

EVANSVILLE-VANDERBURGH AIRPORT AUTHORITY DISTRICT

Evansville Regional Airport (EVV)

REQUEST FOR PROPOSALS

RFP No. 2026-PARCS-001

Parking Access and Revenue Control System (PARCS)

Project No. 13-004463.00

Issue Date:	July 8, 2026
Issued By:	Evansville-Vanderburgh Airport Authority District 7801 Bussing Dr Evansville, Indiana 47725
Project Manager:	Jason Gillett, Director of Operations & Maintenance
Contact Email:	jgillett@flyevv.com
Pre-Proposal Conference:	Tuesday, July 15, 2026 at 11:00 AM CST In Person: Evansville Regional Airport, Terminal Building Conference Room 7801 Bussing Dr, Evansville, IN 47725 Virtual: Microsoft Teams (link distributed to registered plan holders)
Written Questions Due:	Monday, August 3, 2026 at 5:00 PM CST
Final Addendum Issued:	August 6, 2026
Proposals Due:	Tuesday, August 11, 2026 at 12:00 Noon CST
Delivery Address:	Evansville Regional Airport Attn: Jason Gillett, Director of Operations & Maintenance 7801 Bussing Dr, Evansville, IN 47725

SEALED PROPOSAL ENCLOSED – RFP No. 2026-PARCS-001

SECTION 1 – INTRODUCTION

1.1 Purpose

The Evansville-Vanderburgh Airport Authority District (hereinafter "Authority" or "Owner") is soliciting competitive sealed proposals from qualified contractors to furnish, install, and commission a complete Parking Access and Revenue Control System (PARCS) at the Evansville Regional Airport (EVV). This solicitation is issued pursuant to applicable Indiana public procurement law and the procurement policies of the Authority.

1.2 Background

Evansville Regional Airport currently operates a legacy PARCS serving two surface parking lots: an Economy surface parking area and a solar panel covered area sharing a common exit plaza. The Authority seeks to replace the existing system with a modern, cloud-based PARCS incorporating License Plate Recognition (LPR), EMV tap-to-pay payment processing, a Frequent Parker Program (FPP), remote intercom support, and API integration with the Authority's website for real-time parking availability.

The technical specifications for this project were prepared by Walker Consultants and are incorporated into this RFP as Section 111226 – Parking Access and Revenue Control System (PARCS), Project No. 13-004463.00, dated July 2026 (the "Technical Specifications").

1.3 Ownership

This RFP is issued by and all contracts resulting from this RFP shall be with the Evansville-Vanderburgh Airport Authority District, a political subdivision of the State of Indiana.

1.4 Definitions

As used throughout this RFP, the following terms have the meanings indicated:

- "Authority" or "Owner" means the Evansville-Vanderburgh Airport Authority District.
- "Contractor" or "Respondent" means the firm submitting a proposal in response to this RFP.
- "Proposal" means the complete response submitted by a Contractor in accordance with this RFP.
- "Technical Specifications" means Section 111226 prepared by Walker Consultants, dated July 2026.
- "Contract" means the agreement executed between the Authority and the selected Contractor.
- "PARCS" means the Parking Access and Revenue Control System described herein.

SECTION 2 – INSTRUCTIONS TO RESPONDENTS

2.1 Pre-Proposal Conference

A Pre-Proposal Conference will be held on Tuesday, July 15, 2026 at 11:00 AM CST. The conference will be held both in person and virtually:

In Person: Evansville Regional Airport, Terminal Building Conference Room, 7801 Bussing Dr, Evansville, Indiana 47725

Virtual: Microsoft Teams – connection link will be distributed to all registered plan holders prior to the conference

Respondents will have the opportunity to ask questions. In-person attendees will also have the opportunity to tour the existing PARCS installation. The Authority will provide responses to questions raised at the Pre-Proposal Conference and through subsequent written inquiries as addenda distributed to all registered plan holders.

2.2 Plan Holder Registration

Contractors obtaining a proposal package shall send an email to Jason Gillett at jgillett@flyevv.com confirming receipt. The email subject line shall read: "PARCS RFP 2026-PARCS-001 – Plan Holder Registration." Only registered plan holders will receive addenda.

2.3 Written Questions

All questions regarding this RFP must be submitted in writing to Jason Gillett at jgillett@flyevv.com no later than Monday, August 3, 2026 at 5:00 PM CST. The email subject line shall read: "PARCS RFP 2026-PARCS-001 – Questions." Verbal questions or information obtained through any other channel will not be binding and will not be considered in evaluating proposals. All responses will be issued as written addenda distributed to all registered plan holders.

2.4 Proposal Submission

Proposals shall be submitted in a sealed package clearly labeled on the outside:

SEALED PROPOSAL ENCLOSED RFP No. 2026-PARCS-001 – PARCS System Proposal Due: August 11, 2026 at 12:00 Noon CST

Proposals must be delivered to the following address:

Evansville Regional Airport
Attn: Jason Gillett, Director of Operations & Maintenance
7801 Bussing Dr
Evansville, Indiana 47725

Proposals must be received by 12:00 Noon CST on August 11, 2026. Late proposals will not be accepted and will be returned unopened. The Authority assumes no responsibility for proposals submitted by mail, courier, or any other delivery method that arrive after the deadline. It is the sole responsibility of the Respondent to ensure timely receipt.

2.5 Number of Copies

Respondents shall submit:

- One (1) original signed proposal package (hard copy)
- Two (2) complete hard copies of the proposal
- One (1) electronic copy on USB flash drive in PDF and/or Microsoft Word format (searchable)

The original must be signed in ink by an authorized representative of the proposing firm. The contents of the submitted proposal will become incorporated within any contract signed by the Authority and the selected Contractor.

2.6 Proposal Format

Proposals shall be prepared in the format specified in Section 3 of this RFP. All responses shall be clear, concise, and typewritten. Respondents shall respond on separate pages and cite the section number for each response. Proposals submitted without required information or with incomplete content may be deemed non-responsive.

2.7 Addenda

All changes to this RFP will be issued in writing as addenda and distributed to all registered plan holders. Respondents shall acknowledge all addenda on the Proposal Form. Failure to acknowledge all issued addenda may render a proposal non-responsive.

2.8 Costs of Proposal Preparation

All costs incurred in preparing and submitting proposals shall be borne solely by the Respondent. The Authority will not reimburse any costs related to proposal preparation.

2.9 Withdrawal of Proposals

No proposal may be withdrawn after the proposal opening without the consent of the Authority Board of Directors for a period of sixty (60) calendar days after the scheduled time of opening proposals.

2.10 Access to Public Records

All submitted proposals may be considered public documents under applicable Indiana law and may be subject to disclosure. Some records become public at proposal opening; others at contract award. The Authority will not be responsible for any losses the Respondent may suffer from the lawful disclosure of information to third parties.

Any materials requested to be treated as confidential or trade secrets must be clearly identified and readily separable from the balance of the proposal. Such designations will not be conclusive, and the Respondent may be required to justify why such material should not be disclosed pursuant to Indiana Access to Public Records Act (IC 5-14-3). The Authority will endeavor to provide at least two (2) business days' written notice to the Respondent prior to releasing materials identified as confidential or proprietary.

2.11 Right of Refusal

The Authority reserves the right to reject any or all proposals, or any part thereof; to waive any informality or irregularity in any proposal; to negotiate with any Respondent; and to award the contract in the best interest of the Authority.

SECTION 3 – REQUIRED PROPOSAL CONTENT

Proposals shall be organized with numbered tabs or sections corresponding to the following requirements. Incomplete proposals may be deemed non-responsive.

3.1 Cover Letter / Executive Summary

Provide a one to two-page executive summary describing your firm's understanding of the project, the proposed PARCS solution, and any unique features or capabilities that differentiate your proposal. Identify the authorized representative who may be contacted regarding the proposal.

3.2 Company Information

- Full legal name of the company submitting the proposal
- Brief company overview including company culture, structure, and whether public or private
- Years in business
- Number of employees (total and local)
- Annual sales volume
- Names and titles of key personnel assigned to this project
- Physical location of nearest service center to Evansville, Indiana, and number of staff at that location

3.3 Manufacturer Qualifications

Provide written verification that:

- The PARCS manufacturer has been in continuous operation for the previous five (5) years.
- Primary PARCS components have been installed and are operating in three (3) or more facilities of similar size and complexity. For each reference installation provide: (a) name and location of facility, (b) contact name, telephone, and email, (c) date of installation, (d) number of lanes, (e) equipment description and quantities, (f) payment types accepted, (g) credential types used, and (h) photographs of installed PARCS.

3.4 Installer Qualifications

Provide written verification that:

- The installing firm has been in continuous operation for the previous five (5) years.
- The installer is approved in writing by the PARCS manufacturer and has installed the proposed system for the manufacturer for a stated number of years.
- The installer has completed three (3) comparable PARCS installations in facilities of similar size and complexity within the past three (3) years, with the same reference data as required above for each installation.
- A service center is located within two (2) hours' driving distance of the airport.
- An organizational chart including names, titles, and roles of all personnel assigned to this project.
- Resumes for key personnel.

3.5 Technical Proposal

Respondents shall provide a comprehensive written response demonstrating full compliance with all requirements set forth in Exhibit A – Technical Specifications (Walker Consultants Section 111226). The technical proposal shall describe the proposed PARCS solution, major components, unique features, and the Respondent's approach to meeting each specification requirement. All exceptions or substitutions must be identified per Section 3.6.

3.6 Exceptions and Substitutions

Provide an all-inclusive list of all exceptions to any portion of these specifications, including all substitutions. For each substitution, identify the specified item, the proposed substitute, and include catalog sheets, brochures, and/or technical specifications of the proposed substitute. All exceptions are subject to the Authority's approval.

3.7 Project Approach

- Detail the plan for design, installation, implementation, training, and testing.
- Describe the Contractor's approach to post-installation customer service and ongoing support.
- Describe the plan for transitioning from the existing PARCS to the new system with minimum disruption to parking operations.

3.8 Project Schedule

Provide a project schedule based on the following anticipated milestone dates:

Milestone	Target Date
RFP Issued	July 7, 2026
Pre-Proposal Conference	July 15, 2026
Written Questions Due	August 3, 2026
Addenda Issued (if needed)	August 6, 2026
Proposals Due	August 11, 2026 at 12:00 Noon CST
Contract Award	On or before August 25, 2026
Notice to Proceed (NTP)	September 2026
System Design Review (SDR) Meeting	Within 45 days of NTP
Pre-Installation Meeting	30 days before installation
Installation Complete / LAT	To be proposed by Contractor
Operational Demonstration Test (ODT) Start	After LAT completion
Final System Acceptance	Upon ODT completion and Punch List resolution

The project schedule submitted with the proposal shall include milestone dates clearly identified, task and subtask start and completion dates, a narrative description of phasing for each work area, and a training schedule.

3.9 Price Proposal

Complete the Price Proposal Form and the Specification Compliance Form included in Exhibit A. In addition, provide unit pricing for each component, pricing for all Add Alternates, annual pricing for the 7-year Maintenance and Service Contract and Parts Warranty Contract, and all recurring annual costs not otherwise included (SaaS licensing, transaction fees, etc.).

3.10 Spare Parts List

Provide a list of all manufacturer-recommended spare parts (name, part number, quantity, and unit price) to be maintained on-site as specified in Exhibit A.

3.11 Warranty

Submit a copy of the proposed warranty and an explanation of any circumstances that may impact warranty coverage, consistent with the warranty requirements in Exhibit A.

3.12 Required Certifications and Forms

The following documents must be completed and submitted with the proposal (see Section 8 for all forms):

#	Document	Included
1	Proposal Cover Sheet / Bid Sheet	___ Yes / No
2	Equal Employment Opportunity Statement	___ Yes / No
3	Indiana Legal Employment Declaration (E-Verify)	___ Yes / No
4	Addenda Acknowledgment(s)	___ Yes / No
5	USB Flash Drive with electronic proposal	___ Yes / No

SECTION 4 – PROPOSAL EVALUATION AND AWARD

4.1 Evaluation Process

The Authority reserves the right to conduct discussions with Respondents for the purpose of clarification to assure full understanding of, and responsiveness to, the solicitation requirements. The Authority further reserves the right to conduct reference checks, site visits, and/or interviews with any Respondent.

The Authority may award on a best-value basis. The evaluation committee will score each responsive and responsible proposal using the criteria and weights set forth below.

4.2 Evaluation Criteria

Criterion	Description	Max Points	Weight
A	Price: Total proposed cost including base system, recurring fees, and applicable add alternates.	30	30%
B	Technical Solution: Capability of proposed PARCS to meet all Technical Specifications; quality of proposed equipment and software; LPR, FPP, cloud, and payment system features.	25	25%
C	Qualifications and Experience: Manufacturer and installer experience with similar airport PARCS projects; references; service center proximity; key personnel credentials.	20	20%
D	Project Approach: Quality and feasibility of implementation plan, phasing, transition plan, and schedule; post-installation support plan.	15	15%
E	Warranty and Ongoing Support: Scope and terms of warranty; maintenance contract pricing; service response time commitments; software support capabilities.	10	10%
	TOTAL	100	100%

4.3 Minimum Qualifications

Proposals that do not meet the following minimum qualifications will be deemed non-responsive and will not be evaluated:

- Submission of all required forms and documents listed in Section 3.12
- Demonstrated manufacturer in continuous operation for ≥5 years
- Service center or contractor within 2 hours' driving distance of EVV Airport

4.4 Award of Contract

The Authority intends to award the contract to the Respondent whose proposal represents the best value to the Authority based on the evaluation criteria set forth above. The Authority reserves the right to award to the next highest-ranked Respondent if the selected Respondent fails to execute the contract within the specified time. Contract award is anticipated on or before August 25, 2026.

SECTION 5 – CONTRACT TERMS AND REQUIREMENTS

5.1 Length of Contract

The contract shall be awarded by the Evansville-Vanderburgh Airport Authority District Board of Directors. The selected Contractor shall have ten (10) calendar days from receipt of Notice of Award to submit all required documents (signed contract, bonds, insurance certificates) to execute the contract.

5.2 Notice to Proceed

Upon execution of the contract and receipt of all required documents, the Authority will issue the Contractor a Notice to Proceed (NTP). The Contractor shall commence work within ten (10) days of NTP issuance.

5.3 Liquidated Damages

The parties understand and agree that time is of the essence for completion of the Work and that the Authority will suffer additional expense and financial loss if said Work is not completed within the authorized Term. Furthermore, the parties recognize and understand the difficulty, delay, and expense in establishing the exact amount of actual financial loss and additional expense. Accordingly, in place of requiring such proof, the Contractor expressly agrees to pay the Authority as liquidated damages the non-penal sum of \$1,500 per Calendar Day beyond the approved completion date, unless a mutual resolution is reached due to causes beyond the Contractor’s reasonable control.

5.4 Insurance Requirements

The Contractor shall procure and maintain the following insurance coverage throughout the contract term, naming the Authority as an additional insured:

Coverage Type	Minimum Limits
General Liability – General Aggregate	\$6,000,000
Products & Completed Operations Aggregate	\$1,000,000
Personal & Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000
Workers' Compensation	\$500,000
Umbrella Policy (in addition to individual coverages)	\$1,000,000

Certificates of insurance must be submitted to the Authority prior to commencement of work. All insurance shall provide that policies will not be canceled, terminated, or modified without thirty (30) days' prior written notice to the Authority. The Authority reserves the right to require complete certified copies of all policies at any time.

5.5 Taxes

The Evansville-Vanderburgh Airport Authority District is an Indiana political subdivision exempt from federal and state taxes. The Authority will not be responsible for any taxes in connection with the award or performance of this contract.

5.6 Licenses and Permits

The successful Contractor shall furnish all licenses, permits, certifications, and registrations required by applicable laws and regulations. The Contractor certifies that it is and will remain in good standing with all applicable governmental agencies and will maintain all required credentials in force during the term of the contract.

5.7 Payment

Payment terms will be negotiated as part of the contract. Progress payments of ninety percent (90%) of approved work may be made monthly. Retainage of ten percent (10%) will be held until Final System Acceptance. Final

payment shall not become due until the Contractor has furnished an affidavit that all bills, claims, and labor costs in connection with the contract have been paid.

5.8 Final Inspection

Upon completion of work, the Contractor shall schedule a final inspection with the Authority and its representatives. A punch list of remaining items will be provided. Final System Acceptance and release of retainage will not occur until all punch list items are resolved to the Authority's satisfaction.

5.9 Assignment

The Contractor shall not assign the contract or sublet it as a whole without prior written consent of the Authority.

SECTION 6 – GENERAL CONDITIONS

The General Conditions set forth in this Section 6, together with the Technical Specifications, the Proposal, and the resulting Contract, constitute the Contract Documents governing this project.

6.1 Compliance with Laws

The Contractor shall keep fully informed of and comply with all applicable Federal, State, and local laws, ordinances, regulations, codes, and standards. The Contractor shall protect and indemnify the Authority against any civil claim or liability arising from violations of such laws, whether by the Contractor, its employees, or any subcontractor. The Contractor shall give all notices and obtain all permits, licenses, and bonds required by law, unless specifically stated otherwise in the Contract Documents.

6.2 Non-Discrimination / Equal Employment Opportunity

The Contractor agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, political affiliation or belief, age, or disability. The Contractor shall take affirmative action to ensure equitable treatment in all aspects of employment. Breach of this covenant may be regarded as a material breach of the contract. See the Equal Employment Opportunity Statement form in Section 8.

6.3 E-Verify

Pursuant to Indiana Code 22-5-1.7, the Contractor shall enroll in and verify the work eligibility status of all newly hired employees through the E-Verify Program. The Contractor shall not knowingly employ unauthorized aliens. The Contractor shall require each subcontractor to certify E-Verify compliance. See the Indiana Legal Employment Declaration in Section 8.

6.4 Contractor's Insurance

No work shall commence prior to the Authority receiving certificates of insurance verifying coverage as required in Section 5.4. The Authority reserves the right to reject any insurance carrier. All insurance must be placed with carriers maintaining a Best's rating of no less than A:VII.

6.5 Materials and Workmanship

All equipment and materials incorporated in the work shall be newly manufactured and of the highest quality. The Contractor shall at all times enforce strict discipline and good order among employees and shall not employ any unfit person or anyone not skilled in the work assigned.

6.6 Protection of Work and Property

The Contractor shall continuously maintain adequate protection of the project site and shall indemnify the Authority and adjacent property from injury, damage, loss, or claim arising in connection with this contract. The Contractor shall promptly notify the Authority of any accidents.

6.7 Changes in the Work

The Authority may, without invalidating the contract, order changes by altering, adding to, or deducting from the work. All changes shall be agreed upon in writing and approved by the Authority prior to performance. Adjustments in contract price shall be determined by mutual agreement, unit prices, or on a cost-plus basis not to exceed 15% overhead and profit.

6.8 Termination for Breach

In the event any provision of the contract is violated by the Contractor, the Authority may serve written notice of intent to terminate. If the Contractor fails to correct the deficiencies within ten (10) days, the contract may be declared in default and terminated. The Contractor and Surety shall be jointly liable for all expenses incurred by the Authority in completing the contract.

6.9 Disputes

All disputes arising under the contract shall first be addressed through written notice to the Authority. The Authority's decision shall be final and conclusive unless the Contractor appeals within the time limits established in the contract. During any dispute, the Contractor shall continue to diligently perform the work.

6.10 Indemnification

The Contractor shall indemnify, defend, and hold harmless the Evansville-Vanderburgh Airport Authority District, its officers, directors, employees, and agents from and against any and all claims, losses, damages, costs (including attorney's fees), and liabilities arising out of or related to the Contractor's performance of this contract, including the acts or omissions of subcontractors.

6.11 Or Equal Clause

Whenever any article, material, or equipment is defined by describing a proprietary product or naming a manufacturer, the term 'or equal' shall be implied. The specific item mentioned shall indicate the type, function, minimum standard of design, efficiency, and quality desired, and shall not be construed to exclude comparable products of equal quality, design, and efficiency.

PROPOSAL / BID SHEET [PLEASE MAKE THIS PAGE 1 OF YOUR SUBMISSION]

RFP No. 2026-PARCS-001 – PARCS System, Evansville Regional Airport

Company Name: _____

Authorized Representative: _____

Title: _____

Address: _____

Phone: _____

Email: _____

The undersigned proposes to furnish and install the PARCS in accordance with the requirements of this RFP, the Technical Specifications, and all addenda, for the following total:

BASE PROPOSAL AMOUNT: \$ _____

WRITTEN: _____

Add Alternate Pricing (provide on separate schedule if needed):

- Add Alt A – 7-Year Maintenance & Service Contract (annual): \$ _____
- Add Alt B – 7-Year Parts Warranty Contract (annual): \$ _____
- Add Alt C – LED Gate Arm Lights: \$ _____
- Add Alt D – VMS Signs (in lieu of DMS): \$ _____
- Add Alt E – Mobile Cashier Unit: \$ _____
- Add Alt F – Handheld LPR Inventory System: \$ _____

Respondent attended Pre-Proposal Conference: Yes ____ No ____

All addenda acknowledged (list numbers): _____ Yes ____ No ____

INDEMNIFICATION: The undersigned agrees to indemnify and hold harmless the Evansville-Vanderburgh Airport Authority District in accordance with the provisions of this RFP. Yes ____ No ____

Authorized Signature: _____

Printed Name & Title: _____

Date: _____

EQUAL EMPLOYMENT OPPORTUNITY STATEMENT

During the performance of the contract, the Contractor agrees as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, political affiliation or belief, age, or disability. The Contractor will take affirmative action to ensure applicants are employed and treated during employment without regard to such characteristics. Such action shall include employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, rates of pay, other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants, notices of these nondiscrimination provisions.
2. The Contractor agrees that all services, facilities, activities, and programs under the contract will meet ADA requirements.
3. The Contractor will state in all solicitations or advertisements for employees that all qualified applicants will receive consideration without regard to race, color, religion, sex, national origin, political affiliation or belief, age, or disability.
4. The Contractor will send notice to each labor union or workers' representative of its commitments under this Equal Employment Opportunity section.
5. In the event of noncompliance, this contract may be cancelled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Authority contracts.

Vendor Representative (Please Print): _____

Signature: _____

Vendor Name: _____

Vendor Address: _____

Telephone: _____

Date: _____

INDIANA LEGAL EMPLOYMENT DECLARATION (E-VERIFY)

The State of Indiana has enacted a law (I.C. 22-5-1.7) requiring all state agencies and political subdivisions to request verification from contractors that employees are legally eligible to work in the United States. This Declaration serves as notice that all Contractors doing business with the Authority must, as a term of their contract:

- 6. Enroll in and verify the work eligibility status of newly hired employees through the E-Verify program (but is not required to do this if the E-Verify program no longer exists); and
- 7. Verify by signature below that the Contractor does not knowingly employ unauthorized aliens.

I, _____, a duly authorized agent of _____ (name of Company), declare under penalties of perjury that _____ (name of Company) does not employ unauthorized aliens to the best of its knowledge and belief.

(Name of Company): _____

By (Authorized Representative): _____

Subscribed and sworn to before me on this _____ day of _____, 2026.

My Commission Expires: _____

Notary Public – Signature: _____

Notary Public – Printed Name: _____

County of Residence: _____

For instructions and electronic registration for E-Verify, please see:
<https://everify.uscis.gov/enroll/StartPage.aspx?JS=YES>

VENDOR'S SUBMISSION CHECKLIST

In order to be accepted as a valid proposal, ALL of the following items must be included. Check each item before submitting.

Included?	Required Item
_____	Proposal / Bid Sheet (make this page 1 of submission)
_____	Section 3 – Complete Technical Proposal (all subsections)
_____	Exhibit A – Price Proposal Form (Walker Consultants)
_____	Exhibit A – Specification Compliance Form (Walker Consultants)
_____	Add Alternate pricing schedule
_____	Project Schedule (Gantt format)
_____	Equal Employment Opportunity Statement
_____	Indiana Legal Employment Declaration (E-Verify)
_____	Acknowledged copies of all Addenda issued
_____	USB Flash Drive with searchable PDF copy of proposal

Company: _____ Authorized Signature: _____

Date: _____

ADDENDUM ACKNOWLEDGMENT

The undersigned acknowledges receipt and review of the following addenda to RFP No. 2026-PARCS-001:

Addendum No. _____ Date: _____ Acknowledged by: _____

Addendum No. _____ Date: _____ Acknowledged by: _____

Addendum No. _____ Date: _____ Acknowledged by: _____

Addendum No. _____ Date: _____ Acknowledged by: _____

Addendum No. _____ Date: _____ Acknowledged by: _____

If no addenda were received, write "None" above.

Company Name: _____

Authorized Signature: _____

Printed Name / Title: _____

Date: _____

SECTION 111226 - PARKING ACCESS AND REVENUE CONTROL SYSTEM (PARCS)

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related to this Section:
 - 1. Project Drawings
 - 2. Appendix A Price Proposal Form
 - 3. Appendix B Specification Compliance Form
 - 4. Proposal Form
- C. Codes and Regulations:

1. Comply with all applicable Federal, State and local laws, ordinances, rules and regulations pertaining to the performance of the work specified herein and compliant with the Owner internal policies.
2. Obtain all permits, licenses and certificates, or any such approvals of plans or specifications as may be required by Federal, State and local laws, ordinances, rules and regulations.
3. Compliant with Owner's internal policies for the proper execution of the work specified herein.
4. If hazardous materials are used, comply with Federal and State right-to-know laws. The Materials and Safety Data Sheets (MSDS) shall be made available to all workers and Owner representatives. PARCS Vendor shall report immediately to the Owner any spillage or dumping of hazardous materials on Owner property. The PARCS Vendor shall also be responsible for the cleanup and any costs incurred for all such incidents.
5. Keep current copies of all licenses, registrations or permits required by applicable governing agencies on the job site while performing the contract work and provide copies to Owner as requested during the performance of this contract.
6. Payment Card Industry (PCI) compliance is required.
7. Comply with the requirements of the American with Disabilities Act (ADA) including the 2010 ADA Standards for Accessible Design and any state or local jurisdiction requirements for accessibility, communication and use by individuals with disabilities and compliant with any Owner internal policies. Contractor is responsible for determining which parts of the PARCS must be ADA compliant.
8. The following is a list of standards referenced in the contract documents. The latest revision in effect for each standard at the time of Notice-To-Proceed (NTP) shall be used in conjunction with the contract documents.
 - a. ADA
 - b. ADAAG
 - c. California Proposition 65 (For California and Washington State Projects Only)
 - d. CFR
 - e. ANSI X9.24, Financial Services Retail Key Management
 - f. Federal Communications Commission emission limits
 - g. FIPS 140-3
 - h. International Electrotechnical Commission (IEC) 529
 - i. ISO/IEC 14443
 - j. ISO/IEC 18092 / ECMA-340, Near Field Communication Interface and Protocol-1
 - k. ISO/IEC 21481 / ECMA-352, Near Field Communication Interface and Protocol-2
 - l. National Electrical Code
 - m. Payment Card Industry Data Security Standard (PCI DSS)
 - n. Payment Card Industry Point to Point Encryption (PCI P2PE)
 - o. UL Standard 60950-1, "Information Technology Equipment – Safety"
 - p. UL 325
 - q. WCAG

9. The PARCS Vendor shall identify and notify the Owner of any changes to the standards that are instituted between the time of NTP and PARCS implementation and certify that their software meets these requirements.
10. All units that are developed for, procured, or used by federal agencies shall also meet Section 508 Standards for Information Communication Technology.

1.2 DEFINITIONS

A. List of abbreviations:

- | | | |
|-----|----------|--|
| 1. | ADA | Americans with Disabilities Act |
| 2. | ADAAG | Americans with Disabilities Act Accessibility Guidelines |
| 3. | ANSI | American National Standards Institute |
| 4. | API | Application Programming Interface |
| 5. | AVI | Automated Vehicle Identification |
| 6. | BG | Barrier Gate |
| 7. | BLE | Bluetooth Low Energy |
| 8. | CBEMA | Computer and Business Equipment Manufacturers' Association |
| 9. | CDMS | Central Data Management System |
| 10. | CFR | Code of Federal Regulations |
| 11. | CT | Cashier Terminal |
| 12. | DMS | Digital (7-segment) Messaging Sign |
| 13. | EMV | Europay, MasterCard, and Visa |
| 14. | ENS | Entry Station |
| 15. | EXS | Exit Station |
| 16. | FACTA | Fair and Accurate Credit Transactions Act |
| 17. | FDR | Final Design Review |
| 18. | FPP | Frequent Parker Program |
| 19. | GPR | Ground Penetrating Radar |
| 20. | GUI | Graphical User Interface |
| 21. | IP | Intrusion Protection |
| 22. | IRW | Image Review Workstation |
| 23. | ISO | International Organization for Standardization |
| 24. | LAT | Lane Acceptance Test |
| 25. | LED | Light Emitting Diode |
| 26. | LPN | License Plate Number |
| 27. | LPR | License Plate Recognition |
| 28. | NEMA | National Electrical Manufacturers Association |
| 29. | NEC | National Electrical Code |
| 30. | NFC | Near Field Communication |
| 31. | NTP | Notice to Proceed |
| 32. | ODBC | Open Database Connectivity |
| 33. | ODT | Operational Demonstration Test |
| 34. | PARCS | Parking Access and Revenue Control System |
| 35. | PCAT | Payment Card Acceptance Test |
| 36. | PCI | Payment Card Industry |
| 37. | PCI P2PE | PCI Council Certified Point to Point Encryption |
| 38. | PCI DSS | Payment Card Industry Data Security Standard |
| 39. | PIN | Personal Identification Number |

40.	PM	Preventative Maintenance
41.	POF	Pay on Foot
42.	QA/QC	Quality Assurance/Quality Control
43.	QR	Quick Response
44.	SaaS	Software-as-a-Service
45.	SDR	System Design Review
46.	SQL	Structured Query Language
47.	TC	Traffic Controller
48.	UL	Underwriters Laboratories, Inc.
49.	UPS	Uninterruptible Power Supply
50.	VM	Virtual Machine
51.	VMS	Variable Message Sign
52.	VoIP	Voice over IP (Internet Protocol)
53.	WCAG	Web Content Accessibility Guidelines
54.	XLPE	Cross-linked Polyethylene

1.3 SUMMARY

- A. Furnish and install an on-line, real-time Parking Access and Revenue Control System (PARCS) functioning in the manner described herein for the Evansville Regional Airport (EVV) parking facilities. Parking includes two separate surface lots; an Economy surface parking area and a solar panel covered area, both sharing a common exit plaza.
- B. The PARCS will feature a cloud-based server software package, remote intercom support, License Plate Recognition (LPR), validations, EMV with tap to pay credit card readers, and a Frequent Parker Program. The use of the license plate as the primary credential for parking with ticket as a backup is preferred.
- C. The current Frequent Parker Program (FPP) allows registered users to park in the covered area using a tiered discount program. Changes to the FPP are envisioned to base future rewards on the number of visits and may include a point system to be used for free parking days. Options will be considered.
- D. References in this section to “Contractor” include any Subcontractor performing Work related to the PARCS.
- E. Identify any clarifications, deficiencies, exceptions or errors in the Specifications or Drawings in Contractor proposal. Deficiencies or discrepancies in the Specifications or Drawings do not relieve the Contractor of the responsibility to provide a fully functional, reliable PARCS as intended by the design. Clarifications and exceptions to the design taken by the Contractor must be clearly stated in the proposal and are subject to Owner approval.
- F. Summary of Parking Lane and Supplementary Equipment:
 - 1. Lane Equipment:
 - a. Four entrance lanes, (two for Economy; two for Covered) each containing:

- 1) ENS equipped with:
 - a) Ticket dispenser.
 - b) QR/Barcode reader.
 - c) Proximity card reader for airport access.
 - d) Proximity card reader for FFP users.
 - e) Video Intercom Substation.
 - 2) Auto gate with gate arms and inductive loops.
 - 3) LPR Camera with trigger loop if required.
 - 4) Protective bollards.
- b. Three exit lanes containing:
- 1) EXS equipped with:
 - a) Ticket reader.
 - b) EMV Credit Card with tap to pay.
 - c) QR/Barcode reader.
 - d) Proximity card reader for airport access.
 - e) Proximity card reader for FFP users.
 - f) Video Intercom Substation.
 - 2) Auto gates with gate arms and inductive loops.
 - 3) LPR Camera with trigger loop if required.
 - 4) Overhead DMS lane controller sign.
 - 5) Protective bollards.
2. Other Equipment:
- a. Cashier terminal for parking building.
 - b. One additional gate at parking building (two gates in this lane).
 - c. Four (4) traffic control gates from covered parking area and economy parking area to exit plaza.
 - d. Locking Server Rack for networking and internet equipment.
 - e. UPS backup for Server Rack Components.
 - f. Lot Status LED sign at entry.
 - g. One (1) validation ticket printer for the office to allow passes to be printed and provided to parkers.
 - h. Frequent Parking Program.
 - i. Other equipment as specified herein.
- G. See Drawings for equipment locations.
- H. Work Included:
1. Review Drawings and Specifications to be certain that all functional requirements, as described, can be achieved with equipment to be supplied.
 2. Provide Submittals as specified.

3. Coordinate and confirm final and precise layout of PARCS equipment, mounting structures, conduits, stubs, and anchor bolts with Owner prior to installation.
 4. Attend construction meetings, provide schedules as requested, and schedule fieldwork to be coordinated with Owner.
 5. Provide and install all PARCS equipment as described and specified.
 6. Provide and install mounting structures necessary for the PARCS equipment.
 7. Provide and install all software, ancillary components, and materials to provide a complete and functioning PARCS and the interconnection with any Owner-supplied equipment.
 8. Provide, install, terminate, and connect all necessary communications wiring and conduit required for the PARCS.
 9. Provide, install, terminate, and connect any power conditioning that is required for the operation of the system.
 10. Comply with all applicable codes and standards.
 11. Authorize and accept responsibility for application of power to equipment and initiation of operation.
 12. Run all initial diagnostics and system testing necessary to provide a complete working system.
 13. Participate in system commissioning as required herein.
 14. Test equipment as specified.
 15. Provide as-built drawings, operating manuals, maintenance manuals, as specified.
 16. Provide training as specified.
 17. Remove and dispose of existing PARCS in accordance with applicable laws and codes.
 18. For any PARCS components or equipment being removed that are within scope of the PCI-DSS as defined in the most-current version of the standard, securely dispose of such components or equipment using techniques described in the standard (PCI-DSS 4.0.1, Section 9.4 and its subsections, or as revised).
 19. Provide warranty services as required.
 20. Provide Frequent Parking Program options and solutions.
 21. API for populate parking availability to the EVV website.
 22. Third Party integration to allow remote monitoring, intercom answering, gate control, and on-going remote management capabilities.
 23. Remove swing gate at the cashier exit lane to allow space to add a parking gate.
 24. Remove old LPR cameras at the middle exit island.
- I. Work not included:
1. Procurement and maintenance of Internet Service.
 - a. Provide minimum requirements.
- J. PARCS Future System Expansion:
1. Readily upgradable, scalable, and modular in design to accommodate additional equipment, parking facilities, features, and functionalities, including the following:
 - a. Additional PARCS field devices.
 - b. Additional parking facilities.
 - c. Interface with open API's for adding third-party applications.

- d. Firmware or software upgrades without the need to replace field devices.

1.4 REQUIRED MEETINGS

A. General:

1. Schedule and conduct meetings at the project job site once installation is imminent and throughout installation and testing. Virtual conference call meetings are acceptable prior to installation and as needed during installation.
2. Attendees: Inform participants, others involved, and individuals whose presence is required of the date and time of each meeting. Notify the Owner and Owner's Representative of scheduled meeting dates and times.
3. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
4. Minutes: Document and record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Owner's Representative, within one (1) business day of the meeting.

B. System Design Review (SDR) meeting: Conduct the initial SDR meeting within forty-five (45) days of contract award (after final contract negotiations) and follow up as needed. Purpose of SDR is to review the Contractor's System Design Documents, which include the following:

1. Programming Plan
2. Facility programming
 - a. Facility name and address
 - b. Lane names/nomenclature
 - c. Receipt header/footer
3. Rates programming
4. Validation programming
5. Permit management programming
6. Samples for selection

C. Pre-Installation Meeting: Conduct meeting at project site thirty (30) days in advance of time scheduled for work to proceed to review requirements and conditions that could interfere with successful PARCS implementation. All parties concerned with PARCS installation including electrical, communications, concrete/asphalt work, or others who are required to coordinate work should attend. Include the Owner or their representatives. At a minimum, cover:

1. Required preparatory work
2. Site safety and security requirements
3. Required work areas and laydown requirements
4. Review installation and implementation schedule
5. Review testing and acceptance procedures

D. Progress/Coordination Meetings:

1. Conduct at weekly intervals.
2. Meetings can be in person and/or via web conference.
3. Attendees: Owner, Owner's Representative, contractor, subcontractor, supplier and any entity concerned with current progress or involved in planning, coordination, or performance of future activities to be represented at these meetings.
4. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect process. Include topics for discussion as appropriate to the status of the Project.
5. Schedule Updating: Revise Contractor's construction schedule after each process meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.5 SUBMITTALS

A. Proposal Submittals

1. Company Information

a. Provide the following company information:

- 1) Name of company submitting proposal.
- 2) Brief company overview, including a description of the company culture, company structure, and a statement on whether the company is a private or public entity.
- 3) Years in business.
- 4) Number of employees.
- 5) Annual sales volume.
- 6) Names and titles of key personnel. Identify the primary point of contact and authorized individual to submit the proposal on behalf of your company.

b. Executive summary of your team's proposed PARCS solution for completing the Scope of Work, as described, including any unique PARCS features and functionalities that will enhance customer service and facilitate greater operational efficiencies.

- 1) Include a listing of the major components and their included features/options.
- 2) Provide typical layout for pre-capture LPR and describe use cases included with the system.

c. Provide detailed Frequent Parking program options and solutions, including the credential, payment, and ability to associate the vehicle plate number as the credential.

d. Provide a list of any subcontractors, their business address, and a brief summary of their role in the project.

e. Description of the Contractor's presence in the local area.

- 1) Physical location of the nearest service center for PARCS maintenance and repairs.
 - 2) Number of staff at this location.
2. Manufacturer's Qualifications: Verify the following, in writing:
- a. In continuous operations for previous five years.
 - b. Primary components installed and operating in three or more facilities of similar size and complexity. Provide the following for each installation.
 - 1) Name of project
 - 2) Location
 - 3) Contact name, telephone number and email address
 - 4) Date of installation
 - 5) Number of lanes
 - 6) Description of equipment and quantities
 - 7) Payments accepted
 - 8) Credential types used
 - 9) Photos of installed PARCS
3. Installer Qualifications: Verify the following, in writing:
- a. In continuous operations for the previous five years.
 - b. Proven ability to install equipment and provide appropriate and required service and support after installation.
 - 1) Approved in writing by PARCS manufacturer(s).
 - 2) State the number of years of experience installing for the manufacturer.
 - 3) Provide three comparable installations in parking facilities of similar size and complexity in the past three years.
 - 4) Provide the following for each installation.
 - a) Name of project
 - b) Location
 - c) Contact name, telephone number and email address
 - d) Date of installation
 - e) Number of lanes
 - f) Description of equipment and quantities
 - g) Payments accepted
 - h) Credential types used
 - i) Photos of installed PARCS
 - c. Service Center located within two-hours driving distance of site.
 - d. Organizational Chart - include names, title, and roles of individuals who will be assigned to this project including any subcontractors.
 - e. Include resumes for key personnel.

4. Price Proposal Form with total PARCS cost and unit cost of each component, along with add/alternate items and any recurring costs (on an annual basis) not already provided.
 - a. Provide pricing for Add Alternates.
 - b. List pricing for all transaction fees (Mobile POF, Reservations, Event Parking, etc.).
5. Exceptions and Substitutions:
 - a. Substitutions: Where functional performance features or quality of system vary materially from that specified, identify the substitution being proposed. Include catalog sheets, brochures, and/or technical specifications of the proposed substitution.
 - b. Exceptions: Provide an all-inclusive list of all exceptions taken to any part of these Specifications (including substitutions).
6. Project Approach – Submit the following:
 - a. Detail the plan for design, installation, implementation, training, and testing.
 - b. Description of the Contractor’s approach for post-installation customer service.
7. Project Schedule based on the anticipated project milestone dates outlined herein:
 - a. Milestone dates clearly identified
 - b. Task and subtask start and completion dates
 - c. Narrative description of phasing for each area of work including installation of field devices and performance of acceptance testing
 - d. Training schedule
8. Product Data Submittals:
 - a. List of each primary component of system and the manufacturer.
 - b. Cut sheets, including equipment dimensions, power and load requirements, communication requirements, operating temperature range, and buffering limits for all PARCS devices, and IP rating for all field devices, including:
 - 1) Barrier Gate
 - 2) Cashier Terminal and peripherals
 - 3) Communication Network Components
 - 4) Electronic Signage
 - 5) Entry Station (ENS)
 - 6) Exit Station (EXS)
 - 7) Intercom Components
 - 8) License Plate Recognition Camera
 - 9) Payment Card Reader
 - 10) Proximity Card Reader
 - 11) Software Application

9. List all manufacturer-recommended spare parts (name, part number, quantity, and unit price) to be maintained on site.
 - a. The Owner reserves the right to order additional parts and manage the PARCS spare parts inventory as required to maintain the system.
 - b. The proposed spare parts list is subject to the approval of the Owner, and the Owner reserves the right to modify the spare parts inventory throughout the term of the Contract.
 - c. Owner to provide a storage location of the spare parts.
 10. Detail cloud infrastructure solution and components, including the on-premises components and cloud-based solution. Provide a description of the offsite cloud-based components of the system and the methods by which the on-site equipment and software communicate with the offsite/cloud-based components. This must include a description of the communications and networking methods required to integrate the onsite and offsite components, who provides the associated communications network (Owner, Contractor, or a combination), and any costs associated with this communications network.
 11. Provide the underlying host used, e.g. Amazon Web Services, Microsoft Azure, Google Cloud Platform, etc.
 12. Provide a narrative and graphic description of the PCI P2PE solution including:
 - a. Any entities (gateways or service providers) that will stand between the PARCS and the intended processor.
 - b. Any one-time, recurring, or transaction-based costs associated with the use of those gateway or service providers.
 - c. Network diagrams and data flow charts describing the solution.
 13. PARCS standard reports including screenshots and sample reports.
 14. List of any equipment that the Contractor expects the Owner to provide.
 15. Warranty: Submit copy of warranty and explanation of any instances which may impact warranty coverage.
- B. Informational Submittals – After Project Award, prior to SDR meeting.
1. All submittal approvals, comments and rejections will be returned to the Contractor by the Owner's designated representative. Required Submittals must be resubmitted until accepted. Provide cover letter indicating the submittal purpose with area for comments and stamp by Owner's representative. Responses will be returned indicating one of the following with additional notes as needed:
 2. "No Exception Taken" – accepted submittal.
 3. "Rejected" – resubmittal required.
 - a. "Submittal Not Required No Review Performed" – no further action needed.
 - b. "Make Corrections Noted Resubmittal Not Required" - accepted but take corrective action.
 - c. "Revise and Resubmit" – resubmittal required.
 4. Detailed Project Schedule for implementation, training, and testing including:

- a. Project plan in Gantt chart format generated using currently supported Microsoft Project or similar program approved by Owner.
 - b. Milestone dates clearly identified, including staff training and testing
 - c. Task start and completion dates.
 - d. Phasing for installation of field devices, performance of acceptance testing, and activation for public use.
5. Shop Drawings
- a. Mounting details for PARCS equipment, per manufacturer recommendations.
 - b. Wiring diagrams detailing wiring requirements for power, signal, and control systems.
 - c. Locations for electrical and communications connection points and pathways including conduit runs, network access points, power panels and circuits, and server location.
 - d. Clearly indicate work that is not in contract.
6. Samples: submit samples of tickets, reports, and other items requiring selection as part of the SDR meeting.
7. Schematic diagram showing communication between head end equipment and field devices.
- C. Other Submittals – After Project Award, prior to SDR meeting. Submit in accordance with Division 1
1. Training Plan and Schedule (to be submitted as part of the SDR meeting):
 - a. Owner to tentatively approve or suggest changes to the training schedule.
 - b. Fourteen calendar days prior to each instruction session, submit an outline of the instruction material and approximate duration of the session. Allow ample time within each session for the Contractor to fully describe and demonstrate all aspects of the PARCS and allow Owner personnel to have hands-on experience with the PARCS.
 2. Testing Plan (to be submitted as part of the SDR meeting):
 - a. Plan for testing all system functionalities described herein as well as any other functionalities proposed by the Contractor.
 - b. Owner to return review comments to the Contractor. Contractor to incorporate review comments into the Test Plan and resubmit for verification that all comments have been incorporated. Approved document will be termed the Test Procedures Document.
 - c. Approval of finalized Test Procedures Document is required prior to commencement of any test.
 - d. Develop test procedures for:
 - 1) Lane Acceptance Test (LAT).
 - 2) Operational Demonstration Test (ODT).

3. Phasing Plan: Incorporate any Owner comments to the transition, training, and testing plans received during the SDR and submit a detailed Phasing Plan 30 days prior to installation to include:
 - a. Revised schedule in Gantt format with milestone dates clearly identified, task start and completion dates, lane-by-lane installation dates, training dates, and testing dates.
 - b. Description of phasing to decommission each lane, install new field devices, perform LAT, and activate for public use.
 - c. Description for parking operational impacts during the transition from the old PARCS to the new PARCS.
4. Submit the following manuals in electronic (PDF) format 30-days prior to commencement of testing:
 - a. PARCS user's manuals.
 - b. PARCS subsystem manuals.
 - c. Accessory and 3rd party equipment manuals.
 - d. PARCS maintenance procedures manual.
 - e. Training manuals.
5. Provide a Certificate of Destruction or Certificate of Sanitization or equivalent, for all removed components or equipment that are within scope of the PCI-DSS as defined in the most-current version of the PCI-DSS Standard (PCI-DSS 4.0, Section 9.4 and its subsections, or as revised).
6. Disaster Recovery Plan submitted 30 days prior to commencement of testing. This includes major failures causing more than one lane to go down, system failure of network, server, or internet outage. The plan shall provide step-by-step procedures for disaster recovery for each point of failure. These procedures provide detailed steps for staff to follow to resolve the issue, including:
 - a. Diagnostics – Initial steps to determine point of failure.
 - b. Action Steps – Actions staff may take to resolve failure.
 - c. Initiate Live Help – Directions for requesting live assistance via phone or on-line.
 - d. In-Person Support – Directions for requesting in-person support.
 - e. Should disaster occur immediately following or as a result of installing a patch or software update, the disaster recovery plan must include steps to return the system to the software version in effect prior to the patch or update being applied.
 - f. Points of failure include each component and sub-components, including servers, switches, and networks.
 - g. The disaster recovery plan shall include requirements for and location of spares as applicable.
7. Spare Parts
 - a. Deliver spare parts per the approved spare parts list, complete and ready to use, prior to commencement of testing.

- b. Maintain inventory of spare components at this level as components are used during warranty period.
- 8. Stock Items: Furnish the following supply of operating stock items prior to commencement of testing.
 - a. 200,000 Owner approved parking tickets (50,000 per entry device).
 - b. 30,000 Owner approved receipt tickets per exit device and cashier station.
 - c. Four (4) Straight barrier arms
 - d. 20 Break-away bolts or clips for the gate arm if so equipped
- 9. Equipment Keys
 - a. Provide two (2) sets of keys for each unit of equipment with locks.
 - b. All equipment and enclosures of the same type (ENS, EXS, Gates, etc.) have the same key and equipment of different types have different keys.
 - c. Keys are unique to this project; other equipment supplied by the same manufacturer in the region cannot use the key provided for this project site.
 - d. If a special tool is required to perform any function on the PARCS during the normal course of business and/or maintenance, provide three of these tools.

D. Closeout Submittals

- 1. Copies of all licenses, registrations, documentation, disks and other media (as may have been included with commercially available software packages) to be submitted prior to commencement of testing. In addition, ensure that all licenses, registrations and warranties have been transferred to Owner prior to final software turnover.
- 2. As-Built Documentation: Submit as-built documentation in electronic format of all systems and components installed as part of the PARCS. Include drawings of the actual installed conditions of all equipment and cabling components and configuration settings upon the completion of any acceptance test.
 - a. Update the most recent as-built documentation as further changes occur in the field or as a result of a patch or upgrade to an installed system throughout the warranty period.
 - b. Provide a list of all TCP/IP devices with each device's IP address, MAC address, and general description of the installation location.

1.6 QUALITY ASSURANCE

- A. Comply with all laws, ordinances, codes, rules, and regulations of public authorities. It is the responsibility of the Contractor to meet these and all other current technical, performance, and safety standards that are applicable to all components and to the entire system, even when not specifically referenced.
- B. Obtain all required permits.
- C. All equipment and parts to be newly manufactured and never installed in any other operational system other than for factory test purposes.

- D. UL standards where test standards have been established.
 - 1. Equipment and materials which are not covered by UL Standards may be considered provided equipment and material is listed, labeled, certified or otherwise determined to meet safety requirements of a nationally recognized testing laboratory.
 - 2. Equipment of a class for which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, will be considered if inspected or tested in accordance with national industrial standards, such as NEMA, or ANSI. Evidence of compliance shall include certified test reports and definitive product data.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. It is preferred that the equipment be delivered to the contractor's local shop, hot-prepped, and not brought to the job site until ready on the day of installation.
- B. The Contractor must receive all equipment on-site. The Owner will not receive, unload, or participate in the delivery of equipment to the site.
- C. Contractor is responsible for replacing any items damaged during shipping, by expedited means, at no additional cost to the Owner if required to maintain the installation schedule.
- D. Coordinate designated storage/staging area(s) for PARCS equipment that has not been installed prior to shipping to the site to ensure the area is sufficient and available.
- E. It is the Contractor's responsibility to protect the equipment from theft and damage until final acceptance. This may include installation of fencing, locks, and any other security provision deemed necessary by Contractor. Should the stored equipment be stolen or damaged prior to final acceptance, replace the equipment at no additional cost to the Owner.
- F. Deliver equipment to site in manufacturer's original containers to prevent damage and marked for easy identification.

1.8 PROJECT/SITE CONDITIONS

- A. Environmental Conditions: Entire system and components warrantied to be unaffected by weather conditions typical to the area as well as the conditions listed below:
 - 1. Ambient Temperatures: -20°F to 125°F (with addition of solar loading)
 - 2. Humidity: 0% to 99%
 - 3. Condensation: Performance of outdoor devices to be unaffected by naturally occurring condensation within device enclosures.
 - 4. Moisture: Blowing rain/sleet/snow with 80 mph gusts, power-washing of nearby surfaces
 - 5. Dust: Accumulating and blowing dust and fine sand

- B. Equipment housings, conduits, and junction boxes exposed to weather (any location not in a conditioned environment) shall meet or exceed IP65 standards. Components that do not meet IP65 standards or better may be considered if implemented with supplemental environmental controls such as air conditioners and dehumidifiers.
- C. The entire system and components are warranted to be unaffected by non-direct lightning strikes or similar types of power interference.
 - 1. Provide lightning protection through surge arrestors or earthen ground rods or a combination thereof on all conductive interconnections.
 - 2. Determine, based upon the PARCS manufacturer's system requirements, the appropriate lightning protection method to use for the location where the equipment is installed.
 - 3. Provide equipment that is UL-approved for use as part of a labeled lightning protection system and marked in accordance with UL procedures.
- D. Any new islands or pads containing PARCS equipment must not be poured until stub-ups and any necessary anchor bolts are properly placed and verified by the Contractor. Any conflicts with installation at a particular location must be resolved prior to pouring lanes and pads for PARCS equipment.

1.9 WARRANTY, SERVICE, AND SUPPORT

- A. The warranty period for PARCS equipment, hardware, and software begins upon notification from the Owner of Final System Acceptance.
- B. Warranty all parts, materials, and workmanship following Final System Acceptance for a period of 12 months (1 year). Inclusive of ALL costs (parts, labor, maintenance, software support, warranty repairs, Contractor travel time, Contractor expenses, etc.) incurred during the warranty period to be provided without additional cost to the Owner.
- C. Costs (time and material) for repair or parts replacement, components, etc., damaged or rendered unserviceable due to apparent and provable misuse, abuse, vandalism or negligence by Owner or the using public are excluded as a warranty requirement. Also excluded from the warranty are damages due to Acts of God. Contractor costs related to these non-warranty repairs can be invoiced to the Owner on a time-and-materials basis at the same rates/costs as included in the price proposal.
- D. Maintain all systems that are operating prior to starting the warranty period. Maintenance services to be defined within the Manufacturer's recommended maintenance procedures manual, submitted as accepted by the Owner.
- E. Repair Service:
 - 1. Conditions requiring repair services by the Contractor are those in which a lane, PARCS device, or group of devices becomes unusable due to malfunction, failure, or damage and cannot be remedied by Owner personnel.
 - 2. Provide an online customer support web portal for notification and tracking of repair requests.

- a. Acknowledge receipt of the repair entry into the portal by auto-email to the owner within one (1) minute of notification.
 - b. Begin remote repair diagnostics and/or service within sixty (60) minutes of notification entered during normal business hours, Monday-Friday. If a request is made after hours, the remote repair is to begin by 10:00 a.m. CST, the following workday.
 - c. If remote repair is unsuccessful and on-site repair is needed, up to 24 hours is permitted to begin on-site repairs.
 - d. Notify the owner via email or phone call with status updates of the above service support expectations.
3. Emergency repair services will be provided 24/7/365 at the Owner's request. Services performed outside of business hours will be charged at the then-current hourly rates provided by the PARCS Contractor.
 4. All situations must be resolved within 24 hours of notification. If replacement parts are not available in inventory, a temporary solution is acceptable.
 5. Factors beyond the contractor's control, such as unexpected parts delays, accidents, severe weather, and unusual traffic, require thorough documentation to be submitted to the Owner the next business day. After reviewing these factors, the owner may grant relief for the service hour requirement.

F. Software Support:

1. Provide on-site and remote software support for PARCS and all 3rd party software applications.
2. Provide 24/7 telephone-based software support to the Owner.
3. Make the normal PARCS software improvement releases (updates) available to the Owner at no additional cost when they become available.
4. Provide all PARCS and operating system software patches and updates free of charge during the warranty period; however, the Owner reserves the option to implement or not implement these updates. Provide documentation seven calendar days prior to all PARCS and operating system software modifications, patches, updates, and upgrades that describe:
 - a. Patch/update release designation
 - b. Proposed date and time of implementation
 - c. Detailed description of what the patch/update accomplishes
 - d. Full disaster recovery procedures that return the system to its pre-patch/update condition
5. Coordinate the testing and implementation of all patches and updates with the Owner.
6. PARCS Database and PARCS application software maintenance to be performed remotely or on-site as approved by the Owner.
7. Any software or hardware must not currently have an End of Life (EOL) date with seven (7) years from installation date.
8. Support upgrades to the PARCS application based on operating system patch and upgrade requirements. (For example, if the PARCS runs on a Microsoft operating system, patch the PARCS software according to the Microsoft patch and upgrade schedule without breaking any applications. If Microsoft decommissions an

operating system, the Contractor must be capable of releasing code compatible with the next operating system upgrade prior to Microsoft ending support for the current operating system.)

9. Provide corrective patches and upgrades in the event of security vulnerabilities or system availability issues being discovered.
10. Provide written documentation of each update provided, including new features introduced, issues resolved, and known issues.

G. Preventive Maintenance Service during the Warranty Period:

1. Provide preventive maintenance services for all systems throughout the warranty period. Preventive maintenance procedures and frequencies to be defined within the Manufacturer's recommended maintenance procedures manual submitted with the Proposal as modified and accepted by the Owner.
2. Preventive maintenance services include but are not limited to inspection, testing, necessary adjustment, alignments, calibration, parts cleaning, battery replacement, communication system maintenance, server administration and database administration of the PARCS provided by the Contractor.
3. Perform all preventive maintenance at non-peak periods during regular business hours.

H. Support Portal & Documentation

1. Maintain a secure, web-based online portal for service requests that can be accessed over the Internet by credentialed users.
2. Provide the Owner with credentials to access the portal with the following access rights:
 - a. Create new service requests.
 - b. View the status of existing service requests created by the Owner directly through the portal, or created indirectly by phone, email or other means.
 - c. Report on basic metrics, including:
 - 1) Issues reported over time.
 - 2) Issues resolved over time.
 - 3) Current open issues.
 - 4) Average time to resolve.
3. Create a record of all service requests within the portal, whether they are submitted by the Owner directly in the portal, or through a phone call, email, or other means of submission.
4. Retain service request and resolution history for at least 5 years in the portal for immediate access by the Owner.

1.10 ADD ALTERNATES

A. Maintenance and Service Contract:

1. A separate contract, which is awarded for Maintenance and Service after the expiration of the warranty.
 2. Provide annual pricing for seven years.
 3. Provide pricing for the above contract, which is valid on the year of the contract anniversary. Should the Owner decide to procure said contract extension, payment shall be due thirty (30) days prior to each contract anniversary.
- B. Parts Warranty Contract:
1. A separate contract, which is awarded to extend the manufacturer's parts warranty after the expiration of the warranty.
 2. Provide annual pricing for seven years.
 3. Provide pricing for the above contract, which is valid on the year of the contract anniversary. Should the Owner decide to procure said contract extension, payment shall be due thirty (30) days prior to each contract anniversary.
- C. Add LED lights to gate arms.
- D. Substitute fixed DMS signs at the exit plaza with full matrix VMS signs with required software to allow the display of variable messages and graphics.
- E. Mobile Cashier Unit for use by staff in the lane to process transactions.
- F. Handheld LPR Inventory System for tracking parked vehicles by plate.

PART 2 - PRODUCTS

2.1 PAYMENT CARDS

- A. All aspects of the PARCS, including but not limited to, hardware, software, configuration settings, processes (both manual and automated), policies, procedures, reports, network architecture, data storage schemes and other products for the PARCS must be compliant with all applicable Payment Card Industry (PCI) Security Standards Council standards, Information Supplements and Guidelines (www.pcisecuritystandards.org) published or in force at the time of installation, so that the Owner can certify the system as PCI Compliant. As part of demonstrating compliance with the PCI security standards, the requirement or use of a compensating control (as defined by the PCI Security Standards Council) shall only be permitted with written approval of the Owner.
- B. Coordinate with Owner on clearinghouse and/or gateways to be used for authorization.
- C. Provide authorization for the following brands/types of payment cards:
1. Visa
 2. MasterCard
 3. American Express
 4. Discover
 5. Bank-Issued Debit Cards with any of the above card brand affiliations, accepted as a credit card.

- D. Provide a PCI-P2PE validated system for handling card-present transactions.
- E. Provide EMV Chip and Tap to Pay Contactless reading of payment cards for card-present transactions.
- F. Support Apple Pay, Google Pay, and Samsung Pay mobile device-based payments.
- G. Support PCI-compliant storage of a minimum of 1,000 transactions in an offline state.
- H. Provide a system using tokenization by a currently validated PCI Level 1 Service Provider for handling card-not-present transactions, if such transactions are a capability of the system.
- I. Provide, test and install quarterly security updates for system components in the cardholder data environment, such as operating system, application software, firmware, etc. related to payment cards during Warranty Period and any optional Extended Service Coverage selected by Owner.
- J. Payment card processing time of no greater than ten (10) seconds.
- K. Support Payment Card as an Access Credential
 - 1. Ability to activate/deactivate via server.
 - 2. Perform all functions without compromising PCI-DSS compliance.
 - 3. Provide a PCI compliant method to search for entry date/time for lost or unreadable payment cards used to enter the facility. The payment card in/out functionality shall provide a PCI compliant method to find and reset a payment card status in the event of passback sequencing.
 - 4. Provide the operational sequences as specified elsewhere in this document.

2.2 SOFTWARE

- A. Provide all software and software licensing required by the system to achieve total system performance.
- B. Provide open APIs for dissemination to third-party websites and applications. Such API's must be open, documented, and non-proprietary using industry-standard approaches such as REST, JSON, or XML,. Data access via the API is to be available to the Owner at no additional charge.
- C. Provide the latest available software version at the time of system implementation for all third-party software, including operating systems and database software.
- D. Make any necessary modifications, and provide documentation of such modifications, to existing third-party software programs that the Contractor adopts for the system. Should the Contractor and the software manufacturer be separate entities, the software modifications will not preclude the purchase of a standard maintenance and service contract from the manufacturer.

- E. Provide any necessary perpetual licenses and/or authorization for all PARCS-related software, including, but not limited to, operating systems, application software, development language, peripheral software, and PARCS hardware diagnostic software. If available, provide a site license to the Owner, which means the usage of the license is unrestricted, regardless of the physical locations where the software may be used.
- F. Provide cloud-based Software as a Service (SaaS). Document in the Proposal SaaS licensing terms and conditions, and the options and costs for a multi-year license for terms ranging from 1 (one) to 10 (ten) years in length. Describe what occurs in terms of system and feature functionality if Owner chooses not to renew SaaS-based licensing.
- G. Provide licenses that cover future updates as required by these specifications.
- H. For any systems installed on-premises, deliver product keys and software license documentation with the Owner listed prior to commencing system testing.
- I. Database Management System (not applicable to multi-tenant cloud solutions)
 - 1. Use a commercial off-the-shelf ODBC-compliant relational database software program to provide complete operation of the PARCS.
 - 2. Provide the database schema to the Owner.
 - 3. Provide the Owner with database access credentials.
- J. Operating System Platform (not applicable to multi-tenant cloud solutions)
 - 1. Use a commercial off-the-shelf operating system to provide complete operation of the PARCS.
 - 2. Operating system software consisting of software to support system setup, system operation, routine hard drive backups, diagnostics, and other maintenance routines.
 - 3. Upgrade the PARCS application to operate on the most current operating system upon commercial release of a new operating system version. Upon completion of successful Contractor testing, recommend implementation of the patch. Implementation subject to the Owner's approval.
- K. PARCS Application Software:
 - 1. Install and configure all application software and firmware required by the PARCS with all software licenses registered to the Owner.
 - 2. Provides complete operation of the PARCS and includes the database management system.
 - 3. Allows for future upgrade and expansion of the PARCS.
 - 4. The browser-based and web-browser management UI is enabled so that PARCS is accessible from any Owner workstation connected to their network.
 - 5. Allow multiple groups and roles that govern individual access to the system. The assignment of a group/role will control access to the various modules of the PARCS, and if the access is update or view only.
 - 6. Access rights to the system for the various groups and roles will be defined during implementation.
 - 7. PARCS application software to provide the following:

- a. Manage, display, and report all PARCS-related activity as outlined in this functional specification.
- b. Provide a web-based GUI to access all functions.
- c. Automatic detection and reporting of fault conditions and equipment failures. Categorize fault condition by severity and display alarm notification on the system GUI as well as notify designated Owner personnel via email and/or text message for any individual fault condition, category of fault, or Owner-selected group of faults.
- d. Reporting as outlined in the Reporting section.
- e. Real-time monitoring of all PARCS field devices
- f. Central access and control of field devices for users with the appropriate authorization to issue remote commands from system workstations to the field devices, such as raising and lowering the BG; rebooting field devices; putting field devices in or out of service; remote transaction processing, etc.
- g. Audit logging for the use of central controls within the PARCS database by user ID, time, device controlled, and action taken. Audit logging to include all creation, deletion and modification of the following items:
 - 1) Rates and rate tables
 - 2) Validations
 - 3) Contract parker configuration
 - 4) User access to system
 - 5) Field device configuration
 - 6) Field device actions, such as manual gate raise
 - 7) Parking facility definition within the system
 - 8) Parking facility occupancy and capacity
 - 9) End-user messaging
 - 10) Credit card acceptance configuration
 - 11) Custom reports
 - 12) Audit log
- h. Configurable parking rates, grace periods, and time increment changes from system workstations. Configuration access to be restricted to Owner designated users with proper authorization.
- i. Remote communication with all devices in real-time for a general broadcast of information (e.g., rate changes or time increment changes) or software update, and an ability to communicate with a single device to upload information or software. It shall be possible to remotely shut down a field device's operating system, upload updates, and remotely restart the field device.
- j. Correct calculation and processing of parking fees during a transition:
 - 1) from daylight savings time to standard time, and vice versa
 - 2) at the beginning of March during leap years (e.g., when there is a February 29th).
 - 3) from one rate to another (e.g., rate has an effective date so that Customers are charged a parking fee based upon the parking fee that was current at the entry date and time, not the exit date and time, allow the new rate to be either less than or greater than the new rate).

- k. Programmable rate structure to establish variable rates based upon the time of day, day of week, and special events.
- l. Programmable rate structure to establish daily/weekly/monthly maximum fees, grace times, and complimentary periods.
- m. Programmable rate structure to allow configuration of tax rates applied to parking fees, as either a percentage or a flat dollar value.
- n. Create system generated alarms – generation of alarms for user selectable event type. Alarm Hierarchy shall be completely configurable so the Owner can adjust priority of alarms, audible tones, where the alarms are sent, etc. Initial Alarm Hierarchy shall be coordinated with the Owner during implementation.
- o. Alarms to reported and displayed on GUI and automatically sent via text and email to users based on user preferences.
- p. Ability to export all query results and reports to multiple formats including Portable Document Format (PDF), comma-separated-value, and Microsoft Excel©.
- q. Provide command center functionality with the following attributes:
 - 1) Accessible through a web browser to any user with connectivity and credentials.
 - 2) Ability to see status of all field devices, including error conditions and alarms.
 - 3) Ability to respond to and disable alarms.
 - 4) Ability to see an overall view of devices, as well as individual device details.
 - 5) Ability to answer intercom calls and automatically view the video feed from the pinhole camera (if equipped), using audio input and output facilities of the command center users' device.
 - 6) Ability to view real-time output of the pinhole camera (if equipped).
 - 7) Ability to modify transaction processing by applying validations, generating lost tickets, and applying special rates.
 - 8) Ability to manually open and close gates.
 - 9) Ability to close and open lanes.
 - 10) Ability to manipulate associated TC, DMS, and VMC signage.

L. Reservation System Integration Capable

- 1. Integrate with third-party parking reservations (pre-bookings) to create and process reservations for end-users.
- 2. Reservation credentials to include both Quick Response (QR) Code (printed or displayed on a mobile device) and License Plate Number (LPN)
- 3. Fully integrate the third-party reservation system with the Parking Access Revenue Control System (PARCS) to enable access to the gated facility for reservation holders.
- 4. Provide reporting of reservations and payment activity.
- 5. Calculate fees and accept payment for the overstay of reserved time at the owner-selectable rate schedule.

M. Mobile Payment with LPR

1. The end-user will enter the parking facility by taking a ticket at the entry lane.
2. Upon returning to their vehicle and preparing to exit the facility, they can scan the PARCS ticket with their mobile phone and make payment via a responsive mobile website provided by the contractor, which includes owner-supplied branding elements.
3. Optionally, provide the owner with QR-code signage that links to the payment page and accepts LPN as input to start the payment process.
4. Payment information and confirmation are uploaded to the PARCS software within ten (10) seconds.
5. Receipts delivered by email or Short Message Service based on end-user preference.
6. Upon presenting the ticket at the exit, the PARCS will know the transaction has been paid and will vend the gate to open.
7. Alternatively, the user's License Plate Number (LPN) which was associated with the ticket transaction at entry will be recognized as paid and the PARCS will know the transaction has been paid and will vend the gate to open.
8. Programmable grace period from time of payment to time of exit. If the user overstays the grace period, the PARCS will request payment via payment card at exit.
9. Mobile applications are not required to use mobile payment.

N. Reporting

1. Available online and on demand for Owner personnel who have proper password access.
2. Viewable, printable, and exportable from the GUI.
3. Data compiled in an ODBC-compliant database or via a data export where the data is not directly accessible (such as with multi-tenant cloud solutions).
4. Provide the Contractor's PARCS standard reports, including report descriptions, selectable data fields, and report layouts for all standard reports.
5. Coordinate with the Owner as required during the system design to address specific reporting needs of the Owner. At a minimum, reports provided shall include:
 - a. Detailed Revenue and Non-Revenue Transactions Reports – Reports of transactions processed through the PARCS by user selectable parameters including user type (ticketed customer, validation, pre-paid, parking integrator, Access Credential, etc.), date/time range, and by PARCS device.
 - b. Detailed and Summary Revenue Reports for daily, weekly, and monthly PARCS activity.
 - c. Payment Card Reports – Reports of payment card transactions by user selectable parameters including date/time range, payment card type, transactions type (valid online transaction, declined transactions, offline transactions, etc.)
 - d. Outstanding Ticket Reports – Report of parking tickets that have been issued but have not been processed or exited from the system.
 - e. Validation Report – Report of validations issued, amount of validations, and when the validation was used, by user selectable parameters.
 - f. System Event Reports – Reports for system generated events by user selectable parameters including PARCS device and date/time range.

- g. Occupancy Reports.
- h. FPP reporting, including members, parking activity, and credit card expiration dates. Data to be reported based on multiple parameters.
- i. ACS reports:
 - 1) Activity Usage Reports – Provide a chronological list of ACS usage, including date, time, credential, and location of entries and exits; capable of being sorted by any field.
 - 2) Count Reports – Monitor and report counts of ACS vehicles present on an hourly basis by group, access level.
 - 3) Percentage of Occupancy – For selectable times during 24-hour period for all categories of ACS parkers.
 - 4) In/Out Status Report: Shows status of all ACS cards at any given time, sortable by name/card #/status.
 - 5) Active User Report – A listing of all active users that have access to the facility.
 - 6) Activity Exceptions Report – A field-sortable listing of all activity exceptions to include at a minimum hard-passback, soft-passback, shared account, debit card, hotel quest pass and nesting violations.
 - 7) User Changes Report – Provide report of changes to user accounts to include at a minimum debit card rate changes and status changes (e.g. card placed in neutral with no charges applied at exit).
- j. Provide up to six (6) custom reports at no additional charge.

2.3 ACCESS CONTROL SYSTEM (ACS)

- A. Provide an on-line, computer-based access control system for those authorized by Owner to have access to parking facility without being processed through ticket system, for example; a “monthly parker”.
- B. Airport has existing airport staff parking access cards and separate FPP cards.
- C. Distributive, networked or centralized processing may be employed, so long as required multi-lane control features such as anti-passback, occupancy and activity tracking are maintained.
 - 1. Authorized vehicles requiring free and fast ingress and egress to parking facilities.
 - 2. Monthly parkers who have a contractual agreement and/or will prepay or prearrange billing for parking on a monthly basis.
 - 3. Employees with parking access will be able to use their license plate for access using the LPR cameras or their employee badge to access parking using proximity readers.
 - 4. Frequent parkers, who prepay or prearrange billing:
 - a. System to allow users to manage their own account with a credit card on file.
 - b. Allow license plate as the primary credential with QR code as a backup for access.

- c. Frequent Parker Program users will use their license plate as the primary credential with a QR code as a backup credential. Provide options for rewards program beyond the current program, to include potential incentives and tracking of use.
 - d. Automatic credit card billing after each use.
- D. Individually recognize and process up to ten thousand (10,000) ACS users at all reader locations.
- E. Have at least sixteen (16) preprogrammed access levels capable of being changed without reprogramming of ACS.
- F. Provide anti-passback control. With this feature, users enter and exit in proper sequence (i.e., entry, exit, entry, exit, etc.).
 - 1. Selectable option to allow either "hard" (out of sequence user is rejected and an alarm is generated) or "soft" mode (out of sequence user is allowed access but reported.)
 - 2. In both hard and soft modes, each out-of-sequence event is reported as an exception transaction in the daily ACS access log.
 - 3. Password-protected "resynchronization" of all users to an undetermined passback status before return to anti-passback control.
- G. Link users to each other to allow one entity to be identified with and/or pay for a group of users. Provide up to one hundred (100) such user groups.
- H. Ability to group ACS credentials and limit access to a preset maximum number of vehicles in a facility at any given time, and/or allow and track overages to be invoiced separately.
- I. A facility for one account to be associated with one or many credentials, such that a single account may be granted or denied access using any of the credentials in any sequence. For instance, an account with a prox card and several license plates.
- J. Nesting feature:
 - 1. Ability to require parkers that are assigned to park in a specific level or area (nest area) to use an ACS credential to enter and exit the nested area in order to exit the facility.
 - 2. Required sequence: In facility, in nest, out of nest, out of facility.
- K. Programming requirements:
 - 1. Issue and reprogram ID devices.
 - 2. Allow authorized supervisor to create, store, send, and receive user programming from ACS readers. Password-protected access to programming, with multiple levels of access, to any and all information regarding specific blocks and/or suites of cards.

- a. Provide at least twenty (20) programmable record fields for each person issued an ACS credential and at least twelve (12) programmable record fields for each user's vehicle(s).
- b. Allow specific parker record files to be retrieved, displayed, and/or printed based on selectable criteria, such as current ACS status, access group, access level, and/or ID numbers (except for data that is password-protected).
- c. Allow searching, sorting, and printing of the database by any field for both routine and special forms, such as invoices or mass mailings.
- d. Consolidate and retain data to allow for report generation (see "reports"). Capable of reporting the collection of fees from parkers on a monthly prepayment, decrementing, end-of-month billing, and/or credit card basis.

2.4 POWER

- A. Examine and accept existing power to the field locations of powered equipment. Should the proposed system require additional power infrastructure, the Contractor must identify location(s) in their proposal and provide cost for installing the required power infrastructure.
- B. Furnish and install all additional power conduits, pull cords, junction boxes, and cabling necessary to support the PARCS, per the PARCS manufacturer's requirements.
- C. Provide and install any power grounding and power conditioning that is required for the operation of the system.
- D. The Contractor is responsible for furnishing, installing, terminating and testing any cable necessary to provide power from the local power source to the field devices.

2.5 COMMUNICATIONS

- A. Unless specified elsewhere, the Owner will provide and install all required communication cabling from the IDFs to demarcation points. All such cabling will be either CAT6 or fiber optic, in accordance with applicable IEEE/ANSI industry standards and distances to be spanned.
- B. Provide and install all additional communication equipment, conduits, pull cords, junction boxes, and cabling necessary to provide the specified system functionality.
- C. Provide and install all additional communication switches, communication enclosures, and cabling at each lane to provide the specified system functionality.
- D. Configure all field component communication such that no single point of failure of a device shall cause an operational failure of surrounding devices.
- E. Every PARCS device and system component must operate independently in the event of a network communications failure or interruption. Each device requires buffering of data for a minimum of 2,000 transactions. System will continue to operate in the off-line mode and store the buffered data until the data connection is restored. Upon restoration

of the data connection, all stored data will automatically be uploaded to the server or cloud. In the event some transactions are not successfully uploaded, generate an alarm, and continue to store the transactions locally until successful uploading has occurred.

2.6 EQUIPMENT AND SUBSYSTEMS

- A. Provide newly manufactured equipment and associated materials for the PARCS.
- B. All equipment performing a like function and of the same part number are to be fully interchangeable without the requirement for physical modifications.
- C. Computer System, Application, and Data Servers:
 - 1. The PARCS servers are to be hosted cloud-based systems and reside outside the Owner's network.
 - 2. Contractor is to identify, document, and gain Owner's approval on a mechanism to ensure that the Owner has secure, complete, unrestricted access to the servers, with no restrictions on Owner's capability to establish or change passwords or access level.
 - 3. Review drawings for locations and Coordinate space needs with Owner as necessary.
 - 4. Provide and install lockable server rack(s) for all switches, ISP Router, and Firewall, including UPS protection to connect field devices to the cloud-server software.
 - a. Rack must be off the ground and protected from dust and debris.
 - b. Ensure UPS protection and battery back-up for racked equipment for a minimum of thirty (30) minutes.
 - 5. All equipment to have sufficient processing power, memory capacity, and communication bandwidth to meet functional performance demands of PARCS software without loss of responsiveness to user input or slowing of any end node device or workstation.
 - 6. Provide centralized management of the PARCS.
 - 7. The Owner reserves the right to procure and provide any commercial off-the-shelf IT or networking components.
 - 8. PARCS cloud-based servers to contain all PARCS application and database software that is associated with PARCS operation, data storage, and reports.
 - 9. Install and configure all necessary software on the servers with all required system software licenses registered to the Owner.
 - 10. Configure such that the following features and functionalities are attainable:
 - a. Maintain 24 months of on-line data of all PARCS data. All data shall be readily accessible without any delay in processing.
 - b. Provide fault tolerance such that no infrastructure-level single point of failure causes disruption to the PARCS or corruption of PARCS data.
 - c. Long Term Storage Media – Ability to archive all summary data for up to five years on owner-provided external media with simple retrieval capability.

11. All PARCS data is considered to be the sole intellectual property of the Owner. Usage of this data by Contractor or by the PARCS vendor for any purpose other than to support, test or repair Owner's system requires prior written authorization from Owner. If such data is stored offsite or in the cloud under a term-based SaaS mechanism and Owner decides not to renew the SaaS agreement, Contractor is to send all PARCS data gathered over the lifetime of the system (i.e. from system activation date through the SaaS agreement termination date) to the Owner in an Excel format and is to subsequently delete such data from any offsite servers or cloud instances.

D. Entry Station (ENS)

1. Provide and install ENS) at the public entry lanes, as indicated on the Drawings, equipped with the following components and capabilities:
 - a. Access door with an appropriate tamper-resistant locking system.
 - b. Push button ticket dispenser.
 - c. Tied to the LPR camera system to allow high confidence plate reads to enter via their plate.
 - d. Proximity Card Reader, two (2) if needed, integrated into the face of the ENS, capable of reading Owner HID proximity cards and FPP cards.
 - e. Quick-response code reader integrated into the face of the ENS capable of reading 1D and 2D barcodes, including pre-printed coupons/validations and electronic barcodes displayed on mobile devices.
 - f. Push-button video-enabled intercom integrated into the face of the ENS.
 - g. ENS issues one (1) time and date-stamped barcode or parking ticket for each ticketed entry transaction.
 - h. Uniquely encoded tickets.
 - i. Unique ENS identifier encoded and printed on each ticket.
 - j. Machine-readable ticket encoding that is compatible with all other PARCS components.
 - k. Minimum ticket stock capacity of 5,000 tickets.
 - l. Color display with minimum 5" display.
 - m. Provide selectable directional language, with a minimum of English and Spanish.
 - n. Use visual instructions for customers to understand the sequence of events to complete a transaction.
 - o. Stand-alone functionality that allows the ENS to operate independently when there is a temporary network communication failure, regardless of where the communication interruption occurs. Alarm for ENS offline condition to be displayed on the PARCS GUI.
 - p. Ticket stock low alarm generated on the PARCS GUI.
 - q. Ticket stock out alarm generated on the PARCS GUI.
2. All alarms generated on the PARCS GUI to meet requirements outlined in Section 2.2, K, 7 (Software).

E. Exit Station (EXS)

1. Provide and install EXS at the public exit lanes, as indicated on the Drawings, equipped with the following components and capabilities:
 - a. Access door with an appropriate tamper-resistant locking system.
 - b. Payment card capabilities as defined in the Payment Card section.
 - c. Ticket scanner for ticketed transactions.
 - d. LPR integration to scan and match the exit plate with the exit plate for high confidence plates on entry without a physical ticket.
 - e. Proximity card reader, two (2) if needed, integrated into the face of the ENS, capable of reading Owner HID proximity cards and FPP cards.
 - f. QR Scanner integrated into the face of the EXS capable of reading 1D and 2D barcodes, including reading pre-printed coupons/validations and electronic barcodes displayed on mobile devices.
 - g. Push button video-enabled intercom integrated into the face of the EXS.
 - h. Unique EXS identifier encoded and printed on each ticket after processing.
 - i. Reads and verifies pre-paid tickets.
 - j. Reads and verifies validated tickets.
 - k. Color display with minimum 5" display.
 - l. Provide selectable directional language, for a minimum of English and Spanish.
 - m. Use visual instructions for customers to understand the sequence of events to complete a transaction.
 - n. Stand-alone functionality that allows the EXS to operate independently when there is a temporary network communication failure, regardless of where the communication interruption occurs. Alarm for EXS offline condition to be displayed on the PARCS GUI.
 - o. A receipt printer that is capable of producing receipts for all transactions.
 - p. Upon successful payment, print a receipt that includes:
 - 1) Owner-approved header and footer.
 - 2) Transaction number.
 - 3) Lane or equipment number.
 - 4) Entry date/time and Exit date/time.
 - 5) Parking fee.
 - 6) Amount of tax for the parking fee (if applicable).
 - 7) Other fees as applicable.
 - 8) Total fee paid.
 - 9) Payment type.
 - 10) Payment card type.
 - 11) Last four digits of payment card number.
 - q. User configurable for receipts to be auto-issued or by request.
 - 1) The "Press for receipt" option is available before and after payment until the presence loop is cleared and the lane resets for the next transaction.
 - r. Receipts to be FACTA-compliant.
 - s. Receipt stock low alarm generated on the PARCS GUI.
 - t. Receipt stock out alarm generated on the PARCS GUI.

- u. Interfaces with barrier gates and vehicle detectors in the respective lanes.
2. Electronic journal record of transactional information for each transaction processed at the device. Journal record to be printable from any system workstation. Transactional information on the electronic journal includes:
- a. Date and time of transaction
 - b. PARCS device number
 - c. Sequential transaction number
 - d. Ticket number
 - e. Entry date/time and exit date/time
 - f. Transaction fee
 - g. Tax amount
 - h. Total fee
 - i. Payment method
 - j. For payment card transactions, include:
 - 1) Payment card type
 - 2) Last 4 digits of the payment card
 - 3) Payment card authorization code

F. Cashier Terminal (CT)

- 1. Cashier terminal located in building at exit plaza. (this is not in the booth located in the center lane, which will not be used for cashiering). The cashier lane will be dual-use, such that they can operate in a cashiered mode through the CT when a cashier is present or in an unmanned mode using an EXS located in front of the building.
- 2. Provide CT with the following components and capabilities:
 - a. Cashier computer.
 - b. Ticket reader/validator that accepts ISO standard readable cards, barcode parking tickets, and validations.
 - c. Payment card processing as specified in the Payment Card section.
 - d. Touch screen cashier monitor.
 - e. Capability to process all acceptable payment methods.
 - f. Receipt printer that is capable of producing receipts for all transactions. Duplicate receipt function shall be a user selectable feature that can be disabled if desired.
 - 1) Upon successful payment, print a receipt that includes:
 - a) Owner approved header.
 - b) Attendant name or number.
 - c) Transaction number.
 - d) Lane or machine number.
 - e) Discounts or surcharges.
 - f) Entry date/time and Exit date/time.
 - g) Duration of stay.
 - h) Parking fee.

- i) Amount of tax for the parking fee.
 - j) Total fee paid.
 - k) Payment type – credit card.
 - l) Payment card type, if paying with payment card.
 - m) Last 4 digits of payment card number.
- 2) User configurable for receipts to be auto issue or by request.
 - 3) Receipts to be FACTA-compliant.
- g. Customer fee display that are easy to read, LED type.
 - h. Stand-alone functionality that allows the CT to operate independently when there is a temporary network communication failure, regardless of where the communication interruption occurs. Alarm for the CT offline condition to be displayed on the PARCS GUI.
 - i. Provide offline transaction storage capacity for all transactional information. Automatically close the cashiered lane if the transaction threshold is reached and remain closed until reestablishment of communications. CT will automatically upload all transaction information to the PARCS servers once communications are restored.
 - j. Journal record of transactional information for each transaction processed at the device. Journal record to be printable from any system workstation. Transactional information on the journal tape includes:
 - 1) Date and time of transaction.
 - 2) PARCS device number.
 - 3) Sequential transaction number.
 - 4) Ticket number.
 - 5) Entry date/time and exit date/time.
 - 6) Parking fee.
 - 7) Tax amount.
 - 8) Total Fee.
 - 9) Payment card type.
 - 10) Last 4 digits of the payment card.
 - 11) Payment card authorization code.

G. Intercom Subsystem

- 1. Provide and install a video-enabled intercom system for two-way communication and one-way video between the PARCS field devices at all entry and exit lanes to any location or phone system designated by the Owner.
- 2. Fully digital, microprocessor-based, modular design using VoIP (Voice over Internet Protocol).
- 3. Programming server for all intercom features performed through a networked workstation or from a staff intercom station.
- 4. Programmed configuration of intercom stations and system features stored in non-volatile memory.
- 5. Ability to remote vend the gate from the intercom station allowing logging of reason and tracking of person vending the gate.
- 6. System includes all software and hardware required for the programming system, including:

- a. Individually programmable volume control for each intercom station.
 - b. Substations programmed to call staff intercom station.
 - c. Call forwarding feature for individual stations or all stations to re-direct calls to another designated staff intercom station or designated phone number, including mobile phone.
7. Staff intercom station desktop interface:
- a. Provide full-duplex hands-free conversation with any other selected individual station or combination of stations in the system.
 - b. Plays through computer speakers or headset.
 - c. Firmware/feature upgrades are available for download through the intercom server, with no local modification required on the station.
8. PARCS field device intercom substation requirements:
- a. Provide push-button intercoms at all PARCS field devices.
 - b. Integrated pinhole camera active when intercom engaged. Video feed available to staff intercom station(s).
 - c. Microphone, loudspeaker, and in-use LED are all housed in one unit with a configurable front push-button control.
 - d. DSP technology to provide full speaker/microphone supervision and fully adjustable (volume/timing threshold programmable via intercom server) audio monitoring.

H. Barrier Gate (BG)

1. Provide and install Barrier Gates (BG) at all entry and exit lanes, and traffic control lanes, as indicated on the Drawings.
2. All gates referenced in this specification section shall contain the following:
 - a. Non-wood gate arm; bottom of arm padded.
 - b. Electronically controlled rebound feature.
 - c. Break-away design to minimize damage from vehicle strikes and allow for field replacement.
 - d. Alarm for barriers that have been broken off or removed.
 - e. Typical gate arm and length of 10 feet, determined by lane.
 - f. Single-piece gate arm or articulated as required by height limitations.
 - g. Alternate Item - LED light strip for gates with variable colors based on gate action/position.
3. BG shall have enough power/resistance to ensure they cannot manually be forced open.
4. Gate controllers with the following features and functionalities:
 - a. Microprocessor-controlled and communication of gate status and functions to the PARCS workstations.
 - b. Directional logic with electronic outputs to alarms, counters and to report atypical lane activity to PARCS.

- c. Ability to test gate operability and controller programming on-site without use of special diagnostic equipment.
 - d. "AUTO-MANUAL" switch, and "ON-OFF" switch for gate.
 - e. Contains power supplies, dust-proof relays, and other circuit components to control gate.
 - f. Receive inputs from the PARCS field devices and open after receiving the appropriate signal, and close after the vehicle passes over the closing loop.
 - g. Receive commands from the PARCS workstations for remote monitoring of the gate position and to open or close the BG remotely.
 5. Gates installed at all lanes shall fail to the open position in an event there is a power failure.
- I. Control Gate Restrictions:
 1. Provide signage warning and prohibiting pedestrians and motorcycles from utilizing the control gate as a means of ingress or egress to the facility.
 2. Locate along the approach route of the automated gate and/or affix to both sides of the control gate arm.
 3. Incorporate both text and graphics to convey the hazards of ignoring.
- J. Vehicle Detection Device
 1. Detect vehicular presence.
 2. Loop detectors shall be dual-channel detectors.
 3. Provide two-channel pulse and presence outputs.
 4. Provide separate, momentary contact closures upon detection of a vehicle and continuous contact closures during the period that the vehicle is detected.
 5. Loop detectors shall contain two fully separate, self-tuning, vehicle loop detectors.
 6. Loop detectors shall each have adjustable sensitivity modes.
 7. Loop detectors shall generate two loop frequencies. The frequencies shall not be the same to minimize the possibility of detector crosstalk or interference between two detector loops mounted within proximity to each other. Detectors generating an identical frequency are unacceptable.
 8. Different sensitivity settings allow vehicles of varying height and size to be properly detected.
 9. Vehicle detectors shall be fully microprocessor-based.
- K. Inductive Loops
 1. Cut into the paving surface and fill with the manufacturer's approved sealant.
 2. Be formed by three to four turns of 20-gauge/16-gauge XLPE single-conductor wire.
 3. No splices are permitted.
 4. Contain loop leads:
 - a. Limited to a length of 30 feet
 - b. Have a four-twist minimum per foot and located at a minimum of 18 inches from electrical power lines

- c. Be contained in a separate conduit to prevent interference from electrical signals
 - d. Light in color (White, Red, or Orange) for the presence loop
 - e. Dark in color (Black, Blue, or Green) for the safety loop
 - f. Light in color (White, Red, or Orange) for secondary presence loop (if applicable)
 - g. Dark in color (Black, Blue, or Green) for the downstream loop (if applicable)
5. 20-gauge XLPE single conductor wire:
 - a. #20 AWG multi-strand copper wire
 - b. 0.040" Nominal XLPE (cross-linked polyethylene) Insulation
 - c. 0.120 Nominal O.D. for use in 1/8" saw cuts
 - d. Only used in Concrete drive lanes
6. 16-gauge XLPE single conductor wire:
 - a. #16 AWG multi-strand copper wire
 - b. .080" Nominal XLPE (cross-linked polyethylene) Insulation
 - c. 0.220" Nominal O.D. for use in 1/4" saw cuts
 - d. Used in Concrete or Asphalt drive lanes
7. Backer Rod:
 - a. Closed-cell polyethylene foam
 - b. Installed prior to sealing saw cuts
 - c. Holds loop wires and lead-in wire securely in saw cuts
 - d. Prevents wires from floating to the surface when sealant is applied
 - e. Use a 2" piece in at least every 2' of saw cut
 - f. Used in concrete or asphalt
 - g. 0.375" Nominal O.D. for use in 1/8" saw cut
 - h. 0.500" Nominal O.D. for use in 1/4" saw cut
- L. Mobile Cashier Unit (Alternate)
 1. Handheld device with portable belt printer for use by roving cashier when patron requests assistance in a non-cashier booth lane.
 2. Process payment card payments as outlined in the Payment Cards section.
 3. Ability to scan barcode tickets and enter barcodes manually.
 4. Ability to process validations.
 5. Rugged heavy-duty hand-held for outdoor use, drop-resistant at a minimum of five feet.
- M. Uninterruptible Power Supply (UPS)
 1. Provide UPS emergency back-up power and conditioning through TCP/IP-enabled UPS units for the Server Rack Equipment and other essential networking hardware to protect components from loss of power, power spikes, and power sags.
 2. UPS battery back-up sized to last thirty (30) minutes.
 3. Facilitate a 30% expanded load with an 80% continuous load factor.

4. On-line, solid state UPS that provides both backup power and transient surge protection.
5. Determine the UPS backup requirements for each of the locations where UPS backup is required, based upon the equipment that is being supplied by the Contractor. Owner to review and approve the UPS units to be provided by the Contractor.
6. Test UPS system during the LAT.

N. Validation System

1. Web-Based Validation System Post Ticket
 - a. Authorized issuer logs into a password protected account via computer, smartphone, or another web-enabled device.
 - b. Customer's ticket number is entered or ticket is scanned via handheld, desktop, and/or wall-mount scanner (hardware included with system).
 - c. Validation is selected as a cash value, time value, or a rate change.
 - d. Multiple validations can be applied to the same ticket.
 - e. Software tracks and stores user ID, ticket number, and validation amount for billing purposes.
 - f. Validation billing software can calculate and prepare monthly invoices.
2. Web-Based Chaser Ticket (Follow-up Validation)
 - a. Authorized issuer logs into a password-protected account via computer, smartphone, or another web-enabled device.
 - 1) Printable on the authorized user's workstation printer.
 - 2) Ability to send an electronic barcode via mail, email, or text.
 - 3) Single ticket or bulk volume for events.
 - b. Customer inserts or scans entry ticket into EXS.
 - c. After fee is displayed, user inserts or scans validation.
 - d. The software tracks and stores the User ID, ticket number, date/time of entry and exit, and validation amount for billing purposes.
 - e. Validation billing software can calculate and prepare monthly invoices.
3. Advance Creation Entry/Exit Validation Passes
 - a. The authorized user logs into the system to create a custom validation pass.
 - b. The type of pass can be single day, multi-day, single-use, or multi-use.
 - c. Valid entry and exit dates and times can be selected.
 - d. Ability to print on paper or send an electronic barcode via mail, email, or text.
 - e. The pass can be scanned at the entry and exit devices; no ticket is needed.
 - f. Software tracks and stores validation pass data for reporting purposes.
 - g. Validation billing software can calculate and prepare monthly invoices.

O. Proximity Card Access System

1. Compatible with two (2) different cards, FPP and EVV airport staff.

2. Passive credential design capable of being read within 2 inches of reader.
3. Read and process credentials within one second of presentation to reader.
4. Checking protocol that identifies multiple reads of same card within a few seconds (due to users "waving" card in front of reader), correcting false anti-passback reads.
5. Owner designated individuals shall be able to use the system for ingress and egress to/from the parking facilities at designated locations.
6. Authorized PARCS users shall have the ability to view and program proximity card privileges and access rules.
7. Provide the Owner with the appropriate tools to program and/or encode proximity cards from one or multiple PARCS workstations.
8. Proximity cards with a mill thickness equal to that of a standard payment card.
9. Anti-passback capabilities that can be turned on or off at the Owner's discretion for individual users, groups of users, or entire system.
10. Report the occupancy of proximity card customers in real-time.
11. Provide configurable user group parameters and rules that are accessible and editable by the Owner on any PARCS workstation. Software code changes shall not be required to edit user group parameters and rules.
12. User groups and individuals within these groups will each have the capability of being assigned access privileges based on date, day of the week, time of day, or any combination thereof.
13. Upon reading the proximity card the display window will provide a welcoming or thank you message which will include the users name and company (programmable message).

P. LPR System Capabilities and Integration with PARCS.

1. The LPR system consists of all hardware and software necessary to provide a complete and functional LPR system that achieves the Owner's required functionality and accuracy, and that does not adversely affect any function of the PARCS.
2. Provide an LPR subsystem that is fully integrated into the PARCS, including tying the OCR (Optical Character Recognition) captured at entry to the unique ticket identification or other entry credential information, such as registered monthly parker license plate, for every transaction. Should the entry information need to be obtained at an exit station to process the transaction (i.e., lost ticket, unreadable, etc.), both the OCR and ticket is to be removed from their respective active inventories once the vehicle has exited.
3. Provide software with separately adjustable retention periods for LPR images and OCR text. Retention or discarding of either data type has no effect on the remaining data record if separate retention periods are kept. Data is purged after the retention period. Provide a retention period at least as short as one day and at least as long as 180 days.
4. Provide standards-based capability to receive text license plate characters from external sources through API that can be used for alerting purposes through System's existing software-based alerting methods.

Q. LPR CAMERAS The following is the list of qualified vendors for LPR cameras.

- a. Genetec

- b. Honeywell
 - c. Inex Technologies
 - d. Omni Q
 - e. Survision
 - f. Tagmaster
 - g. Functional equivalent to the above, with prior Owner approval.
2. Furnish and install image capture cameras, including any necessary lights or shade canopies, at all public entry and exit lanes to provide system functionality in varying amounts of ambient light.
 3. Provide theft deterrent and vandal-resistant housings and fasteners for lane equipment.
 4. Determine the exact location of each device, subject to Owner approval.
 5. Entry and exit images must be pre-captured, meaning that the cameras are positioned so that a vehicle's license plate is photographed before the parking credential has been issued or accepted by the entry/exit device.
 6. The preferred method of illumination for license plate capture is a combination of infrared and natural/white light.
 7. Provide protection for LPR cameras from passing vehicles.
- R. LPR Image Review Workstation (IRW)
1. Install all necessary LPR software on the same workstation as the PARCS administration and cashiering workstations.
 2. Provide operators with the ability to review and correct LPR data, as well as manage LPR exception transactions, at both entries and exits.
 3. Automatically send correction and exception transactions to the first available IRW and remove the exception from all system workstations after it has been successfully resolved.
 4. Capability of reviewing and correcting entry images after the fact; that is, after the vehicle has entered the parking facility. No time limit is stipulated for after-the-fact entry lane OCR corrections; therefore, entry lane corrections can be made during off-peak transaction processing time.
 5. Images requiring review at exit will be given a programmable period of time to process, with the initial limit set to 1 minute. If the exception transaction has not been resolved during this programmable period of time, the transaction will process based on the presented existing media, such as time on ticket or credit card in/out. A report will be maintained of the number of non-matching plates allowed to exit without processing.
 6. Provide remote processing of exception transactions (e.g., Lost Ticket, Mutilated, Unreadable, etc.) by authorized users from any IRW. The authorized user must have the ability to use the LPR data sent from the lane to the IRW to verify entry information and transmit this information to the exit station for automated calculation of the appropriate parking fee.
- S. LPR System Performance Requirements
1. Use advanced video analytics and "fuzzy logic" to identify vehicles with an exception plate by their make, model, color, bumper stickers, or other identifiable markings.

2. Acquire an image of a vehicle's entire license plate at a 99.5 percent (99.5%) or higher rate for all non-exception vehicles as defined within this section. The intent of achieving a 99.5% capture rate is to maintain a visual record of 99.5% of all non-exception license plates entering the facility.
3. Achieve an N Factor rating of 96% meaning specifically that the LPR Subsystem is to read all license plate characters, exclusive of stacked characters, correctly ninety-six percent (96%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters, as determined by the LPR Subsystem, are to be counted against the read accuracy (i.e., if a license plate contains six standard characters "ABC123", then N=6. Therefore, in order for the system to achieve an N read, the system must return the license plate "ABC123" exactly.) Additional characters added before or after the license plate characters are to count against the read rate. (i.e., "1ABC123" would not constitute an N read.)
4. Achieve an N-1 Factor rating of 99% meaning specifically that the LPR Subsystem is to read all but one character, exclusive of stacked characters, correctly ninety-nine percent (99%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem are to be counted against the read accuracy. (i.e., if a license plate contains six standard characters "ABC123", then N=6. Therefore, in order for the system to achieve an N-1 read, the system must return "xBC123", "ABC12x", etc.) Additional characters added before or after the license plate count against the read rate.
5. Exception vehicles will not count against the accuracy of the LPR Subsystem. For the purposes of the LPR performance requirements an exception vehicle is defined as:
 - a. Any vehicle whose license plate is obstructed, obscured, or encroached upon by a foreign object.
 - b. Oversized vehicles that have a total distance between the center of the drivers' side window and the end of the rear bumper greater than 15 feet.
 - c. Vehicles that contain excessive graphics and advertising such that it is impossible for the LPR system to determine which graphics belong to the license plate and which graphics do not.
 - d. Vehicles with no license plate, or relocated to a window and not in the OEM location.
 - e. Vehicles with temporary cardboard "Dealer Plates."
 - f. Damaged plates.
 - g. Plates from locations other than the U.S., Canada, and Mexico.
 - h. Motorcycles.
6. Ambient lighting conditions are to have no effect on the accuracy of the LPR system regardless of the time of the day and night. Contractor to provide any necessary shading or lighting elements required to mitigate the effect of the ambient lighting conditions on the LPR system performance.
7. Provide a means, subject to approval by the Owner, to remotely score the LPR Subsystem to ensure it meets the performance requirements. Assist the Owner in transferring images from each lane to a storage format such as a memory stick, or upload to a secure file storage site that can then be viewed and scored on a standalone PC by the Owner or their designated representative. The owner is to be able to select any images stored in the LPR database for scoring purposes. The

Contractor to provide all software needed to test the LPR Subsystem's performance. The software should be downloadable to a standalone PC used for testing.

T. Handheld LPR Inventory System – Alternate

1. Provide system to allow user to scan parked vehicle license plate using a handheld device to automatically capture a vehicle plate for inventory purposes.
2. System to include date and time of initial capture, entry area for lot, and row, to be used to assist in locating vehicles.
3. Parking plate inventory will be used to eliminate vehicles in the PARCS that have departed but are still showing as in the lot.
4. Software to be provided as searchable by plate and lot.
5. Printable as a report in PDF, Excel, or Word format.

U. Integrated Signage:

1. Dynamic Message Sign (DMS)
 - a. 7-Segment LED sign.
 - b. Display CLOSED or CREDIT CARD ONLY.
 - c. Controlled remotely through software.
2. Variable Message Sign (VMS) - Alternate
 - a. Full Matrix RGB, 6MM LED sign.
 - b. Outdoor use.
 - c. Configurable message from network connection.
3. Open/Full Sign
 - d. Signs will be direct view LED type.
 - e. Dual message LED signs display "OPEN" or "FULL" at the facility entrances.
 - f. Dual LED in Red and Green to indicate garage parking availability.
 - g. Controlled automatically by PARCS software or via manual override.
 - h. Minimum 7"x18" overall, with minimum character height of 3.5".
 - i. Mounted as indicated on drawings.

2.7 SOURCE QUALITY CONTROL

A. Internal Contractor Tests

1. All equipment to have successfully passed formal manufacturing tests and quality assurance inspections to validate compliance with these functional specifications prior to the start of installation. Records for formal internal Contractor testing and inspection for performance, materials quality, and/or workmanship to be maintained by the Contractor and made available if requested by the Owner prior to the start of installation or at any point during the execution of the Contract.

2. Have readily available proof of product reliability analysis and testing, should reliability become a problem at any time from the beginning of installation testing through the final operational test period.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions: Verify all existing conditions in the field prior to implementation. In the event that conditions in the field are different from the conditions described and shown in the Drawings, the Contractor shall notify the Owner in writing of the exact differences and shall inform the Owner in writing of any implications the differences have on the project.
- B. Examine the location of all field equipment and office equipment to determine if there are any constraints or conflicts before office equipment installation.
- C. Examine the rough-in for electrical systems to verify the actual locations of connections before installing parking control equipment.
- D. Additional Wiring: Provide all additional conduit and wiring that is needed for total system performance, but which was not noted on Contract Documents, at no additional cost to Owner.
- E. Verify that all required PARCS conduits and wiring is properly located and installed prior to installing PARCS equipment.
- F. Verify the equipment layout in accordance with the manufacturer's recommendations to ensure proper airflow through and around the equipment.
- G. Test, adjust, and interface circuits before installing PARCS equipment.
- H. Coordinate with Owner or Owner's Representative, location and type of internet connection required for all external communications, i.e., payment card authorization/settlement, remote access, etc., within 30 days after award of contract.
- I. Examine substrates, areas, and conditions to ensure compliance with installation tolerances, including equipment bases, the accurate placement, pattern, and orientation of anchor bolts, critical dimensions, and other factors that affect the performance of the Work.
- J. Investigate adequacy and quality of electrical power to all existing lanes, determine grounding requirements, and notify Owner in writing prior to submission of shop drawings of any requirements for new power service, conduit, wiring, or grounding.
- K. Investigate existing communications conduit to all existing lanes and notify Owner in writing prior to submission of shop drawings of any requirements for replacement, relocation, or extension of existing conduit not already identified for replacement or relocation.

- L. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Coordinate installation, staging, and power connections with various trades to ensure a coordinated effort.
- B. Attend regularly scheduled project meetings. If the PARCS contractor is the prime contractor, host construction meetings.

3.3 INSTALLATION

- A. Verify that the installation locations are prepared and ready for the equipment installation to be completed. The Contractor shall notify the Owner in writing if the installation location is not prepared for installation due to unfinished work outside the Contractor's scope of work. The written notification provides details of the elements that require modification to prepare the location for the installation of equipment.
- B. Proceed with installation only after unsatisfactory conditions have been remedied.
- C. Install all PARCS equipment per the equipment manufacturer's recommendations.
- D. Any patches, upgrades, updates, or modifications to the PARCS software during the installation period require appropriate documentation and approval prior to the modification being made.
- E. During the installation and warranty period, the Owner will make an area available to the Contractor for use as an office/work area for the technicians supporting the system. It is the responsibility of the on-site technicians to maintain a clean and hazard-free office and work area.
- F. PARCS System Access
 - 1. During installation, warranty, and post-warranty, real-time communication between the PARCS servers and the Contractor's software support team may be required to support the system. This communication will be conducted via an Owner-approved VPN connection and requires passing through the firewall to access the owner's network and connect to the PARCS servers.
 - 2. Coordinate with the Owner to obtain VPN access to the Owner's network and set up user accounts.
 - 3. Each individual accessing the Owner network is required to have an account. Group accounts are prohibited.

3.4 FIELD QUALITY CONTROL/ACCEPTANCE TESTING

- A. Payment Card Acceptance Test (PCAT)

1. Conduct PCAT as a demonstration to the Owner or it's representatives that the payment card acceptance subsystem
 2. The purpose of the PCAT is to demonstrate that all aspects of the payment card acceptance process, including the PARCS, payment card reader supplier, gateway, and merchant bank are working in concert to successfully process payment cards.
 3. PCAT shall be conducted on a single device to demonstrate success.
 4. A successful demonstration must include a live demonstration of payment resulting in an amount of \$1.00 or greater being accepted by and settled into the Owner's bank account.
 5. Provide a brief narrative of the transaction and process prior to scheduling the test.
 6. Provide all ancillary items required for the test, such as a live, working payment card with available credit to complete the proposed transaction.
 7. The PCAT shall be considered successful when the transaction value has been deposited into the owner's bank account.
 8. This test is a pass or fail, there are no deviations allowed.
- B. Lane Acceptance Test (LAT)
1. Conduct LATs as a demonstration to the Owner or its representatives that the installed equipment complies with the Contract, the Contractor's product data, and other documentation, such as user manuals.
 2. When a PARCS equipment location installation has been completed, the Contractor shall conduct its internal testing of the installed equipment. Internal testing shall follow the identical LAT test procedures used during LATs observed by the Owner.
 3. Upon successful completion of the Contractor's test, the Contractor and the Owner will perform the LAT to verify performance. The LAT shall only be observed by the Owner after a fully completed and signed test script, verifying the successful completion of the Contractor's internal lane testing, is submitted. Signed internal test scripts shall be submitted at least one calendar day prior to the scheduled test with the Owner.
 4. LATs shall be conducted for each PARCS entry lane, exit lane, and POF and shall include tests of PARCS equipment and software. The Contractor shall not activate the system for service until all LATs have been successfully completed for each lane or device, or until the Owner notifies the Contractor that it is ready to put the equipment into operation prior to performing LATs. Use of lanes prior to system acceptance does not affect warranty start time.
 5. The Contractor shall provide test procedure documents for LATs as part of the Test Plan in accordance with the submittal guidelines. LAT Test Procedures Documents shall be provided for each equipment type and location, and test procedures shall include the following sections:
 - a. Narrative describing the general procedures to be followed.
 - b. Definition of all minor and major deviation types.
 - c. Checklist of all items necessary to conduct the test (e.g., PARCS devices included in the test, consumables, validations, payment cards for payments, vehicles, etc.).
 - d. Checklist for the components of each PARCS equipment location.
 - e. Signature page for all LAT participants' signatures.
 - f. Step-by-step instructions for testing each functionality.
 - g. Tests for verifying the reporting requirements.

- h. Area within each test section to denote “pass”, “fail”, or “deviation” with notes.
 - i. Section for listing and describing test deviations.
 6. The Contractor shall provide all ancillary items necessary to complete the LATs for testing purposes. Additionally, the Contractor shall provide sufficient personnel to perform the LAT in an efficient and timely manner.
 7. The LAT shall be considered successfully completed when all components have passed their respective test procedures and all test documents have been signed by the Owner and Contractor. Minor deviations resulting in the creation of punch list items shall not be considered grounds for failure of the overall LAT. Major deviations found during the LAT shall result in the retest of the lane or device. The Contractor shall agree to credit the Owner from its total contract value for any travel and/or labor costs incurred by the Owner or its representatives as a result of additional effort required to retest failed devices.
 8. Minor deviations are any failure that does not affect system functionality, fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), transaction processing, payment card processing, calculations, or report accuracy.
 9. Major deviations are any failures that affect system functionality, fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), transaction processing, payment card processing, calculations, or report accuracy.
- C. Operational Demonstration Test (ODT)
1. The ODT shall comprise all equipment, systems, and subsystems operating under actual conditions, e.g., Customer use, normal activity recording, and reporting procedures. This ODT shall demonstrate, over a period of 30 consecutive calendar days, the successful performance of all aspects of the PARCS.
 2. During the ODT, only routine maintenance procedures, as defined in the Preventive Maintenance Procedures Manual and in accordance with industry standards, shall be permitted. All other maintenance procedures shall be approved in writing by the Owner before they are performed; otherwise, they shall constitute a failure of the ODT and a mandatory restart.
 3. The Owner reserves the right to be present for all maintenance services during the ODT.
 4. For purposes of the ODT, a subsystem is defined to be any one of the following:
 - a. PARCS Application Software
 - b. Data Communication System
 - c. PARCS Servers (whether on-premises, hosted off-site, or cloud-hosted)
 - d. PARCS Entry Lanes
 - e. PARCS Exit Lane
 - f. Proximity Card Access Subsystem
 - g. Intercom Subsystem
 - h. LPR Subsystem
 - i. PARCS Reporting System
 5. The ODT shall commence after the successful completion of all LATs on a date mutually selected and agreed upon in writing by the Owner and the Contractor, at a time designated by the Owner. The ODT monitors the system’s performance as a

single unit. The Contractor shall submit an ODT test document as part of their Test Plan in accordance with the submittal requirements. ODT test documents are intended to outline procedures for monitoring the overall performance of the PARCS and shall not include test procedures for individual components. The ODT test documents shall include:

- a. Narrative describing the general procedures to be followed
 - b. Methodology for the calculation of downtime and accuracy for the various PARCS components
 - c. Contractor-supplied tracking document to be used during the ODT period for documenting failures and downtime
6. The ODT shall continue for 30 consecutive 24-hour periods during which all the performance criteria, stated below, shall have been met. If, during the 30-day period, the system fails to meet any one of the specified performance criteria, the test shall begin anew on a day agreed upon by the Owner and the Contractor. The Contractor shall agree to credit the Owner a percentage of its total contract value equal to the actual cost of any travel and labor costs incurred by the Owner as a result of retesting the system.
7. The performance criteria for successful completion of the ODT shall include:
- a. No individual subsystem shall be operationally unavailable for four or more hours cumulative during the 30-day test period.
 - b. No individual subsystem shall be operationally unavailable for more than two consecutive hours.
 - c. If any single component fails more than once during the 30-day period for the same reason, it shall be replaced upon the second failure with a newly manufactured component of the same type, and the test shall continue.
 - d. No component of a given type shall fail more than three times during the 30-day test period for the same reason. Upon the fourth failure, all components of that type shall be replaced or modified to correct the common deficiency, and the test shall be restarted from the beginning.
8. In addition to the PARCS reports generated during the ODT, the Contractor shall provide the Owner with a one-page summary report that clearly presents the overall percentage of system downtime and its causes.
9. The Contractor shall provide the Owner with a corrective action report that includes a detailed description of each failure that occurs during the ODT. The corrective action report shall include the type of failure, why the failure occurred, what was done to remedy the failure, and whether or not the failure resulted in a restart of the ODT.
10. A subsystem shall be considered unavailable as long as any major component of the subsystem is not functioning.
11. An inoperative subsystem shall not be deemed unavailable if it has become inoperative because of:
- a. Outage of line power beyond the required duration of UPS power backup
 - b. Malicious damage or vandalism to a component(s) by employees, customers, or others.
 - c. Network connectivity issues outside of the local or cloud PARCS network.

- d. PARCS failures due to issues and/or failures outside of the Contractor's control.
 - e. Failures caused by a 3rd party.
 - f. Act of God.
12. Should a failure occur in the system that is caused by a hardware failure, it shall be repaired, and the test resumed with downtime accrued. If the failure causes inadequate test data to be collected or results in a loss of test data, the test shall be restarted from a point where it can be successfully completed with sufficient data to verify compliance with the Contract and the test procedures document.
 13. If the system "crashes" during a test, then the test shall be stopped. "Crash" is defined as a failure in which the PARCS cannot properly process vehicles or record transactions. The Contractor shall analyze the cause of the system "crash," document the cause in a system problem report, responsively repair the flaw, and document the repair in a corrective action report.
 14. Where corrective action impacts delivered documentation, the documentation shall be corrected prior to Final System Acceptance.
 15. Upon formal written approval of the corrective action report by the Owner, testing may continue if a problem has been encountered, as long as the Contractor can clearly demonstrate that the failure is associated only with one function of the system, corrective action has been taken to remedy the failure, and the corrective action shall not impact other areas of the system.
 16. Where the system does not perform a function or incorrectly performs the function, but the system does not crash, testing may continue, as long as the function is corrected and all of the following conditions are met:
 - a. The functionality of processing vehicles and recording transactions works properly according to the Contract.
 - b. No personnel, vehicle, or driver safety issues exist.
 - c. PARCS applications continue to function normally.
 - d. Failure does not cause loss or contamination of data.
 - e. All reports are 100% accurate.
 17. Where the above criteria are not met, the test shall be stopped, corrective action taken, and verified before testing is restarted.
 18. During the test, the continued availability of the system shall be demonstrated. Where a failure occurs that causes data loss, system instability (crash), and/or contamination of the data and the database, the Contractor shall immediately correct the problem. Testing shall continue until a consecutive 30-day period of stable operation is achieved. Stability is defined as the proper functioning of the PARCS, with a failure having no impact on the continued operation of the system or on the integrity of the data.

D. Punch List

1. Starting with the beginning of installation through Final System Acceptance, the Contractor shall submit a document on a weekly basis that shows the status of all outstanding system issues, regardless of severity, including the plan for resolution and the estimated completion date.
2. All deviations noted during acceptance testing shall be recorded on the Punch List.

E. Final System Acceptance

1. Final System Acceptance will be submitted by the Owner, in writing to the Contractor, upon successful completion of all acceptance tests, and upon verification by the Owner of complete resolution of all outstanding items on the Punch List.

3.5 INSTRUCTION AND TRAINING

- A. By means of instructional classes augmented by individual instruction as necessary, the Contractor shall fully instruct the Owner's designated staff in the operation, adjustment, and maintenance of all products, equipment, and systems.
- B. Coordinate scheduling of instruction and training classes with the Owner to avoid conflicts and peak-period personnel demands. Submit a proposed instruction schedule at a joint meeting conducted prior to equipment installation. The Owner will tentatively approve or suggest changes to the training schedule at that time.
- C. Submit an outline of the instruction material and the approximate duration of the session. Ample time shall be allotted within each session for the Contractor to fully describe and demonstrate all aspects of the PARCS, and allow Owner personnel to have hands-on experience with the PARCS.
- D. All instruction courses to consist of classroom instruction and actual "hands-on" experience. Classes to be set up in a room designated by the Owner. Provide one instructor for the duration of each program.
- E. The class material shall include schematics, as well as an overview and descriptions of the equipment.
- F. The Contractor shall provide all necessary documentation to instruct Owner personnel. The Owner retains the right to copy training materials as frequently as required for ongoing internal use only.
- G. An instructional notebook or user's manual shall accompany every instruction course. All manuals (instruction and maintenance) shall be submitted in electronic format (.PDF) via email to the Owner or through a secure file-sharing service. The user's manuals shall be written in clear, common English, accompanied by appropriate photos, diagrams, and schematics to supplement the text.
- H. Training classes to be provided for the following groups:
 1. Cashiers and/or Parking Ambassadors
 2. Supervisors
 3. Image Reviewer
 4. System Administrators
 5. Accounting/Audit
 6. Maintenance Staff

3.6 EQUIPMENT PROTECTION

- A. All above-ground equipment components installed near drive aisles shall be protected from damage by vehicular movements by protective bollards or other barriers as recommended by the Contractor. Contractor is responsible for the final bollard location to ensure the installed bollard does not prevent access to the PARCS devices or interfere with the travel path of PARCS access doors.
- B. Each above-ground island-mounted device shall be protected by one or more bollards.

END OF SECTION 111226

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**Section 111226 - Price Tabulation Form
Evansville Regional Airport (EVV) - PARCS**

TOTAL	Written in Numerals	Written in Words
TOTAL		
Recurring Fees		
PM & Service		
Warranty		
7-Year TOTAL		
Spare Parts		
Company:		Date:
Name:	Signature:	Cloud

UNIT PRICING

ITEM #	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
	Head End			
1	System hardware - LPR server, PARCS devices, etc. as needed	0	\$0.00	\$0.00
2	Networking Switch/s	0	\$0.00	\$0.00
3	Internet Access Backup/Failover	0	\$0.00	\$0.00
4	PARCS, LPR, and Operating Software, Licenses.	0	\$0.00	\$0.00
5	Web-Based Validation System	0	\$0.00	\$0.00
6	Open API to display parking availability on EVV website	0	\$0.00	\$0.00
7	Website interface/programming for FPP	0	\$0.00	\$0.00
8	Server rack - for server OR networking equipment	0	\$0.00	\$0.00
9	On-Line UPS Backup (for head end equipment)	0	\$0.00	\$0.00
10	EDIT	0	\$0.00	\$0.00
11	EDIT	0	\$0.00	\$0.00
12	EDIT	0	\$0.00	\$0.00
13	EDIT	0	\$0.00	\$0.00
	Solar Covered Parking			
14	Entry Station: Ticket Dispenser	2	\$0.00	\$0.00
15	Proximity Reader - Employee	2	\$0.00	\$0.00
16	Proximity Reader - FPP (if required)	2	\$0.00	\$0.00
17	QR Scanner	2	\$0.00	\$0.00
18	Video Intercom Substation	2	\$0.00	\$0.00
19	Entry Gate: Automated Barrier Gate	2	\$0.00	\$0.00
20	Straight Arm	2	\$0.00	\$0.00
21	Saw-Cut, Install, and Seal - Vehicle Detection Loop	4	\$0.00	\$0.00
22	Dual-Channel Loop Detector	2	\$0.00	\$0.00
23	LPR Camera	2	\$0.00	\$0.00
24	Mounting Pole	2	\$0.00	\$0.00
25	LPR Lane Controller (if required)	0	\$0.00	\$0.00
26	Traffic Control: Automated Barrier Gate	2	\$0.00	\$0.00
27	Straight Arm	2	\$0.00	\$0.00
28	Saw-Cut, Install, and Seal - Vehicle Detection Loop	4	\$0.00	\$0.00
29	Dual-Channel Loop Detector	2	\$0.00	\$0.00

Economy Parking				
30	Entry Station: Ticket Dispenser	2	\$0.00	\$0.00
31	Proximity Reader - Employee	2	\$0.00	\$0.00
32	Proximity Reader - FPP (if required)	2	\$0.00	\$0.00
33	QR Scanner	2	\$0.00	\$0.00
34	Video Intercom Substation	2	\$0.00	\$0.00
35	Entry Gate: Automated Barrier Gate	2	\$0.00	\$0.00
36	Straight Arm	2	\$0.00	\$0.00
37	Saw-Cut, Install, and Seal - Vehicle Detection Loop	4	\$0.00	\$0.00
38	Dual-Channel Loop Detector	2	\$0.00	\$0.00
39	LPR Camera	2	\$0.00	\$0.00
40	Mounting Pole	2	\$0.00	\$0.00
41	LPR Lane Controller (if required)	0	\$0.00	\$0.00
42	Traffic Control: Automated Barrier Gate	2	\$0.00	\$0.00
43	Straight Arm	2	\$0.00	\$0.00
44	Saw-Cut, Install, and Seal - Vehicle Detection Loop	4	\$0.00	\$0.00
45	Dual-Channel Loop Detector	2	\$0.00	\$0.00
Shared Exit Plaza				
46	Exit Station: Ticket Verifier	3	\$0.00	\$0.00
47	P2PE Credit Card Reader	3	\$0.00	\$0.00
48	Proximity Reader - Employee	3	\$0.00	\$0.00
49	Proximity Reader - FPP (if required)	3	\$0.00	\$0.00
50	QR Scanner	3	\$0.00	\$0.00
51	Video Intercom Substation	3	\$0.00	\$0.00
52	Automated Barrier Gate	4	\$0.00	\$0.00
53	Straight Arm	4	\$0.00	\$0.00
54	Saw-Cut, Install, and Seal - Vehicle Detection Loop	8	\$0.00	\$0.00
55	Dual-Channel Loop Detector	4	\$0.00	\$0.00
56	LPR Camera	3	\$0.00	\$0.00
57	Mounting Bracket	3	\$0.00	\$0.00
58	Mounting Pole	3	\$0.00	\$0.00
59	LPR Lane Controller (if required)	0	\$0.00	\$0.00
60	Cashier Station (in building)	1	\$0.00	\$0.00
61	Video Intercom Substation	1	\$0.00	\$0.00
62	Dynamic Message Sign - Credit Card Only/Closed	3	\$0.00	\$0.00

Parking Office/Miscellaneous				
63	Custom Lot Sign - OPEN/CLOSED/FULL	1	\$0.00	\$0.00
64	Validation Printer	1	\$0.00	\$0.00
65	Frequent Parker Program	1	\$0.00	\$0.00
66	200,000 Tickets or equivalent in roll stock	1	\$0.00	\$0.00
67	90,000 EXS Receipts or equivalent in roll stock	1	\$0.00	\$0.00
68	30,000 Cashier Receipts or equivalent in roll stock	1	\$0.00	\$0.00
69	Proximity Cards Current type 125kHz ISO; PVC Cards - 26 Bit LGGMN - Standard configuration	1000	\$0.00	\$0.00
70	Straight Barrier Arm Assemblies (stock spares)	4	\$0.00	\$0.00
71	Breakaway bolts or clips if so equipped (stock spares)	20	\$0.00	\$0.00
72	All Additional Cabling, Switches, Cabinets, and Junction Boxes	1	\$0.00	\$0.00
73	Concrete island modifications, including ADA sidewalk modification at exit	1	\$0.00	\$0.00
74	Conduit and wiring	1	\$0.00	\$0.00
75	Bollards - Bolt Down	1	\$0.00	\$0.00
76	Bollards - Embedded	1	\$0.00	\$0.00
77	Installation of new PARCS	1	\$0.00	\$0.00
78	Training Hours	16	\$0.00	\$0.00
79	Commissioning - LAT and ODT	1	\$0.00	\$0.00
80	Documentation/submittals/legal	1	\$0.00	\$0.00
81	Freight/Shipping	1	\$0.00	\$0.00
82	Sales Tax (Tax Exempt, can provide certificate)	1	\$0.00	\$0.00
83	SaaS Fees Year 1 (If applicable)	1	\$0.00	\$0.00
84	EDIT	1	\$0.00	\$0.00
85	EDIT	1	\$0.00	\$0.00
86	EDIT	1	\$0.00	\$0.00
87	EDIT	1	\$0.00	\$0.00
TOTAL 1-YEAR "Base Cost"				\$0.00
REQUIRED ADDITIONAL EQUIPMENT, COSTS, DEDUCTIONS, ETC.				
88	EDIT	1	\$0.00	\$0.00
89	EDIT	1	\$0.00	\$0.00
90	EDIT	1	\$0.00	\$0.00
91	EDIT	1	\$0.00	\$0.00
92	EDIT	1	\$0.00	\$0.00
TOTAL ADDITIONAL EQUIPMENT, FEES, OR COSTS				\$0.00
TOTAL 1-YEAR "All Inclusive"				\$0.00
RECURRING SAAS FEES				
DESCRIPTION - TO BE INVOICED AT CONTRACT ANNIVERSARY		QUANTITY	UNIT PRICE	TOTAL PRICE
93	Recurring Fees Year 2	1	\$0.00	\$0.00
94	Recurring Fees Year 3	1	\$0.00	\$0.00
95	Recurring Fees Year 4	1	\$0.00	\$0.00
96	Recurring Fees Year 5	1	\$0.00	\$0.00
97	Recurring Fees Year 6	1	\$0.00	\$0.00
98	Recurring Fees Year 7	1	\$0.00	\$0.00
TOTAL RECURRING SAAS FEES				\$0.00

ALTERNATE ITEMS				
Preventive Maintenance and Service Contract				
	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
99	PM & Service Year 2	1	\$0.00	\$0.00
100	PM & Service Year 3	1	\$0.00	\$0.00
101	PM & Service Year 4	1	\$0.00	\$0.00
102	PM & Service Year 5	1	\$0.00	\$0.00
103	PM & Service Year 6	1	\$0.00	\$0.00
104	PM & Service Year 7	1	\$0.00	\$0.00
PM & SERVICE TOTAL				\$0.00
Extended Parts Warranty				
	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
105	Parts Warranty Year 2	1	\$0.00	\$0.00
106	Parts Warranty Year 3	1	\$0.00	\$0.00
107	Parts Warranty Year 4	1	\$0.00	\$0.00
108	Parts Warranty Year 5	1	\$0.00	\$0.00
109	Parts Warranty Year 6	1	\$0.00	\$0.00
110	Parts Warranty Year 7	1	\$0.00	\$0.00
PARTS WARRANTY TOTAL				\$0.00
Specific Items				
	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
111	ADD LED lights to gate Arms	16	\$0.00	\$0.00
112	SUBSTITUTE DMS at Exit with VMS - full matrix signs	3	\$0.00	\$0.00
113	ADD Mobile Cashier Unit	1	\$0.00	\$0.00
114	ADD Handheld LPR Inventory System	1	\$0.00	\$0.00
TRANSACTION FEES				
	DESCRIPTION - ANY TRANSACTION FEES OR OTHER NON-DISCLOSED FEES NOT IN SAAS	QUANTITY	UNIT PRICE	TOTAL PRICE
111	Edit Per Transaction	1	\$0.00	\$0.00
112	Edit Edit	1	\$0.00	\$0.00
113	Edit Edit	1	\$0.00	\$0.00
114	Edit Edit	1	\$0.00	\$0.00
115	Edit Edit	1	\$0.00	\$0.00
SPARE PARTS				
	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
116	EDIT	1	\$0.00	\$0.00
117	EDIT	1	\$0.00	\$0.00
118	EDIT	1	\$0.00	\$0.00
119	EDIT	1	\$0.00	\$0.00
120	EDIT	1	\$0.00	\$0.00
121	EDIT	1	\$0.00	\$0.00
122	EDIT	1	\$0.00	\$0.00
123	EDIT	1	\$0.00	\$0.00
124	EDIT	1	\$0.00	\$0.00
125	EDIT	1	\$0.00	\$0.00
SPARE PARTS TOTAL				\$0.00

**Section 111226 - Specification Compliance Form
Evansville Regional Airport (EVV) - PARCS**

Company:

Date:

Name:

Signature:

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1.3 Summary		
A. Furnish and install an on-line, real-time Parking Access and Revenue Control System (PARCS) functioning in the manner described herein for the Evansville Regional Airport (EVV) parking facilities. Parking includes two separate surface lots; an Economy surface parking area and a solar panel covered area, both sharing a common exit plaza.		
B. The PARCS will feature a cloud-based server software package, remote intercom support, License Plate Recognition (LPR), validations, EMV with tap to pay credit card readers, and a Frequent Parker Program. The use of the license plate as the primary credential for parking with ticket as a backup is preferred.		
C. The current Frequent Parker Program (FPP) allows registered users to park in the covered area utilizing a tiered discount program. Changes to the FPP are envisioned to base future rewards on the number of visits and may include a point system to be used for free parking days. Options will be considered.		
D. References in this section to "Contractor" include any Subcontractor performing Work related to the PARCS.		
E. Identify any clarifications, deficiencies, exceptions or errors in the Specifications or Drawings in Contractor proposal. Deficiencies or discrepancies in the Specifications or Drawings do not relieve the Contractor of the responsibility to provide a fully functional, reliable PARCS as intended by the design. Clarifications and exceptions to the design taken by the Contractor must be clearly stated in the proposal and are subject to Owner approval.		
F. Summary of Parking Lane and Supplementary Equipment:		
1. Lane Equipment:		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
a. Four entrance lanes, (two for Economy; two for Covered) each containing:		
1) ENS equipped with:		
a) Ticket dispenser.		
b) QR/Barcode reader.		
c) Proximity card reader for airport access.		
d) Proximity card reader for FFP users.		
e) Video Intercom Substation.		
2) Auto gate with gate arms and inductive loops.		
3) LPR Camera with trigger loop if required.		
4) Protective bollards.		
b. Three exit lanes containing:		
1) EXS equipped with:		
a) Ticket reader.		
b) EMV Credit Card with tap to pay.		
c) QR/Barcode reader.		
d) Proximity card reader for airport access.		
e) Proximity card reader for FFP users.		
f) Video Intercom Substation.		
2) Auto gates with gate arms and inductive loops.		
3) LPR Camera with trigger loop if required.		
4) Overhead DMS lane controller sign.		
5) Protective bollards.		
2. Other Equipment:		
a. Cashier terminal for parking building.		
b. One additional gate at parking building (two gates in this lane).		
c. Four (4) traffic control gates from covered parking area and economy parking area to exit plaza.		
d. Locking Server Rack for networking and internet equipment.		
e. UPS backup for Server Rack Components.		
f. Lot Status LED sign at entry.		
g. One (1) validation ticket printer for the office to allow passes to be printed and provided to parkers.		
h. Frequent Parking Program.		
i. Other equipment as specified herein.		
G. See Drawings for equipment locations.		
H. Work Included:		
1. Review Drawings and Specifications to be certain that all functional requirements, as described, can be achieved with equipment to be supplied.		
2. Provide Submittals as specified.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3. Coordinate and confirm final and precise layout of PARCS equipment, mounting structures, conduits, stubs, and anchor bolts with Owner prior to installation.		
4. Attend construction meetings, provide schedules as requested, and schedule fieldwork to be coordinated with Owner.		
5. Provide and install all PARCS equipment as described and specified.		
6. Provide and install mounting structures necessary for the PARCS equipment.		
7. Provide and install all software, ancillary components, and materials to provide a complete and functioning PARCS and the interconnection with any Owner- supplied equipment.		
8. Provide, install, terminate, and connect all necessary communications wiring and conduit required for the PARCS.		
9. Provide, install, terminate, and connect any power conditioning that is required for the operation of the system.		
10. Comply with all applicable codes and standards.		
11. Authorize and accept responsibility for application of power to equipment and initiation of operation.		
12. Run all initial diagnostics and system testing necessary to provide a complete working system.		
13. Participate in system commissioning as required herein.		
14. Test equipment as specified.		
15. Provide as-built drawings, operating manuals, maintenance manuals, as specified.		
16. Provide training as specified.		
17. Remove and dispose of existing PARCS in accordance with applicable laws and codes.		
18. For any PARCS components or equipment being removed that are within scope of the PCI-DSS as defined in the most-current version of the standard, securely dispose of such components or equipment using techniques described in the standard (PCI-DSS 4.0.1, Section 9.4 and its subsections, or as revised).		
19. Provide warranty services as required.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
20. Provide Frequent Parking Program options and solutions.		
21. API for populate parking availability to the EVV website.		
22. Third Party integration to allow remote monitoring, intercom answering, gate control, and on-going remote management capabilities.		
23. Remove swing gate at the cashier exit lane to allow space to add a parking gate.		
24. Remove old LPR cameras at the middle exit island.		
I. Work not included:		
1. Procurement and maintenance of Internet Service.		
a. Provide minimum requirements.		
J. PARCS Future System Expansion:		
1. Readily upgradable, scalable, and modular in design to accommodate additional equipment, parking facilities, features, and functionalities, including the following:		
a. Additional PARCS field devices.		
b. Additional parking facilities.		
c. Interface with open API's for adding third-party applications.		
d. Firmware or software upgrades without the need to replace field devices.		
1.4 Required Meetings		
A. General:		
1. Schedule and conduct meetings at the project job site once installation is imminent and throughout installation and testing. Virtual conference call meetings are acceptable prior to installation and as needed during installation.		
2. Attendees: Inform participants, others involved, and individuals whose presence is required of the date and time of each meeting. Notify the Owner and Owner's Representative of scheduled meeting dates and times.		
3. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
4. Minutes: Document and record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Owner's Representative, within one (1) business day of the meeting.		
B. System Design Review (SDR) meeting: Conduct the initial SDR meeting within forty-five (45) days of contract award (after final contract negotiations) and follow up as needed. Purpose of SDR is to review the Contractor's System Design Documents, which include the following:		
1. Programming Plan		
2. Facility programing		
a. Facility name and address		
b. Lane names/nomenclature		
c. Receipt header/footer		
3. Rates programming		
4. Validation programming		
5. Permit management programing		
6. Samples for selection		
C. Pre-Installation Meeting: Conduct meeting at project site thirty (30) days in advance of time scheduled for work to proceed to review requirements and conditions that could interfere with successful PARCS implementation. All parties concerned with PARCS installation including electrical, communications, concrete/asphalt work, or others who are required to coordinate work should attend. Include the Owner or their representatives. At a minimum, cover:		
1. Required preparatory work		
2. Site safety and security requirements		
3. Required work areas and laydown requirements		
4. Review installation and implementation schedule		
5. Review testing and acceptance procedures		
D. Progress/Coordination Meetings:		
1. Conduct at weekly intervals.		
2. Meetings can be in person and/or via web conference.		
3. Attendees: Owner, Owner's Representative, contractor, subcontractor, supplier and any entity concerned with current progress or involved in planning, coordination, or performance of future activities to be represented at these meetings.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
4. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect process. Include topics for discussion as appropriate to the status of the Project.		
5. Schedule Updating: Revise Contractor's construction schedule after each process meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.		
1.5 Submittals		
A. Proposal Submittals		
1. Company Information		
a. Provide the following company information:		
1) Name of company submitting proposal.		
2) Brief company overview, including a description of the company culture, company structure, and a statement on whether the company is a private or public entity.		
3) Years in business.		
4) Number of employees.		
5) Annual sales volume.		
6) Names and titles of key personnel. Identify the primary point of contact and authorized individual to submit the proposal on behalf of your company.		
b. Executive summary of your team's proposed PARCS solution for completing the Scope of Work, as described, including any unique PARCS features and functionalities that will enhance customer service and facilitate greater operational efficiencies.		
1) Include a listing of the major components and their included features/options.		
2) Provide typical layout for pre-capture LPR and describe use cases included with the system.		
c. Provide detailed Frequent Parking program options and solutions, including the credential, payment, and ability to associate the vehicle plate number as the credential.		
d. Provide a list of any subcontractors, their business address, and a brief summary of their role in the project.		
e. Description of the Contractor's presence in the local area.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1) Physical location of the nearest service center for PARCS maintenance and repairs.		
2) Number of staff at this location.		
2. Manufacturer's Qualifications: Verify the following, in writing:		
a. In continuous operations for previous five years.		
b. Primary components installed and operating in three or more facilities of similar size and complexity. Provide the following for each installation.		
1) Name of project		
2) Location		
3) Contact name, telephone number and email address		
4) Date of installation		
5) Number of lanes		
6) Description of equipment and quantities		
7) Payments accepted		
8) Credential types used		
9) Photos of installed PARCS		
3. Installer Qualifications: Verify the following, in writing:		
a. In continuous operations for the previous five years.		
b. Proven ability to install equipment and provide appropriate and required service and support after installation.		
1) Approved in writing by PARCS manufacturer(s).		
2) State the number of years of experience installing for the manufacturer.		
3) Provide three comparable installations in parking facilities of similar size and complexity in the past three years.		
4) Provide the following for each installation.		
a) Name of project		
b) Location		
c) Contact name, telephone number and email address		
d) Date of installation		
e) Number of lanes		
f) Description of equipment and quantities		
g) Payments accepted		
h) Credential types used		
i) Photos of installed PARCS		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
c. Service Center located within two-hours driving distance of site.		
d. Organizational Chart - include names, title, and roles of individuals who will be assigned to this project including any subcontractors.		
e. Include resumes for key personnel.		
4. Price Proposal Form with total PARCS cost and unit cost of each component, along with add/alternate items and any recurring costs (on an annual basis) not already provided.		
a. Provide pricing for Add Alternates.		
b. List pricing for all transaction fees (Mobile POF, Reservations, Event Parking, etc.).		
5. Exceptions and Substitutions:		
a. Substitutions: Where functional performance features or quality of system vary materially from that specified, identify the substitution being proposed. Include catalog sheets, brochures, and/or technical specifications of the proposed substitution.		
b. Exceptions: Provide an all-inclusive list of all exceptions taken to any part of these Specifications (including substitutions).		
6. Project Approach – Submit the following:		
a. Detail the plan for design, installation, implementation, training, and testing.		
b. Description of the Contractor’s approach for post-installation customer service.		
7. Project Schedule based on the anticipated project milestone dates outlined herein:		
a. Milestone dates clearly identified		
b. Task and subtask start and completion dates		
c. Narrative description of phasing for each area of work including installation of field devices and performance of acceptance testing		
d. Training schedule		
8. Product Data Submittals:		
a. List of each primary component of system and the manufacturer.		
b. Cut sheets, including equipment dimensions, power and load requirements, communication requirements, operating temperature range, and buffering limits for all PARCS devices, and IP rating for all field devices, including:		
1) Barrier Gate		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
2) Cashier Terminal and peripherals		
3) Communication Network Components		
4) Electronic Signage		
5) Entry Station (ENS)		
6) Exit Station (EXS)		
7) Intercom Components		
8) License Plate Recognition Camera		
9) Payment Card Reader		
10) Proximity Card Reader		
11) Software Application		
9. List all manufacturer-recommended spare parts (name, part number, quantity, and unit price) to be maintained on site.		
a. The Owner reserves the right to order additional parts and manage the PARCS spare parts inventory as required to maintain the system.		
b. The proposed spare parts list is subject to the approval of the Owner, and the Owner reserves the right to modify the spare parts inventory throughout the term of the Contract.		
c. Owner to provide a storage location of the spare parts.		
10. Detail cloud infrastructure solution and components, including the on-premises components and cloud-based solution. Provide a description of the offsite cloud-based components of the system and the methods by which the on-site equipment and software communicate with the offsite/cloud-based components. This must include a description of the communications and networking methods required to integrate the onsite and offsite components, who provides the associated communications network (Owner, Contractor, or a combination), and any costs associated with this communications network.		
11. Provide the underlying host used, e.g. Amazon Web Services, Microsoft Azure, Google Cloud Platform, etc.		
12. Provide a narrative and graphic description of the PCI P2PE solution including:		
a. Any entities (gateways or service providers) that will stand between the PARCS and the intended processor.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
b. Any one-time, recurring, or transaction-based costs associated with the use of those gateway or service providers.		
c. Network diagrams and data flow charts describing the solution.		
13. PARCS standard reports including screenshots and sample reports.		
14. List of any equipment that the Contractor expects the Owner to provide.		
15. Warranty: Submit copy of warranty and explanation of any instances which may impact warranty coverage.		
B. Informational Submittals – After Project Award, prior to SDR meeting.		
1. All submittal approvals, comments and rejections will be returned to the Contractor by the Owner’s designated representative. Required Submittals must be resubmitted until accepted. Provide cover letter indicating the submittal purpose with area for comments and stamp by Owner’s representative. Responses will be returned indicating one of the following with additional notes as needed:		
2. “No Exception Taken” – accepted submittal.		
3. “Rejected” – resubmittal required.		
a. “Submittal Not Required No Review Performed” – no further action needed.		
b. “Make Corrections Noted Resubmittal Not Required” accepted but take corrective action.		
c. “Revise and Resubmit” – resubmittal required.		
4. Detailed Project Schedule for implementation, training, and testing including:		
a. Project plan in Gantt chart format generated using currently supported Microsoft Project or similar program approved by Owner.		
b. Milestone dates clearly identified, including staff training and testing		
c. Task start and completion dates.		
d. Phasing for installation of field devices, performance of acceptance testing, and activation for public use.		
5. Shop Drawings		
a. Mounting details for PARCS equipment, per manufacturer recommendations.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
b. Wiring diagrams detailing wiring requirements for power, signal, and control systems.		
c. Locations for electrical and communications connection points and pathways including conduit runs, network access points, power panels and circuits, and server location.		
d. Clearly indicate work that is not in contract.		
6. Samples: submit samples of tickets, reports, and other items requiring selection as part of the SDR meeting.		
7. Schematic diagram showing communication between head end equipment and field devices.		
C. Other Submittals – After Project Award, prior to SDR meeting. Submit in accordance with Division 1		
1. Training Plan and Schedule (to be submitted as part of the SDR meeting):		
a. Owner to tentatively approve or suggest changes to the training schedule.		
b. Fourteen calendar days prior to each instruction session, submit an outline of the instruction material and approximate duration of the session. Allow ample time within each session for the Contractor to fully describe and demonstrate all aspects of the PARCS and allow Owner personnel to have hands-on experience with the PARCS.		
2. Testing Plan (to be submitted as part of the SDR meeting):		
a. Plan for testing all system functionalities described herein as well as any other functionalities proposed by the Contractor.		
b. Owner to return review comments to the Contractor. Contractor to incorporate review comments into the Test Plan and resubmit for verification that all comments have been incorporated. Approved document will be termed the Test Procedures Document.		
c. Approval of finalized Test Procedures Document is required prior to commencement of any test.		
d. Develop test procedures for:		
1) Lane Acceptance Test (LAT).		
2) Operational Demonstration Test (ODT).		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3. Phasing Plan: Incorporate any Owner comments to the transition, training, and testing plans received during the SDR and submit a detailed Phasing Plan 30 days prior to installation to include:		
a. Revised schedule in Gantt format with milestone dates clearly identified, task start and completion dates, lane-by-lane installation dates, training dates, and testing dates.		
b. Description of phasing to decommission each lane, install new field devices, perform LAT, and activate for public use.		
c. Description for parking operational impacts during the transition from the old PARCS to the new PARCS.		
4. Submit the following manuals in electronic (PDF) format 30-days prior to commencement of testing:		
a. PARCS user's manuals.		
b. PARCS subsystem manuals.		
c. Accessory and 3 rd party equipment manuals.		
d. PARCS maintenance procedures manual.		
e. Training manuals.		
5. Provide a Certificate of Destruction or Certificate of Sanitization or equivalent, for all removed components or equipment that are within scope of the PCI-DSS as defined in the most-current version of the PCI-DSS Standard (PCI-DSS 4.0, Section 9.4 and its subsections, or as revised).		
6. Disaster Recovery Plan submitted 30 days prior to commencement of testing. This includes major failures causing more than one lane to go down, system failure of network, server, or internet outage. The plan shall provide step-by-step procedures for disaster recovery for each point of failure. These procedures provide detailed steps for staff to follow to resolve the issue, including:		
a. Diagnostics – Initial steps to determine point of failure.		
b. Action Steps – Actions staff may take to resolve failure.		
c. Initiate Live Help – Directions for requesting live assistance via phone or on-line.		
d. In-Person Support – Directions for requesting in-person support.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
e. Should disaster occur immediately following or as a result of installing a patch or software update, the disaster recovery plan must include steps to return the system to the software version in effect prior to the patch or update being applied.		
f. Points of failure include each component and sub-components, including servers, switches, and networks.		
g. The disaster recovery plan shall include requirements for and location of spares as applicable.		
7. Spare Parts		
a. Deliver spare parts per the approved spare parts list, complete and ready to use, prior to commencement of testing.		
b. Maintain inventory of spare components at this level as components are used during warranty period.		
8. Stock Items: Furnish the following supply of operating stock items prior to commencement of testing.		
a. 200,000 Owner approved parking tickets (50,000 per entry device).		
b. 30,0000 Owner approved receipt tickets per exit device and cashier station.		
c. Four (4) Straight barrier arms		
d. 20 Break-away bolts or clips for the gate arm if so equipped		
9. Equipment Keys		
a. Provide two (2) sets of keys for each unit of equipment with locks.		
b. All equipment and enclosures of the same type (ENS, EXS, Gates, etc.) have the same key and equipment of different types have different keys.		
c. Keys are unique to this project; other equipment supplied by the same manufacturer in the region cannot use the key provided for this project site.		
d. If a special tool is required to perform any function on the PARCS during the normal course of business and/or maintenance, provide three of these tools.		
D. Closeout Submittals		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1. Copies of all licenses, registrations, documentation, disks and other media (as may have been included with commercially available software packages) to be submitted prior to commencement of testing. In addition, ensure that all licenses, registrations and warranties have been transferred to Owner prior to final software turnover.		
2. As-Built Documentation: Submit as-built documentation in electronic format of all systems and components installed as part of the PARCS. Include drawings of the actual installed conditions of all equipment and cabling components and configuration settings upon the completion of any acceptance test.		
a. Update the most recent as-built documentation as further changes occur in the field or as a result of a patch or upgrade to an installed system throughout the warranty period.		
b. Provide a list of all TCP/IP devices with each device's IP address, MAC address, and general description of the installation location.		
1.6 Quality Assurance		
A. Comply with all laws, ordinances, codes, rules, and regulations of public authorities. It is the responsibility of the Contractor to meet these and all other current technical, performance, and safety standards that are applicable to all components and to the entire system, even when not specifically referenced.		
B. Obtain all required permits.		
C. All equipment and parts to be newly manufactured and never installed in any other operational system other than for factory test purposes.		
D. UL standards where test standards have been established.		
1. Equipment and materials which are not covered by UL Standards may be considered provided equipment and material is listed, labeled, certified or otherwise determined to meet safety requirements of a nationally recognized testing laboratory.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
2. Equipment of a class for which no nationally recognized testing laboratory accepts, certifies, lists, labels, or determines to be safe, will be considered if inspected or tested in accordance with national industrial standards, such as NEMA, or ANSI. Evidence of compliance shall include certified test reports and definitive product data.		
1.7 Delivery, Storage, and handling		
A. It is preferred that the equipment be delivered to the contractor's local shop, hot-prepped, and not brought to the job site until ready on the day of installation.		
B. The Contractor must receive all equipment on-site. The Owner will not receive, unload, or participate in the delivery of equipment to the site.		
C. Contractor is responsible for replacing any items damaged during shipping, by expedited means, at no additional cost to the Owner if required to maintain the installation schedule.		
D. Coordinate designated storage/staging area(s) for PARCS equipment that has not been installed prior to shipping to the site to ensure the area is sufficient and available.		
E. It is the Contractor's responsibility to protect the equipment from theft and damage until final acceptance. This may include installation of fencing, locks, and any other security provision deemed necessary by Contractor. Should the stored equipment be stolen or damaged prior to final acceptance, replace the equipment at no additional cost to the Owner.		
F. Deliver equipment to site in manufacturer's original containers to prevent damage and marked for easy identification.		
1.8 Project/Site Conditions		
A. Environmental Conditions: Entire system and components warranted to be unaffected by weather conditions typical to the area as well as the conditions listed below:		
1. Ambient Temperatures: -20°F to 125°F (with addition of solar loading)		
2. Humidity: 0% to 99%		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3. Condensation: Performance of outdoor devices to be unaffected by naturally occurring condensation within device enclosures.		
4. Moisture: Blowing rain/sleet/snow with 80 mph gusts, power-washing of nearby surfaces		
5. Dust: Accumulating and blowing dust and fine sand		
B. Equipment housings, conduits, and junction boxes exposed to weather (any location not in a conditioned environment) shall meet or exceed IP65 standards. Components that do not meet IP65 standards or better may be considered if implemented with supplemental environmental controls such as air conditioners and dehumidifiers.		
C. The entire system and components are warranted to be unaffected by non-direct lightning strikes or similar types of power interference.		
1. Provide lightning protection through surge arrestors or earthen ground rods or a combination thereof on all conductive interconnections.		
2. Determine, based upon the PARCS manufacturer's system requirements, the appropriate lightning protection method to use for the location where the equipment is installed.		
3. Provide equipment that is UL-approved for use as part of a labeled lightning protection system and marked in accordance with UL procedures.		
D. Any new islands or pads containing PARCS equipment must not be poured until stub-ups and any necessary anchor bolts are properly placed and verified by the Contractor. Any conflicts with installation at a particular location must be resolved prior to pouring lanes and pads for PARCS equipment.		
1.9 Warranty, Service, and support		
A. The warranty period for PARCS equipment, hardware, and software begins upon notification from the Owner of Final System Acceptance.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
B. Warranty all parts, materials, and workmanship following Final System Acceptance for a period of 12 months (1 year). Inclusive of ALL costs (parts, labor, maintenance, software support, warranty repairs, Contractor travel time, Contractor expenses, etc.) incurred during the warranty period to be provided without additional cost to the Owner.		
C. Costs (time and material) for repair or parts replacement, components, etc., damaged or rendered unserviceable due to apparent and provable misuse, abuse, vandalism or negligence by Owner or the using public are excluded as a warranty requirement. Also excluded from the warranty are damages due to Acts of God. Contractor costs related to these non-warranty repairs can be invoiced to the Owner on a time-and-materials basis at the same rates/costs as included in the price proposal.		
D. Maintain all systems that are operating prior to starting the warranty period. Maintenance services to be defined within the Manufacturer's recommended maintenance procedures manual, submitted as accepted by the Owner.		
E. Repair Service:		
1. Conditions requiring repair services by the Contractor are those in which a lane, PARCS device, or group of devices becomes unusable due to malfunction, failure, or damage and cannot be remedied by Owner personnel.		
2. Provide an online customer support web portal for notification and tracking of repair requests.		
a. Acknowledge receipt of the repair entry into the portal by auto-email to the owner within one (1) minute of notification.		
b. Begin remote repair diagnostics and/or service within sixty (60) minutes of notification entered during normal business hours, Monday-Friday. If a request is made after hours, the remote repair is to begin by 10:00 a.m. CST, the following workday.		
c. If remote repair is unsuccessful and on-site repair is needed, up to 24 hours is permitted to begin on-site repairs		
d. Notify the owner via email or phone call with status updates of the above service support expectations.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3. Emergency repair services will be provided 24/7/365 at the Owner's request. Services performed outside of business hours will be charged at the then-current hourly rates provided by the PARCS Contractor.		
4. All situations must be resolved within 24 hours of notification. If replacement parts are not available in inventory, a temporary solution is acceptable.		
5. Factors beyond the contractor's control, such as unexpected parts delays, accidents, severe weather, and unusual traffic, require thorough documentation to be submitted to the Owner the next business day. After reviewing these factors, the owner may grant relief for the service hour requirement.		
F. Software Support:		
1. Provide on-site and remote software support for PARCS and all 3rd party software applications.		
2. Provide 24/7 telephone-based software support to the Owner.		
3. Make the normal PARCS software improvement releases (updates) available to the Owner at no additional cost when they become available.		
4. Provide all PARCS and operating system software patches and updates free of charge during the warranty period; however, the Owner reserves the option to implement or not implement these updates. Provide documentation seven calendar days prior to all PARCS and operating system software modifications, patches, updates, and upgrades that describe:		
a. Patch/update release designation		
b. Proposed date and time of implementation		
c. Detailed description of what the patch/update accomplishes		
d. Full disaster recovery procedures that return the system to its pre-patch/update condition		
5. Coordinate the testing and implementation of all patches and updates with the Owner.		
6. PARCS Database and PARCS application software maintenance to be performed remotely or on-site as approved by the Owner.		
7. Any software or hardware must not currently have an End of Life (EOL) date with seven (7) years from installation date.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
8. Support upgrades to the PARCS application based on operating system patch and upgrade requirements. (For example, if the PARCS runs on a Microsoft operating system, patch the PARCS software according to the Microsoft patch and upgrade schedule without breaking any applications. If Microsoft decommissions an operating system, the Contractor must be capable of releasing code compatible with the next operating system upgrade prior to Microsoft ending support for the current operating system.)		
9. Provide corrective patches and upgrades in the event of security vulnerabilities or system availability issues being discovered.		
10. Provide written documentation of each update provided, including new features introduced, issues resolved, and known issues.		
G. Preventive Maintenance Service during the Warranty Period:		
1. Provide preventive maintenance services for all systems throughout the warranty period. Preventive maintenance procedures and frequencies to be defined within the Manufacturer's recommended maintenance procedures manual submitted with the Proposal as modified and accepted by the Owner.		
2. Preventive maintenance services include but are not limited to inspection, testing, necessary adjustment, alignments, calibration, parts cleaning, battery replacement, communication system maintenance, server administration and database administration of the PARCS provided by the Contractor.		
3. Perform all preventive maintenance at non-peak periods during regular business hours.		
H. Support Portal & Documentation		
1. Maintain a secure, web-based online portal for service requests that can be accessed over the Internet by credentialed users.		
2. Provide the Owner with credentials to access the portal with the following access rights:		
a. Create new service requests.		
b. View the status of existing service requests created by the Owner directly through the portal, or created indirectly by phone, email or other means.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
c. Report on basic metrics, including:		
1) Issues reported over time.		
2) Issues resolved over time.		
3) Current open issues.		
4) Average time to resolve.		
3. Create a record of all service requests within the portal, whether they are submitted by the Owner directly in the portal, or through a phone call, email, or other means of submission.		
4. Retain service request and resolution history for at least 5 years in the portal for immediate access by the Owner.		
1.10 Add Alternates		
A. Maintenance and Service Contract:		
1. A separate contract, which is awarded for Maintenance and Service after the expiration of the warranty.		
2. Provide annual pricing for seven years.		
3. Provide pricing for the above contract, which is valid on the year of the contract anniversary. Should the Owner decide to procure said contract extension, payment shall be due thirty (30) days prior to each contract anniversary.		
B. Parts Warranty Contract:		
1. A separate contract, which is awarded to extend the manufacturer's parts warranty after the expiration of the warranty.		
2. Provide annual pricing for seven years.		
3. Provide pricing for the above contract, which is valid on the year of the contract anniversary. Should the Owner decide to procure said contract extension, payment shall be due thirty (30) days prior to each contract anniversary.		
C. Add LED lights to gate arms.		
D. Substitute fixed DMS signs at the exit plaza with full matrix VMS signs with required software to allow the display of variable messages and graphics.		
E. Mobile Cashier Unit for use by staff in the lane to process transactions.		
F. Handheld LPR Inventory System for tracking parked vehicles by plate.		
PART 2 - Products		
2.1 Payment Cards		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
<p>A. All aspects of the PARCS, including but not limited to, hardware, software, configuration settings, processes (both manual and automated), policies, procedures, reports, network architecture, data storage schemes and other products for the PARCS must be compliant with all applicable Payment Card Industry (PCI) Security Standards Council standards, Information Supplements and Guidelines (www.pcisecuritystandards.org) published or in force at the time of installation, so that the Owner can certify the system as PCI Compliant. As part of demonstrating compliance with the PCI security standards, the requirement or use of a compensating control (as defined by the PCI Security Standards Council) shall only be permitted with written approval of the Owner.</p>		
<p>B. Coordinate with Owner on clearinghouse and/or gateways to be used for authorization.</p>		
<p>C. Provide authorization for the following brands/types of payment cards:</p>		
<p>1. Visa</p>		
<p>2. MasterCard</p>		
<p>3. American Express</p>		
<p>4. Discover</p>		
<p>5. Bank-Issued Debit Cards with any of the above card brand affiliations, accepted as a credit card.</p>		
<p>D. Provide a PCI-P2PE validated system for handling card-present transactions.</p>		
<p>E. Provide EMV Chip and Tap to Pay Contactless reading of payment cards for card-present transactions.</p>		
<p>F. Support Apple Pay, Google Pay, and Samsung Pay mobile device-based payments.</p>		
<p>G. Support PCI-compliant storage of a minimum of 1,000 transactions in an offline state.</p>		
<p>H. Provide a system using tokenization by a currently validated PCI Level 1 Service Provider for handling card-not-present transactions, if such transactions are a capability of the system.</p>		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
I. Provide, test and install quarterly security updates for system components in the cardholder data environment, such as operating system, application software, firmware, etc. related to payment cards during Warranty Period and any optional Extended Service Coverage selected by Owner.		
J. Payment card processing time of no greater than ten (10) seconds.		
K. Support Payment Card as an Access Credential		
1. Ability to activate/deactivate via server.		
2. Perform all functions without compromising PCI-DSS compliance.		
3. Provide a PCI compliant method to search for entry date/time for lost or unreadable payment cards used to enter the facility. The payment card in/out functionality shall provide a PCI compliant method to find and reset a payment card status in the event of passback sequencing.		
4. Provide the operational sequences as specified elsewhere in this document.		
2.2 Software		
A. Provide all software and software licensing required by the system to achieve total system performance.		
B. Provide open APIs for dissemination to third-party websites and applications. Such API's must be open, documented, and non-proprietary using industry-standard approaches such as REST, JSON, or XML,. Data access via the API is to be available to the Owner at no additional charge.		
C. Provide the latest available software version at the time of system implementation for all third-party software, including operating systems and database software.		
D. Make any necessary modifications, and provide documentation of such modifications, to existing third-party software programs that the Contractor adopts for the system. Should the Contractor and the software manufacturer be separate entities, the software modifications will not preclude the purchase of a standard maintenance and service contract from the manufacturer.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
E. Provide any necessary perpetual licenses and/or authorization for all PARCS-related software, including, but not limited to, operating systems, application software, development language, peripheral software, and PARCS hardware diagnostic software. If available, provide a site license to the Owner, which means the usage of the license is unrestricted, regardless of the physical locations where the software may be used.		
F. Provide cloud-based Software as a Service (SaaS). Document in the Proposal SaaS licensing terms and conditions, and the options and costs for a multi-year license for terms ranging from 1 (one) to 10 (ten) years in length. Describe what occurs in terms of system and feature functionality if Owner chooses not to renew SaaS-based licensing.		
G. Provide licenses that cover future updates as required by these specifications.		
H. For any systems installed on-premises, deliver product keys and software license documentation with the Owner listed prior to commencing system testing.		
I. Database Management System (not applicable to multi-tenant cloud solutions)		
1. Use a commercial off-the-shelf ODBC-compliant relational database software program to provide complete operation of the PARCS.		
2. Provide the database schema to the Owner.		
3. Provide the Owner with database access credentials.		
J. Operating System Platform (not applicable to multi-tenant cloud solutions)		
1. Use a commercial off-the-shelf operating system to provide complete operation of the PARCS.		
2. Operating system software consisting of software to support system setup, system operation, routine hard drive backups, diagnostics, and other maintenance routines.		
3. Upgrade the PARCS application to operate on the most current operating system upon commercial release of a new operating system version. Upon completion of successful Contractor testing, recommend implementation of the patch. Implementation subject to the Owner's approval.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
K. PARCS Application Software:		
1. Install and configure all application software and firmware required by the PARCS with all software licenses registered to the Owner.		
2. Provides complete operation of the PARCS and includes the database management system.		
3. Allows for future upgrade and expansion of the PARCS.		
4. The browser-based and web-browser management UI is enabled so that PARCS is accessible from any Owner workstation connected to their network.		
5. Allow multiple groups and roles that govern individual access to the system. The assignment of a group/role will control access to the various modules of the PARCS, and if the access is update or view only.		
6. Access rights to the system for the various groups and roles will be defined during implementation.		
7. PARCS application software to provide the following:		
a. Manage, display, and report all PARCS-related activity as outlined in this functional specification.		
b. Provide a web-based GUI to access all functions.		
c. Automatic detection and reporting of fault conditions and equipment failures. Categorize fault condition by severity and display alarm notification on the system GUI as well as notify designated Owner personnel via email and/or text message for any individual fault condition, category of fault, or Owner-selected group of faults.		
d. Reporting as outlined in the Reporting section.		
e. Real-time monitoring of all PARCS field devices		
f. Central access and control of field devices for users with the appropriate authorization to issue remote commands from system workstations to the field devices, such as raising and lowering the BG; rebooting field devices; putting field devices in or out of service; remote transaction processing, etc.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
g. Audit logging for the use of central controls within the PARCS database by user ID, time, device controlled, and action taken. Audit logging to include all creation, deletion and modification of the following items:		
1) Rates and rate tables		
2) Validations		
3) Contract parker configuration		
4) User access to system		
5) Field device configuration		
6) Field device actions, such as manual gate raise		
7) Parking facility definition within the system		
8) Parking facility occupancy and capacity		
9) End-user messaging		
10) Credit card acceptance configuration		
11) Custom reports		
12) Audit log		
h. Configurable parking rates, grace periods, and time increment changes from system workstations. Configuration access to be restricted to Owner designated users with proper authorization.		
i. Remote communication with all devices in real-time for a general broadcast of information (e.g., rate changes or time increment changes) or software update, and an ability to communicate with a single device to upload information or software. It shall be possible to remotely shut down a field device's operating system, upload updates, and remotely restart the field device.		
j. Correct calculation and processing of parking fees during a transition:		
1) from daylight savings time to standard time, and vice versa		
2) at the beginning of March during leap years (e.g., when there is a February 29th).		
3) from one rate to another (e.g., rate has an effective date so that Customers are charged a parking fee based upon the parking fee that was current at the entry date and time, not the exit date and time, allow the new rate to be either less than or greater than the new rate).		
k. Programmable rate structure to establish variable rates based upon the time of day, day of week, and special events.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
l. Programmable rate structure to establish daily/weekly/monthly maximum fees, grace times, and complimentary periods.		
m. Programmable rate structure to allow configuration of tax rates applied to parking fees, as either a percentage or a flat dollar value.		
n. Create system generated alarms – generation of alarms for user selectable event type. Alarm Hierarchy shall be completely configurable so the Owner can adjust priority of alarms, audible tones, where the alarms are sent, etc. Initial Alarm Hierarchy shall be coordinated with the Owner during implementation.		
o. Alarms to reported and displayed on GUI and automatically sent via text and email to users based on user preferences.		
p. Ability to export all query results and reports to multiple formats including Portable Document Format (PDF), comma-separated-value, and Microsoft Excel©.		
q. Provide command center functionality with the following attributes:		
1) Accessible through a web browser to any user with connectivity and credentials.		
2) Ability to see status of all field devices, including error conditions and alarms.		
3) Ability to respond to and disable alarms.		
4) Ability to see an overall view of devices, as well as individual device details.		
5) Ability to answer intercom calls and automatically view the video feed from the pinhole camera (if equipped), using audio input and output facilities of the command center users' device.		
6) Ability to view real-time output of the pinhole camera (if equipped).		
7) Ability to modify transaction processing by applying validations, generating lost tickets, and applying special rates.		
8) Ability to manually open and close gates.		
9) Ability to close and open lanes.		
10) Ability to manipulate associated TC, DMS, and VMC signage.		
L. Reservation System Integration Capable		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1. Integrate with third-party parking reservations (pre-bookings) to create and process reservations for end-users.		
2. Reservation credentials to include both Quick Response (QR) Code (printed or displayed on a mobile device) and License Plate Number (LPN)		
3. Fully integrate the third-party reservation system with the Parking Access Revenue Control System (PARCS) to enable access to the gated facility for reservation holders.		
4. Provide reporting of reservations and payment activity.		
5. Calculate fees and accept payment for the overstay of reserved time at the owner-selectable rate schedule.		
M. Mobile Payment with LPR		
1. The end-user will enter the parking facility by taking a ticket at the entry lane.		
2. Upon returning to their vehicle and preparing to exit the facility, they can scan the PARCS ticket with their mobile phone and make payment via a responsive mobile website provided by the contractor, which includes owner-supplied branding elements.		
3. Optionally, provide the owner with QR-code signage that links to the payment page and accepts LPN as input to start the payment process.		
4. Payment information and confirmation are uploaded to the PARCS software within ten (10) seconds.		
5. Receipts delivered by email or Short Message Service based on end-user preference.		
6. Upon presenting the ticket at the exit, the PARCS will know the transaction has been paid and will vend the gate to open.		
7. Alternatively, the user's License Plate Number (LPN) which was associated with the ticket transaction at entry will be recognized as paid and the PARCS will know the transaction has been paid and will vend the gate to open.		
8. Programmable grace period from time of payment to time of exit. If the user overstays the grace period, the PARCS will request payment via payment card at exit.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
9. Mobile applications are not required to use mobile payment.		
N. Reporting		
1. Available online and on demand for Owner personnel who have proper password access.		
2. Viewable, printable, and exportable from the GUI.		
3. Data compiled in an ODBC-compliant database or via a data export where the data is not directly accessible (such as with multi-tenant cloud solutions).		
4. Provide the Contractor's PARCS standard reports, including report descriptions, selectable data fields, and report layouts for all standard reports.		
5. Coordinate with the Owner as required during the system design to address specific reporting needs of the Owner. At a minimum, reports provided shall include:		
a. Detailed Revenue and Non-Revenue Transactions Reports – Reports of transactions processed through the PARCS by user selectable parameters including user type (ticketed customer, validation, pre-paid, parking integrator, Access Credential, etc.), date/time range, and by PARCS device.		
b. Detailed and Summary Revenue Reports for daily, weekly, and monthly PARCS activity.		
c. Payment Card Reports – Reports of payment card transactions by user selectable parameters including date/time range, payment card type, transactions type (valid online transaction, declined transactions, offline transactions, etc.)		
d. Outstanding Ticket Reports – Report of parking tickets that have been issued but have not been processed or exited from the system.		
e. Validation Report – Report of validations issued, amount of validations, and when the validation was used, by user selectable parameters.		
f. System Event Reports – Reports for system generated events by user selectable parameters including PARCS device and date/time range.		
g. Occupancy Reports.		
h. FPP reporting, including members, parking activity, and credit card expiration dates. Data to be reported based on multiple parameters.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
i. ACS reports:		
1) Activity Usage Reports – Provide a chronological list of ACS usage, including date, time, credential, and location of entries and exits; capable of being sorted by any field.		
2) Count Reports – Monitor and report counts of ACS vehicles present on an hourly basis by group, access level.		
3) Percentage of Occupancy – For selectable times during 24-hour period for all categories of ACS parkers.		
4) In/Out Status Report: Shows status of all ACS cards at any given time, sortable by name/card #/status.		
5) Active User Report – A listing of all active users that have access to the facility.		
6) Activity Exceptions Report – A field-sortable listing of all activity exceptions to include at a minimum hard-passback, soft-passback, shared account, debit card, hotel quest pass and nesting violations.		
7) User Changes Report – Provide report of changes to user accounts to include at a minimum debit card rate changes and status changes (e.g. card placed in neutral with no charges applied at exit).		
j. Provide up to six (6) custom reports at no additional charge.		
2.3 Access control system (ACS)		
A. Provide an on-line, computer-based access control system for those authorized by Owner to have access to parking facility without being processed through ticket system, for example; a “monthly parker”.		
B. Airport has existing airport staff parking access cards and separate FPP cards.		
C. Distributive, networked or centralized processing may be employed, so long as required multi-lane control features such as anti-passback, occupancy and activity tracking are maintained.		
1. Authorized vehicles requiring free and fast ingress and egress to parking facilities.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
2. Monthly parkers who have a contractual agreement and/or will prepay or prearrange billing for parking on a monthly basis.		
3. Employees with parking access will be able to use their license plate for access using the LPR cameras or their employee badge to access parking using proximity readers.		
4. Frequent parkers, who prepay or prearrange billing:		
a. System to allow users to manage their own account with a credit card on file.		
b. Allow license plate as the primary credential with QR code as a backup for access.		
c. Frequent Parker Program users will use their license plate as the primary credential with a QR code as a backup credential. Provide options for rewards program beyond the current program, to include potential incentives and tracking of use.		
d. Automatic credit card billing after each use.		
D. Individually recognize and process up to ten thousand (10,000) ACS users at all reader locations.		
E. Have at least sixteen (16) preprogrammed access levels capable of being changed without reprogramming of ACS.		
F. Provide anti-passback control. With this feature, users enter and exit in proper sequence (i.e., entry, exit, entry, exit, etc.).		
1. Selectable option to allow either "hard" (out of sequence user is rejected and an alarm is generated) or "soft" mode (out of sequence user is allowed access but reported.)		
2. In both hard and soft modes, each out-of-sequence event is reported as an exception transaction in the daily ACS access log.		
3. Password-protected "resynchronization" of all users to an undetermined passback status before return to anti-passback control.		
G. Link users to each other to allow one entity to be identified with and/or pay for a group of users. Provide up to one hundred (100) such user groups.		
H. Ability to group ACS credentials and limit access to a preset maximum number of vehicles in a facility at any given time, and/or allow and track overages to be invoiced separately.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
I. A facility for one account to be associated with one or many credentials, such that a single account may be granted or denied access using any of the credentials in any sequence. For instance, an account with a prox card and several license plates.		
J. Nesting feature:		
1. Ability to require parkers that are assigned to park in a specific level or area (nest area) to use an ACS credential to enter and exit the nested area in order to exit the facility.		
2. Required sequence: In facility, in nest, out of nest, out of facility.		
K. Programming requirements:		
1. Issue and reprogram ID devices.		
2. Allow authorized supervisor to create, store, send, and receive user programming from ACS readers. Password-protected access to programming, with multiple levels of access, to any and all information regarding specific blocks and/or suites of cards.		
a. Provide at least twenty (20) programmable record fields for each person issued an ACS credential and at least twelve (12) programmable record fields for each user's vehicle(s).		
b. Allow specific parker record files to be retrieved, displayed, and/or printed based on selectable criteria, such as current ACS status, access group, access level, and/or ID numbers (except for data that is password-protected).		
c. Allow searching, sorting, and printing of the database by any field for both routine and special forms, such as invoices or mass mailings.		
d. Consolidate and retain data to allow for report generation (see "reports"). Capable of reporting the collection of fees from parkers on a monthly prepayment, decrementing, end-of-month billing, and/or credit card basis.		
2.4 Power		
A. Examine and accept existing power to the field locations of powered equipment. Should the proposed system require additional power infrastructure, the Contractor must identify location(s) in their proposal and provide cost for installing the required power infrastructure.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
B. Furnish and install all additional power conduits, pull cords, junction boxes, and cabling necessary to support the PARCS, per the PARCS manufacturer's requirements.		
C. Provide and install any power grounding and power conditioning that is required for the operation of the system.		
D. The Contractor is responsible for furnishing, installing, terminating and testing any cable necessary to provide power from the local power source to the field devices.		
2.5 Communications		
A. Unless specified elsewhere, the Owner will provide and install all required communication cabling from the IDFs to demarcation points. All such cabling will be either CAT6 or fiber optic, in accordance with applicable IEEE/ANSI industry standards and distances to be spanned.		
B. Provide and install all additional communication equipment, conduits, pull cords, junction boxes, and cabling necessary to provide the specified system functionality.		
C. Provide and install all additional communication switches, communication enclosures, and cabling at each lane to provide the specified system functionality.		
D. Configure all field component communication such that no single point of failure of a device shall cause an operational failure of surrounding devices.		
E. Every PARCS device and system component must operate independently in the event of a network communications failure or interruption. Each device requires buffering of data for a minimum of 2,000 transactions. System will continue to operate in the off-line mode and store the buffered data until the data connection is restored. Upon restoration of the data connection, all stored data will automatically be uploaded to the server or cloud. In the event some transactions are not successfully uploaded, generate an alarm, and continue to store the transactions locally until successful uploading has occurred.		
2.6 Equipment and Subsystems		
A. Provide newly manufactured equipment and associated materials for the PARCS.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
B. All equipment performing a like function and of the same part number are to be fully interchangeable without the requirement for physical modifications.		
C. Computer System, Application, and Data Servers:		
1. The PARCS servers are to be hosted cloud-based systems and reside outside the Owner's network.		
2. Contractor is to identify, document, and gain Owner's approval on a mechanism to ensure that the Owner has secure, complete, unrestricted access to the servers, with no restrictions on Owner's capability to establish or change passwords or access level.		
3. Review drawings for locations and Coordinate space needs with Owner as necessary.		
4. Provide and install lockable server rack(s) for all switches, ISP Router, and Firewall, including UPS protection to connect field devices to the cloud-server software.		
a. Rack must be off the ground and protected from dust and debris.		
b. Ensure UPS protection and battery back-up for racked equipment for a minimum of thirty (30) minutes.		
5. All equipment to have sufficient processing power, memory capacity, and communication bandwidth to meet functional performance demands of PARCS software without loss of responsiveness to user input or slowing of any end node device or workstation.		
6. Provide centralized management of the PARCS.		
7. The Owner reserves the right to procure and provide any commercial off-the-shelf IT or networking components.		
8. PARCS cloud-based servers to contain all PARCS application and database software that is associated with PARCS operation, data storage, and reports.		
9. Install and configure all necessary software on the servers with all required system software licenses registered to the Owner.		
10. Configure such that the following features and functionalities are attainable:		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
a. Maintain 24 months of on-line data of all PARCS data. All data shall be readily accessible without any delay in processing.		
b. Provide fault tolerance such that no infrastructure-level single point of failure causes disruption to the PARCS or corruption of PARCS data.		
c. Long Term Storage Media – Ability to archive all summary data for up to five years on owner-provided external media with simple retrieval capability.		
11. All PARCS data is considered to be the sole intellectual property of the Owner. Usage of this data by Contractor or by the PARCS vendor for any purpose other than to support, test or repair Owner's system requires prior written authorization from Owner. If such data is stored offsite or in the cloud under a term-based SaaS mechanism and Owner decides not to renew the SaaS agreement, Contractor is to send all PARCS data gathered over the lifetime of the system (i.e. from system activation date through the SaaS agreement termination date) to the Owner in an Excel format and is to subsequently delete such data from any offsite servers or cloud instances.		
D. Entry Station (ENS)		
1. Provide and install ENS) at the public entry lanes, as indicated on the Drawings, equipped with the following components and capabilities:		
a. Access door with an appropriate tamper-resistant locking system.		
b. Push button ticket dispenser.		
c. Tied to the LPR camera system to allow high confidence plate reads to enter via their plate.		
d. Proximity Card Reader, two (2) if needed, integrated into the face of the ENS, capable of reading Owner HID proximity cards and FPP cards.		
e. Quick-response code reader integrated into the face of the ENS capable of reading 1D and 2D barcodes, including pre-printed coupons/validations and electronic barcodes displayed on mobile devices.		
f. Push-button video-enabled intercom integrated into the face of the ENS.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
g. ENS issues one (1) time and date-stamped barcode or parking ticket for each ticketed entry transaction.		
h. Uniquely encoded tickets.		
i. Unique ENS identifier encoded and printed on each ticket.		
j. Machine-readable ticket encoding that is compatible with all other PARCS components.		
k. Minimum ticket stock capacity of 5,000 tickets.		
l. Color display with minimum 5" display.		
m. Provide selectable directional language, with a minimum of English and Spanish.		
n. Use visual instructions for customers to understand the sequence of events to complete a transaction.		
o. Stand-alone functionality that allows the ENS to operate independently when there is a temporary network communication failure, regardless of where the communication interruption occurs. Alarm for ENS offline condition to be displayed on the PARCS GUI.		
p. Ticket stock low alarm generated on the PARCS GUI.		
q. Ticket stock out alarm generated on the PARCS GUI.		
2. All alarms generated on the PARCS GUI to meet requirements outlined in Section 2.2, K, 7 (Software).		
E. Exit Station (EXS)		
1. Provide and install EXS at the public exit lanes, as indicated on the Drawings, equipped with the following components and capabilities:		
a. Access door with an appropriate tamper-resistant locking system.		
b. Payment card capabilities as defined in the Payment Card section.		
c. Ticket scanner for ticketed transactions.		
d. LPR integration to scan and match the exit plate with the exit plate for high confidence plates on entry without a physical ticket.		
e. Proximity card reader, two (2) if needed, integrated into the face of the ENS, capable of reading Owner HID proximity cards and FPP cards.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
f. QR Scanner integrated into the face of the EXS capable of reading 1D and 2D barcodes, including reading pre-printed coupons/validations and electronic barcodes displayed on mobile devices.		
g. Push button video-enabled intercom integrated into the face of the EXS.		
h. Unique EXS identifier encoded and printed on each ticket after processing.		
i. Reads and verifies pre-paid tickets.		
j. Reads and verifies validated tickets.		
k. Color display with minimum 5" display.		
l. Provide selectable directional language, for a minimum of English and Spanish.		
m. Use visual instructions for customers to understand the sequence of events to complete a transaction.		
n. Stand-alone functionality that allows the EXS to operate independently when there is a temporary network communication failure, regardless of where the communication interruption occurs. Alarm for EXS offline condition to be displayed on the PARCS GUI.		
o. A receipt printer that is capable of producing receipts for all transactions.		
p. Upon successful payment, print a receipt that includes:		
1) Owner-approved header and footer.		
2) Transaction number.		
3) Lane or equipment number.		
4) Entry date/time and Exit date/time.		
5) Parking fee.		
6) Amount of tax for the parking fee (if applicable).		
7) Other fees as applicable.		
8) Total fee paid.		
9) Payment type.		
10) Payment card type.		
11) Last four digits of payment card number.		
q. User configurable for receipts to be auto-issued or by request.		
1) The "Press for receipt" option is available before and after payment until the presence loop is cleared and the lane resets for the next transaction.		
r. Receipts to be FACTA-compliant.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
s. Receipt stock low alarm generated on the PARCS GUI.		
t. Receipt stock out alarm generated on the PARCS GUI.		
u. Interfaces with barrier gates and vehicle detectors in the respective lanes.		
2. Electronic journal record of transactional information for each transaction processed at the device. Journal record to be printable from any system workstation. Transactional information on the electronic journal includes:		
a. Date and time of transaction		
b. PARCS device number		
c. Sequential transaction number		
d. Ticket number		
e. Entry date/time and exit date/time		
f. Transaction fee		
g. Tax amount		
h. Total fee		
i. Payment method		
j. For payment card transactions, include:		
1) Payment card type		
2) Last 4 digits of the payment card		
3) Payment card authorization code		
F. Cashier Terminal (CT)		
1. Cashier terminal located in building at exit plaza. (this is not in the booth located in the center lane, which will not be used for cashiering). The cashier lane will be dual-use, such that they can operate in a cashiered mode through the CT when a cashier is present or in an unmanned mode using an EXS located in front of the building.		
2. Provide CT with the following components and capabilities:		
a. Cashier computer.		
b. Ticket reader/validator that accepts ISO standard readable cards, barcode parking tickets, and validations.		
c. Payment card processing as specified in the Payment Card section.		
d. Touch screen cashier monitor.		
e. Capability to process all acceptable payment methods.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
f. Receipt printer that is capable of producing receipts for all transactions. Duplicate receipt function shall be a user selectable feature that can be disabled if desired.		
1) Upon successful payment, print a receipt that includes:		
a) Owner approved header.		
b) Attendant name or number.		
c) Transaction number.		
d) Lane or machine number.		
e) Discounts or surcharges.		
f) Entry date/time and Exit date/time.		
g) Duration of stay.		
h) Parking fee.		
i) Amount of tax for the parking fee.		
j) Total fee paid.		
k) Payment type – credit.		
l) Payment card type, if paying with payment card.		
m) Last 4 digits of payment card number.		
2) User configurable for receipts to be auto issue or by request.		
3) Receipts to be FACTA-compliant.		
g. Customer fee display that are easy to read, LED type.		
h. Stand-alone functionality that allows the CT to operate independently when there is a temporary network communication failure, regardless of where the communication interruption occurs. Alarm for the CT offline condition to be displayed on the PARCS GUI.		
i. Provide offline transaction storage capacity for all transactional information. Automatically close the cashiered lane if the transaction threshold is reached and remain closed until reestablishment of communications. CT will automatically upload all transaction information to the PARCS servers once communications are restored.		
j. Journal record of transactional information for each transaction processed at the device. Journal record to be printable from any system workstation. Transactional information on the journal tape includes:		
1) Date and time of transaction.		
2) PARCS device number.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3) Sequential transaction number.		
4) Ticket number.		
5) Entry date/time and exit date/time.		
6) Parking fee.		
7) Tax amount.		
8) Total Fee.		
9) Payment card type, if a payment card was used.		
10) Last 4 digits of the payment card.		
11) Payment card authorization code.		
G. Intercom Subsystem		
1. Provide and install a video-enabled intercom system for two-way communication and one-way video between the PARCS field devices at all entry and exit lanes to any location or phone system designated by the Owner.		
2. Fully digital, microprocessor-based, modular design using VoIP (Voice over Internet Protocol).		
3. Programming server for all intercom features performed through a networked workstation or from a staff intercom station.		
4. Programmed configuration of intercom stations and system features stored in non-volatile memory.		
5. Ability to remote vend the gate from the intercom station allowing logging of reason and tracking of person vending the gate.		
6. System includes all software and hardware required for the programming system, including:		
a. Individually programmable volume control for each intercom station.		
b. Substations programmed to call staff intercom station.		
c. Call forwarding feature for individual stations or all stations to re-direct calls to another designated staff intercom station or designated phone number, including mobile phone.		
7. Staff intercom station desktop interface:		
a. Provide full-duplex hands-free conversation with any other selected individual station or combination of stations in the system.		
b. Plays through computer speakers or headset.		
c. Firmware/feature upgrades are available for download through the intercom server, with no local modification required on the station.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
8. PARCS field device intercom substation requirements:		
a. Provide push-button intercoms at all PARCS field devices.		
b. Integrated pinhole camera active when intercom engaged. Video feed available to staff intercom station(s).		
c. Microphone, loudspeaker, and in-use LED are all housed in one unit with a configurable front push-button control.		
d. DSP technology to provide full speaker/microphone supervision and fully adjustable (volume/timing threshold programmable via intercom server) audio monitoring.		
H. Barrier Gate (BG)		
1. Provide and install Barrier Gates (BG) at all entry and exit lanes, and traffic control lanes, as indicated on the Drawings.		
2. All gates referenced in this specification section shall contain the following:		
a. Non-wood gate arm; bottom of arm padded.		
b. Electronically controlled rebound feature.		
c. Break-away design to minimize damage from vehicle strikes and allow for field replacement.		
d. Alarm for barriers that have been broken off or removed.		
e. Typical gate arm and length of 10 feet, determined by lane.		
f. Single-piece gate arm or articulated as required by height limitations.		
g. Alternate Item - LED light strip for gates with variable colors based on gate action/position.		
3. BG shall have enough power/resistance to ensure they cannot manually be forced open.		
4. Gate controllers with the following features and functionalities:		
a. Microprocessor-controlled and communication of gate status and functions to the PARCS workstations.		
b. Directional logic with electronic outputs to alarms, counters and to report atypical lane activity to PARCS.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
c. Ability to test gate operability and controller programming on-site without use of special diagnostic equipment.		
d. "AUTO-MANUAL" switch, and "ON-OFF" switch for gate.		
e. Contains power supplies, dust-proof relays, and other circuit components to control gate.		
f. Receive inputs from the PARCS field devices and open after receiving the appropriate signal, and close after the vehicle passes over the closing loop.		
g. Receive commands from the PARCS workstations for remote monitoring of the gate position and to open or close the BG remotely.		
5. Gates installed at all lanes shall fail to the open position in an event there is a power failure.		
I. Control Gate Restrictions:		
1. Provide signage warning and prohibiting pedestrians and motorcycles from utilizing the control gate as a means of ingress or egress to the facility.		
2. Locate along the approach route of the automated gate and/or affix to both sides of the control gate arm.		
3. Incorporate both text and graphics to convey the hazards of ignoring.		
J. Vehicle Detection Device		
1. Detect vehicular presence.		
2. Loop detectors shall be dual-channel detectors.		
3. Provide two-channel pulse and presence outputs.		
4. Provide separate, momentary contact closures upon detection of a vehicle and continuous contact closures during the period that the vehicle is detected.		
5. Loop detectors shall contain two fully separate, self-tuning, vehicle loop detectors.		
6. Loop detectors shall each have adjustable sensitivity modes.		
7. Loop detectors shall generate two loop frequencies. The frequencies shall not be the same to minimize the possibility of detector crosstalk or interference between two detector loops mounted within proximity to each other. Detectors generating an identical frequency are unacceptable.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
8. Different sensitivity settings allow vehicles of varying height and size to be properly detected.		
9. Vehicle detectors shall be fully microprocessor-based.		
K. Inductive Loops		
1. Cut into the paving surface and fill with the manufacturer's approved sealant.		
2. Be formed by three to four turns of 20-gauge/16-gauge XLPE single-conductor wire.		
3. No splices are permitted.		
4. Contain loop leads:		
a. Limited to a length of 30 feet		
b. Have a four-twist minimum per foot and located at a minimum of 18 inches from electrical power lines		
c. Be contained in a separate conduit to prevent interference from electrical signals		
d. Light in color (White, Red, or Orange) for the presence loop		
e. Dark in color (Black, Blue, or Green) for the safety loop		
f. Light in color (White, Red, or Orange) for secondary presence loop (if applicable)		
g. Dark in color (Black, Blue, or Green) for the downstream loop (if applicable)		
5. 20-gauge XLPE single conductor wire:		
a. #20 AWG multi-strand copper wire		
b. 0.040" Nominal XLPE (cross-linked polyethylene) Insulation		
c. 0.120 Nominal O.D. for use in 1/8" saw cuts		
d. Only used in Concrete drive lanes		
6. 16-gauge XLPE single conductor wire:		
a. #16 AWG multi-strand copper wire		
b. .080" Nominal XLPE (cross-linked polyethylene) Insulation		
c. 0.220" Nominal O.D. for use in 1/4" saw cuts		
d. Used in Concrete or Asphalt drive lanes		
7. Backer Rod:		
a. Closed-cell polyethylene foam		
b. Installed prior to sealing saw cuts		
c. Holds loop wires and lead-in wire securely in saw cuts		
d. Prevents wires from floating to the surface when sealant is applied		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
e. Use a 2" piece in at least every 2' of saw cut		
f. Used in concrete or asphalt		
g. 0.375" Nominal O.D. for use in 1/8" saw cut		
h. 0.500" Nominal O.D. for use in 1/4" saw cut		
L. Mobile Cashier Unit (Alternate)		
1. Handheld device with portable belt printer for use by roving cashier when patron requests assistance in a non-cashier booth lane.		
2. Process payment card payments as outlined in the Payment Cards section.		
3. Ability to scan barcode tickets and enter barcodes manually.		
4. Ability to process validations.		
5. Rugged heavy-duty hand-held for outdoor use, drop-resistant at a minimum of five feet.		
M. Uninterruptible Power Supply (UPS)		
1. Provide UPS emergency back-up power and conditioning through TCP/IP-enabled UPS units for the Server Rack Equipment and other essential networking hardware to protect components from loss of power, power spikes, and power sags.		
2. UPS battery back-up sized to last thirty (30) minutes.		
3. Facilitate a 30% expanded load with an 80% continuous load factor.		
4. On-line, solid state UPS that provides both backup power and transient surge protection.		
5. Determine the UPS backup requirements for each of the locations where UPS backup is required, based upon the equipment that is being supplied by the Contractor. Owner to review and approve the UPS units to be provided by the Contractor.		
6. Test UPS system during the LAT.		
N. Validation System		
1. Web-Based Validation System Post Ticket		
a. Authorized issuer logs into a password protected account via computer, smartphone, or another web-enabled device.		
b. Customer's ticket number is entered or ticket is scanned via handheld, desktop, and/or wall-mount scanner (hardware included with system).		
c. Validation is selected as a cash value, time value, or a rate change.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
d. Multiple validations can be applied to the same ticket.		
e. Software tracks and stores user ID, ticket number, and validation amount for billing purposes.		
f. Validation billing software can calculate and prepare monthly invoices.		
2. Web-Based Chaser Ticket (Follow-up Validation)		
a. Authorized issuer logs into a password-protected account via computer, smartphone, or another web-enabled device.		
1) Printable on the authorized user's workstation printer.		
2) Ability to send an electronic barcode via mail, email, or text.		
3) Single ticket or bulk volume for events.		
b. Customer inserts or scans entry ticket into EXS.		
c. After fee is displayed, user inserts or scans validation.		
d. The software tracks and stores the User ID, ticket number, date/time of entry and exit, and validation amount for billing purposes.		
e. Validation billing software can calculate and prepare monthly invoices.		
3. Advance Creation Entry/Exit Validation Passes		
a. The authorized user logs into the system to create a custom validation pass.		
b. The type of pass can be single day, multi-day, single use, or multi-use.		
c. Valid entry and exit dates and times can be selected.		
d. Ability to print on paper or send an electronic barcode via mail, email, or text.		
e. The pass can be scanned at the entry and exit devices; no ticket is needed.		
f. Software tracks and stores validation pass data for reporting purposes.		
g. Validation billing software can calculate and prepare monthly invoices.		
O. Proximity Card Access System		
1. Compatible with two (2) different cards, FPP and EVV airport staff.		
2. Passive credential design capable of being read within 2 inches of reader.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3. Read and process credentials within one second of presentation to reader.		
4. Checking protocol that identifies multiple reads of same card within a few seconds (due to users "waving" card in front of reader), correcting false anti-passback reads.		
5. Owner designated individuals shall be able to use the system for ingress and egress to/from the parking facilities at designated locations.		
6. Authorized PARCS users shall have the ability to view and program proximity card privileges and access rules.		
7. Provide the Owner with the appropriate tools to program and/or encode proximity cards from one or multiple PARCS workstations.		
8. Proximity cards with a mill thickness equal to that of a standard payment card.		
9. Anti-passback capabilities that can be turned on or off at the Owner's discretion for individual users, groups of users, or entire system.		
10. Report the occupancy of proximity card customers in real-time.		
11. Provide configurable user group parameters and rules that are accessible and editable by the Owner on any PARCS workstation. Software code changes shall not be required to edit user group parameters and rules.		
12. User groups and individuals within these groups will each have the capability of being assigned access privileges based on date, day of the week, time of day, or any combination thereof.		
13. Upon reading the proximity card the display window will provide a welcoming or thank you message which will include the users name and company (programmable message).		
P. LPR System Capabilities and Integration with PARCS.		
1. The LPR system consists of all hardware and software necessary to provide a complete and functional LPR system that achieves the Owner's required functionality and accuracy, and that does not adversely affect any function of the PARCS.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
2. Provide an LPR subsystem that is fully integrated into the PARCS, including tying the OCR (Optical Character Recognition) captured at entry to the unique ticket identification or other entry credential information, such as registered monthly parker license plate, for every transaction. Should the entry information need to be obtained at an exit station to process the transaction (i.e., lost ticket, unreadable, etc.), both the OCR and ticket is to be removed from their respective active inventories once the vehicle has exited.		
3. Provide software with separately adjustable retention periods for LPR images and OCR text. Retention or discarding of either data type has no effect on the remaining data record if separate retention periods are kept. Data is purged after the retention period. Provide a retention period at least as short as one day and at least as long as 180 days.		
4. Provide standards-based capability to receive text license plate characters from external sources through API that can be used for alerting purposes through System's existing software-based alerting methods.		
Q. LPR CAMERAS		
1.The following is the list of qualified vendors for LPR cameras.		
a. Genetec		
b. Honeywell		
c. Inex Technologies		
d. Omni Q		
e. Survision		
f. Tagmaster		
g. Functional equivalent to the above, with prior Owner approval.		
2. Furnish and install image capture cameras, including any necessary lights or shade canopies, at all public entry and exit lanes to provide system functionality in varying amounts of ambient light.		
3. Provide theft deterrent and vandal-resistant housings and fasteners for lane equipment.		
4. Determine the exact location of each device, subject to Owner approval.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
5. Entry and exit images must be pre-captured, meaning that the cameras are positioned so that a vehicle's license plate is photographed before the parking credential has been issued or accepted by the entry/exit device.		
6. The preferred method of illumination for license plate capture is a combination of infrared and natural/white light.		
7. Provide protection for LPR cameras from passing vehicles.		
R. LPR Image Review Workstation (IRW)		
1. Install all necessary LPR software on the same workstation as the PARCS administration and cashiering workstations.		
2. Provide operators with the ability to review and correct LPR data, as well as manage LPR exception transactions, at both entries and exits.		
3. Automatically send correction and exception transactions to the first available IRW and remove the exception from all system workstations after it has been successfully resolved.		
4. Capability of reviewing and correcting entry images after the fact; that is, after the vehicle has entered the parking facility. No time limit is stipulated for after-the-fact entry lane OCR corrections; therefore, entry lane corrections can be made during off-peak transaction processing time.		
5. Images requiring review at exit will be given a programmable period of time to process, with the initial limit set to 1 minute. If the exception transaction has not been resolved during this programmable period of time, the transaction will process based on the presented existing media, such as time on ticket or credit card in/out. A report will be maintained of the number of non-matching plates allowed to exit without processing.		
6. Provide remote processing of exception transactions (e.g., Lost Ticket, Mutilated, Unreadable, etc.) by authorized users from any IRW. The authorized user must have the ability to use the LPR data sent from the lane to the IRW to verify entry information and transmit this information to the exit station for automated calculation of the appropriate parking fee.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
S. LPR System Performance Requirements		
1. Use advanced video analytics and “fuzzy logic” to identify vehicles with an exception plate by their make, model, color, bumper stickers, or other identifiable markings.		
2. Acquire an image of a vehicle’s entire license plate at a 99.5 percent (99.5%) or higher rate for all non-exception vehicles as defined within this section. The intent of achieving a 99.5% capture rate is to maintain a visual record of 99.5% of all non-exception license plates entering the facility.		
3. Achieve an N Factor rating of 96% meaning specifically that the LPR Subsystem is to read all license plate characters, exclusive of stacked characters, correctly ninety-six percent (96%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters, as determined by the LPR Subsystem, are to be counted against the read accuracy (i.e., if a license plate contains six standard characters “ABC123”, then N=6. Therefore, in order for the system to achieve an N read, the system must return the license plate “ABC123” exactly.) Additional characters added before or after the license plate characters are to count against the read rate. (i.e., “1ABC123” would not constitute an N read.)		
4. Achieve an N-1 Factor rating of 99% meaning specifically that the LPR Subsystem is to read all but one character, exclusive of stacked characters, correctly ninety nine percent (99%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem are to be counted against the read accuracy. (i.e., if a license plate contains six standard characters “ABC123”, then N=6. Therefore, in order for the system to achieve an N-1 read, the system must return “xBC123”, “ABC12x”, etc.) Additional characters added before or after the license plate count against the read rate.		
5. Exception vehicles will not count against the accuracy of the LPR Subsystem. For the purposes of the LPR performance requirements an exception vehicle is defined as:		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
a. Any vehicle whose license plate is obstructed, obscured, or encroached upon by a foreign object.		
b. Oversized vehicles that have a total distance between the center of the drivers' side window and the end of the rear bumper greater than 15 feet.		
c. Vehicles that contain excessive graphics and advertising such that it is impossible for the LPR system to determine which graphics belong to the license plate and which graphics do not.		
d. Vehicles with no license plate, or relocated to a window and not in the OEM location.		
e. Vehicles with temporary cardboard "Dealer Plates."		
f. Damaged plates.		
g. Plates from locations other than the U.S., Canada, and Mexico.		
h. Motorcycles.		
6. Ambient lighting conditions are to have no effect on the accuracy of the LPR system regardless of the time of the day and night. Contractor to provide any necessary shading or lighting elements required to mitigate the effect of the ambient lighting conditions on the LPR system performance.		
7. Provide a means, subject to approval by the Owner, to remotely score the LPR Subsystem to ensure it meets the performance requirements. Assist the Owner in transferring images from each lane to a storage format such as a memory stick, or upload to a secure file storage site that can then be viewed and scored on a standalone PC by the Owner or their designated representative. The owner is to be able to select any images stored in the LPR database for scoring purposes. The Contractor to provide all software needed to test the LPR Subsystem's performance. The software should be downloadable to a standalone PC used for testing.		
T. Handheld LPR Inventory System – Alternate		
1. Provide system to allow user to scan parked vehicle license plate using a handheld device to automatically capture a vehicle plate for inventory purposes.		
2. System to include date and time of initial capture, entry area for lot, and row, to be used to assist in locating vehicles.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3. Parking plate inventory will be used to eliminate vehicles in the PARCS that have departed but are still showing as in the lot.		
4. Software to be provided as searchable by plate and lot.		
5. Printable as a report in PDF, Excel, or Word format.		
U. Integrated Signage:		
1. Dynamic Message Sign (DMS)		
a. 7-Segment LED sign.		
b. Display CLOSED or CREDIT CARD ONLY.		
c. Controlled remotely through software.		
2. Variable Message Sign (VMS) - Alternate		
a. Full Matrix RGB, 6MM LED sign.		
b. Outdoor use.		
c. Configurable message from network connection.		
3. Open/Full Sign		
d. Signs will be direct view LED type.		
e. Dual message LED signs display "OPEN" or "FULL" at the facility entrances.		
f. Dual LED in Red and Green to indicate garage parking availability.		
g. Controlled automatically by PARCS software or via manual override.		
h. Minimum 7"x18" overall, with minimum character height of 3.5".		
i. Mounted as indicated on drawings.		
2.7 Source Quality Control		
A. Internal Contractor Tests		
1. All equipment to have successfully passed formal manufacturing tests and quality assurance inspections to validate compliance with these functional specifications prior to the start of installation. Records for formal internal Contractor testing and inspection for performance, materials quality, and/or workmanship to be maintained by the Contractor and made available if requested by the Owner prior to the start of installation or at any point during the execution of the Contract.		
2. Have readily available proof of product reliability analysis and testing, should reliability become a problem at any time from the beginning of installation testing through the final operational test period.		
PART 3 - Execution		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
3.1 Examination		
A. Site Verification of Conditions: Verify all existing conditions in the field prior to implementation. In the event that conditions in the field are different from the conditions described and shown in the Drawings, the Contractor shall notify the Owner in writing of the exact differences and shall inform the Owner in writing of any implications the differences have on the project.		
B. Examine the location of all field equipment and office equipment to determine if there are any constraints or conflicts before office equipment installation.		
C. Examine the rough-in for electrical systems to verify the actual locations of connections before installing parking control equipment.		
D. Additional Wiring: Provide all additional conduit and wiring that is needed for total system performance, but which was not noted on Contract Documents, at no additional cost to Owner.		
E. Verify that all required PARCS conduits and wiring is properly located and installed prior to installing PARCS equipment.		
F. Verify the equipment layout in accordance with the manufacturer's recommendations to ensure proper airflow through and around the equipment.		
G. Test, adjust, and interface circuits before installing PARCS equipment.		
H. Coordinate with Owner or Owner's Representative, location and type of internet connection required for all external communications, i.e., payment card authorization/settlement, remote access, etc., within 30 days after award of contract.		
I. Examine substrates, areas, and conditions to ensure compliance with installation tolerances, including equipment bases, the accurate placement, pattern, and orientation of anchor bolts, critical dimensions, and other factors that affect the performance of the Work.		
J. Investigate adequacy and quality of electrical power to all existing lanes, determine grounding requirements, and notify Owner in writing prior to submission of shop drawings of any requirements for new power service, conduit, wiring, or grounding.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
K. Investigate existing communications conduit to all existing lanes and notify Owner in writing prior to submission of shop drawings of any requirements for replacement, relocation, or extension of existing conduit not already identified for replacement or relocation.		
L. Proceed with installation only after unsatisfactory conditions have been corrected.		
3.2 Preparation		
A. Coordinate installation, staging, and power connections with various trades to ensure a coordinated effort.		
B. Attend regularly scheduled project meetings. If the PARCS contractor is the prime contractor, host construction meetings.		
3.3 Installation		
A. Verify that the installation locations are prepared and ready for the equipment installation to be completed. The Contractor shall notify the Owner in writing if the installation location is not prepared for installation due to unfinished work outside the Contractor's scope of work. The written notification provides details of the elements that require modification to prepare the location for the installation of equipment.		
B. Proceed with installation only after unsatisfactory conditions have been remedied.		
C. Install all PARCS equipment per the equipment manufacturer's recommendations.		
D. Any patches, upgrades, updates, or modifications to the PARCS software during the installation period require appropriate documentation and approval prior to the modification being made.		
E. During the installation and warranty period, the Owner will make an area available to the Contractor for use as an office/work area for the technicians supporting the system. It is the responsibility of the on-site technicians to maintain a clean and hazard-free office and work area.		
F. PARCS System Access		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1. During installation, warranty, and post-warranty, real-time communication between the PARCS servers and the Contractor's software support team may be required to support the system. This communication will be conducted via an Owner-approved VPN connection and requires passing through the firewall to access the owner's network and connect to the PARCS servers.		
2. Coordinate with the Owner to obtain VPN access to the Owner's network and set up user accounts.		
3. Each individual accessing the Owner network is required to have an account. Group accounts are prohibited.		
3.4 Field Quality Control/Acceptance Testing		
A. Payment Card Acceptance Test (PCAT)		
1. Conduct PCAT as a demonstration to the Owner or it's representatives that the payment card acceptance subsystem		
2. The purpose of the PCAT is to demonstrate that all aspects of the payment card acceptance process, including the PARCS, payment card reader supplier, gateway, and merchant bank are working in concert to successfully process payment cards.		
3. PCAT shall be conducted on a single device to demonstrate success.		
4. A successful demonstration must include a live demonstration of payment resulting in an amount of \$1.00 or greater being accepted by and settled into the Owner's bank account.		
5. Provide a brief narrative of the transaction and process prior to scheduling the test.		
6. Provide all ancillary items required for the test, such as a live, working payment card with available credit to complete the proposed transaction.		
7. The PCAT shall be considered successful when the transaction value has been deposited into the owner's bank account.		
8. This test is a pass or fail, there are no deviations allowed.		
B. Lane Acceptance Test (LAT)		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1. Conduct LATs as a demonstration to the Owner or its representatives that the installed equipment complies with the Contract, the Contractor's product data, and other documentation, such as user manuals.		
2. When a PARCS equipment location installation has been completed, the Contractor shall conduct its internal testing of the installed equipment. Internal testing shall follow the identical LAT test procedures used during LATs observed by the Owner.		
3. Upon successful completion of the Contractor's test, the Contractor and the Owner will perform the LAT to verify performance. The LAT shall only be observed by the Owner after a fully completed and signed test script, verifying the successful completion of the Contractor's internal lane testing, is submitted. Signed internal test scripts shall be submitted at least one calendar day prior to the scheduled test with the Owner.		
4. LATs shall be conducted for each PARCS entry lane, exit lane, and POF and shall include tests of PARCS equipment and software. The Contractor shall not activate the system for service until all LATs have been successfully completed for each lane or device, or until the Owner notifies the Contractor that it is ready to put the equipment into operation prior to performing LATs. Use of lanes prior to system acceptance does not affect warranty start time.		
5. The Contractor shall provide test procedure documents for LATs as part of the Test Plan in accordance with the submittal guidelines. LAT Test Procedures Documents shall be provided for each equipment type and location, and test procedures shall include the following sections:		
a. Narrative describing the general procedures to be followed.		
b. Definition of all minor and major deviation types.		
c. Checklist of all items necessary to conduct the test (e.g., PARCS devices included in the test, consumables, validations, payment cards for payments, vehicles, etc.).		
d. Checklist for the components of each PARCS equipment location.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
e. Signature page for all LAT participants' signatures.		
f. Step-by-step instructions for testing each functionality.		
g. Tests for verifying the reporting requirements.		
h. Area within each test section to denote "pass", "fail", or "deviation" with notes.		
i. Section for listing and describing test deviations.		
6. The Contractor shall provide all ancillary items necessary to complete the LATs for testing purposes. Additionally, the Contractor shall provide sufficient personnel to perform the LAT in an efficient and timely manner.		
7. The LAT shall be considered successfully completed when all components have passed their respective test procedures and all test documents have been signed by the Owner and Contractor. Minor deviations resulting in the creation of punch list items shall not be considered grounds for failure of the overall LAT. Major deviations found during the LAT shall result in the retest of the lane or device. The Contractor shall agree to credit the Owner from its total contract value for any travel and/or labor costs incurred by the Owner or its representatives as a result of additional effort required to retest failed devices.		
8. Minor deviations are any failure that does not affect system functionality, fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), transaction processing, payment card processing, calculations, or report accuracy.		
9. Major deviations are any failures that affect system functionality, fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), transaction processing, payment card processing, calculations, or report accuracy.		
C. Operational Demonstration Test (ODT)		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
1. The ODT shall comprise all equipment, systems, and subsystems operating under actual conditions, e.g., Customer use, normal activity recording, and reporting procedures. This ODT shall demonstrate, over a period of 30 consecutive calendar days, the successful performance of all aspects of the PARCS.		
2. During the ODT, only routine maintenance procedures, as defined in the Preventive Maintenance Procedures Manual and in accordance with industry standards, shall be permitted. All other maintenance procedures shall be approved in writing by the Owner before they are performed; otherwise, they shall constitute a failure of the ODT and a mandatory restart.		
3. The Owner reserves the right to be present for all maintenance services during the ODT.		
4. For purposes of the ODT, a subsystem is defined to be any one of the following:		
a. PARCS Application Software		
b. Data Communication System		
c. PARCS Servers (whether on-premises, hosted off-site, or cloud-hosted)		
d. PARCS Entry Lanes		
e. PARCS Exit Lane		
f. Proximity Card Access Subsystem		
g. Intercom Subsystem		
h. LPR Subsystem		
i. PARCS Reporting System		
5. The ODT shall commence after the successful completion of all LATs on a date mutually selected and agreed upon in writing by the Owner and the Contractor, at a time designated by the Owner. The ODT monitors the system's performance as a single unit. The Contractor shall submit an ODT test document as part of their Test Plan in accordance with the submittal requirements. ODT test documents are intended to outline procedures for monitoring the overall performance of the PARCS and shall not include test procedures for individual components. The ODT test documents shall include:		
a. Narrative describing the general procedures to be followed		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
b. Methodology for the calculation of downtime and accuracy for the various PARCS components		
c. Contractor-supplied tracking document to be used during the ODT period for documenting failures and downtime		
6. The ODT shall continue for 30 consecutive 24-hour periods during which all the performance criteria, stated below, shall have been met. If, during the 30-day period, the system fails to meet any one of the specified performance criteria, the test shall begin anew on a day agreed upon by the Owner and the Contractor. The Contractor shall agree to credit the Owner a percentage of its total contract value equal to the actual cost of any travel and labor costs incurred by the Owner as a result of retesting the system.		
7. The performance criteria for successful completion of the ODT shall include:		
a. No individual subsystem shall be operationally unavailable for four or more hours cumulative during the 30-day test period.		
b. No individual subsystem shall be operationally unavailable for more than two consecutive hours.		
c. If any single component fails more than once during the 30-day period for the same reason, it shall be replaced upon the second failure with a newly manufactured component of the same type, and the test shall continue.		
d. No component of a given type shall fail more than three times during the 30-day test period for the same reason. Upon the fourth failure, all components of that type shall be replaced or modified to correct the common deficiency, and the test shall be restarted from the beginning.		
8. In addition to the PARCS reports generated during the ODT, the Contractor shall provide the Owner with a one-page summary report that clearly presents the overall percentage of system downtime and its causes.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
9. The Contractor shall provide the Owner with a corrective action report that includes a detailed description of each failure that occurs during the ODT. The corrective action report shall include the type of failure, why the failure occurred, what was done to remedy the failure, and whether or not the failure resulted in a restart of the ODT.		
10. A subsystem shall be considered unavailable as long as any major component of the subsystem is not functioning.		
11. An inoperative subsystem shall not be deemed unavailable if it has become inoperative because of:		
a. Outage of line power beyond the required duration of UPS power backup		
b. Malicious damage or vandalism to a component(s) by employees, customers, or others.		
c. Network connectivity issues outside of the local or cloud PARCS network.		
d. PARCS failures due to issues and/or failures outside of the Contractor's control.		
e. Failures caused by a 3rd party.		
f. Act of God.		
12. Should a failure occur in the system that is caused by a hardware failure, it shall be repaired, and the test resumed with downtime accrued. If the failure causes inadequate test data to be collected or results in a loss of test data, the test shall be restarted from a point where it can be successfully completed with sufficient data to verify compliance with the Contract and the test procedures document.		
13. If the system "crashes" during a test, then the test shall be stopped. "Crash" is defined as a failure in which the PARCS cannot properly process vehicles or record transactions. The Contractor shall analyze the cause of the system "crash," document the cause in a system problem report, responsively repair the flaw, and document the repair in a corrective action report.		
14. Where corrective action impacts delivered documentation, the documentation shall be corrected prior to Final System Acceptance.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
15. Upon formal written approval of the corrective action report by the Owner, testing may continue if a problem has been encountered, as long as the Contractor can clearly demonstrate that the failure is associated only with one function of the system, corrective action has been taken to remedy the failure, and the corrective action shall not impact other areas of the system.		
16. Where the system does not perform a function or incorrectly performs the function, but the system does not crash, testing may continue, as long as the function is corrected and all of the following conditions are met:		
a. The functionality of processing vehicles and recording transactions works properly according to the Contract.		
b. No personnel, vehicle, or driver safety issues exist.		
c. PARCS applications continue to function normally.		
d. Failure does not cause loss or contamination of data.		
e. All reports are 100% accurate.		
17. Where the above criteria are not met, the test shall be stopped, corrective action taken, and verified before testing is restarted.		
18. During the test, the continued availability of the system shall be demonstrated. Where a failure occurs that causes data loss, system instability (crash), and/or contamination of the data and the database, the Contractor shall immediately correct the problem. Testing shall continue until a consecutive 30-day period of stable operation is achieved. Stability is defined as the proper functioning of the PARCS, with a failure having no impact on the continued operation of the system or on the integrity of the data.		
D. Punch List		
1. Starting with the beginning of installation through Final System Acceptance, the Contractor shall submit a document on a weekly basis that shows the status of all outstanding system issues, regardless of severity, including the plan for resolution and the estimated completion date.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
2. All deviations noted during acceptance testing shall be recorded on the Punch List.		
E. Final System Acceptance		
1. Final System Acceptance will be submitted by the Owner, in writing to the Contractor, upon successful completion of all acceptance tests, and upon verification by the Owner of complete resolution of all outstanding items on the Punch List.		
3.5 Instruction and Training		
A. By means of instructional classes augmented by individual instruction as necessary, the Contractor shall fully instruct the Owner's designated staff in the operation, adjustment, and maintenance of all products, equipment, and systems.		
B. Coordinate scheduling of instruction and training classes with the Owner to avoid conflicts and peak-period personnel demands. Submit a proposed instruction schedule at a joint meeting conducted prior to equipment installation. The Owner will tentatively approve or suggest changes to the training schedule at that time.		
C. Submit an outline of the instruction material and the approximate duration of the session. Ample time shall be allotted within each session for the Contractor to fully describe and demonstrate all aspects of the PARCS, and allow Owner personnel to have hands-on experience with the PARCS.		
D. All instruction courses to consist of classroom instruction and actual "hands-on" experience. Classes to be set up in a room designated by the Owner. Provide one instructor for the duration of each program.		
E. The class material shall include schematics, as well as an overview and descriptions of the equipment.		
F. The Contractor shall provide all necessary documentation to instruct Owner personnel. The Owner retains the right to copy training materials as frequently as required for ongoing internal use only.		

Specification Section	Compliant (Y/N)	Exception/Comments: Only provide for Non-Compliant. Clarification can be provided for Compliant.
G. An instructional notebook or user's manual shall accompany every instruction course. All manuals (instruction and maintenance) shall be submitted in electronic format (.PDF) via email to the Owner or through a secure file-sharing service. The user's manuals shall be written in clear, common English, accompanied by appropriate photos, diagrams, and schematics to supplement the text.		
H. Training classes to be provided for the following groups:		
1. Cashiers and/or Parking Ambassadors		
2. Supervisors		
3. Image Reviewer		
4. System Administrators		
5. Accounting/Audit		
6. Maintenance Staff		
3.6 Equipment Protection		
A. All above-ground equipment components installed near drive aisles shall be protected from damage by vehicular movements by protective bollards or other barriers as recommended by the Contractor. Contractor is responsible for the final bollard location to ensure the installed bollard does not prevent access to the PARCS devices or interfere with the travel path of PARCS access doors.		
B. Each above-ground island-mounted device shall be protected by one or more bollards.		