very near to Corporation office, Police station, Railway Station, Court etc.

The area around the site is highly developed and justifying the demand for the parking. Due to ongoing BRTS corridor development project, On-street parking is going to be restricted leading to high demand for parking spaces. The region falls in ABD component of the SCP and is going to be gifted with couple of infrastructure development project, road development being one of them. The SMART PARKING TOWER at court circle will certainly be playing a major role fulfilling the parking needs.

2.4. Land use and Zoning

The strategic importance of the site can also be understood by the existing land use of the site. As seen in the map below, the site is surrounded by commercial spaces at one face, and Administrative space like court and HDMC at other face. Major commercial spaces

and public places fall under the 450 m walk of the site. Since it is located near the old bus stand, the traffic flow also includes the intercity buses.

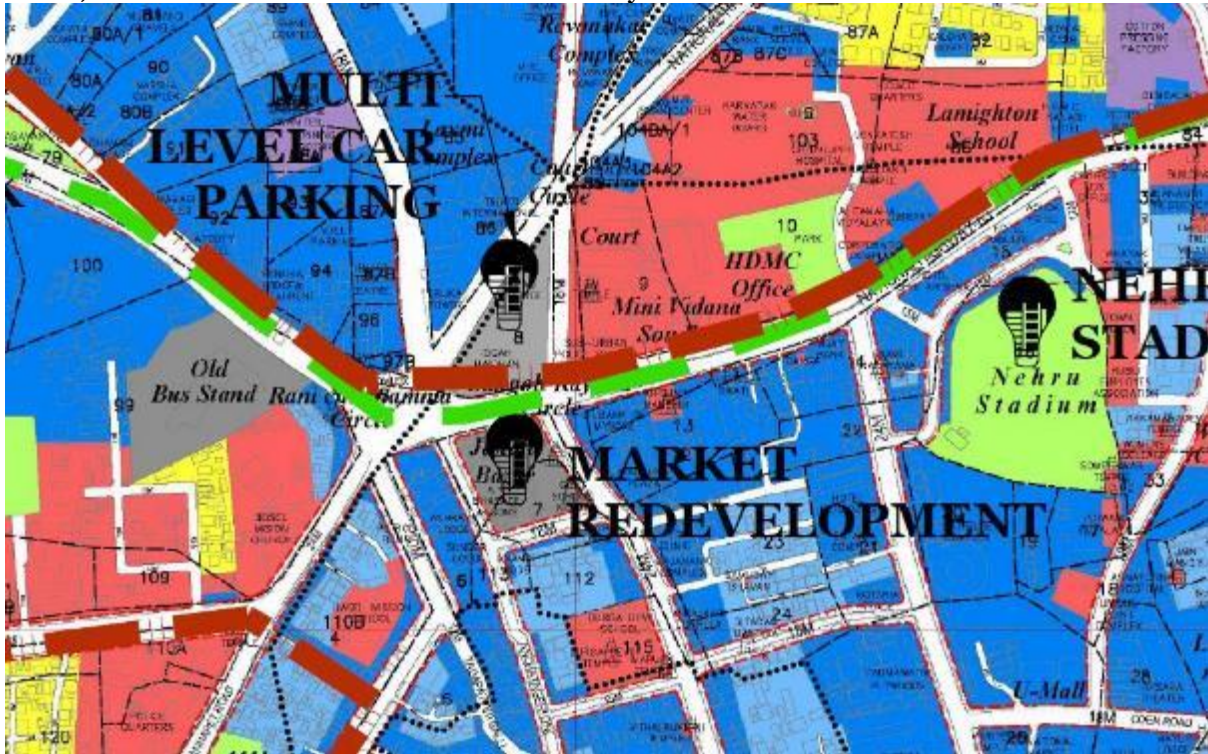


Figure 7: Court Circle- Land use of the site

As seen in the above figure, the court circle site falls at the most prominent location of the city. Due to the same reason, it attracts various types of traffic in the region. Presently, in line for the limited supply of parking spaces, the vehicles are haphazardly parked on the streets. Though the legal on-street parking is provided at some places in the vicinity, yet it proves to be insufficient as per the demand.

2.5. Traffic around the site

The site being the city center and junction for major roads attracts mixed traffic. The commercial dominant spaces around the site are a lure for both long term and short term parking.

The site at the court junction has one way traffic at both of its faces. Traffic coming from Rani Chinnamma Circle to Court Circle junction comes from a 12m wide road and has only one way permissible traffic flow. The traffic from Vijaypur road via Court Circle to Rani Chinnamma Circle goes through the other road which is 7.5 meter wide. This road is also permitted for one way traffic.



Figure 8: Court Circle site: Direction of traffic flow

2.5.1. Existing Parking Infrastructure

Hubballi Municipal Corporation provides On-street parking facilities near the proposed site near Court Circle, Janata Bazaar, Nilgin Road, Dajibanpet Road, and Idgah Maidan.

The parking in those areas is under the control of corporation and collecting parking fee of Rs.5 per hour for two wheelers and Rs.10 per hour for four wheelers. These location have been given on contract for one year to private vendors.



Figure 9: Parking ticket for Four Wheelers and Two Wheelers

Presently, Idgah Maidan is also used as parking space for vehicles.



Figure 10: Map Showing Idgah Maidan and Court Circle



Figure 11: Parking at Idgah Maidan

Other than parking demand for two wheelers and four wheelers, the additional requirement which originated in the survey was stand for taxi in the area. The jeeps are presently parked along the road and consume the substantial amount of space needed for vehicle movement. There is a need to provide a taxi stand in the SMART PARKING TOWER site for them.



Figure 12: Taxi parked along the road near Court Circle

2.5.2. Traffic Analysis

The traffic surveys were conducted to obtain information on the parking scenario in the study area at following locations:

1. Niligin Road
2. Court Circle
3. Janata Bazaar
4. Dajibanpet Road
5. Idagha Maidan Area Idle Parking Inside the Proposed Site

The surveys were conducted at all the major roads and parking location in the vicinity of the site to assess the type of vehicle parked, the composition of vehicles, the present demand of the parking, and the existing parking supply at corporation and establishment level. Though, the major roads are of strategic importance, yet the width of the road is not sufficient to cater the parking challenge. Almost all the roads are found to be filled with illegal On-street parking with different types of vehicles.

2.6. Establishment Survey

To construct the SMART PARKING TOWER at site, we needed to understand the present parking supply in the vicinity of the site. The establishment survey was conducted to assess the parking supply in individual entity, either it be a public building or a commercial complex. The 250 meter region was designated for the survey.

From the colored region showing in the map below, the survey was conducted and data was collected at all major roads. Almost all the major institutions, commercial complexes and public spaces were covered in the survey. The survey was conducted for two days – on one weekday and one weekend during July 2017, during 2 pm to 5 pm.

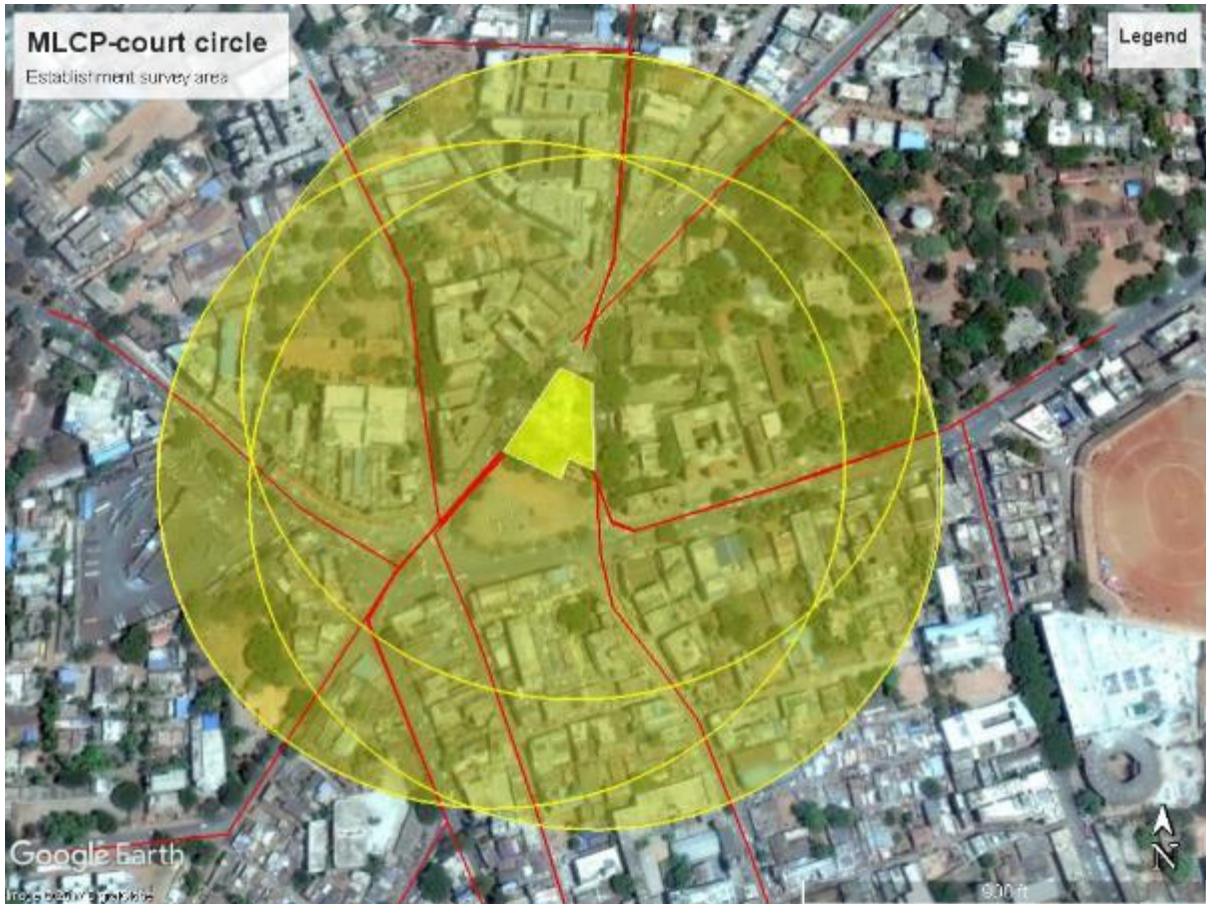


Figure 13: Map showing 250 meter buffer for establishment survey

As per the survey results, 74% of the establishments are commercial complexes, 24% are public spaces and only 2% are institutional buildings. These establishments provide spaces for around 311 shops. The vehicles are observed to be parked in these buildings from 8:00 AM to 9:00 PM. As shown in the chart below, out of all the surveyed buildings, 68% of the buildings provide parking at ground floor, 26% of the buildings have parking space available at the basement and only 6% of the building were observed to be provided with both stilt and basement parking.

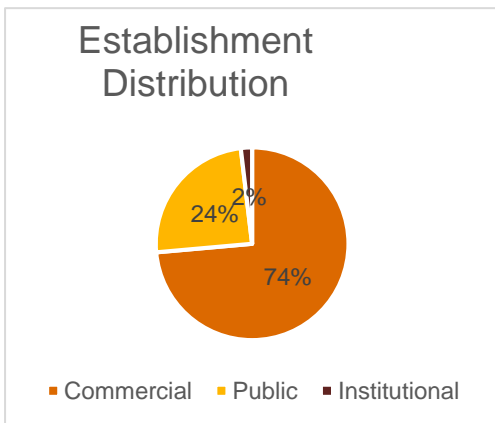


Figure 15: Parking supply establishment distribution

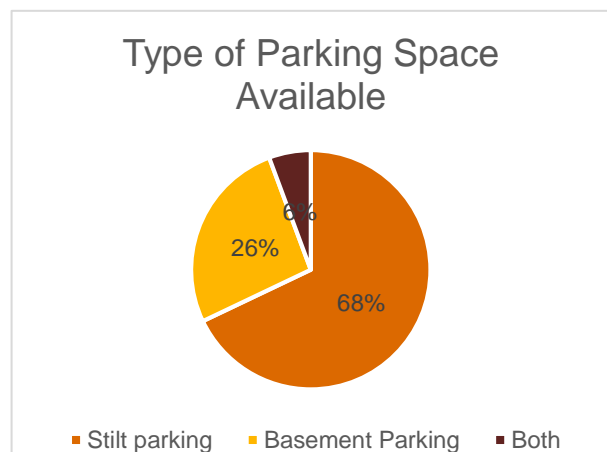


Figure 14: Establishment Survey- Parking type distribution

As per the survey, these establishments provide an approximate space of 14308 sq. m. for parking. Out of all the vehicles, 22% vehicles were found to be 4 wheelers and 78% were 2 wheelers at the site. A total of 2019 two wheelers and 653 four wheelers can be accommodated in these spaces. These spaces provide a total of 1158 ECS for the vehicles to park at a time.

Even though these establishments provide a considerable space for vehicle parking, yet parking on street has been observed before these buildings. One of the reason behind on-street parking is insufficient space to park inside the building for visitors.

Most of the vehicles parked in the premises of the buildings were observed to be parked by the shop owners. It means that instead of using the space for visitor parking for short term, it is occupied by the shop-owners to park their vehicle for long term. Now if this long term parking is shifted to SMART PARKING TOWER, there could be enough space available for visitors to park inside the provided parking spaces. Details of Establishment survey is attached in **Annexure 3**.

2.7. Parking Demand Survey

The parking demand survey was conducted in 450 m buffer of the site. The survey was conducted for three days – on one weekday and one weekend during July 2017, during 10 am to 8 pm. This survey helped to assess the existing parking demand for the selected region. The map shown below shows extends of demand survey conducted. Almost all the major arterial, sub arterial and district roads were surveyed to analyze the 4 wheeler and 2 wheeler parking on streets.

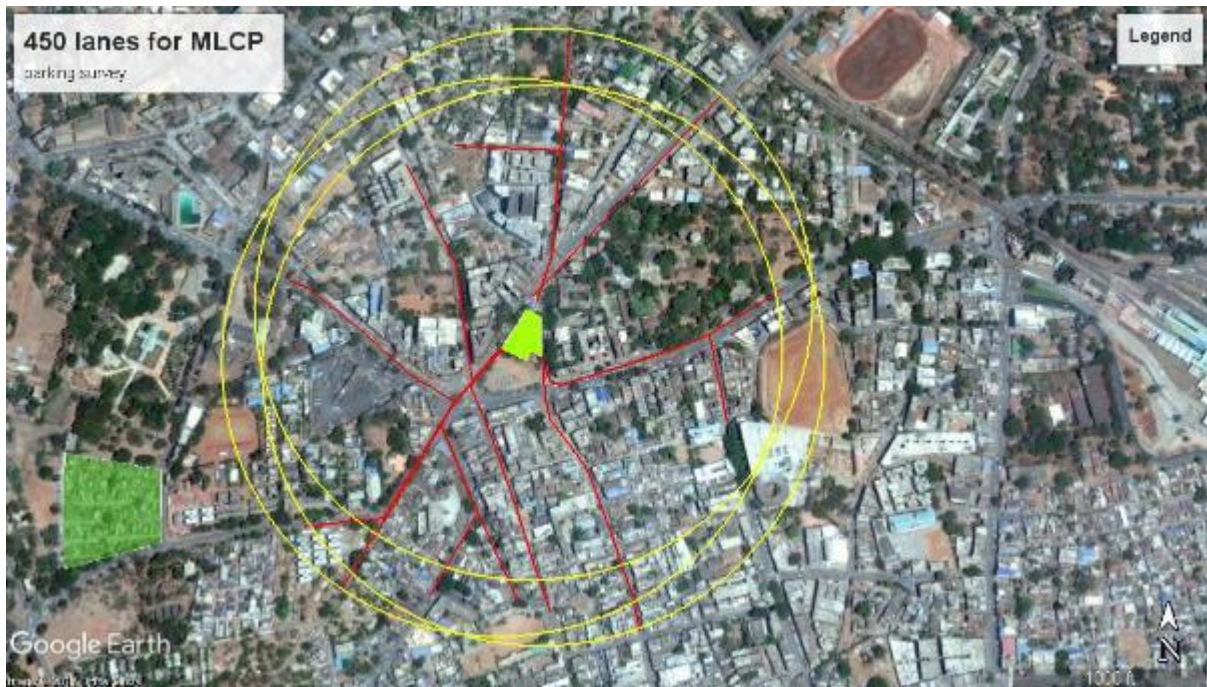


Figure 16: Map showing region for Parking Demand Survey

The presently available right of way of roads is already insufficient to cater the traffic volume. Flow of traffic becomes a major challenge when the vehicles parked on the road consume spaces. Not only carriage ways are occupied, but pedestrian walks are also

encroached by parked vehicles. This leaves no space for pedestrians to walk and generates a threat to their lives when they have to use the carriage way for the same.

For the parking demand assessment, a sample survey was conducted on the marked locations. The survey was conducted at peak hour to assess the maximum demand. Off-peak hours was surveyed to judge the minimum parking requirement for financial viability of the project.

At the peak hour average on-street vehicle count reaches up-to 565 four wheelers and 1370 two wheelers. The total ECS demand for the parking is found to be 907 units. These numbers do not include the vehicle parked inside the establishments.

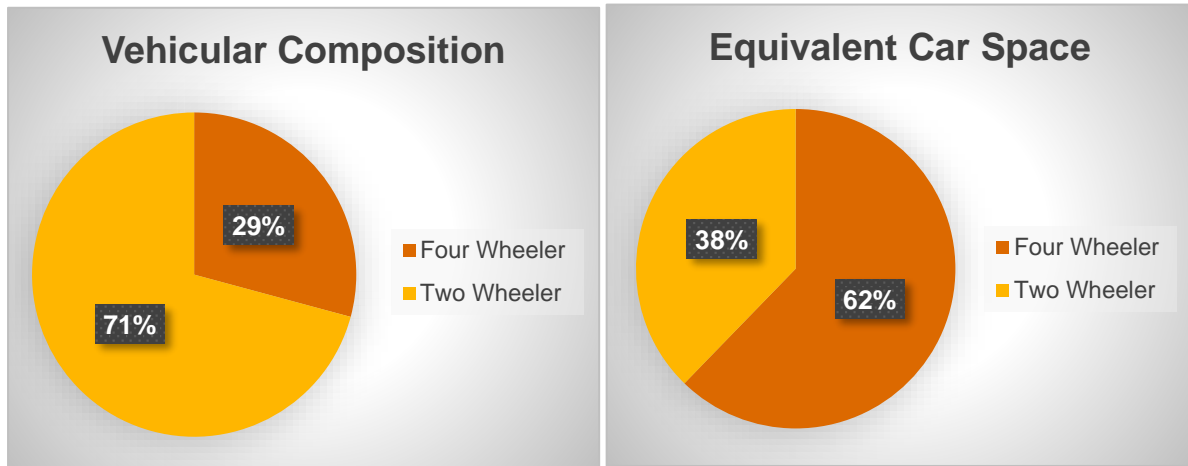


Figure 18: Peak hour vehicle composition

Figure 17: Space occupied by vehicles

Though, Approximate 71% of the parked vehicles are two wheelers and 29% are four wheelers, yet out of total space covered by the vehicles, 62% of the space is covered by four wheelers and mere 38% is covered by two wheelers which are more in quantity.

To assess the minimum demand of the parking for financial viability of the project, survey was also conducted at Off-peak hours. As per the results, even at off-peak hour, there is a parking demand of 340 four wheelers and 1037 two wheelers.

Other than two wheelers and four wheelers parking demand, there is an additional requirement of parking space for taxis. An average of 15 parking spaces for taxi is also required. Though the present parking demand is way too high as compared to the supply which could be provided. The parking demand in the coming years is going to increase and more SMART PARKING TOWER's are going to be required to fulfill the demand.

2.8. Composition of vehicle at Major Roads

Traffic analysis clearly indicates that maximum parking demand is for two wheelers, yet four wheelers occupy more space on road. Keshvapur road and IB road was found to be holding large number of car parking. Nilgin road and Duggani hospital road provide parking space for two wheelers and four wheelers.

Four wheelers parking comprises of sedan segments, small size cars and SUV. The additional requirement of the taxis and auto stand is what came up in the survey.

Dajibanpet road and Janata Bazaar road were found to have maximum two wheeler parking in the area. A detail of the On-street parking is attached in **Annexure 4**.

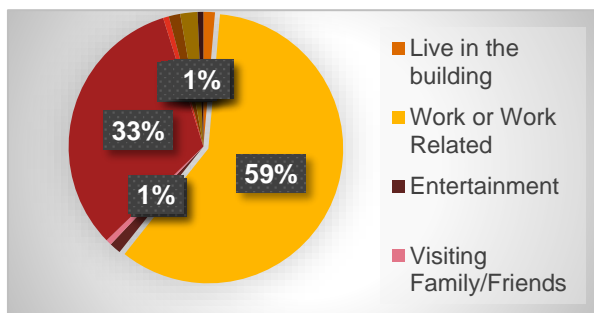
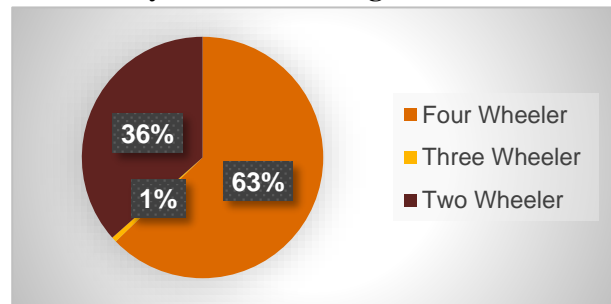
The spot survey at Idgah Maidan and Proposed SMART PARKING TOWER site was conducted. Idgah Maidan has peak hour parking demand of 61 ECS and Approximate capacity of 80 ECS. The present SMART PARKING TOWER site, that is court circle site has maximum parking space for 65 two wheelers and 30 four wheelers.

2.9. Willingness-to-Pay Survey

A willingness-to-pay survey was conducted on the court circle site and along the main roads within the 450 meter radii of the site. The survey was conducted twice, during July 2017 and February 2018, for 3 consecutive days. Questions were asked to people who were parking their vehicles in or around the site, total sample size collected was 175.

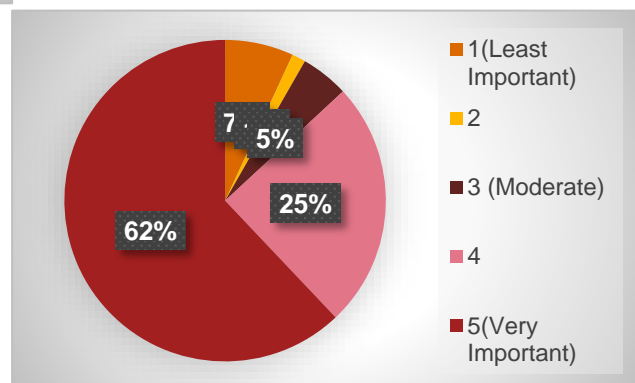
The survey indicated that the public were enthusiastic about the upcoming SMART PARKING TOWER as they expressed need for better safety, shelter during rainy season, etc. During peak hours and festive season the vehicles will be more which forces people to park their vehicles on streets disturbing the traffic. Multi-level vehicle parking will help to maintain parking discipline which facilitates the easy movement of vehicles. However, the paid parking facility is not new for the citizens as they have been using the commercial complexes and malls as paid parking facility.

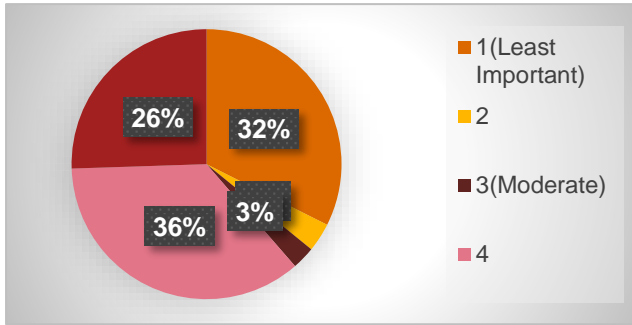
As per the survey Analysis, majority of vehicles parked (63%) are four wheelers while 36 % vehicles were two wheelers. Some three wheelers were also parked at the roads who were paying parking charges.



The reason for parking at the site was mostly (59%) for work related. Rest of the reason mentioned was pickup and delivery of the passengers (33%), parking for entertainment purpose, government works, and shopping etc.

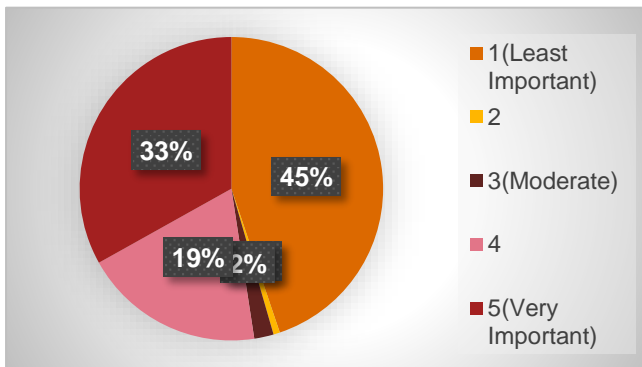
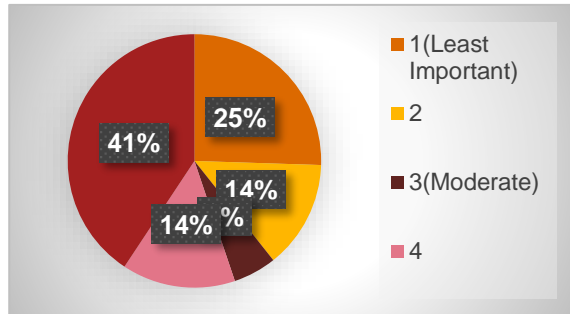
As stated by the citizens, the cost parking of the parking is one of the important factor while making a parking decision at any place. A majority of 62% citizens choose parking cost as the majority factor.



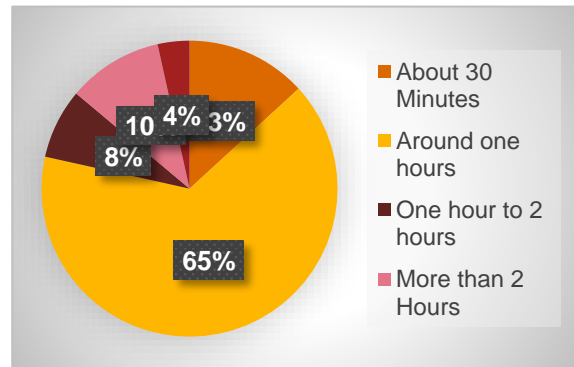
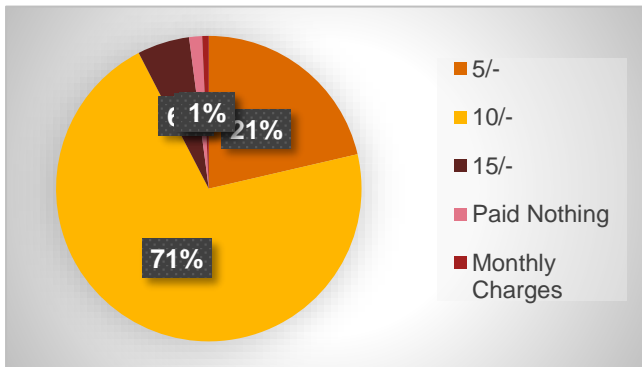


However, the comfort, convenience and ease of parking factor while making a parking decision received a mixed review. While 32% put it at least important, 3% at moderately important and 62% at very important factor.

The factor of safety and security reason whole making a decision to park was put at priority by the citizens with 55% individuals put it as very important factor. Only 25% said that safety and security is least important.

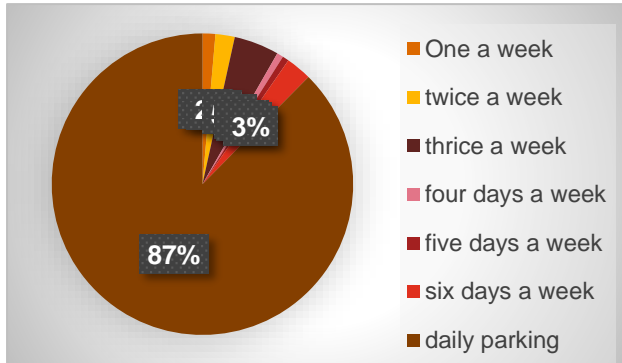


The factor of easy and fast access to the destination after parking is also one the factor as stated in the survey but it received a mixed review. While 45% of the individuals said that it is least important, 52% people said that is very important while deciding the parking location. They are not willing to walk more than 3-5 minutes after parking to reach their destination.



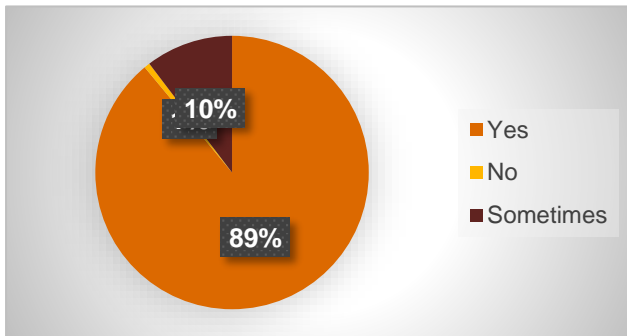
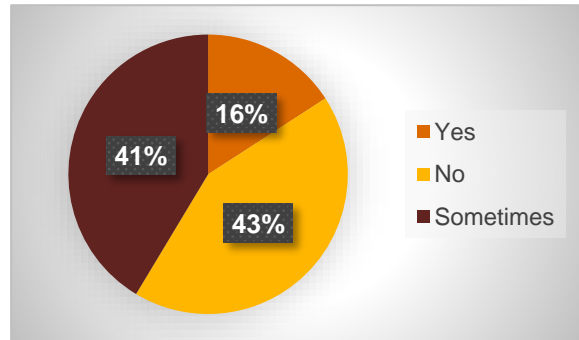
On asking about the present paid parking rates by the citizens, 71% paid INR 10 for parking their four wheelers as per standard parking rates of the city. INR 5 is paid by the two wheelers. Majority of the parking duration for the vehicle was around one hour and less than one hours. Only 8% of the vehicles parked their vehicle for more than one hour.

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

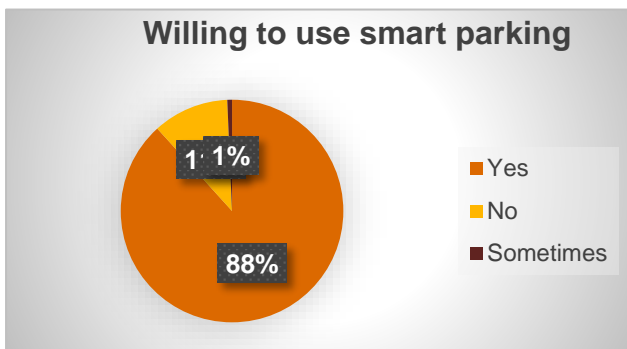


Since most of the vehicles parked are for the work or business purposes, 87% of the vehicles owners parked their vehicle at the location on daily basis. Only minimal amount of people who use parking space use it on occasional basis.

A majority of 57% people said that they feel threat of stole for their vehicle even after parking. This states the need of smart parking component for the parking which will ensure the parking security of the vehicle.



Due to limited availability of space for parking, a majority of 89% people said that they always find it difficult to spot a vacant bay to park their vehicle. This justifies the need of multilevel car parking facility in the area in addition to application based smart parking component to spot the vacant parking space.



On describing the citizens about the upcoming MLCP at the court circle, they showed the willingness to use smart parking not only inside the facility but also for the on-street smart parking. A majority of individuals are ready to pay INR 10/- for two hour duration for using smart parking to park their vehicles. They also have expressed their interest over issue of monthly parking pass as they have to visit the locality multiple times. Detailed spreadsheet of the willingness to pay survey is attached in **Annexure 5**.

2.10. Existing Site Revenue for HDMC

Presently, HDMC has divided the on-street and off-street parking sites into 10 different packages. These packages includes 6814 meters of parking space available in the city. Packages have been allotted on turnkey yearly basis to separate parking operators. While seven of the parking packages have been bid by the operator for the financial year 2017-28, three packages are still not been allotted to anyone due to short bid.

The yearly parking revenue generated by the HDMC as per data received from HDMC officials is as follows:-

Table 1: HDMC Parking Revenue

Sr. NO.	Package Number	Revenue (Lacs)
1	Package 1	5.2
2	Package 2	5.2
3	Package 3	1.44
4	Package 4	2.61
5	Package 5	7.75
6	Package 6	--
7	Package 7	3.78
8	Package 8	--
9	Package 9	--
10	Package 10	--
	Total Revenue	25.98

The court circle site comes under the HDMC parking package 1 which has 7 parking sites.

Table 2: HDMC Parking Detail Package 1

S. No	Road Name	From/To	Length (m)	Private Vehicle Parking Space	Tender Parking space length (m)	Parking Space Location (Right/Left)	Parking Type of vehicle
	Package 1 (DMA: Revenue - Parking - Package I)						
1	Dajibanpet Road	Raghvendra Medical to City Clinic	108	16	92	Left	Two wheeler
2	Dajibanpet Road	City Clinic to S.T. Bandari	207	23	184	Left side alternate days	Tow & Four wheeler
3	Dajibanpet Road	S.T. Bandari to Tuljabhavani Temple	154	25	129	Right	Two wheeler
4	Dajibanpet Road	Prabhat Hardware to Hanuman Temple	58	...	58	Left	Four wheeler

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

5	Dajibanpet Road	Shri Dinesh S. Meharwade Shop opposite Homiyo Medicals Store	120	...	58	Right	Two wheeler
6	Court Circle	Shri Saibaba Temple opposite old PWD ground	55	...	55	Three line	Two wheeler
7	Court Circle	Shri Saibaba Temple opposite old PWD ground	62	...	55	Two line	Four wheeler

Total revenue of parking from package 1 is 5.2 lakh from the entire package while the parking revenue generated from court circle sites is approximately 1.02 lakhs per years.

3. Parking Technologies – Option Analysis

Multi-Level car parking also known as multi floor car parking which is designed specifically for automated parking and where there are number of floors or levels on which parking takes place. It is essentially a stacked car park. The following are the three types of technology available for multi-level car parks

1. Manual System
2. Semi-Automated System
3. Fully Automate System

3.1. Manual System

A manual system is a conventional ramp based parking system where the vehicles are expected to be driven in for parking or driven out for retrieving the car from the parking facility. The structure to be constructed for car parks with manual system with similar to that of any building, except ramps need to be provided for driving the cars to and from the parking level.

3.1.1. Salient features

1. It is a concrete structure building
2. It is a fully manual parking
3. It requires more area as compared to its modern hi-tech counterparts
4. Cost of construction is low as compared to modern technology
5. No mechanization at the time of parking/retrieving of the vehicle.
6. These are generally preferred where there are no constraints in terms of availability of area and numbers of ECS required are not very high. In locations where the car park is built on sloping land, the car park may be split-level.

3.1.2. Advantages

Major advantages for conventional ramp based parking systems are:

1. Simple design
2. Easy implementation
3. Low cost since the life of the structure is long compared to its hi-tech counterparts
4. Low operational costs
5. Minimal maintenance requirement
6. Less energy consumption
7. Longer life of the system
8. This system however is not much recommended in areas where there is space constraint, number of ECS required is large and the land cost is high.

3.1.3. Disadvantage

Major disadvantages for conventional ramp based parking systems are:

1. Requires more space
2. Not suitable in areas where land cost is high since it becomes a costly proposition
3. Not suitable in areas which are congested and demand for parking space is high

3.2 Automatic and Semi-Automatic

There is an overwhelming need for these systems because of increasing traffic and non-availability of adequate parking spaces, especially in urban cities. The most unique feature of such systems is that they increase the parking space available on the ground by more

than 30%, depending upon the kind of system installed and the contours of the space available.

The Automated/Semi Automated parking is of two types:

1. **Puzzled parking:** Puzzle / pit puzzle parking system is a system where a combination of lateral and vertical movements of platforms/pallets takes place to accommodate maximum number of cars within the space available. These are self-supporting steel structures and operated through Programmable Logic Controls (PLC's).
2. **Tower parking:** Automatic Tower Parking System is the world's most advanced and space-efficient parking system. Automatic Tower Park System occupies approximately one-third the volume required to park the same car in a conventional multi-story car park. Automatic Parking Systems is a vital role in meeting today's parking needs. This is especially true with the rising land costs in increasingly crowded cities.

3.2.1. Advantages

1. Significant reduction in ground space as compared to conventional parking systems.
2. Low parking and retrieval times; average of 90 to 150 seconds per car, depending on the number of levels
3. Reduced noise and air pollution levels in such systems, when compared to conventional parking lots as car not running while being parked in and out
4. Minimal maintenance required.
5. Reduced chances of fire hazard and no risk to human lives
6. No danger of assaults, car break-ins and damages to personal belonging as there is no human presence inside the parking

3.2.2. Disadvantage

Besides being enabled with high end technology, there are some disadvantages which both automated and semi-automated parking system possesses:

1. It cannot be installed in the location where frequency of parking is high due to limited speed of operation.
2. The maintenance cost is way more than manual systems.
3. The energy dependency is too high, and the tier two and three cities cannot afford to spend so much on single parking lot.
4. The structure being made up of steel has no permanent relevance as compared to civil construction.

3.3 Recommended Technology

The arguments for and against car-parking system are complex since they are integral to such important factors as speed, space and energy efficiency, maintenance and reliability. By considering the present situation of the available infrastructure and space available for the site, it is decided that a ramp-based SMART PARKING TOWER should be selected for the court circle site. It needs be installed with all the smart parking components.

4. Statutory and Legal Framework

Presently, Hubballi Dharwad Municipal Corporation has no parking policy for the city. In absence of specific parking policy and suggested regulation, the management of parking is going to be a challenges. Below are the lists of statutory and legal frame which can be referred while drafting the same for city.

4.1. Legislative Framework

The statutory and legal framework guiding the development of a multilevel parking Facilities for the court circle SMART PARKING TOWER are divided as follows:

1. State Legislations
2. Central Legislations
3. Policies and Guidelines

The Acts and Rules under the State and Central Legislations are provided below:

Table 3: Acts and Rules under state and central legislations

State Legislations		Central Legislations	
Acts	Rules	Acts	Rules
Karnataka municipal corporation Act, 1976	Karnataka Motor Vehicle Rules,	Motor Vehicles Act, 1988	The Noise Pollution (Regulation and Control), Rules 2000
The Karnataka Traffic Control Act, 1960		Environment (Protection) Act 1986	
The Motor Vehicle (Karnataka Amendment) Act 1996			

The Policies and Guidelines applicable to the project are:

1. Karnataka Infrastructure Policy, and
2. Karnataka parking policy.

4.2. National Parking Policy

The National Urban Transport Policy for India (Published by Ministry of Urban Development, Government of India, and April 2006) refers to parking in paragraph 34 and 35. A summary is shown in box below.

- Levy of a high parking fee that truly represents the value of the land occupied should be used to make public transport comparatively more attractive
- Provide park and ride facilities for bicycle users with convenient interchange
- Graded scale parking fees should aim to recover the economic cost of land used for parking and electronic metering should be used widely
- State governments should amend building by-laws in all million plus cities so that adequate parking space is available for users of such buildings
- By-laws should also control carriage way parking in residential areas
- Multi-level parking complexes should be a mandatory requirement in city centers that have high rise commercial complexes and will be given priority under the NURM

Source: National Urban Transport Policy for India, Ministry of Urban Development, Government of India, April 2006.

4.3. Karnataka Urban Development Authority Acts, 1981

Objective of this Act is to establish the Urban Development Authorities in the state of Karnataka for the purpose of providing planned development of major and important urban areas in the State.

4.3.1. Development Authority under this Act

A Development Authority constituted under this Act shall be a body corporate having perpetual succession and a common seal and power to enter into contracts and sue and be sued in its own name.

The Authority constituted consists of a Chairman, an Assistant Director of Town Planning, an executive Engineer, Members of Karnataka Legislative Assembly and other representatives including certain Ex-officio members.

Section 9 of the Act empowers the Authority to appoint various committees for the purposes of the Act.

The State shall also appoint a Commissioner who shall be the Chief Executive and Administrative officer of the Authority. The commissioner has certain powers and duties which includes the power to carry into effect the resolutions of the Authority.

4.3.2. Power of Authorities to take Developmental Works

Under Section 15 of the Act, the Authority has the power to undertake works and incur expenditure for development and in execution of that power; the Authority has the power to draw up detailed Schemes for the development of the urban area and also for the framing and execution of development schemes. The Authority may also take up any new or additional development schemes.

4.4. Karnataka Municipality Act, 1964

Main objective of this Act is to consolidate the law relating to the management of municipal affairs in towns and cities other than cities for which municipal corporation are established in the state of Karnataka.

4.4.1. Obligations and Functions of the Municipal Council (Section 87(c))

Chapter V of this Act deals with the obligatory and discretionary functions of Municipal Councils which includes obligations relating to provision of civic amenities like, lighting public streets, places and buildings, cleansing public streets, places and sewers etc.

4.4.2. Power of Municipality in relation to acquiring and holding properties (Section 81)

Municipal council can acquire and hold property situated within or without the limits of the municipal area. The property so vested with the municipal council may be utilized for any purposes or for achieving any of the obligations of the municipality. This provision thus enables the municipality to hold land required for providing civic amenities.

4.4.3. Competency of municipal council to lease, sell and contract (Section 72)

Municipal council has competency to lease, sell or otherwise transfer the property belonging to it for the purpose of implementing any provisions of the Act. Further the

same section also empowers the municipal council to enter into any kind of contracts which it considers necessary, to carry out any of its obligations under the Act.

4.4.4. Power to undertake works and incur expenditure for improvements (Section 155)

Municipal council may draw improvement scheme and expansion scheme for the areas within its jurisdiction and can undertake any works and incur any expenditure in respect thereof.

4.5. Parking policy in Bangalore

The Metropolitan city of Bangalore has drafted a parking policy for the region. The reason behind adopting the separate parking policy for the city was insatiable parking demand for the city. It was required due to exponential growth in number of vehicles, an intense need to effective public transport, coordinated operational urban planning, and enforcement of parking restrictions in or around the CBD areas.

4.6. Conclusion

As mentioned above, HDMC has to draft a separate parking policy for the city. The above guidance documents can be referred for the same. The case of Bengaluru is unique in such a way that by adoption a separate policy for the region, the ULB is trying to mitigate the challenge of parking. Though the parking policy of the state is in its draft stage and can be referred for the same, yet a details parking master plan shall be required to cater the growing parking demand of the Hubballi city.

5. Technical Specifications for Smart Parking Tower Building

5.1. Parking Structure Design Specifications

This chapter gives the typical technical specifications of the various parking systems. This shall form integral part of the development obligations and shall have to comply with these specifications as bare minimum.

Table 4: Design of Parking Structure

Fixed Design Parameter	Permissible
Minimum dimension and weight of a car (SUV category) to be considered	Length – 5.20m Width – 2.20m Height – 2.20m Weight -2500 Kg
Required arrangement for convenient parking by physically challenged drivers (2% of Total ECS capacity) will have to be provided	

Table 5: Covenants

Sr. No.	Item Description	Covenants
1	Construction below ground	Should not exceed 3 basement floors
2	Height of parking without elevators	Should not exceed 3 floors
3	Height of each basement floor	Clear floor height should be not less than 3.60 M
4	Depth of construction below ground	Should not exceed three basement levels or 12.0m below ground whichever is less.
5	Space for calculation one ECS including circulation within parking structure	Not less than 28m ² per ECS for ground floor covered parking and 32m ² per ECS for underground
6	Parking bay/slot dimension per car space	Not less than 5.6m long and 2.4m width
7	Air Conditioning	Preferable but not mandatory. However, mechanical ventilation must be provided to permit a minimum of 15 air changes per hour for normal ventilation and 30 air changes per hour in case of fire of distress call.
8	Gradient of ramp	Not steeper than 1:6 ratio with minimum transition space of 5 m at termination of the ramp
9	Width of ramp	Minimum of 6.5 m width for two way traffic and only 4.5m for one way traffic
10	Carriageway of pavement for circulation space within parking facilities	Not less than 4.5 m, if one way, and not less than 6.0 m if it is two ways flow.

Minimum delay is caused to users of the parking facility and the maximum queue Length at any of the entry area the facility shall not ideally exceed three cars, at any point of time, except under exceptional circumstances.

5.2. Column Center

In a smart car park facility there should be no columns to impede access to parking spaces. In basement car parks this is difficult but not impossible to achieve. While using the standard grid within the construction there will be an advantage by using adequate free Space between columns which will allow for three car spaces. Designers should allow for adequate clear space between column edges so that full width spaces are available to patrons.

5.3. Head Clearance

Flat ceilings are preferable in all car parks. Structural beams should not be located in the vicinity of parking spaces, and if this cannot be avoided then allowance must be made not only for the height of car roofs but also for the height of hatchback doors which swing up. For underground puzzle parking (module of 9) and puzzle parking (module of 6) clear space required (3.6 m) shall be excluding the beam spaces.

5.4. Entry and Exit Specifications

5.4.1. Location

Location of the Entry and Exit Areas and of the driveways along with their connection to the road system should be made properly and at least two exits are required to be provided for access to and from the basements at each site. Besides the ramps for vehicles the developer is obligated to provide at least 2 elevators and 2 staircases for movement of users from basements to ground level at convenient locations.

5.4.2. Size

The Entry and Exit Areas must be sized to allow drivers to safely and comfortably drive in and out the vehicle. Turning radius and width of drive aisles and minimum clear width of Entry and Exit Area shall be designed according to the respective needs and leaving adequate space to the left and right of the car for passengers to leave / enter the car and in accordance with Applicable Codes.

5.4.3. Components

1. Motion detectors and CCTV cameras or similar devices shall be installed inside the Entry and Exit Areas to ensure that no person or animals are inside the Entry and Exit Areas or vehicle when the machine starts moving. Cameras shall be installed to record digital photos of the physical condition of the car entering and exiting the premises. The images are also helpful to locate cars for drivers with a lost ticket and to validate damage claims as well as to detect any suspicious activity in the parking area.
2. The Entry and Exit Areas entrance doors shall be mounted, secured and operated safely, isolating the passengers from the Entry and Exit Areas during movement of the machinery and vehicles. Safety locks / emergency switches shall be installed to stop any machinery if a person or animal is detected in this area.
3. The Entry and Exit Areas entrance doors shall be mounted, secured and operated safely, isolating the passengers from the Entry and Exit Areas during movement

- of the machinery and vehicles. Safety locks / emergency switches shall be installed to stop any machinery if a person or animal is detected in this area.
4. Recesses in the floor area shall be minimized to the need of guiding the drivers in the “drive-in” process. All other areas shall be flat for pedestrian traffic. Gaps between moving parts and platforms need to be limited as per Applicable codes.
 5. All Entry and Exit Areas must comply with disability requirements.
 6. The driveways for inbound and outbound traffic shall be designed to provide sufficient queuing spaces; simple visual signage and guidance shall clearly direct approaching traffic off the street and into the Entry and Exit Areas. Respective commands via a visual message center shall be applied inside the Terminals for the drivers in such manner that an easy use of the system is possible.
 7. Inbound / outbound traffic crossing shall be prevented
 8. Inside and outside Entry and Exit doors shall be provided to prevent drivers and animals from coming into contact with any moving elements of the system.
 9. As Entry and Exit Areas are the exchange station of the Parking Structure, special attention shall be directed to ease the “drive-in” and positioning of the car by the drivers (preferably by means of physical aids).
 10. Means of catching of debris and drippings from the incoming cars shall be applied to avoid such drippings to cars and machinery inside the terminals, during transportation and storage inside the system.
 11. The Ticketing Station or access system shall be located outside the Entry and Exit Areas on the right side of the inbound traffic.
 12. If the system has installed radio frequency access system, the readers shall have enough range to detect approaching vehicles from at least 9 meter outside of the Entry and Exit Areas.

5.5. Throughput Capability

The throughput of a system is the minimum number of cars a system can store or retrieve (measures in by any random one way traffic), in the timeframe of one hour. Dwell time is defined as the total time a driver takes to drive into the system, leave the car, exit the system and buy a parking ticket. In case of exiting the system, Dwell Time is the time taken by the driver to return the parking ticket, identify his car, and drive it out of the system. A reasonable average dwell time (entering/exiting) of 30 seconds per car driving into the Entry and Exit Areas can be assumed if physical driving guidance is provided. In the absence of such physical guidance system, an average dwell time of 60 seconds shall be considered.

5.6. Fire Safety

1. Fire safety measures as recommended in applicable codes shall be implemented.
2. Provisions shall be made in the Parking Facility that leakage of fuel tanks or other flammable fluids are collected during transportation and storage of the vehicle.
3. Construct the ‘Parking Facilities’ structure and the equipment with noncombustible construction. In addition, those portions of the facility used for the transport and / or storage shall have a finish of non-absorbent, noncombustible material. Where the Automated Parking Facility is located below a building, 2-hour fire resistance rated separation shall be provided between the Automated Parking Facility and the adjacent space use.
4. As the nature of an Automated Parking facility provides the means to transport a vehicle without human interference, provisions shall be provided to detect a vehicle on fire and to transport it to a fire extinguishing cell at a space on ground floor, easy accessible for fire fighters.

5. Developer shall make all provisions in the construction as per the Relevant Fire Safety Act as well as take all measures as per the rules and regulations including guidelines from Central Government, State Government and drafted by the ULB and any agency appointed by the government on the subject.

5.7. Ventilations/ Air conditioning

1. Areas accessible to the public / drivers shall be equipped with sufficient air conditioning and ventilation.
2. The storage area of the System in which no driver enter but only maintenance crews, may be unconditioned space although some ventilation emissions is required inside the storage area. Depending on the design of the Entry and Exit Areas, a ventilation of emissions may be required in that area.

5.8. Lighting/Accessibility for Maintenance

1. Lighting in areas accessible to the drivers / public shall be properly illuminated.
2. Old recommendations on internal lighting standards e.g. of 50 lux, have long ago been discarded by the industry and replaced by minimum standards of 100 lux and 250 to 350 lux at entrance/exits. White fluorescent bulbs provide the best quality of light. Tungsten lamps generally give yellow tints and leave "cave" effects unless used in high densities. Lighting in stairwells and lobbies need to be to a very high specification to minimize perceptions of personal isolation.
3. The parking structure shall be designed such, that maintenance personnel has access to all storage spaces, machinery and electronic components in a safe manner. The usage of harnesses is acceptable as long as OSHA criteria are followed.
4. Graphical User Interface/ON – Line Support
5. Automated parking Facilities shall be furnished with a Graphical User Interface (hereafter referred as "GUI") or Human Machine Interface (hereafter referred as "HMI"). This interface shall be positioned in the Control-Room. The GUI shall show the geometry of the entire system with occupancy and all installed machines moving in real time. The GUI shall be capable of running fully automated without human assistance; it shall have manual and maintenance mode and the capability of System Diagnostic of all critical mechanical, electrical and electronic equipment.
6. The parking facility shall have an installed and all time workable capability to the manufacturer / technical operator with a short response time to handle any alarms generated by the system.

5.9. Lines of Sight

Personal security is greatly enhanced in car parks where lighting levels are high and clear lines of sight are designed into a facility e.g. at access points to lift lobbies, stair lobbies, at corners on pedestrian routes. In addition all doors, including lift doors, should have large glass panels, all walls should have large glass windows so patrons can check whether it is safe to pass through or not. Structural walls can have 'openings' cut into them, to increase natural light penetration and improve sight lines.

5.10. Lifts

Thirteen-person lifts are increasingly essential if any reasonable comfort is to be provided, and these need to be in pairs. Smaller lifts do not meet the needs of people with shopping trolleys or baby buggies or large bags/packages.

5.11. Stairs

In all car parks, there are significant numbers of patrons who refuse to use lifts, and so all stairs should be designed to a high standard to accommodate this and should be alarmed for easy access in the event of a fire.

5.12. Scale

The size or capacity of a car park needs to be directly related to the likely peak demands for parking in the immediate vicinity of the site. Patrons will not normal walk more than 450 meters (4.5min) from their car to their destination.

6. Project Feasibility

The proposed SMART PARKING TOWER “Smart Parking Tower” at court circle site was identified for the facility. This will not only obstacles from carriageways thereby improving the steady flow of traffic and increasing carriageway capacity. It will contribute to a city’s economic activities by ensuring a ‘turnover’ of different vehicles rather than long stay vehicles in commercial areas.

6.1. Site Description

The site being triangular in shape an area of 4050 sq. m and two sides facing the one way traffic has been designed to maintain the flow of traffic at junction. Topo Survey of the site attached in **Annexure 6**.

As per the survey analysis, 62% area for the parking was consumed by four wheelers yet they were less in number. The facility has been designed to keep the same thing in mind. A parking space of 300 ECS has been proposed to be provided in the facility.

Entire facility has been designed as per the parking norms and regulations. The facility has been kept all abled friendly. Two lifts of capacity 13 persons have been given along with two staircases, which could also be used as emergency exits. Separate wide ramp of width 5.5 meter has been given for easy movement of vehicles for going up and coming down at each floor. Wide windows has been provided for cross ventilations.

6.1.1. Capacity

Basically, three floors above the ground, a stilt parking and two basement parking has been proposed to be designed at the facility. This will help in reducing the parking requirement and traffic congestion in Court circle area. The catchment area is a commercial space where long term parking is needed by the shop owners. This facility shall be providing formal space for both long term and short term parking because of the ease of access and exit to the facility.

6.1.2. Facility description

The ground floor has been provided with wide entry from left and the exit to the right. A circulation space outside the building boundary has been provided for pedestrians and Public Bike Sharing. Entire facility has been designed disabled friendly.

As per the survey analysis, an immediate requirement of Taxi stand has been fulfilled. A taxi stand has been provided at the ground floor for at least 10 taxis. Ground floor has only been provided with 28 ECS of vehicles. At the ground floors, a specified number of parking space will be reserved for all abled drivers. The reason behind keeping less ECS in ground floor is to provide maximum circulation space for vehicles of all the floors above and below ground for proper exit. The entire facility has been designed by reckoning zero conflict point of vehicles while in circulation.

6.1.3. Commercial Space

For the feasibility of the project in terms of revenue, two upper floors (3rd and 4th floor) at the commercial use space has been proposed along with the smart parking tower which can be shuffled among levels as per the project feasibility. Additional FAR for the project shall be provided by HDMC as a special case. The application of land-use modification

from transportation land use to commercial and transportation has been applied to HDMC and Geo tech survey for the site is attached in **Annexure 7**.

6.1.4. Building Height FAR and Built Up

After studying the latest local zonal byelaws of the city as per Hubballi Dharwad Urban Development Authority and on site topo survey, the built up area and developmental details are as follows.

Table 6: Built up area details for the facility as per regulations

Plot Area	4050 sq.m.
Ground Coverage	65%
FAR	2.5
Total Built Up area for Commercial Development	10125 sq.m.
Basement 1	3037.5 sq.m.
Basement 2	3037.5 sq.m.
Ground Floor	2632.5 sq.m.
First Floor	2632.5 sq.m.
Second Floor	2632.5 sq.m.
Third Floor	2632.5 sq.m.
Fourth Floor	2632.5 sq.m.
Open Space	1415 sq.m.

6.2. Sustainability



Figure 19: Birds eye view of Proposed SMART PARKING TOWER

The facility has been designed by considering the environmental sustainability by providing roof top solar panels for energy independency of the SMART PARKING TOWER. Green wall in the elevation of the facility is a value addition and not only help in improving aesthetic of the surrounding but maintain the internal temperature of the facility. On the same note, rain water harvesting has been introduced in the facility to reduce the dependence on water in a sustainable manner. The rain water shall be used for watering the green wall in the elevation. The facility shall have at-least IGBC silver certification rating.

6.2.1. Green Wall

The green wall is partially or completely covered with the greenery that includes a growing medium such as soil or substrate. The green all around the facility will increase the aesthetic of the surrounding and help in maintain the overall temperature as well as the pollution of the facility. More the plant surface on the façade of the facility less will be the heat generated inside the building.

The wall shall also be a medium of water reuse. The grey water from the toilets of the SMART PARKING TOWER can be used to water the plants of the green wall thereby reducing the dependency on water.

6.2.2. Rain Water Harvesting

The 2850 sq. m. of the roof area could be a great source to harvest rainwater for daily needs of the facility. Since, the Hubballi city falls in the arid region of Karnataka with an average of 838mm of rainfall yearly, Rain water harvesting would be a rational approach towards environmental sustainability.

With provision of roof top rainwater harvesting in the facility, we shall be able to save 2346 cubic meter of water. This rainwater shall be stored in the storage tank below the basement of the facility and ensures the availability of around 6500 liters of water daily for the facility which could be used for toilets, cleaning and watering the vertical garden.

6.2.3. Roof Top Solar

The roof top solar panels setup in a terrace area of 2850 sq.m. Shall make the facility partially energy independent. Design structure shall include dead-load of solar roof top. Separate vendors shall be appointed to install and maintain the services. The energy produced shall be used for functioning of the facility

6.2.4. Pedestrian crossing

For the user's safety at the entry and exit, two table top pedestrian crossing shall be provided along with stop button integrated with traffic light at the junction.

6.2.5. Tree Plantation

All the trees within the site shall be transplanted either on the same site or another site as provided by HDMC. A minimum survival rate of 6% shall be considered beyond which a penalty will be imposed at the rate of 50,000 INR per tree.

7. Smart Parking

Smart Parking system is a parking guidance and payment system that helps drivers make smart decisions in order to reduce congestion, make the most of available spaces, and increase the profitability of parking facilities. This system assists motorists in finding empty parking slots in multiple parking zones— allowing them to decide where they will park long before they reach critical intersections. The court circle ‘Smart Parking Tower’ facility is to be integrated with smart parking component as shown below. This motive is to give the user a smart parking experience in smart city.

Concessionaire shall also manage the immediate impact area of the upcoming building and additional stretches as proposed by HDMC on principles of smart parking.

The overall scope of work includes design, development, operation and maintenance of existing and new parking lots which will be taken care of by the concessionaire. Following are the detailed scope in each section.

7.1. Scope of Work for Concessionaire

The envisaged solution should be automated, cost effective, scalable, secure, environment friendly, energy efficient and must entail minimum human intervention for day-to-day parking management. The following scope of work has been envisaged for this project:

- Post takeover of each parking space from Authority civil work and mechanical work (only to make minor space adjustments, no construction of parking lot is to be done by concessionaire), maintenance of the parking slots, cleanliness of parking lots.
- Deployment of trained manpower for operating parking slots.
- Concessionaire will be responsible for complete operations and maintenance of all the parking spaces during the lease period.
- To provide and install necessary complete hardware and software solutions, such as but not limited to boom barriers, auto pay station, handheld devices, porta-cabins, switches, gateway, and guidance system, for on street, off street parking system.
- Provide Parking Management and Parking Guidance System to direct drivers to available parking slots through LED signage for user information.
- Citizen App for parking services: App shall show the available slot on real time basis, booking of parking space, payment mechanism through various modes of payment, reservation for specially-abled citizens, facility for extension of pre-booked parking space.
- Comprehensive operation and maintenance of all hardware and software installed for this project throughout Concessionaire period.
- Unique identification of each vehicle entering any of the parking lots through barcoded tickets, NFC enabled Smart Cards, QR Coded entry etc. as applicable. Integration with the smart card and smart payment system of Hubballi Dharwad will be required.
- To manage and collect fees as per tariff fixed by Authority for all the parking lots defined in this RFP
- Using the data generated through the parking solution software for analytics purposes, such as time based (hourly/ daily/ weekly/ monthly/ annually) trends, area

specific trends, vehicle (car – SUV/sedan/hatchback, scooter, etc.) specific trends, usage and vacancy periods, premium parking demand etc. for the purpose of better management of parking.

- The solution must integrate with e-Vahan/ National Vehicle Registration Database along with any other stolen vehicle database proposed in the future.
- The Smart card that will be implemented through separate tender will also be integrated with the smart parking solution.
- Integration with Asset Management system to keep a track and maintain identity of all assets used in this project.
- Shall undertake minor civil repair works, cabling works and road marking works, if required, in the parking lots as per Authority requirement from time to time.

7.2. Key Components of a Smart Parking

- Parking Managements System
 - Off Street Parking (Covered parking lots – multi level car parking)
 - Entry Stations - Automated ticketing system
 - Exit parking systems
 - Auto pay stations/Central Pay stations
- Parking Guidance System
 - Variable messenger signs and Facility guidance systems
- Web Portal and Mobile app for consumers
 - Parking Identification, Pre booking, payment and navigation
- Control and command center
 - Integration with city command and control system
 - Data management, analytics and Business Intelligence on real time basis
 - Monitoring of real time transactions, parking availability, pre booking, season parking and parking enforcement
 - Management of Equipment status and alarms on real time basis
 - Dash boards and reports

7.3. Operation and Maintenance (O&M) Guidelines

The concessionaire shall follow the following Operation and Maintenance guidelines:

- The concessionaire has to adhere to the operation and maintenance policies and procedures, to be defined in SOPs to be developed by Concessionaire within 3 month from engagement in consultation with HDSCL, HDMC and consultant of HDSCL, for managing and operating the Project. This includes (but not limited to) approach related to manpower, resources, vendor management, security, customer service, repair and maintenance and other primary functions, user manuals, technical manuals, financial management, risk management, life/safety management, employee management and administrative policies and procedures. It also includes the key elements of a management plan for this project to include considerations for customer service improvement, enhanced economic impact generation which is the key to this project operation.
- Concessionaire will be responsible to deploy on-field resources for appropriate up-keeping, maintenance, and operation of all equipment, hardware, and software components, and ensure smooth functioning of the project throughout the entire

concession period of Seven years. The Bidder has to manage all on street and off street parking and collect revenue.

- The comprehensive Operations and Maintenance (O&M) period for all sensors, devices, equipment and its related hardware, software, electrical and network infrastructure components supplied and installed for this project including configuration of servers, desktops, routers, switches, firewall, LED signage, parking sensors and various other active and passive components along with repair, replacement of parts, sensors, providing spare parts, updating, security alerts and patch updating, regular backup of the data etc. shall be upto a period of Seven years from the date of handing over of all agreed Parking lots to the concessionaire. The concessionaire shall provide comprehensive on-site warranty for all the hardware items and peripherals throughout the concession period.
- The concessionaire shall depute adequate manpower as full time dedicated onsite team. The team shall be deputed to identify, acknowledge, troubleshoot, manage, replace and repair the hardware/ system software. The team shall undertake day-to-day troubleshooting and maintenance requirements for this project.
- The team shall be also be responsible for regular monitoring of all the equipment, proactively perform warranty checks, and generate Service Level Agreement reports from the SLA monitoring tool.
- The team shall be required to take regular backup of the application data as per the frequency defined by Authority. Security and safety arrangements for safe custody of the backup data shall also be the responsibility of concessionaire.
- The concessionaire shall ensure that the team has appropriate skill-sets for managing networking, hardware and application software tools.
- All patches and updates to any software and hardware devices shall be provided by the Bidder without any additional costs throughout the tenure of the Concession Agreement.
- Periodic Revenue audit & Quality Audits to be performed every quarter by AUTHORITY team.
- There has to be Functional and Behavioral Training to be provided to the staff once a year by the concessionaire and relevant report to be submitted to the authorities of Authority. These reports will be part of the quality audit reports.
- Insurance coverage for the Parking lots up-to 1cr covering the damage or theft of the vehicle and injury to a personnel in the parking lot. Any claim related to damage or theft of the vehicle and injury to a personnel in the parking lot are responsibility of the concessionaire.
- Relevant number of fire extinguishing equipment has to be installed and necessary clearance to be taken by Concessionaire.
- All statutory compliances like Labor License, Professional Tax registration, Coverage of all applicable employees under ESI and PF act to be taken care by the concessionaire.
- General maintenance, upkeep and cleanliness of the parking lots is the responsibility of Concessionaire.

- Concessionaire has to replace the hardware, software or manpower in case of fault, Malfunction etc.

7.4. Responsibilities of Authority and Concessionaire

Authority

- Authority will provide permission in writing, for use of right of way (ROW) (Concessionaire has to reinstate the site at its own cost), electric supply provision, civil works, flooring of the parking lots.
- Minimum space required for installation of Gateway, Switches, Routers, Cameras, LED/LCD displays etc. for smart parking services will be provided free of cost by Authority. Existing infrastructure like electricity/camera pole (if any) can be leveraged on Authority approval for mounting such devices.
- Authority will provide support for integration with ICCC.
- At the end of the concession period, all rights given to the Concessionaire, shall be terminated automatically.
- Authority shall provide single window clearance, where Authority has full control and jurisdiction, to the Concessionaire for the purpose of this RFP document.
- Authority shall undertake civil repair works, resurfacing and road marking works, if required, in the parking lots as requested by the concessionaire and approved by Authority from time to time.
- Areas for no parking are to be defined by Authority in consultation with Traffic Police department.
- Parking yard for towed vehicles shall be provided by Authority
- Mark all the boundaries of each parking slot in all the parking lots under this RFP document

Concessionaire

- Design, develop, provide, install, manage, operate and maintain the smart parking and payment system as defined under BoQ section, as per the Service Level Agreement (SLA) throughout the concession period. Penalty will be imposed as per SLA in the Penalty Clause of this RFP document for non-adherence of the terms and conditions of the RFP.
- Operate, maintain and manage all hardware, software and services covered in this RFP document throughout the concession period.
- The Concessionaire will be responsible for all civil and installation work related to network connectivity, power supply extensions to devices, installation of devices and equipment, and any other networking, communication, and infrastructure requirements related to any work under this RFP document.
- Watch and ward of the assets/ services created in this project. The Concessionaire has to replace the material(s) / equipment(s) / device(s) in case of any theft or loss due to any other reasons, which affects the services/ assets under this project.
- To provide FTTH / broadband connection at each of the parking lot to bring (i) parking related data on real-time basis;

- Erect suitable steel structures at its own cost for installation of LED signage for parking guidance and management system. These structures/ poles shall be of stainless steel, and aesthetically designed and structurally stable and as per Authority specifications. The concessionaire shall also indemnify Authority for any damage due to such structures.
- May utilize street light poles, with prior permission from Authority, for installation of repeaters/Gateways, switches/routers as necessary and used exclusively for the purpose of this project, without compromising the aesthetic sense and strength of pole.
- Authority will be the owner of all dismantled existing equipment from the parking lots and all such equipment shall be handed over to Authority, not later than a fortnight from date of such dismantling.
- Provide adequate battery bank to ensure uninterrupted power supply to all hardware (equipment, devices, etc.) covered under this RFP document.
- All physical assets created under this RFP as per Bill of Materials (BoM), will become the property of Authority at the end of Concession period or at termination of the concession, whichever is earlier, and the Concessionaire will not have any legal right on these assets.
- At the end of the concession period of Seven (7) years of O&M, the Concessionaire has to hand over all physical assets belonging to Authority in proper working condition. In case of any deficiency noticed at the time of such handing over, the Concessionaire has to get it rectified at his own cost within 15 days of such handing-over, otherwise, Authority will get it rectified at the risk and cost of the Concessionaire. Performance guarantee of Concessionaire will be released only after successful handing over of the all physical assets in working condition to Authority.
- Any damage to other services arising due to installation or execution or repair or maintenance work by the Concessionaire, shall have to be made good by the Concessionaire within 72 hours of such damage, failing which Authority will issue a notice to concessionaire asking for justification. Concessionaire will be required to respond to such notice within 3 working days. In case it is found out that the current issue at hand is out of control of Concessionaire then problem will be solved jointly by Authority and Concessionaire based on their agreement. Else, Concessionaire will be required to do the needful within 72 hours of the decision made by Authority.
- The location of Parking lots and area given under this RFP document is based on preliminary survey. Area and location may change while preparing detailed design and execution of this project. During the Concession period, new parking lot(s) may be added by Authority and the Concessionaire has to cover such lot(s) under the scope of this project with the agreed Parking Tariff.
- The concessionaire shall pay Concession Fee or revenue share whichever is higher to Authority.
- For any complaint registration by users, provisions shall be made by the concessionaire in Citizen App and web portal. Dedicated WhatsApp number/ Help line number shall be provided to citizens for any complaints/suggestions/feedback with regards to parking. The same shall be monitored by the concessionaire and adequate responses shall be delivered to citizens within 48 hours. The concessionaire

shall provide a weekly report to the Secretary, Authority every Monday on the number of complaints received during the previous week (Monday to Sunday) and the number of replies furnished by it to the complainants along with number of complaints on which no response has been made by the concessionaire.

- The concessionaire shall honor the 'Parking Passes/Stickers' issued by Authority and will not charge any parking fees from the user of such vehicles having 'Parking Passes/Stickers' issued by Authority. Such non-charging of parking fees by the concessionaire shall have no interference on concession fees to be paid by the concessionaire to the Authority, and the concessionaire cannot make any claim on the account of non-charging of parking fees from such vehicles. Such 'Parking Passes/Stickers' shall be valid on calendar year basis, and maximum number of such passes/stickers issued by Authority should not exceed 50 numbers every year. Authority shall provide the database of passes/stickers (Vehicle Number, pass/sticker No., Type of Vehicle – Car, Scooter, Motorcycle etc.) issued by it to the concessionaire in the software provided by the concessionaire for this purpose on real-time basis.
- Apply for road cutting permission to Authority, in one-month advance, showing its requirements, layout plan for services to be laid, plan for restoration with timelines. Authority will get it approved as per feasibility at site. The final route will be decided/approved by Authority keeping in view the requirements of the Concessionaire and the site conditions. As such, any instructions/policy of Authority, Government of Karnataka and Government of India issued from time to time will be applicable on the Concessionaire.
- Restoration of roads, footpath, green portion etc. will be done by the Concessionaire at its own cost as per plan approved by Authority or within 15 days (whichever is earlier) from the date of any road cutting done by the concessionaire or by Authority in relation to the work for parking solution under this project. Restoration has to be done with equivalent specifications provided by Authority so that after restoration the aesthetics and purpose of use will not compromise. Restoration work shall be carried out as per CPWD specifications.
- The Concessionaire shall take metered electricity for parking sensors, gateway, router/switches, LED signage / displays, Parking guidance system and all systems for on-street, off-street & underground parking equipment etc. and for all equipment installed in Central Control Centre.
- The Concessionaire shall integrate the parking mobile app and the web portal with the People Empowerment Platform (PEP) – One Stop Solution mobile/web platform Authority App, and with the Integrated Command & Control Centre, as and when such Integrated Command Control Centre will be set-up by the Authority by itself or through any other concessionaire.
- At the time of completion of implementation period (i.e. six months from the date of handover of the parking lots to the concessionaire by Authority), the Concessionaire shall inform the Authority in writing for the same along with a list of all the assets (details of equipment, software, services etc.) deployed during the implementation period under this RFP document, including their costs. The Concessionaire shall update such assets list on yearly basis throughout the concession period.

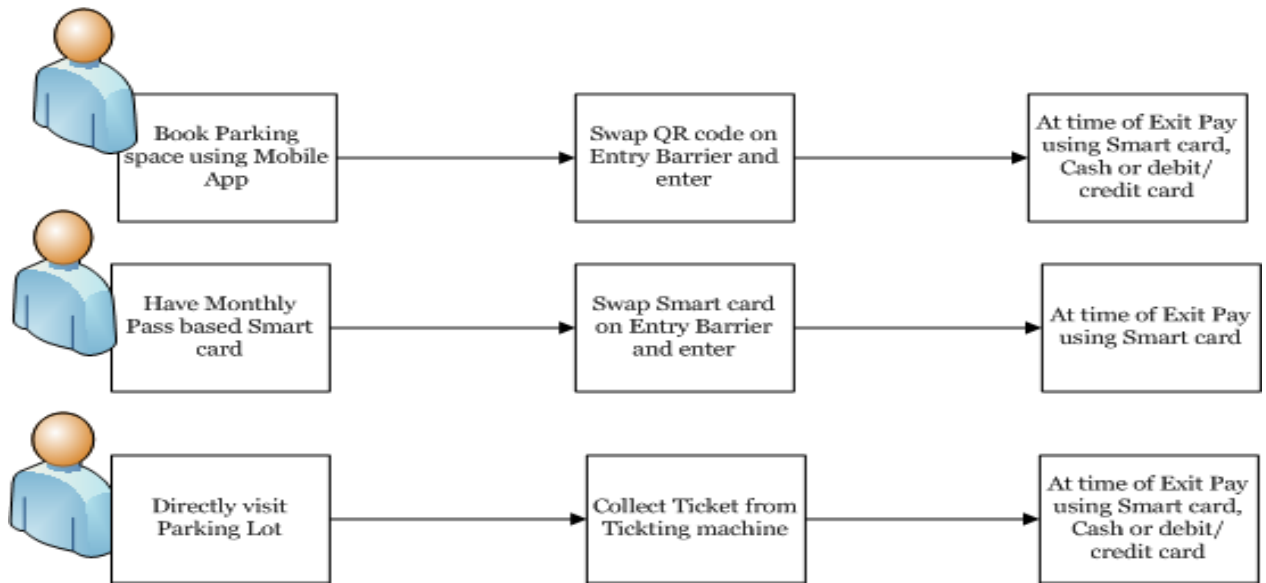
- Ensure that all the vehicles will be parked in the space defined for each vehicle in the parking lot. The parking attendant will ensure proper parking of vehicles in each slot.
- The concessionaire shall be responsible for any theft/ damage/ loss of vehicles parked in parking lots and shall be responsible for settlement of the dispute, if any, including under the Court of Law, and also follow all instructions and guidelines issued by Hubballi Dharwad Police / statutory rules & regulations / Authority for prevention of misuse of parking lots, including usage by anti-social elements, terrorist(s) etc.
- Undertake all measures for Cyber security, protection of information and communication technology systems of this project from cyber-attacks that are purposeful attempts by unauthorized persons to access ICT systems in order to achieve the target of theft, disturbance, damage, or other illegal actions. The Concessionaire will detect, analysis and do mitigation of vulnerabilities and protect Integrated Command Control Centre including Data Centre from cyber-attacks throughout the concession period.
- Propose additional measures to increase occupancy of parking lots. However, the Concessionaire will be required to take approval from Authority before implementation of any measures to improve the parking efficiency.
- Ensure at all times that the parking lots are utilized by cars, cabs, two- wheelers, and other small vehicles, but no heavy or medium commercial vehicles are parked in specified parking lots unless the parking slot / lot is dedicated to buses.
- The Concessionaire will provide necessary support, data and other required information for integration of smart parking solution with Integrated Command Control Centre of Authority, as and when such Integrated Command Control Centre will be set-up by Authority by itself or through any other concessionaire in future.
- Responsible for and provide security at the parking lots, and shall report crimes in parking lots to Hubballi Dharwad Police and Authority without fail.

7.5. Proposed Parking Lots for concessionaire

HDMC currently own parking lots in the city. All of these parking lots are considered to be converted to smart parking. However, based on size and other parameters the quantum of Smart Parking Intervention is proposed.

All Parking lots will have facility for parking of 2 wheeler and 4 wheelers. However, ability to book parking slots in advance using mobile App or Portal would be allowed only for 4-wheeled vehicles.

The user will be able to use the parking lots in three ways:



Refer **Annexure 8** for scope distribution between Concessionaire and Master System Integrator.

Refer **Annexure 9** for proposed solution architecture for smart parking.

Refer **Annexure 10** for proposed functional specifications for smart parking.

Refer **Annexure 11** for proposed technical specifications for smart parking.

List of on-street stretches are provided in **Annexure 12**.



7.6. Integrations

- The centralized smart parking solution will be integrate with the Integrated Command and Control Center (ICCC) and provide real-time statistics and data along with control to the operators and other stakeholders in the ICCC.
- The Smart Parking solution needs dedicated Wi-Fi connectivity as enabler for communication layer for all data communication from Sensors to parking servers.
- The solution must integrate with e-Vahan/ National Vehicle Registration Database along with any other stolen vehicle database proposed in the future.
- The parking solution also needs to be integrated with PEP-OSS for allowing online slot reservations and payments.


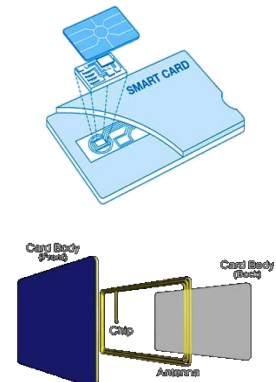
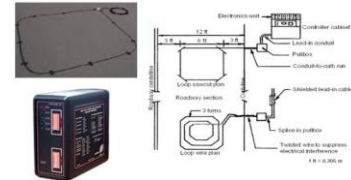

7.7. Proposed To-Be Intervention

The Smart Parking System will includes the following five basic elements:

- **Parking facility monitoring subsystem:** Monitors the ingress and egress of vehicles at the parking facilities.
- **Parking information signs:** Provides parking lot occupancy and directional information to drivers at decision points
- **Communications subsystem including vehicle detectors:** Facilitates communication between the central computer, vehicle detector system, and the parking information signs.
- **Central computer system:** Calculates lot occupancies from vehicle detectors, commands signs to show required message and allows operator intervention.
- **External interfaces:** Facilitates communication between the central computer and external systems.

Component	Component Name	Description
	<ul style="list-style-type: none"> • Entry/Exit barrier with loop detection For Parking And Vehicle Access Remote Control 	<ul style="list-style-type: none"> • Generally Installed at Entry / Exit barriers, these are unmanned station which allows entry / exit based upon the information logged in scanner installed nearby
	<ul style="list-style-type: none"> • Handheld Ticket Dispenser 	<ul style="list-style-type: none"> • A hand-held device to dispense ticket to incoming users along-with other necessary





Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

		details
	<ul style="list-style-type: none"> Automatic Ticket Dispenser 	<ul style="list-style-type: none"> A Do-It-Yourself machine which enables users to print ticket themselves as per their convenience
	<ul style="list-style-type: none"> Smart Cards & Readers 	<ul style="list-style-type: none"> The SMART cards are cards that can be loaded and reloaded with money It includes an embedded integrated circuit (IC) chip that can be either a microcontroller with internal memory or a memory chip alone The card connects to a reader with direct physical contact (i.e. a contact smart card) or through a remote contactless electromagnetic interface (i.e. contactless smart card)
	<ul style="list-style-type: none"> Inductive Loop Detector 	<ul style="list-style-type: none"> Physical Loops installed to capture the count of vehicles crossing over a designated line / area
	<ul style="list-style-type: none"> Parking sensors 	<ul style="list-style-type: none"> Sensors installed in Parking Areas assisting users in Parking their vehicles safely and only in designated Area without encroaching upon other parking lot

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

	<ul style="list-style-type: none"> • Variable Messaging Displays 	<ul style="list-style-type: none"> • To be installed outside Parking Lot in visible Public Areas displaying Real Time Availability in one or more Parking Lots
	<ul style="list-style-type: none"> • CCTV Camera 	<ul style="list-style-type: none"> • Use of Camera and relevant Video Software to capture designated area of Parking virtually
	<ul style="list-style-type: none"> • Car wheel lock 	<ul style="list-style-type: none"> • Enforcement Device for users who haven't paid the dues or parked in non-designated Area
	<ul style="list-style-type: none"> • Payment Kiosk 	<ul style="list-style-type: none"> • A Do-It-Yourself machine which enables users to pay for parking usage by themselves through cash or card as per their convenience
	<ul style="list-style-type: none"> • Parking Management and Guidance Solution 	<ul style="list-style-type: none"> • To Guide the vehicle owner about the parking slots availability etc
	<ul style="list-style-type: none"> • Controller 	<ul style="list-style-type: none"> • High Performance TCP/IP intelligent vehicle counting system Controller with display to indicate available parking slots & other accessories, Capable of connecting with multiple displays, loop sensors, Enclosed in Tamper

Smart Parking Tower (MLCP), Court Circle- Hubballi Dharwad

	<ul style="list-style-type: none"> • Ticket Validator 	<ul style="list-style-type: none"> • To allow users to validate their paper tickets or QR code/bar code generated from mobile app and gain access to the exit boom barrier for an hassle free exit
	<ul style="list-style-type: none"> • Mobile App 	<ul style="list-style-type: none"> • To provide users with information like the Availability of Parking Spaces, Near most Parking Lot Available or any relevant information pertaining to Parking Management
	<ul style="list-style-type: none"> • Emergency Call Box 	<ul style="list-style-type: none"> • It's an electronic device that is used to alert and call someone in emergency situation
	<ul style="list-style-type: none"> • Wireless Gateway/ Root AP 	<ul style="list-style-type: none"> • It is required for dedicated connectivity across all parking lots.

8. Parking Enforcement

Providing the multilevel parking facility is not sufficient until parking enforcements are provided in the impact area. This enforcement shall ensure that the parking discipline is maintained by the users. Below are the lists of both pull and push factor for the parking users to be implemented in the SMART PARKING TOWER facility and impact area.

8.1. Pull Factor

There are many attractive factors which shall be incorporated with the facility to appeal the users to park their vehicle in the facility and step towards making the SMART PARKING TOWER a priority destination for parking.

8.1.1. Bike Sharing

To facilitate the last mile connectivity and to provide an integrated multi modal facility, the Public Bike Sharing System (PBS) has been proposed at the site on entry and exit of the facility. Primarily, these projects shall run as pilot project in phase 1. The second phase of the bike sharing project shall be initiated as per then assessed demand. This project shall run entirely on PPP model with revenue share between the SMART PARKING TOWER facility operator, HDSCL and PBS partner.

8.1.1.1. Proposed PBS Operation

The user after parking their vehicle in the facility can use the bicycle to reach their destination. Those who are willing to use the bicycle have to pay only for using the bicycle for the time being and not for the parking in the facility. The details study of this public bike sharing system is being undertaken in a separate project.

8.1.2. Vehicle Free Zones

The major market area in the catchment of the facility like Janata bazaar shall be made vehicle free zones. The customers can use the provided parking facility at Court circle and Medar Oni to park their vehicle and shop in the bazaar.

Two and four wheeler parking shall be restricted by installing physical barrier at the entry to prevent the entry of motorized vehicle and only pedestrians and bicycle shall be allowed to enter the markets. The vehicle free zone will ensure the pollution free environment in the market and provide more space for pedestrians to walk thereby making the site a more attractive place for entertainment and shopping.

8.1.3. Parking Fee

The pricing includes the dynamic charges and credits which shall be put to attract the users. One of the solution is monthly charges for the shop-owners to park their vehicle for long term (Morning to Evening) thereby attracting them to park their vehicle. There shall be difference in vehicle parking fee at the SMART PARKING TOWER and On-street parking so as to prioritize the facility as parking destination. Details of the pricing shall be provided in the Detail Project Report (DPR).

8.2. Push Factor

The push effect are the enforcements levied by the parking operator along with the HDMC and traffic police thereby forcing vehicle user to park their vehicle only on designated parking facilities. By implementing integrated parking management system with central

command center shall ensure the integrity of the revenue and enforcement of parking norms.

8.2.1. No Parking Zones

For the SMART PARKING TOWER to be a success, no parking zones should be located upto at 450 meter from the site boundary and strict enforcements needs to be regulated. The major roads especially the Lamington road, Janata Bazaar Road, Dajibanpet road, Old Hubballi- Bangalore highway and Hubballi-Dharwad road need to be implemented with strict parking regulation by regularizing no vehicle parking lanes on these roads. To compensate the parking demand, the secondary feeder roads shall be provided with regularized On-street parking with higher fee than the SMART PARKING TOWER facility.

8.2.2. Vehicle clamping

Strict parking enforcements like vehicle clamping and towing shall be regularized to maintain the parking discipline. The vehicle clamping devices and towing vehicle shall be provided for the same.

8.2.3. On site Fine

The parking operators shall be provided with handheld devices with direct connectivity to command and control center to the charge fines.

8.2.4. Surveillance

Entire SMART PARKING TOWER facility and its catchment area shall be installed with surveillance cameras to remotely monitor the illegal parking in the region and regulate the parking discipline.

9. Contract Structuring

9.1. Scopes of Work

Following scopes of work are envisaged for the concessionaire.

A. Construction of Smart Parking Structure:

The structure shall be a smart, iconic structure with integrated transportation facilities with core components as follows.

Sl.	Core Components	Details
1	Smart Parking Tower Building (Floors & Ground Coverage)	(2 Basement + Ground + 4 Floors) & 50% GC
2	Minimum Provision ECS	300 ECS (with EV charging points-10% vehicle)
3	Public Bike Sharing Docking Station	2 docking station (30 cycles) space at the Entry and Exit Gates Separate vendor to install and maintain
4	Public Convenience	1 Nos (300 Sq. ft., 5 WC + urinals +2 bathrooms)
5	Auto Stand	10 ECS space with separate entry and exit
6	Table Intersections Top	2 Nos, at Entry and Exit for pedestrian crossing ;
7	Solar Roof Top	Design structure should include dead-load solar roof top Separate vendors to install and maintain Rights over electricity production and can be used for MLCP facility
8	Digital Advertisement board	At least 25% of the building façade should be covered with digital advertisement boards.
9	Rain Water Harvesting	To be included
10	Green Building	At-least IGBC silver certification

11	Accessible Building	Accessible to all aged and All abled (MoHUA Guidelines)
12	Shifting existing utilities	Water Supply Pipeline Trees
13	Vertical Gardening	At least 25% of the building façade should be covered with vertical gardening.
14	Site curvature correction and Footpath development	Turning radius on the Northern end of the site shall be corrected and space left for road development. Footpath development around the site along with street furniture, landscaping, lights, etc.
15	Tree transplantation	All trees within the site shall be transplanted either on the same site or another site as provided by HDMC. A minimum survival rate of 60% shall be considered, beyond which a penalty will be imposed at the rate of 50,000/- per tree.
16	Ancillary facilities	Provision for car wash, repair, maintenance, etc.

B. Installing ICT infrastructure for smart parking:

- Parking sensors, boom barriers, automatic ticket collection kiosks, and common card based payment systems, etc.
- Variable message signage (VMS) at strategic locations both inside and outside the MLCP.
- Real time monitoring systems with seamless communication to upcoming Integrated Command & Control Centre (ICCC).

C. Managing and operating parking

- Management and operations of parking slots inside site and outside within the immediate influence zone.

9.2. Bid Parameters

Bidders should possess minimum qualification criteria in terms of annual turnover, years of experience, positive net revenue in last three financial years, experience in constructing and operating MLCPs and availability of smart solutions.

Technical evaluation parameters shall include experience of constructing MLCPs/ similar structures, experience in operating smart parking and concept design of proposed iconic structure for Hubballi-Dharwad.

Financial evaluation parameters shall include Viability Gap Funding (VGF) for Capex and Annual Concession Fee to HDMC for the concession period. The NPV shall be computed with an interest rate of 5%.

Consortium of up to three legal entities may be allowed.



9.3. Proposed Revenue Share

Concessionaire shall have rights to collect revenue from following sources:

- Parking fees - as decided by HDMC. Any changes will need to be approved by HDMC board.
- Rent from commercial areas that will be leased out for the duration of concession period.
- Rent from digital advertisement boards.
- Any other revenue for ancillary services.

Concessionaire shall have right to tow away or clamp vehicles that are parked illegally.

Construction period shall not exceed 21 months from date of agreement signing.

Annual Concession Fees shall be paid to HDMC as per agreed upon rates (as per bid parameter). Payment of concession fee shall initiate after 24 months of signing of contract.

On the letter head of Bidder

C. Format for Financial Proposal

(To be submitted and signed by the Bidder's Authorized Signatory)

The Managing Director,
HDSCL,
Sir / Madam,

Sub: Financial Proposal for Development of 'Smart Parking Tower' Complex at Court circle, Hubballi , Karnataka.

We are pleased to submit our Financial Proposal for Development of 'Smart Parking Tower' Complex at Court circle, Hubballi , Karnataka on DBFOT basis, as follows:

1. We hereby offer to pay Annual Payment of INR_____ (in words) plus applicable taxes & levies to Authority as per the terms of the RFP Documents.
2. We further agree that the above mentioned annual payment payable to HDMC / HDSCL will be incremented by 15 % for every three years. This payment payable starts with year 3rd year of the concession agreement and ends at the 32 year (end of concession period) or when terminated whichever is earlier.
3. We agree to pay the Annual Payment in accordance with the terms of the RFP Documents and draft Concession Agreement.
4. We hereby declare that our Financial Proposal is unconditional in all respects and there are no deviations from the stated terms in the RFP Documents.
5. The aforesaid Annual Payment has been quoted by us after taking into consideration all the terms and conditions stated in the RFP Documents and draft concession agreement, our own estimates of demand, costs and revenues and after a careful assessment of the Project Site and all the conditions that may affect the Proposal.

We agree to keep our offer valid for one hundred and eighty (180) days from the due date of submission of this Proposal.

Authorized signatory

Date:

Name and seal of Bidder

Place: