REQUEST FOR PROPOSALS

OTTAWA ST. PARKING DECK
PARKING ACCESS AND REVENUE
CONTROLS SYSTEM REPLACEMENT

Preliminary Information

The City of Joliet is accepting proposals to replace and update the existing Parking Access and Revenue Controls for the Ottawa Parking Deck. The project shall include furnishing all material, equipment, labor, and supervision to install in place a fully operating Parking Control System. A responding qualified vendor shall have expertise in all phases of the work associated with the design, installation, coordination, set up, training and on-going support of the system. Proposals shall be submitted on forms provided by the City of Joliet. The City of Joliet representative for this project will be Thomas Schwerha.

Proposals will be evaluated using the following criteria:

- Qualifications of the firm
- Experience of the firm in projects of this type
- Qualifications and experience of the project team members
- Lump sum fee

The schedule for receiving proposals and their review is as follows:

1. Proposals must be received by 10:00 A.M., September 16, 2024 via email to tschwerha@joliet.gov.

2. Staff review of proposals will occur on September 18, 2024. Firms making proposals shall provide a contact person and telephone number where the contact person can be reached on this day.

3. The Public Service Committee will review the recommendation at 4:30 P.M., October 14, 2024.

4. The recommendation will be presented to the Mayor and City Council at the City Council meeting on October 15, 2024 at 6:30 P.M.

Pre-Proposal Meeting:

A pre-proposal meeting and site tour will be conducted on Tuesday, September 10, 2024 at 10:30 am. The meeting will be held at Joliet City Hall, 150 W. Jefferson Street, Joliet, IL and after the meeting we will tour the parking decks. It is strongly recommended that prospective bidders attend this meeting. The deadline for submitting questions will be Thursday, September 12, 2024 at 3:30 pm. Answers to questions will be addressed in an addendum by Friday, September 13, 2024 at 3:30 pm. Please contact Thomas Schwerha, Parking Superintendent to confirm your participation in the pre-proposal meeting 815-724-4210 or by email at tschwerha@joliet.gov.

This package consists of the following information:

1. Proposal Form
2. Contract Form
   The successful firm will be expected to accept a contract in substantially the same form as the contract form included with the packet. The contract will accept the lump sum fee provided in the proposal. The contract will also include a final scope of work developed by the Contractor and the City.
3. Appendix A – Scope of Work
4. Appendix B – Method of Payment
5. Appendix C – Project Schedule
6. Appendix D – 11 1200 Parking Equipment Specification
7. Appendix E – Vendor Pricing Worksheet

PROPOSAL FORM

COMPANY PROFILE

Project Name: **Ottawa Parking Deck Parking Access and Revenue Controls Replacement**

Name of Firm: _____

Address: _____

_____

Telephone: _____

Email: _____

Contact Person: _____

Proposal submittals shall include one (1) signed electronic pdf copy which uses this form to present the following information:

Experience:

Professional vendor resume stating qualifications to provide the services described herein. Include number of years in business, number of employees, location of office or offices, names of principals or employees who will complete the services. All proposed sub-consultants, if any, to be used for this contract must be listed and must provide the information addressed above.

Experience on similar projects; emphasis on parking access and revenue control equipment. Include project name, owner, location of project, budgeted cost and cost at completion, and design merits that responded to program and budget requirements.

Project Team Members:

Specify personnel assigned by name, position, specific office location, and commitment of time to the Project. Attach resumes of assigned personnel.

Qualifications:

References (three minimum) must be provided identifying each client, a contact person and the client's mailing address and telephone number for similar projects done by the personnel to be involved in these projects.

Supplemental Information:

Approach: Description of the approach to the project, noting project understanding, unique challenges, assessments, and project interpretation. Include intended deliverables, meetings, estimated milestone completion schedule and other project related information.

Exclusions: Provide a statement regarding any reservations, conditions or constraints, or exclusions related to the request for proposals, if any.

Fee Proposal: **Ottawa Parking Deck Parking Access and Revenue Controls Replacement**

_____ proposes to provide the necessary professional services for this project for a lump sum fee of

$_____

Submitted by:

_____
Firm Name

_____
Authorized Representative

_____
Signature

_____
Title

_____
Date

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, MADE AS OF THIS_____ day of _____, 2024 by and between the City of Joliet, Illinois, an Illinois Municipal Corporation, (hereinafter called the "City") and _____ (hereinafter called the "Contractor"), is an AGREEMENT for professional services to provide _____
_____.

NOW, THEREFORE, the City and the Contractor in consideration of the mutual covenants hereinafter set forth agree as follows:

SECTION 1 - SERVICES OF THE CONTRACTOR

1.1 The Contractor agrees to perform services in connection with the Project as hereinafter stated.

1.2 The Contractor will serve as the City's professional representative in those phases of the Project to which this Agreement applies, and will give consultation and advice to the City during the performance of his services. Information and data available in the City's file will be evaluated by the Contractor and utilized as appropriate on the Project.

1.3 The Project scope of work is defined in the attached Appendix A – Parking Control Specifications.

1.4 The Contractor will agree to use the best professional judgment in the course of the work. Design criteria, guidelines and other standards shall be supplemented by the professional judgment of the contractor. Deviations from parking control specifications and other standards shall be called to the attention of the City’s representative.

SECTION 2 - THE CITY'S RESPONSIBILITIES

The City will:

2.1 Provide full information as to their requirements for the Project.

2.2 Designate in writing a person to act as the City's representative with respect to the work to be performed under this Agreement; and such person shall have complete authority to transmit instructions, receive information, interpret and define the City's policies and decisions with respect to materials, equipment elements and systems pertinent to the work covered by this Agreement.

2.3 Guarantee access to and make all provisions for the Contractor to enter upon public lands as required for the Contractor to perform their work under this Agreement.

2.4 Examine all documents presented by the Contractor and shall render decisions pertaining thereto within seven (7) calendar days from receipt so as not to delay the work of the Contractor.

2.5 Obtain approval of all governmental authorities having jurisdiction over the Project and such approvals and consents from such other individuals or bodies as may be necessary for completion of the Project.

SECTION 3 - PAYMENTS TO THE CONTRACTOR

3.1 The City will pay the Contractor for the services performed under SECTION 1 as identified in Appendix B.

3.2 Payment for the services shall be made monthly upon presentation of the Contractor's detailed statement.

SECTION 4 - INSURANCE

The Contractor shall not commence work under this contract until he has obtained all insurance required under this paragraph and such insurance has been approved by the City, nor shall the Contractor allow any sub-contractor to commence work on his sub-contract until such insurance required of the sub-contractor has been so obtained and approved, and a certificate from the insurance companies shall be filed with the City.

(a) Statutory Liability Insurance: Workman's Compensation and Occupational Disease, with statutory limits as prescribed by the State of Illinois and Employer's Liability Insurance with a limit of not less than $250,000.00 for all damages or bodily injury from one or more claims arising from each accident or occupational disease.

(b) Comprehensive Liability Insurance: This coverage shall be in the form of Comprehensive Liability Insurance which shall include protection against liability assumed in this contract and shall include protection against liability included in (1) and
(2) following:

(1) Operation and Premises: Liability on account of:

(a) Bodily injury to or death of persons or on account of damage to or destruction of property, resulting from execution of work provided for in this contract; or due or arising in any manner from any omission or any act or negligence of the Contractor of any Sub-contractor and their respective employees or agents, including damage to adjacent property.

(b) Bodily injury to or death of Contractor or any Sub-contractor or any of their respective employees or agents, due to the condition or state or repair of the premises or other property of the City, upon, about, or in connection with which any work incidental to the executive of this contract is performed.

(c) Destruction or damage to personal or real property including but not limited to destruction or damage to the property of the City, destruction or damage to the property, homes or contents of the homes where the work is performed, and destruction or damage to the property of non-parties to this contract.

(2) Contractor's Protective Liability: Liability for acts or omissions of any sub-contractors, the Contractor may employ.

(3) Limited of Coverage: Polices for Comprehensive General Liability Insurance under subparagraphs (1) and (2) above shall be written in the following limits of liability:

(a) Bodily injury, including death resulting therefrom $500,000.00 for any one person injured or killed, and $1,000,000.00 for any one accident or occurrence where more than one person is injured or killed.

(b) Property damage of not less than $200,000.00 as a result of any one accident or occurrence subject to an aggregate limit of not less than $200,000.00.

(c) Proof of Insurance: Before commencing work, the Contractor shall submit his Statutory Liability Insurance and Comprehensive Public Liability Insurance Policies or Certificates of Insurance to the City for review and approval. He shall similarly submit his sub-contractor's policies of similar insurance before each commences work. Such insurance will be carried with financially responsible insurance companies, licensed in the State of Illinois and shall be kept in force until the Contractor's work is accepted by the City. Contracts of insurance shall be for the duration of the contract.

(d) City and its employees as Additional Insured: All policies of insurance required shall contain an endorsement showing the City and its employees as an additional insured under said policies.

SECTION 5 - SUCCESSORS AND ASSIGNS

The City and the Contractor each binds himself and his partners, successors, executors, administrators and assigns to the other party of this Agreement and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this Agreement; except as above, neither the City nor the Contractor shall assign, sublet or transfer his interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body that may be a party hereto, nor shall it be construed as giving any rights or benefits hereunder to anyone other than the City and the Contractor.

SECTION 6 - TIME OF COMPLETION

The Contractor shall commence work within 10 calendar days of written Notice to Proceed and shall complete by the date required in Appendix C.

SECTION 7 - NONDISCRIMINATION

In all hiring or employment made possible or resulting from this Agreement, there shall be no discrimination against any employee or applicant for employment because of sex, age, race, color, creed, national origin, marital status or the presence of any sensory, mental or physical handicap, unless based upon a bona fide occupational qualification, and this requirement shall apply to, but not be limited to, the following: employment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. No person shall be denied, or be subjected to discrimination in receipt of the benefit of any services of activities made possible by or resulting from this Agreement on the grounds of sex, race, color, creed, national origin, age except minimum age and retirement provisions, marital status, or the presence of any sensory, mental or physical handicap. Any violation of this provision shall be considered a violation of a material provision of this Agreement and shall be grounds for cancellation, termination or suspension, in whole or in part, of the agreement by the City.

SECTION 8 - MODIFICATION OR AMENDMENT

This Agreement constitutes the entire Agreement of the parties on the subject matter hereof and may not be changed, modified, discharged, or extended except by written amendment duly executed by the parties. The Contractor agree that no representations or warranties shall be binding upon the City unless expressed in writing herein or in a duly executed amendment hereof, or Change Order as herein provided.

SECTION 9 - APPLICABLE LAW

This Agreement shall be deemed to have been made in and shall be construed in accordance with the laws of State of Illinois.

IN WITNESS WHEREOF, the undersigned have placed their hands and seals upon and executed this Agreement in triplicate as though each copy hereof were an original and that there are no other oral agreements that have not been reduced to writing in this statement.

ATTEST: THE CITY OF JOLIET

_____ BY _____

DATE _____

ATTEST:

_____ BY _____

DATE _____

APPENDIX A

SCOPE OF WORK

OTTAWA PARKING DECK PARKING ACCESS AND REVENUE CONTROLS SYSTEM (PARCS) REPLACEMENT

- **Turnkey System:** Provide a turnkey hardware and software system to fully support the City's parking operation at the Ottawa Parking Deck. The included Parking Control Equipment Specification (Appendix D) provides more details on the requirements for the new PARCS at the Ottawa Deck. Provide all necessary equipment and operating systems to accommodate various user groups and include multiple types of parking passes and pricing structures.

- **Proposed System Overview:** Provide documentation regarding the history of the proposed hardware and software, including the operating system version, planned future releases, routine updates (including past schedules of updates and patches and any costs associated), and the anticipated life expectancy of the proposed system.

- **Credit Card Processing:** The system will provide fast, easy, and secure transmission of credit card information to the City's chosen credit card processor/ bank, compliant with all PCI-DSS standards. Bidders will provide a list of all integrated CC processors for the proposed system.

- **Power and Network Connections:** Vendors must include any costs associated with the design and installation of new power or network connections, and any necessary additional associated infrastructure, to provide a fully functional PARCS system. The Client currently provides a broadband connection but has plans to provide a fiber connection to the site in the future.

- **Legacy Equipment Removal:** All proposals must include removing and disposing of old/legacy parking equipment and installing new equipment at The Ottawa Parking Deck in Joliet, Illinois. The owner has requested pricing be included to remove the booth as an option.

- **Proximity Card Credentials:** The City intends to implement proximity card credentials for recurrent users of the location. Any capability or costs associated with integration of the proximity credential system with an existing or new building management or employee ID system should be provided as an option. Vendors should include a starter stock of 600 proximity card credentials.

- **Mobile Payment:** The vendor's proposed system will include a mobile payment feature/integration allowing customers to utilize their mobile devices to make payment for parking via a scan-to-pay process or mobile application. The City currently uses

Passport Parking for mobile payment and requests any integration costs to integrate the proposed system with Passport by being included as an option.

- **Advance Sale/Parking Reservations:** Provide all hardware and software to provide, manage, and support parking advance sale passes/permits. Vendors should include any expense to integrate with third-party advance sale platforms as an option.

- **License Plate Recognition (LPR) Cameras:** The proposed system will include three (3) License plate cameras located adjacent to entry and exit lanes to provide License Plate Information (LPI) to the parking system for the purpose of expediting exit lane through-put of transient parkers.

- **Pay-on-Foot (POF) Payment Station and "Pay Here" Signs:** Each vendor will include a single POF payment station mounted in the elevator lobby on the ground floor, accepting cash (bills only), credit card, and validations, as well as issuing receipts and bills as change. Vendors must include their recommended payment station branding signs along with the vendor's recommendation for the best placement of those signs to encourage use.

- **Mobile Fee Computer:** The City requests vendors include optional costs for a mobile fee computer or mobile app that parking attendants could use to perform parking transactions, if available.

- **Variable Message Sign (VMS):** The vendors will include an exterior pole-mounted VMS sign with enclosure as specified in the Parking Specification (Appendix D). All costs for required components such as software, licenses, permits, network, and power connections for a fully functioning VMS display integrated with the PARCS to display spaces available, as well as allowing for programmable content of the owner's discretion as detailed in the Parking Control Equipment Specification (Appendix D).

- **Lane Open/Closed Signs:** Vendors will include two (2) variable lane open/closed signs (e.g., "x" and Arrow Sign) to be mounted above each exit lane as shown in the included Equipment Placement Sketch (Appendix E) and detailed in the Parking Control Equipment Specification (Appendix D).

- **Mobile Payment Signs:** Vendors will include in their proposal 6 aluminum and 25 decals of customized mobile payment signs to brand and communicate the process for paying for parking with a mobile device.

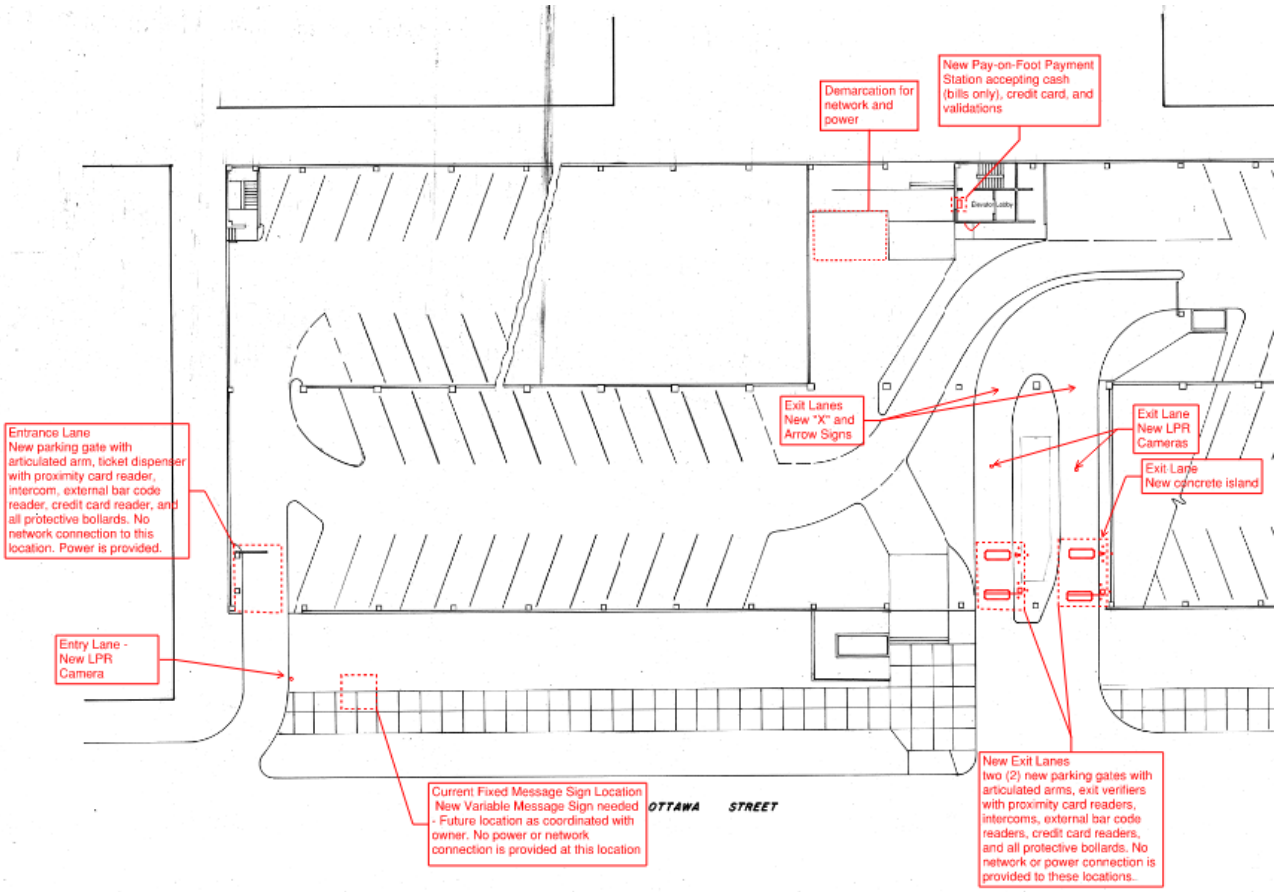
- **Operating Supplies:** Vendors must include a starter stock of transient tickets sufficient to operate for a single year of operation, as well as 3 replacement gate arms.

- **Vendor Pricing Sheet:** All proposals must complete and submit the Vendor Pricing Worksheet (Appendix F)

- **Staff Training:** The vendor will include no less than 16 hours of onsite training of City staff to properly operate and maintain the new equipment. Training will include but not

be limited to implementation guidance, maintenance, reporting, and administrative processes, among others.

- **Local Service:** Vendors must demonstrate their ability to respond to maintenance needs in Joliet, year-round, in a timely manner both throughout the warranty period and the anticipated life of the equipment and operating system. The owner desires a vendor with a local presence in the Chicago area.
- **Warranty:** The City requires the vendor to provide a two-year (2-year) comprehensive parts and labor warranty for the period beginning 14 days after successfully completing installation, training, and implementation, and the City signs off on the new project completion.
- **Project Timeline:** The successful proposer will coordinate with the City on all infrastructure necessary for system installation, site improvements, adequate system testing, and staff training within in the timeframe provided (Appendix C).
- **Parking Equipment Location Sketch:** Anticipated parking equipment locations have been included in the Parking Equipment Placement Sketch (See below)



- **Concrete Work Requirements:** The owner desires to move existing exit lane parking equipment to create two separate exit lanes as shown in Appendix E. The anticipated new placement of exit lane parking will necessitate the addition of a new concrete island. All concrete work performed must adhere to the following requirements:

    A. All concrete design and construction shall be in accordance with the following:

Description	F*c PSI 28 Days	Chloride Ion, Max.	W/C Ratio Max.	Entrained Air
Concrete Curbs & Headers	4500	0.30	0.40	6.5% +/- 1.5%

    B. All normal-weight concrete to have a density of approximately 145PCF.

    C. All lightweight concrete to have a density of approximately 115PCF.

    D. All air-entrained concrete shall include a minimum of 564 lbs. of cement per cubic yard of concrete.

APPENDIX B

METHOD OF PAYMENT

Payments due under this contract shall be made on a lump sum basis. The lump sum fee will be multiplied by the percentage of work completed to determine the progress payment. Monthly progress payments will be made based on the level of effort completed monthly. The total payments to the Contractor shall not exceed $_____.

APPENDIX C

PROJECT SCHEDULE

The following schedule shall be adhered to for this project:

ACTION	DATE
Pre-proposal meeting and site tour (10:30 am)	September 10, 2024
Deadline to submit proposals (10:00 am)	September 16, 2024
Consultant Interviews (10:00 am)	September 25, 2024
Consultant contract awarded	October 15, 2024
Notice to Proceed	October 16, 2024
IMPLEMENTATION	
Phase 1 equipment installation to begin	October 28, 2024
Equipment installation completion. Testing and Training	November 27, 2024
Punch list work completed and system responsibility accepted by the City	January 3, 2025
Parking pass sales will begin	January 4, 2025

- All sealed proposals shall be e-mailed to tschwerha@joliet.gov

- Late submissions will not be accepted.

- Each proposal will be reviewed by City staff and consultant team. The review team will include I.T., Finance, Police Department, Parking Operations, and WGI, the City of Joliet's parking consultant. A proposal list of additional questions will be generated and proposers will provide clarifications responses to the review team.

SECTION 11 1200 – PARKING CONTROL EQUIPMENT

PART 1 - GENERAL

1.1 Work Included

A. The Work of this Section shall include furnishing all material, equipment, labor, and supervision to install in place a fully operating Parking Control System, as specified herein and/or indicated on the Drawings. Included will be supply, delivery, unloading, setting, anchoring control wiring installation wiring termination, and startup of all parking, revenue control, and access control equipment. Removal and proper disposal of all existing parking control equipment (gates, card readers, entrance and exit stations) shall be included in the bid. The removal of the existing parking attendant booth is to be included as a separate optional line item.

1.2 Related Work

A. The electrical Subcontractor shall furnish and install all conduit, network, and power wiring in proper size and location to the parking control equipment and empty conduit for control wiring as required by the proposed system.

B. Manufacturer of the Parking Control System shall provide those responsible for related work with:
   1. Installation diagrams and details for setting indoor and outdoor mounted equipment.
   2. Templates for setting indoor and outdoor mounted equipment.
   3. Templates and cast-in inserts to anchor freestanding equipment to curbs and bases.
   4. Electrical and network wiring diagrams and details.
   5. Electrical and network installation requirements.
   6. Electrical power and network requirements.

1.3 System Description

A. General
   1. This parking facility is to be used by:
      a. Transient Parkers
         1) Transient parkers will enter the parking facility by taking a time-encoded ticket from the ticket dispenser located in the entry lane offering alternate entry via the use of a bar-code (validation, reservation, or advance-sale), and credit card pay-on-entry. A License Plate Recognition (LPR) camera adjacent to the entry lane will scan the entering vehicle's rear license plate, correlating the plate with the entering transient transaction.
         2) Transient parkers will exit the parking facility after paying applicable fees via:
            a) Automated Pay-on-Foot Machine
            b) Exit-verifier
            c) Mobile Device Payment (QR code, text-to-pay, mobile application, etc.)
         3) Transient parkers will have their license plates scanned as they approach the exit lane, raising the gates upon detection of any license plate correlated with a paid/validated transaction/ticket.
      b. Monthly Parkers
         1) Monthly parkers will enter and exit the parking facility via a credentialed proximity access card which will provide an option to integrate with the current City building access system.
   2. The parking equipment shall be on-line with a parking Facility Management System (FMS) control computer.
   3. The parking control equipment shall include an intercom system providing two-way voice communications compatible with VoIP (voice over internet protocol) phone system.

B. Entry and Exit Lane Locations
   1. Entry Lane
      a. There is one (1) entry lane located in the northwest corner of the facility.
   2. Exit Lanes
      a. There are two (2) exit lanes located near the west side of the facility on the ground floor.
   3. Lane Operational Descriptions
      a. Dedicated Entry Lanes
         1) The presence of a vehicle over the detector loop adjacent to the License Plate Recognition (LPR) camera shall activate the camera to scan the license plate of the vehicle. The parking system will put the license plate into the system's database of currently parked vehicles, and associate the plate with ticket pulled.
         2) During regular operating hours, the presence of the vehicle over the detector loop adjacent to the ticket dispenser shall activate the push button on the ticket dispenser. Upon depressing the push button, the ticket dispenser will issue a date and time-stamped ticket. An audible signal shall sound until the patron has removed the ticket from the chute. The gate shall open automatically with the removal of the ticket from the ticket dispenser.
         3) Alternatively, during regular operating hours, the presence of the vehicle over the detector loop adjacent to the ticket dispenser shall activate the credit card reader on the entrance device. Upon inserting/utilizing the EMV chip card reader a valid credit card, the gate shall open automatically.
         4) The presentation of a vehicle over the detector loop adjacent to the entry device will enable the functionality of the proximity reader. Parkers will scan a proximity card associated with an existing monthly parker on an external proximity reader mounted to the entry device. Upon successful correlation with a monthly parker, the entrance lane gate shall automatically open.
         5) The entrance lane gate shall close automatically after the vehicle has passed over the closing detector loop.
         6) The access control system shall only accept properly coded credential proximity cards meeting current anti-passback criteria. If the card passes all validity and anti-passback checks the gate shall open. If the card fails validity or anti-passback checks the central controller shall record an "invalid attempt" event indicating card reader location, user I.D. number, and type of invalid access (English text), and the gate shall open (soft anti-passback) or remain closed (hard anti-passback) at the Owner's programmable option.
      b. Dedicated Exit Lanes
         1) The presence of a vehicle over the detector loop adjacent to the License Plate Recognition (LPR) camera shall activate the camera to scan the license plate of the vehicle. If the license plate shows paid in the system, then gate will open. The parking system will remove the license plate from the system's database of currently parked vehicles but keep it in the system for a set period of time.
         2) The transient parker shall drive to the exit lane. The presence of a vehicle over a vehicle detector loop adjacent to the exit station shall send a signal to allow for one operation of the device. The transient parker will scan their ticket, the entrance time on the ticket shall be entered into the device via a bar code ticket reader, and the parking fee shall be computed automatically based on programmable rate tables. The exit time, date, and fee shall be printed on the ticket and the fee amount displayed on the fee indicator and patron display. The transient parker shall then be prompted to present a credit card to pay the parking fee. The parker will be offered the option to print a receipt, and the exit lane gate shall automatically open upon completion of the transaction.

3) Alternatively, transient parkers shall pay parking fees at the automated pay-on-foot payment station before returning to their parked vehicle. Upon payment of the fee, the parker shall receive their re-encoded ticket and at their option a printed receipt. The ticket shall be re-encoded as paid along with the time of payment. Parkers shall then have a programmable period of grace time to exit the parking facility. Parkers will return to their vehicle and drive to the exit lane. To exit the facility, the parker shall have their plate scanned as they approach the exit lane, or scan their ticket at the exit verifier's bar code reader. If the exit grace period has not been exceeded, the barrier gate shall raise. If the exit grace period has been exceeded or the fee has not been paid, the exit verifier shall prompt the parker to present a credit card for payment of the remaining fees. The barrier gate shall raise following the successful completion of the transaction. The circuitry of the exit verifier shall be such that the exiting transaction shall be completed before the device will process another transaction/vehicle through the same lane.
4) Lastly, transient parkers shall pay parking fees via a mobile device offering a way to pay for parking that does not require installation of an application on a device (QR scan, text-to-pay, etc.) as well as a mobile device application. Upon payment of the fee via the app or online, the parker shall have their parking ticket re-encoded as paid along with the time of payment. Parkers shall then have a programmable grace time period to exit the parking facility. Parkers will drive to the exit lane. To exit the facility, the parker shall place their ticket adjacent to the barcode reader. If the exit grace period has not been exceeded, the barrier gate shall rise, and the parker is free to exit. If the exit grace period has been exceeded or the fee has not been paid, the exit verifier shall prompt the parker to insert a credit card for payment of the fee. If the parker does not have a valid credit card, the parker shall be required to return to the payment station or communicate with parking management staff via an intercom system. The barrier gate shall rise following the successful completion of the transaction. The circuitry shall be such that the exit cycle of a vehicle shall be completed before the system will accept another vehicle through the same lane.
5) The monthly parking patron shall drive to the exit lane. The presentation of the valid card to the proximity card reader shall prevent the exit verifier from processing a transaction. The exit lane gate shall automatically open by the presentation of a valid proximity card. The exit lane shall close automatically after the vehicle has passed over the closing detector loop.

c. Validations
1) Validations for parking discounts may be offered by the Library, Rialto Theater or merchants, organizations, departments, etc. to their customers and visitors using the parking facility(s). Validations will provide parkers discounts in dollar amounts, time, or completely complimentary. The PARCS system shall utilize an automatic system with the validation encoded onto the ticket or associated with the ticket number. An online validation system, SpotHero or similar, shall allow the ability to prepay for parking. Pay online and the customer shall get a prepaid parking pass/reservation via email. When the customer arrives, the customer shall either scan a QR code or have their license plate number scanned by the system.

d. Signs
1) Lane control signs located over the exit lane will communicate to exiting vehicles when an exit lane may be closed.
2) A full programmable sign display will be located adjacent to the entrance lane on the exterior of the facility (location to be determined by owner). The signs

will be capable of providing parking availability and rate information, as well as programmable messages at the Owner's discretion.

C. Facility Management System (FMS)
   1. The FMS shall be an online computer system of hardware and internet-hosted software providing information to manage the parking facility. All lane equipment shall be connected to and communicate with the FMS. The primary functions of the FMS shall include:
      a. Revenue Control
      b. Access Control
      c. Lane Count Control and Occupancy Monitoring
      d. Equipment Status and Control
      e. Sign Status and Control

1.4 Quality Control

A. Supplier / Installer of Parking Control System shall provide an experienced field representative to meet with the Electrical Subcontractor, before any rough-in work begins, to review building plans as they relate to Parking Control Equipment, to explain details or precautions necessary to assure that all parking and revenue control equipment, and in particular, detector loops will work properly and to determine that all required conduits and wiring are properly laid out.

B. Installer shall have previously worked successfully with the equipment Manufacturer, and prior to being awarded a contract shall submit with bid documents the reference names, locations, contacts, and telephone numbers for the five most recently installed, similar, completed projects. The list shall include any difference between material furnished for the referenced projects and materials to be furnished for this project.

C. Installers shall be approved in writing by the Parking Control System Manufacturer.

D. Installer shall provide repair and maintenance service and have an equipment service center located in the Chicago area to provide on-site service within eight hours of problem notification as required by the warranty requirements.

1.5 Submittals

A. Submit Shop Drawings for review and approval. Included are equipment wiring diagrams, equipment cut sheets and specifications, booth shop drawings, and equipment color charts.

B. Upon request submit for review and approval the names, locations, contacts, and telephone numbers for the five most recently installed completed projects.

C. Submit documentation of certified compliance with most current Payment Card Industry (PCI) Data Security Standards.

D. Submit for record 30 days prior to completing the installation of the Parking Control Equipment, procedures for testing electrical, mechanical, and program functions of the system.

E. Provide the Owner with two final copies of each of the following:
   1. Maintenance Manual
   2. Operating Manual
   3. Equipment electrical circuitry diagram
   4. As built equipment wiring diagram

F. Provide the Owner with two sets of keys for each piece of equipment with locks and two sets of master keys. Keys shall be unique to this location/Owner; they shall not fit any other equipment in the same city. Each equipment type shall be master keyed including but not limited to:
   1. Cabinets for gates
   2. Card readers
   3. Ticket dispensers
   4. Exit Verifier
   5. Pay on foot machines

1.6 Transportation and Handling

A. Deliver equipment to the site packaged to prevent damage and marked for easy identification.

B. Store equipment in a clean, dry location protected from damage. Replace damaged materials at no cost to the Owner.

1.7 Operating Conditions

A. Equipment shall be designed, fabricated, and installed to operate effectively under the climate and exposure conditions for the recorded weather extremes for the equipment location, Joliet Illinois.

B. The equipment supplier/installer shall review the conceptual level plans showing the proposed equipment locations before construction starts and assess the suitability of the equipment with the locations. The contractor shall notify the Owner in writing of any locational compatibility issues.

C. The equipment supplier / installer shall inspect the equipment locations prior to beginning the installation of the equipment. The contractor shall notify the Owner in writing of any locational compatibility issues. Starting the installation of equipment shall constitute acceptance of the conditions at the equipment locations and the suitability of the equipment for the locations.

D. It is recognized that certain solid-state and computer-based parking and revenue control equipment may require special network, electrical power, and grounding considerations. The Supplier/Installer of the Parking Control System shall:

1. Include in the bid amount the cost of installation of all necessary network and power connections for a fully functioning system.
2. Include in the bid amount the cost to provide and install voltage stabilization modules or devices to protect each component from normal voltage variations at the site.
3. Advise the Engineer in writing at the time of the award of contract of any special electrical power, uninterruptible power supplies, and grounding requirements.

1.8 Warranty

A. Provide Manufacturer's Warranty

1. Warranty shall be for **two (2)** years covering all parts and labor, including computer hardware and software, lane equipment, system components, and other furnished equipment.
2. Warranty shall commence when equipment is 100 percent operational and acceptable to the Owner, as approved in writing by the Owner and Engineer.
3. Maintain equipment to be completely operational during the warranty period such that, if defective, equipment shall be serviced on-site within eight business hours, following notification by the Owner. Business hours are 8 a.m. to 5 p.m. Monday through Friday, excluding holidays.
4. Warranty shall include preventative maintenance cleaning, testing, and minor repair no less than twice (2 times) per year.
5. Warranty shall include software maintenance, updates, and patch services.
6. Warranty shall cover all equipment furnished under this specification section – both manufacture and installation, excluding misuse or vandalism.
7. Include optional costs in the proposal to provide post-warranty maintenance services for the system on an annual basis for years three to five (3-5) years as well as years five to ten (5-10) with pricing valid for the Owner to purchase the Post-Warranty Maintenance Services through a service agreement between the Owner and parking equipment Vendor. Pricing for the post-warranty maintenance services will be valid through the end of the Warranty Period.
8. Post-warranty maintenance services conform to the preventative, emergency, and software support warranty service requirements as defined for the warranty period.

PART 2 - PRODUCTS

2.1 General

A. All equipment colors shall be standard Manufacturer colors except where specifically noted. Confirm equipment color is acceptable to the City of Joliet.
B. All parking control equipment must be compatible with the existing electrical system.
C. All equipment, hardware, and software, including the FMS, that accept credit cards shall comply with the most current Payment Card Industry Data Security Standards (PCI-DSS) and include, tap-to-pay and EMV (Europay, Mastercard, and Visa) compatible capability.

2.2 Equipment List

A. The following equipment list consists of basic system components. Provide auxiliary items required for the proper functioning of the system, whether mentioned or not, including but not limited to, heaters, coolers, wiring, transformers, relays, stands, housings, pedestals, etc. It is the SOLE RESPONSIBILITY of the Parking Control Equipment (Sub) Contractor to provide every component necessary for a complete functioning system.
B. Locate equipment as indicated on the conceptual design sketch.
    1. Provide Parking Control Equipment for each lane as indicated:
        a. Entry Lane:
            1) One (1) Parking Gate with 10-foot articulating gate-arm per lane = 1 total
            2) One (1) Entry Station per lane = 1 total
            3) One (1) LPR Camera lane = 1 total
            4) Six (6) protective bollards per lane = 6 total
            5) One (1) set of activating and closing loops as per manufacturer per lane
        b. Exit Lane:
            1) One (1) Lane Open/Closed (“X”/Arrow) Sign per lane = 2 total
            2) One (1) Parking Gate with 10-foot articulating gate-arm per lane = 2 total
            3) One (1) Exit Station per lane = 2 total
            4) One (1) LPR Camera per lane = 2 total
            5) Six (6) protective bollards per lane = 12 total
            6) One (1) set of activating and closing loops as per manufacturer per lane
        c. Level 1 Elevator Lobby
            1) One (1) Pay-On-Foot Payment Machine = 1 total

Notes: (1) Equipment manufacturer shall determine the quantity, location, and dimension of detector loops.

    2. Provide VMS and Lane Control as indicated:
        a. Building exterior (adjacent to entrance lane, location to be coordinated with Owner):
            1) One (1) 40-inch by 40-inch single-sided Variable Message Sign Display = 1 total
        b. Exit Lanes:
            1) One (1) 10-inch by 10-inch Lane Open/Closed Sign Display per exit lane = 2 total

    3. Additional Equipment
        a. Intercom system compatible with a VoIP phone system.
        b. 600 Proximity Cards
        c. 1-year supply of receipt paper and ticket stock
        d. Parking validation system
        e. Appropriate signage communicating payment options, methods, and process for the facility. Please provide pricing for a minimum of six (6) aluminum and 25 decal signs, along with a recommendation for optimal sign sizes and placement within the facility.

2.3 Facility Management System (FMS)

A. The facility management system shall be an online system of computer hardware and software providing information and control to manage the parking facility. The system shall be designed and configured specifically for parking facility management. All lane and automated pay equipment shall be connected to the FMS.
   1. The FMS software shall be based upon a Windows operating system and be designed to take advantage of future operating system enhancements.
   2. The FMS software shall be hosted in a remote location via the internet. However, the access and revenue control functions of the PARCS lane equipment shall remain fully functional if communications with the hosted software is disabled. Data generated on-site during the communication failure shall be retained on-site and automatically uploaded when normal communications are restored. The primary functions of the FMS shall include the following related subsystems:
      a. Revenue Control
      b. Access Control
      c. Lane Count Control and Occupancy Monitoring
      d. Equipment Status and Control
   3. Preferably data generated by the FMS software shall be accessible through an open API exportable to other Windows-based applications.
   4. The FMS software shall be hierarchy password-protected to prevent unauthorized access to critical features and functions.
   5. The FMS shall interface between the online devices and the control computer, to provide a complete operating system.
   6. The FMS shall output the following information to an event log:
      a. Alarm Conditions
      b. Lane Control Functions
      c. Hourly Count Status of all Counters

B. Revenue Control subsystem of the FMS shall provide a complete, auditable accounting of all activities generated by the system revenue control devices. The FMS software shall generate and maintain database information of each transaction generated by the revenue collection devices. Revenue Control subsystem shall utilize and share data generated by the other subsystems of the FMS including, but not limited to, the non-resettable counter requirements.
   1. The following standard revenue control reports shall be provided by the FMS. The generation of individual reports shall be owner-selectable to be automatically triggered by a defined event, at regularly scheduled intervals, or on demand.
      a. Daily Event Log
      b. Daily Lane Activity Report
      c. Daily Pay Station Activity Report
      d. Daily Non-Revenue & Void Transactions Report
      e. Monthly Peak Occupancy Report
      f. Monthly Lane Activity Report
      g. Monthly Pay Station Activity Report
      h. Monthly Lane Volume Report
      i. Monthly Lane Load Factor Report
      j. Monthly Lot Duration
      k. Monthly Ticket Validation Report
      l. Monthly Ticket Analysis Report
      m. Detailed Transactions Report
      n. Daily Credit Card Lane Summary Report
      o. Daily Credit Card Pay Station Summary Report
      p. Cashier Shift Credit Card Detail Report

C. Credit Card Processing – Devices accepting credit cards for payment of parking shall have EMV compliant credit card payment solutions, to include:

D. EMV Chip Card Reader: Visa, Mastercard, American Express, and Discover

E. NFC reader: Must be capable of processing Apple Pay, Google Pay, or similar. In addition, reader must be capable of processing contactless credit card payments with a physical card.
F. Owner prefers a credit card reader that does not ingest the credit cards.
G. Access Control subsystem of the FMS shall use Credential Reading Devices (CRD) located at the entrance lanes, exit lanes, and control points where indicated on the Conceptual Drawings. The CRD types include:
   1. Online CRDs. System shall utilize proximity-type reads (Insertion or swipe readers are not acceptable).
   2. **600** proximity **cards** shall be provided in the base bid.
   3. Access Control Capabilities
      a. The access control sub-system shall be an online system. If the FMS is not functional, the CRDs shall function off-line. Credential validity checks shall be made, but not anti-passback checks when the FMS is down.
      b. Subsystem shall be able to add credentials to memory with the ability to define where and when the credential holder may use the credential. On a gate-by-gate basis, valid access times shall be definable.
      c. Subsystem shall be able to delete credentials from memory as well as modify access control privileges of individual credentials.
      d. Subsystem shall be able to select controlled areas that are to operate in a hard, soft, or timed anti-passback (APB) mode and select whether contact closure (e.g. gate up) is required to change anti-passback status. APB shall include resynch commands that reset the sequence control to a neutral state. The anti-passback status shall be restored within the access control system when the credential is next used in either the entrance or exit reader. SOFT APB (software lists the illegal use but barrier gate still opens) and HARD APB (software lists the illegal use and barrier gate does not open) shall be selectively programmable.
      e. All subsystem activity messages to the operator shall be printed in plain language English text including credential holder name.
      f. The access control subsystem shall be capable of automatically reading the credential and sending the credential number to the access controller to verify current status. Reading rejects shall not exceed one half of one percent (0.5%) of credential presentations.
      g. For use in a combined contract/transient entrance lane, the actuation of the credential reader shall lock out the transient ticket dispenser until after the vehicle has passed through the gate.
      h. For use in a combined contract/transient exit lane, the actuation of the credential reader shall lock out the exit verifier or pay-in-lane machine until after the vehicle has passed through the gate.
      i. CRD and location shall be such that the card reader shall be within easy reach of the seated driver.
      j. Both reader housing and stand shall be treated for corrosion resistance and finished externally with two coats of acrylic enamel in the same color as other equipment as selected by the Owner.
   4. The following standard access control reports shall be provided by the FMS. The generation of individual reports shall be owner-selectable to be automatically triggered by a defined event, at regularly scheduled intervals, or on demand.
      a. Current active credentials
      b. Deleted credentials within a specified timeframe
      c. Active credentials by group
      d. Entry or exits by lane within a specified timeframe
      e. Passback violations within a specified timeframe
      f. Passback violations by locations
      g. Passback violations are attempted within a specified timeframe
      h. Passback violations attempted by locations
      i. Current listing of credentials in the facility

j. Listings of credentials "in" the facility within a specified timeframe

H. Lane Count Control and Occupancy Monitoring subsystem of the FMS shall maintain both differential and total counts (by lane), of transient parkers, monthly parkers, and facility totals, as well as differential and total counts of special event parkers, illegal entries, and gate overrides (vehicles passing through the lane with the gate locked in the open position).

1. The Count Subsystem shall provide the following output signals:
    a. Entrance Lanes
        1) Full Sign On/Off
        2) Gate Vend (Manual Open)
        3) Gate Override (Continuous Up)
        4) Gate Reset (Gate Down)
    b. Exit Lanes
        1) Gate Vend (Manual Open)
        2) Gate Override (Continuous Up)
        3) Gate Reset (Gate Down)
        4) Lane Closed
2. The count subsystem shall maintain and provide the following counts:
    a. Transient Differential Count (with holdback) Note: Turns on Facility Full Signs
    b. Facility Total Differential Count – Facility Full
    c. Monthly Differential Count (Card Access)
    d. Transient Entrance and Exit Count Non-resettable (by lane)
    e. Monthly Entrance and Exit Count Non-resettable (by lane)
    f. Total Vehicle Entrance and Exit Count Non-resettable (by lane)
    g. Number of Vehicle through Entrance or Exit with Gate Locked in the Up Position, Non-resettable (by lane)
    h. Event Mode Entrance Total Count by Lane
3. The count subsystem shall continually display total counts for transient, monthly, and total lane from each entry and exit lane.
4. The count subsystem shall continually display differential counts of transient, contract and total facility and control the lock-out of the Ticket Dispensers by lane and lighting of Full signs.

I. Equipment Status and Control subsystem of the FMS shall provide management information and remote control of the access and revenue control equipment.

1. The status and control subsystem shall monitor the following input signals:
    a. Entrance Lane
        1) Transient Gate Vend (Ticket Pull)
        2) Card Access Gate Vend
        3) Gate Up (Auxiliary Switch)
        4) Loop Failures
        5) Low Ticket Alert
        6) Ticket Out Alert
        7) Gate Manual Open
    b. Exit Lanes
        1) Card Access Gate Vend Transient Parking Device Vend
        2) Gate Up (Auxiliary Switch)
        3) Loop Failures
        4) Gate Manual Open
2. The status and control subsystem shall provide the following displays and miscellaneous functions on FMS CRT screen:
    a. Current Time
    b. Count System Status
    c. Entrance and Exit Lane Status – Open or Closed
3. The status and control subsystem shall monitor each entry and exit lane for proper operation of equipment. The subsystem shall provide an audio alarm and display such failures as:

a. Ticket Jam in Ticket Dispenser
b. Entry Gate Stuck
c. Detector Fail
d. Exit Gate Stuck
e. Low Ticket
f. Lane Open/Closed

4. Special Event Reports shall print out a detailed accounting of all lane activity, as well as exceptional activity that occurs during a special event.

J. The FMS shall provide optional compatibility/integration with the Passport Parking mobile payment system.

2.4 License Plate Recognition (LPR) Cameras

A. The equipment shall consist of state-of-the-art cameras that can be installed and operated in both standalone mode and as part of the FMS to provide security for the facility. Rear license plate scans are desired in each lane. LPR Camera read rejects shall not exceed five percent (5%) of visible license plate credential presentations**.**

B. The camera shall allow operation in different types of environments, covering short-range, mid-range, and long-range types of lane geometry. These distances shall relate to standard North American license plates for use with LPR software.

C. The camera shall have dual sensors with onboard processing and use either the infrared and / or the white-light color overview to provide high-quality pictures of the license plate on a 24-hour basis. Retro-reflective state-issued license plates, as well non-retro-reflective or partially reflective plates shall be accurately processed.

D. On overcast days and in low light, the system shall still provide excellent images of the license plate. The infra-red LEDs shall be pulsed at a very high frequency to achieve maximum performance with minimal power consumption.

E. All lane equipment shall be connected to the FMS.

F. The installer is responsible for determining the proper location, height, mounting, etc. for the proper functioning of the system at the required accuracy rates.

G. The LPR camera shall successfully scan ninety-five percent (95%) of visible license plates presented. Bidders are encouraged to recommend the appropriate placement and amount of cameras necessary (i.e., front or rear plate facing) for each lane to achieve this percentage.

H. Acceptable manufacturers are:
1. Tagmaster North America, Tacoma, WA
2. Genetech, Montreal, CA.
3. Survision, Miami OH.
4. OmniQ, Salt Lake City UT.
5. Or approved alternate

2.5 Parking Gates

A. The parking gate shall provide an effective barrier to vehicles in the entrance and exit lanes. The barrier arm shall retract quickly in a vertical plane on a command signal from the ticket dispenser, fee computer, card reader, or detector loop depending on location, and return to the lower position upon a signal from a detector beyond the gate location. The parking gate shall be installed as indicated on the conceptual sketch and shall incorporate in one housing, all necessary components for the functioning of this unit. The assembly shall operate satisfactorily in the environmental conditions stated elsewhere in this specification.

B. The unit shall include 10-foot gate arm (folding if necessary). Provide folding gate arms in areas with limited headroom. The barrier arm shall be a break-away design that can be easily and inexpensively replaced when broken. The height of the gate arm or the extended portion of folding arms shall be approximately 36 inches from the ground in the DOWN position. Gate arms in lanes providing ingress or egress for ADA Van Accessible spaces shall have a minimum headroom of 8’-2”.

C. The gate arm shall have a down-strike safety feature. Should any object be struck by the gate arm during its descent, the arm shall immediately reverse and return to the UP position without damage and remain up from 2 to 60 seconds, until automatically reset by variable control. The sensory function shall be initiated by sensing the internal mechanical action. The external mounting of tubes, wiring, and electrical devices on the gate arm shall not be acceptable.

D. Acceptable manufacturers are:
   1. Amano McGann, Roseville, MN
   2. Magnetic, Rockledge, FL.
   3. Or approved alternate

2.6 Ticket Dispenser

A. The ticket dispenser shall be installed at the location indicated on the conceptual sketch, and in accordance with the Manufacturer's recommendations. The unit shall have a minimum capacity of 4,000 tickets. The dispenser shall be capable of operating independently of the remainder of the system with a supply of power only. The vending of a ticket shall be controlled by push button. It shall dispense only one ticket per vehicle and shall not dispense without a vehicle over the detector loop.

B. Ticket dispenser shall be equipped with an credit card reader to provide for charge-on-entry mode of operation.

C. Ticket dispensers shall be equipped with intercom stations.

D. The ticket dispensers shall have the ability to issue test tickets.

E. The ticket dispensers shall be equipped with a LCD backlit, illuminated, fully-programmable display. Display shall be an active color matrix screen that is easily readable in all ambient lighting conditions. Offeror shall provide an example of the display in their proposal.

F. The ticket dispensers shall be equipped with an automatic daylight savings time adjustment.

G. The ticket dispensers shall have the optional ability to allow field programming with a hand-held wireless remote unit.

H. The ticket dispenser shall automatically encode the entry date, entry time, entry lane, and serial number on each ticket in a machine-readable format. Further, the above information shall be printed on each ticket in English text.

I. If a patron backs out of an entrance lane, with or without a ticket, the ticket dispenser shall void and/or retract the ticket. Further, if the patron backs out with the ticket, the ticket dispenser shall send a signal to the barrier gate to close the gate arm.

J. The ticket dispenser shall function both as a connected “on-line” or independent “off-line” unit in the event the control computer or communications are down and data shall be stored in a minimum 1,000 transaction buffer.

K. Acceptable manufacturers are:
   1. Amano McGann, Roseville, MN
   2. Flash Parking, Austin, TX.
   3. Tiba Parking, USA-Columbus OH.
   4. Hub Parking, USA-Warrendale, PA.
   5. Or approved alternate

2.7 Embedded Loops and Vehicle Detectors

A. The parking equipment detector loops shall be saw-cut (maximum 3/4" depth) into the existing slab-on-grade.

B. Directional logic detection shall be provided by a count system. Provide loops as required for directional detection and counting.

C. Detectors shall be installed within the barrier gate housings.

D. Contractor shall locate embedded reinforcement (post-tensioning tendons) and electrical conduit in the slab prior to saw-cutting for loop detectors. Contractor shall take all necessary precautions to prevent damage to reinforcement and conduit and shall repair all damage caused by Contractor’s work at no cost to the owner.

2.8 Pay-on-Foot Payment Machine

A. One (1) Automatic pay-on-foot station shall be installed near the elevator on the ground floor.

B. After the ticket is scanned, the pay station shall automatically calculate the parking fee, including any valid and applicable validations including discounted or complimentary parking, based on a pre-programmed fee structure and display the amount owed. Pay station shall accept both cash (bills only) and credit cards for payment and issue bills as change.

C. The payment machine shall be equipped with a LCD backlit, illuminated, fully-programmable display. Display shall be an active color matrix screen that is easily readable in all ambient lighting conditions. Offeror shall provide an example of the display in their proposal.

D. The pay-on-foot stations shall accept credit cards online real-time for payment. Online card transactions shall be processed in real-time during the individual transaction process. The pay-on-foot station shall have an EMV chip credit card reader.

E. The pay station shall accept valid US paper currency in the following denominations: $1, $5, $10, and $20 bills, or credit cards for payment and shall count down the amount owed until the total is paid. The pay station shall have the capability of providing the patron with appropriate change in bills. The change shall be dispensed in the largest denomination of bills available. The dispenser shall have bill-to-bill capability. One banknote (bill) cassette (minimum) and appropriate loading mechanisms shall be provided for the pay-on-foot station. The unit shall issue a receipt after payment is complete. Receipt issue shall be programmable with receipts issued automatically or upon request by the parking patron.

F. The pay-on-foot station shall have a “write” mechanism to validate the ticket and record the date, time, grace time, and amount charged at the time of payment.

G. The pay-on-foot station shall also be capable of communicating with the FMS for remote programming and monitoring of activities.

H. Pay-on-Foot Payment Station shall be equipped with intercom stations providing two-way communication.

I. All features of the pay-on-foot payment station shall comply with current applicable Americans with Disabilities Act (ADA) design requirements.

J. Acceptable manufacturers are:
   1. Amano McGann, Roseville, MN
   2. Flash Parking, Austin, TX.
   3. Tiba Parking, USA-Columbus OH.
   4. Hub Parking, USA-Warrendale, PA.
   5. Or approved alternate

2.9 Exit Lane Verifier

A. Exit verifiers shall be an automatic barcode ticket reading, verification, and payment device located in the exit lanes where indicated. After the ticket is scanned, the Exit Verifier shall decode the ticket to determine if the proper fee has been paid and that the allowed exit grace time has not been exceeded. If the fee has been paid, and exit time is within the allowed grace period, the exit verifier shall signal the gate to open, code the ticket as processed and unusable for additional transactions.

B. If the proper fee has not been paid, the exit verifier shall prompt the patron to insert a credit card or utilize the EMV chip card reader for payment of the fee. Following payment via the credit card, the card shall be returned to the patron (if inserted) and the exiting sequence shall be as above. If the allowed exit grace time has been exceeded the exit verifier shall prompt the patron to insert a credit card for payment of the additional fee. The exiting transaction sequence shall then be as above. If a patron arrives at the exit lane without a “paid” or validated ticket and without a valid credit card steps must be taken to get the patron out of the lane. The patron shall use an intercom to speak with the office and who can remotely raise the gate or as directed by the City.

C. If the parking ticket has been validated for free exit the exit verifier shall decode the validation and signal the barrier gate to open. If the ticket has been validated for discounted parking, and the balance has not been paid at the automated pay-on-foot station, the exit verifier shall

prompt the patron to insert a credit card or utilize the EMV reader for payment of the remaining balance. The exiting sequence shall then proceed as above.

D. The Exit Verifier shall communicate with the FMS for remote programming and monitoring of activities.
E. Exit Verifiers shall be equipped with a two-way intercom for communications.
F. The Exit Verifier shall be equipped with a LCD backlit, illuminated, fully-programmable display. Display shall be an active color matrix screen that is easily readable in all ambient lighting conditions. Offeror shall provide an example of the display in their proposal.
G. Acceptable manufacturers are:
   1. Amano McGann, Roseville, MN
   2. Flash Parking, Austin, TX.
   3. Tiba Parking, USA-Columbus OH.
   4. Hub Parking, USA-Warrendale, PA.
   5. Or approved alternate

2.10 Mobile Fee Computer (Optional)

A. Mobile fee computer shall be a handheld/mobile device that provides the capability for parking staff to accept payment for parking transactions. Transaction performed through the handheld/mobile device will communicate with the FMS in real-time, whereby a transaction paid through the Mobile Fee computer are recognized by exit lane devices (LPR camera/exit verifier).
B. The mobile fee computer shall automatically compute the parking fee due, scan parking tickets, print receipts, apply validations, and accept payment via credit card or cash (at the owner's discretion).
C. Credit card reader shall be an EMV chip card reader.
D. Complete and auditable reporting of mobile fee computer activity shall be available via the FMS.
E. Mobile fee computer housing shall be of weatherproof and durable construction.
F. Mobile fee computer shall be equipped with Wi-Fi and/or cellular connections for communications.

2.11 Intercom System

A. Intercom shall be mounted on in-lane device housings and at Pay on Foot Payment Station locations and shall include "Press for Assistance" engraved signs and push button operation.
B. Intercoms shall have the capability to allow call recipients to be able to remotely open gates.
C. Intercoms shall have programmable locations to notify call recipients of the originating location of intercom calls.
D. Intercoms shall connect to Voice over IP (VoIP) phone system.

2.12 Illuminated Signs – LED Lane Control Signs

A. Furnish and install exterior exposure, high intensity super bright direct view LED Green down arrow and/or Red "X" signs at the locations indicated on the Drawings.
B. The signs shall be installed at each exit lane. The sign fixture shall be positioned over each lane.
C. The lane controller signs shall have the following characteristics:
   1. Wide angle "X", double line display, nine-inch (9") character height, red in color – closed displays
   2. Wide angle "Down Arrow", double line display, nine inch (9") character height, green in color – open displays
   3. Clearly visible in bright, direct sunlight
   4. Message blanks out when off
   5. Minimum 55 degree viewing angle
   6. Lane control signs (TC) shall be minimum viewable face of 12" x 12" and be switch/relay controlled with control located at owner's specified location.

D. Cabinets are to be constructed of heavy-gauge aluminum for corrosion resistance, spot welded together, and painted flat black.
E. Any seams in the enclosure shall be sealed to prevent water intrusion.
F. Prior to installation of signs and associated conduit and wiring, Electrical Sub-Contractor and Signage Sub-Contractor shall meet at the site to review sign locations and coordinate installation responsibilities.
G. Acceptable manufacturers are:
   1. Daktronics, Inc., Brookings, SD.
   2. Signal Tech, Erie, PA.
   3. Or approved alternate

2.13 Variable Message Signs (VMS)

A. LED Display
   1. Cabinet Construction
      a. Cabinet dimensions shall not exceed 72 inches high by 72 inches wide. The front-to-back cabinet depth shall not exceed 12 inches.
      b. The cabinet shall contain a full LED matrix capable of being clearly visible from the following distances:
         1) Marquee VMS Sign – Visible from up to 400 feet
      c. Cabinet display configuration are: Single-Face (SF), one sided displays
      d. Display shall operate from the following power sources: 120/240 VAC, 60 Hz single-phase, including neutral and earth ground.
      e. Display shall operate in a minimum ambient temperature range of -40° to +130°F (-40 to +50°C) and to a 100% humidity.
      f. Internal display component hardware (nuts, bolts, screws, standoffs, rivets, fasteners, etc.) shall be fabricated from stainless steel, aluminum, nylon, or other durable corrosion-resistant materials suitable for the signage application.
      g. Electrical display components shall be 100% solid-state.
      h. The presence of ambient radio signals and magnetic or electromagnetic interference, including those from power lines, transformers, and motors, shall not impair performance of the display system.
   2. Housing Frame
      a. Display materials shall use non-corrosive materials or have a protective coating so they shall be anti-corrosive and not degrade or oxidize.
      b. The display shall be rear ventilated with adequate ventilation provided by the use of fans.
      c. Steel mounting points that can be used for mounting purposes shall be provided with the display and have the ability to be adjusted for alternative mounting methods.
      d. Shall include lifting supports that can be removed after installation.
   3. Exterior Finish - The LED display border pieces shall be coated with an automotive-grade acrylic urethane paint. The bid package will include an option to add graffiti protection to these signs.
   4. Front Face Construction
      a. To meet the display readability requirements, the front face must be constructed in such a manner that it provides high contrast, low sunlight reflection and durability in all weather and site conditions.
      b. Minimum features of front face shall:
         1) Provide UV resistance to prevent discoloring.
         2) Include horizontal louvers for contrast enhancement.
         3) Include vertical ribbing for contrast enhancement
         4) Use surface materials in the active LED area, such as metal, plastic, or other face materials, designed for low sunlight reflectivity.
   5. Serviceability

a. The display housing shall provide safe and convenient front service access for all modular assemblies, components, wiring, and other materials located within the housing.
b. All internal components shall be removable and replaceable by a single technician with basic hand tools.
c. Service access shall be easily obtained by removal of one or more modules in front of the associated internal component.
d. Each module should allow simple removal with a single latch system.
e. Displays shall be designed with service features that minimize potential bodily harm.

B. LED Display Components
1. LED display modules shall be constructed for good readability, long life, and ease of service. The display construction shall be sufficient to provide way-finding and directional instructions and graphics to drivers approaching the site(s). Each display module shall be constructed as follows:
a. All modules and their components shall be fully encapsulated and sealed to meet IP-67 standards.
b. Data to the modules shall be redundant in that the signal can reach the module from multiple directions in the event of a loss in signal path from either direction.
c. All LED display modules in a single display shall be identical in construction and interchangeable throughout the display with the ability to be field calibrated.
d. Removal of one or more modules shall not affect the display's structural integrity.
e. The failure of a single pixel, module or power supply shall not cause the failure of any other pixel, module, or power supply in the display.
f. All modules shall have no less than a 140° horizontal half-intensity viewing angle and a readability angle of 160° horizontal.
g. The transition of the viewing intensity shall be consistent throughout the viewing cone.
2. Pixels shall be constructed with discrete LEDs, and these discrete LEDs shall conform to the following specifications:
a. LEDs shall be non-diffused, ultra-bright, solid-state light emitting diodes.
b. Each color of LEDs used in all LED displays provided for this contract shall be from the same bin.
c. LED half-life shall be an estimated minimum of 100,000 hours.
d. Display shall have a minimum intensity of 10,000 cd/m2 for RGB maximum light output, 4,500 cd/m2 for Red maximum light output, and 6,000 cd/m2 for Amber maximum light output.
3. Power Supply
a. All power supplies shall be regulated, auto-ranging AC to DC power, with protection for the LED pixel, LED display and driver circuitry in the event of power spikes or surges.
b. Each power supply and their connectors shall be fully sealed to protect from corrosive environmental factors meeting IP-67 standards.
4. Internal Wiring
a. Wiring for LED display modules and other internal components shall be installed in the housing in a neat and professional manner.
b. Wiring shall not impede the removal of display modules, power supplies or other display components.
c. Wires shall not make contact with, or be bent around, sharp metal edges.
d. All wiring shall conform to the National Electric Code.
5. The display shall be protected from electrical spikes and transients.
6. The manufacturer shall provide an earth-ground lug on the display.

C. LED Display Performance
1. Display Capability
a. The LED display shall present messages that are continuous, uniform, and unbroken in appearance.

b. The LED display shall be capable of producing 281 trillion colors for RGB and 4096 shades of color for monochrome red or amber at all dimming levels.
c. Each display pixel shall be composed of one each – red, green, and blue LEDS or one red or one amber.
d. The LED display shall be capable of displaying all true type fonts.
e. The display shall be able to display messages composed of any combination of alphanumeric text, punctuation symbols, graphic images, and pre-canned video files.
f. Video and message files shall have up to a 30 frame per second playback capability.

2. Controller
   a. The display's controller shall be able to run independently from a controlling computing device allowing the display to operate even when the controlling device is unhooked or turned off.
   b. Communication protocol shall support other matrix products from the vendor such as other outdoor or indoor displays of varying sizes and/or colors.
   c. Each controller shall be connected to a light sensor allowing each LED display to automatically adjust brightness according to display direction and lighting conditions.
   d. The controller shall allow connection to a temperature sensor that provides accurate site temperatures.
   e. Active presentations, stored presentations, schedules, display configuration, time and date shall be stored in non-volatile memory. No external power or battery backup will be required to maintain this data.
3. Control and Communications
   a. The display controller should be DHCP-enabled and allow for static IP addressing.
   b. Each single-face display shall be controlled and monitored by its own LED controller.
   c. The LED controller shall be able to receive instructions from and provide information by accessing the control software using the following communication modes:
      1) Ethernet Fiber Optic
      2) Radio channel
      3) cellular modem
      4) or approved equivalent.

D. LED Display Control Software
1. Control Software: Display content and scheduling shall be via a cloud-based control software solution. Software to be hosted on manufacturer's servers at no cost to the customer. Web browser access to the solution to support iOS Safari, Android Chrome, Internet Explorer v11+, Microsoft Edge, Google Chrome and Mozilla Firefox.
2. Basic content creation to be performed via browser-based online editor.
3. Expanded content creation tools available via PC-compatible Content Studio download.
4. Supports import of images (PNG, BMP, GIF, JPG, PSD) and video files (AVI, MPG, MP4, MOV) in both browser-based and downloadable content utilities.
5. Interface with Revenue Control System to display current space counts.

E. Acceptable manufacturers are:
1. Daktronics, Inc., Brookings, SD.
2. Signal Tech, Erie, PA.
3. Or approved alternate

PART 3 - EXECUTION

3.1 Inspection

A. Inspect setting surfaces, power and network wiring, and conduit installation for equipment and report immediately in writing to the Owner, as required in the General Conditions, any conditions of Related Work which are unsuitable for proper execution of this Work.

3.2 Installation

A. Install parking control system and signs in accordance with Manufacturer's recommendations and the approved shop drawings. Also see Quality Control requirements.

B. Installation shall be by factory-trained mechanics experienced in installation of equipment of this type.

C. Provide and pull control wiring and make final connections of all wiring.

3.3 Adjustment and System Start-Up

A. Adjust and tune the system as required to assure proper operation. After installation, test all functions of the Parking and Revenue Control Systems.

B. Test the operation of all in lane devices:
1. Proximity card readers
2. Exit verifiers
3. Pay-on-Foot stations
4. Gates
5. Signs

C. Demonstrate the satisfactory electrical and functional performance of the entire parking control system by the following operations:
1. The successful use of a credential to enter and exit the facility with all information recorded.
2. The successful transfer of credential access data from the on-line equipment to the FMS card access controller.
3. The generation of proper daily audit and utilization reports.
4. The proper operation of the count control system, including directional counting feature, and communication with signs.
5. The proper operation of the intercoms.
6. Proper operation of the gate opening switches.
7. Provide 16 hours of on-site instruction to Owner's personnel. Instructions shall include but not be limited to, programming of card readers, use of fee computer, use and operations of count system and differential counter, use and operation of ticket dispenser and gates, and method of controlling revenue and auditing tickets available with the system specified. Coordinate schedule with Owner.
8. The parking and revenue control systems will be considered acceptable after being 100 percent operational and after having performed satisfactorily for fourteen (14) continuous business days with no down time.

END OF SECTION 11 1200

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APPENDIX E

PARCS Proposal Vendor Pricing Worksheet

HARDWARE

	Device Name	Required/ Optional	# Devices	Location	Per Device Cost	Total Cost	Comments
1	Parking Gates with Loops and gate arms	Required	3	entry-exit	$ -	$ -	Articulated Gate Arms
2	Entrance Dispenser	Required	1	entry	$ -	$ -	w/ credit card reader
3	Exit Verifier (CC Only)	Required	2	exit	$ -	$ -	
4	Pay on Foot Payment Station	Required	1	elevator	$ -	$ -	Accepts Cash (bills only), credit card, and validations
5	License Plate Recognition (LPR) Camera	Required	3	entry-exit	$ -	$ -	
6	Variable Message Sign (VMS)	Required	1	entry	$ -	$ -	
7	Mobile Payment Signs/Decals	Required	31	n/a	$ -	$ -	6-aluminum signs; 25-decals
8	Credential Stock (Proximity Cards)	Required	600	n/a	$ -	$ -	600 proximity card credentials
9	Starter supplies	Required	1	n/a	$ -	$ -	1-year of transient ticket stock; 3-spare gate arms
10	Mobile Fee Computer	Optional	1	n/a	$ -	$ -	
11					$ -	$ -	
12					$ -	$ -	
13					$ -	$ -	
14					$ -	$ -	
					REQUIRED Hardware Total:	$ -	
					OPTIONAL Hardware Total:	$ -	

SOFTWARE

	Software Name	Required/ Optional	Initial Purchase Cost	Residual Cost (Annual)	Comments
1	PARCS Operating Software	Required	$ -	$ -	
2	LPR Module / Integration	Required	$ -	$ -	
3	Mobile Payment	Required	$ -	$ -	
4	Advance Sale/Parking Reservations	Required	$ -	$ -	
5	Parking Validation Module	Required	$ -	$ -	
6	VMS Sign Controls	Required	$ -	$ -	
7	Passport Parking Mobile Payment Integration	Optional	$ -	$ -	
8			$ -	$ -	
9			$ -	$ -	
10			$ -	$ -	
11			$ -	$ -	
12			$ -	$ -	
13			$ -	$ -	
14			$ -	$ -	
		REQUIRED Software Total:	$ -	$ -	
		OPTIONAL Software Total:	$ -	$ -	

INFRASTRUCTURE & INSTALLATION

	Device Name	Required/ Optional	Lead Time	Total Cost	Comments
1	Power Connections (entry, exit, POF, & Sign)	Required			
2	Network Connections (entry, exit, POF, Sign)	Required			
3	New Island (exit lane)	Required			
4	Protective Bollards (entry, exit, LPR cameras, and Sign)	Required			
5	PARCS Equipment Installation	Required			
6	Legacy PARCS removal and disposal	Required			
7	PARCS shipping	Required			
8	PARCS staff training	Required			
9	Existing Attendant Booth removal	Optional			
10	Infrastructure for Optional Items	Optional			
11	Installation for Optional Items	Optional			
12					
13					
14					
			REQUIRED Installation and Infrastructure Total:	$ -	
			OPTIONAL Installation and Infrastructure Total:	$ -	

	SUMMARY	Total Costs	Vendor Comments
1	Hardware - Required	$ -	
2	Software - Required	$ -	
3	Installation and Infrastructure - Required	$ -	
	Grand Total (Required)	**$ -**	
1	Hardware - Optional	$ -	
2	Software - Optional	$ -	
3	Installation and Infrastructure - Optional	$ -	
	Grand Total (Optional)	**$ -**	
	Residual Required Software Cost (Annual)	**$ -**	
	Residual Optional Software Cost (Annual)	**$ -**	