REQUEST FOR PROPOSALS

for

Airport Parking Access and Revenue Control System ("PARCS")

15-16/05

PORT OF OAKLAND

PURCHASING DEPARTMENT
530 WATER STREET
OAKLAND, CA 94607
REQUEST FOR PROPOSAL

RFP No.: 15-16/05

Airport Parking Access and Revenue Control System ("PARCS")

The Port of Oakland (the “Port”), Oakland, California, through the Purchasing Department, is hereby soliciting competitive proposals for the above mentioned project. The successful Proposer will be required to furnish all labor, material, equipment, supplies, applicable taxes, insurance, bonding, and licenses to complete this project.

Proposal Information

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Instructions for Submitting Proposals

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<td>Late Submittals</td>
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How to Obtain Proposal Documents

Copies of the Proposal documents may be obtained at:

<table>
<thead>
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<th>Available</th>
<th>Location</th>
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| Yes       | Port of Oakland--Purchasing Department  
530 Water Street  
Oakland, CA  94607  
Monday through Friday 9:00 AM to 4:00 PM  
(510) 627-1140 |
| Yes       | http://www.portofoakland.com/opportunities/bidsrfpsrfqs.aspx  
Or navigate to the Port of Oakland’s main website at:  
http://www.portofoakland.com/, then click on “Business” then  
on “Opportunities” and then on “Bids/RFPs/RFQs” to  
download the RFP. |

Questions about the Proposal

Questions and or Requests for Information (RFI) must be submitted in writing and can be submitted by fax or email as follows:

| Primary Contact | Nickulaus Sioson  
Fax: (510) 893-2812  
Email: nsioson@portoakland.com |
| Question/RFI Due Date | October 12, 2015 until 4:00 p.m.  
Please submit questions as soon as possible. No questions regarding the specifications will be responded to after the above date. All pertinent questions will be responded to and answered in writing no later than the Response Date listed below. |
| Response Date | October 19, 2015  
All pertinent questions will be responded to via addendum  
faxed (or emailed) to all prospective proposers and placed on the Port’s website. Proposers who did not receive a copy of the addendum should download it from the Port’s website.  
See the “How to Obtain Proposal Documents” section for our web address. All addenda must be acknowledged on the RFP Acknowledgement and Signature form. |

Once the RFP is issued, and until a recommendation for award is made to the Board of Port Commissioners at a public Board of Port Commissioners meeting (or in cases where a recommendation for award does not require a public Board meeting, when Proposers are notified by Port staff of the recommendation for award), each Proposer and its representatives, agents, and affiliates, shall not contact members of the Evaluation Committee, Port staff or the Board of Port Commissioners to discuss or ask questions about the contents of this RFP or the selection process. All questions shall be submitted in writing as described in this RFP. Any
inappropriate contact by a Proposer, its representatives, agents, and affiliates may result in the Proposers’ proposal being disqualified.

**Full Opportunity**
The Port’s policy prohibits discrimination or preferential treatment because of race, color, religion, sex, national origin, ancestry, age (over 40), physical or mental disability, cancer-related medical condition, a known genetic pre-disposition to a disease or disorder, veteran status, marital status, or sexual orientation. It is the policy of the Port of Oakland to encourage and facilitate full and equitable opportunities for small local businesses to participate in its contracts for the provision of goods and services. It is further the Port’s policy that no discrimination shall be permitted in small local business participation in Port contracts or in the subcontracting of Port contracts. The successful Respondent shall comply with the Port’s non-discrimination policy.

The Port reserves the right to reject any or all proposals, to waive any irregularities or informalities not affected by law, to evaluate the proposals submitted and to award the contract according to the proposal which best serves the interests of the Port.

--John Banisadr, Purchasing Manager
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<tr>
<td>1. Non-Collusion Declaration</td>
<td>Yes</td>
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<tr>
<td>2. Statement of Equal Employment Opportunity</td>
<td>Yes</td>
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<tr>
<td>3. RFP Acknowledgement and Signature Form</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Proposal Cost Form</td>
<td>Yes</td>
</tr>
<tr>
<td>5. <strong>Port of Oakland Non-Discrimination and Small Local Business Utilization Policy</strong>&lt;br&gt;A. Chart for Submitting Data for Calculation of Preference Points&lt;br&gt;B. Local Participation Questionnaire&lt;br&gt;C. Monthly Utilization of Local and Small Business Enterprises&lt;br&gt;D. Final Utilization of Local and Small Business Enterprises</td>
<td>Yes (Attachment 5-A and 5-B are required with the Proposal. (Note: If you are submitting a new Certification Application for preference points, then your completed application is due 7 business days prior to the proposal due date.) Attachments 5-C and –D are required after contract award final completion of the project.)</td>
</tr>
<tr>
<td>6. Non-Discrimination and Small Local Business Utilization Policy Program Affidavit</td>
<td>Yes</td>
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<tr>
<td>7. <strong>City of Oakland City Charter §728 Living Wage Information</strong>&lt;br&gt;A. Employer Self-Evaluation for Port of Oakland Living Wage&lt;br&gt;B. Certificate of Compliance—Living Wage</td>
<td>No (Attachment 7-A and 7-B are required prior to contract award.)</td>
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<tr>
<td>8. Statement of Living Wage Requirements</td>
<td>Yes</td>
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<td>9. Insurance Acknowledgement Statement</td>
<td>Yes</td>
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<td>10. Performance and Payment Bonds</td>
<td>No (Required to be submitted at the time the contract with the successful Proposer is finalized.)</td>
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<tr>
<td>11. Professional Service Agreement</td>
<td>No (Note: The successful Proposer will execute the Professional Services Agreement if awarded the contract.)</td>
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<td>12. <strong>Functional Specifications – Parking Access and Revenue Control Systems (PARCS) Replacement Project</strong></td>
<td>No</td>
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<tr>
<td>13. <strong>Port New Systems IT Standards and Requirements</strong></td>
<td>No</td>
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I. Project Overview
The Port of Oakland ("Port") solicits Requests for Proposals (RFP’s) from qualified Proposers to provide a Parking Access and Revenue Control System (PARCS) (hereinafter referred to as the “Services” and/or the “Work”) for the Oakland International Airport ("OAK").

The selected Proposer shall provide hardware, software, and implementation services that include installation, configuration, testing, training, activation and cutover support for a Payment Card Industry Data Security Standard (PCI DSS) and Payment Application-DSS (PA-DSS) compliant PARCS, at the OAK on-Airport public parking facilities. Attachment 12 to this RFP is a complete “Functional Specifications” document for the PARCS, which includes a detailed “System Description” on page 10.

A. About the Port of Oakland
The Port of Oakland was established in 1927 and oversees the Oakland seaport, Oakland International Airport, Commercial Real Estate, and 20 miles of waterfront. The Oakland seaport is the fifth busiest container port in the U.S.; Oakland International Airport is the second largest San Francisco Bay Area airport offering over 300 daily passenger and cargo flights; and the Port’s real estate includes commercial developments such as Jack London Square and hundreds of acres of public parks and conservation areas. Together, through Port operations and those of its tenants and users, the Port supports nearly 70,000 jobs in the region and over 800,000 jobs across the United States. The Port is an independent department of the City of Oakland.

B. OAK Parking Facilities
OAK has approximately 6,900 public parking stalls in four surface lots: Premier, Hourly, Daily and Economy. Table 1 summarizes parking capacity and PARCS-equipped lanes.

<table>
<thead>
<tr>
<th>Lot Number</th>
<th>Facility</th>
<th>Stall Capacity</th>
<th># Entry Lanes</th>
<th># Exit Lanes</th>
<th>Bus Only Lanes (AVI &amp; Badge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Premier Lot</td>
<td>581</td>
<td>1</td>
<td>9 1</td>
<td>0</td>
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<tr>
<td>2</td>
<td>Hourly Lot</td>
<td>604</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Daily Lot</td>
<td>3,771</td>
<td>3</td>
<td>0</td>
<td>1/1</td>
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<tr>
<td>4</td>
<td>Economy Lot</td>
<td>1,935</td>
<td>3 2</td>
<td>2</td>
<td>1/1</td>
</tr>
<tr>
<td>Subtotal: Active Lots</td>
<td>6,891</td>
<td>9</td>
<td>11</td>
<td>2/2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Former (Inactive) Economy Lot</td>
<td>1,463</td>
<td>2</td>
<td>2</td>
<td>1/1</td>
</tr>
<tr>
<td>6</td>
<td>Oakland Maintenance Center (OMC)</td>
<td>828</td>
<td>1</td>
<td>2</td>
<td>0</td>
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<tr>
<td>7</td>
<td>Lot 214</td>
<td>219</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>PERMIT SPACES</td>
<td>1,047</td>
<td>3</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Ground Transportation AVI</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
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</table>

1 Exit Lanes located at common exit plaza  2 Four total lanes with 1 reversible lane
The Port procured and installed an ACS-Xerox (formerly Ascom) PARCS in 2007, which processes approximately $34 million annual gross revenue. That PARCS was installed as part of a larger terminal area redevelopment program which involved reconstruction of the entire main parking area including all civil work, access lanes, structures and data/communications lines that support PARCS operations. The current PARCS features include:

1) Integrated License Plate Recognition ("LPR") capture, data storage and fee calculator at exit
2) Self-service transaction processing using Credit Card In & Out ("CCIO")
3) (Transcore) Automated Vehicle Identification (AVI) transponders (all lanes)
4) Real time credit card processing
5) Integrated report generator
6) (Dual) redundant servers for Real-time, Data Warehousing and LPR servers with automatic switchover capability
7) Separate (AVI) access lanes for maintenance vehicles and buses

C. New PARCS Installation – Scope and Project Goals

The scope of work for this project consists of a “Base” installation of PARCS equipment in four (4) parking facilities, and an "Optional" scope of work consisting of five independent tasks involving installation of additional PARCS equipment; plus one task involving the provision of specified AVI equipment.

Figure 1 depicts four (4) parking facilities included in the Base Project, which essentially involves replacing the existing PARCS in its current locations, including:

- Site 1 - Premier Parking lot
- Site 2 - Hourly Lot
- Site 3 - Daily Lot
- Site 4 - Economy Lot

There are five (5) "Optional" PARCS tasks. Two of these, shown in Figure 1, would be located in the Premier and Economy Lots:

- Optional Task 1, in Site 1–Premier Lot on map below: equip a second entrance lane to the Premier Lot so that functionality is identical to the existing entry lane.
- Optional Task 2, in Site 4–Economy Lot on map below: install a Pay-on-Foot machine that accepts paper cash and credit card payment adjacent to the Economy Lot exit plaza.

As shown in Figure 2, three Optional tasks would be located at:

- Optional Task 3, Site 5 – Former/Inactive Economy Lot on map below (Ron Cowan Pky @ John Glenn Dr.): replace entry and exit lane equipment required to maintain fully-functional PARCS in that lot.
- Optional Task 4, Site 6 - Oakland Maintenance Center (OMC) on map below: install card-controlled, gated access and egress to this permit parking facility.
- Optional Task 5, Site 7 - Lot 214 on map below: install card-controlled, gated access and egress to this permit parking facility.
Optional task work at Sites 6 and 7 would also require delivery of a web-based, secure permit parking operations software application for use by Port staff. This application would provide web-based registration, payment, security, audit and report functions.

A sixth Optional task involves provision of AVI parts:

- **Optional Task 6 – AVI Ground Transportation (GT) System Parts** – provide specified replacement parts for the Airport’s automated Ground Transportation vehicle identification system and facilitate a fee collection system.

Proposers are directed to provide costs for all requested optional tasks and to maintain and honor these quoted costs for up to 3 years.

Proposers are directed to provide cost quotes for the Base Project and Optional Tasks using the Proposal Cost Form, which is a separate downloadable Excel file containing three pages or tabs. See **Attachment 4** of this RFP for instructions.

**Figure 1 – Primary Scope of Work Parking Facilities**

**Figure 2 – Optional Scope of Work Parking Facilities**

**RFP Project Goals**

The Port places great importance on the Proposers’ understanding of current PARCS technology, capabilities, future trends, and implementing a state of the art PARCS system for OAK. The successful Proposer is expected to demonstrate considerable experience in successfully providing similar products and services at other medium and large hub airports in North America (U.S. and/or Canada), that address the Port’s goals related to procuring a new, state-of-the-art PARCS. These goals include:

1) Improve PARCS performance, as measured in:
   a. Minimized customer wait times (maximized transaction throughput speed)
   b. Ability to integrate with 3rd party software applications (“open platform”)
c. Enhanced transaction capability by accommodating multiple payment media including magnetic-striped and bar-coded tickets and scanning, CCIO, AVI, Quick Response (QR) code scanning (via paper or smartphones), and online reservations (paid-in-advance), etc.

2) Enhance Business Intelligence through:
   a. Flexible, adaptable real-time report generator with ability to prepare customizable templates efficiently and inexpensively
   b. Accessible, user friendly management web interface for real-time facility operations status

3) Enhance Customer Service and Business Development, and maximize new revenue streams through:
   a. Accommodating online customer Loyalty program registration and customer status interfaces
   b. Ability to have flexible rate setting by day of week and time of day, e.g. peak, off/peak period pricing
   c. Providing a customizable, customer web-interface designed to promote parking and other airport products based on specified and demonstrated customer interests or purchases

4) Minimize procurement and installation cost by:
   a. Maximizing reuse of existing infrastructure that supports PARCS operations
   b. Minimizing cost of new computer servers and other hardware components through use of virtual server arrays
   c. Use of the most advanced, yet proven “off-the-shelf” technology to minimize system customization
   d. Use of upgradable software that ensures Payment Card Industry–Data Security Standards (PCI-DSS) compliance through the estimated product life of at least 10 years

The new PARCS will provide revenue control and security and access control at OAK’s active public parking lots and the optional sites listed in Figure 1 and 2 above. Managing this activity accurately and efficiently in real time requires an integrated, networked system of entry and exit gates, cameras, ticket dispensers, cashier and self-service collection terminals, and associated, proprietary computer hardware and software, operating 24/7/365. Accurate, reliable and uninterrupted PARCS operation is essential to managing this critical Airport activity and revenue stream.

II. Project Specifications and Scope of Services
A detailed scope of services for all material, labor, equipment, services and training necessary to furnish and install a fully integrated on-line, real-time Parking Access and Revenue Control System (PARCS) that shall function as described in the “Functional Specifications”, is attached to this RFP as Attachment 12. Proposers should include in their cost proposals, at a minimum, the deliverables and assumptions listed in the Functional Specifications. If any elements of the Functional Specifications are not addressed in your proposal, it should be made clear in the narrative section of your proposal.
NOTE: This section of the RFP provides Proposer with a summary of the Functional Specifications document. Proposers must fully review and understand the required Scope of Services and Submittal Requirements described in the Functional Specifications, before submitting a responsive Proposal.

A. PARCS Functional Specifications (RFP Attachment 12)

The Functional Specifications contains project technical requirements and the scope of services.

1. Specification Summary:
The Functional Specifications document contains the system performance and Proposer’s submittal requirements for the replacement of the Oakland International Airport’s (Port’s) existing PARCS. The PARCS replacement shall utilize the industry’s latest technological advancements to control access and calculate and accurately report revenue for the parking facilities and improve the overall management, system efficiency, revenue accounting, revenue security, and customer service aspects of the parking operations at the Airport. This project shall implement hardware and application software that will meet or exceed the Port’s parking access and revenue control needs for at least 10 years after the system’s final acceptance. These Functional Specifications describe the functional and performance requirements for the new PARCS, Proposer’s submittal requirements and what, if any, existing equipment and facilities will be used with the new system.

2. Specification Objectives:
As depicted in Figure 1, this project will replace the existing PARCS at the four (4) active public lots and potentially in one (1) currently inactive public lot. Other optional installation sites include two (2) permit parking facilities.

The objectives of the PARCS project include, but are not limited to:

1. The PARCS shall be designed with an open architecture in order to facilitate integration with third party applications
2. Proposer shall reuse existing infrastructure when possible, including such items as existing drive lane and gate locations, conduit, AVI equipment, etc.
3. Provide mechanisms to strengthen internal controls and minimize theft and loss of revenue
4. Achieve a PCI DSS and PA DSS compliant environment and ensure ongoing compliance of the cardholder environment
5. Provide flexibility in offering new capabilities to promote parking and other Port services in a web-enabled environment
6. Enhancing the ability to accurately track required financial and statistical information
7. Accurately calculate appropriate fees
8. Accurately document the revenues generated by the parking operations
9. Increase efficiency of operations and maintenance
10. Provide flexibility and capability to the user in the timing and formatting of the pertinent operational and management reports
11. Provide flexibility in rate configurations for all parking types, and to vary rates by time of day and day of week
12. Ensure flexibility and scalability for any future need to update, upgrade, and/or expand the system readily (additional lanes and parking products as well as additional facilities). During the life of the new PARCS, the Port may add facilities that will provide additional public parking. The proposed PARCS shall be upgradeable, scalable, and modular in design such that it can support all of the future needs of these facilities. The system shall be designed with excess capability that shall process as many as 150% of the current volume of transactions without any degradation in system performance even during peak periods.
13. Provide an intuitive and user-friendly interface for the Port and its personnel
14. Provide and accept electronic coupons and/or validations that may be presented by the patron in all lanes, including processing in self-service lanes
15. Provide business intelligence tools for better managing parking system and forecasting results of potential modifications or additions of programs
16. Provide Loyalty programs specified and designed by user, e.g. fee adjustments for frequent users and corporate program users
17. Simplified maintenance procedures for lane equipment and back-office / IT infrastructure

The parking and other control equipment components provided by the Proposer shall operate as a complete system. Each equipment component shall perform its function in relation to other components. As such, each component shall be compatible with all related components. All components shall be compatible with the geometric circumstances of the facility or place where they are installed.

The Proposer shall bring any deficiencies or discrepancies in these specifications that they believe may exist to the attention of the Port in their Proposal. No deficiency or discrepancy in the Specifications shall relieve the Proposer of the responsibility to provide a satisfactorily performing, reliable system.

3. **Hardware and Software Requirements:**

Hardware and Software Solution details are contained in the **Part 2** of the Functional Specifications.

All software and software licensing required by the system shall be provided by the Proposer. The PARCS shall adhere to the Port’s IT Department’s “New Systems IT Standards & Requirements” (RFP Attachment 13). Each such software package shall be identified in the Proposer’s Proposal. Each such software package shall grant the Port rights for all new versions, patches/fixes, and 24 / 7 Technical support for the life of the new PARCS system.
All system software and hardware shall be updated/upgraded as may be necessary to maintain compliance applicable operational and security requirements including but not limited to California Department of Motor Vehicles AVI communications standards, Payment Card Industry (PCI) requirements, and any measures necessary to address adverse findings in the annual PCI and SSAE-16 assessments and audits.

This project shall implement hardware and application software that will meet or exceed the Port’s parking access and revenue control needs for at least 10 years after the system’s final acceptance. The PARCS shall be an open-architecture system where all interfaces (hardware and software) conform to national and International Organization for Standardization (ISO) standards. The Proposer’s application software shall conform to the latest publicly known PCI DSS standards and be PA DSS certified. The Proposer shall submit the most recent PA DSS Report of Validation as part of their Proposal to which their system is certified. The Proposed shall submit a copy of the most recent SSAE-16 or equivalent independent audit. The winning Proposer shall provide a copy of the annual SSAE-16 or equivalent independent audit for the life of the PARCS system.

Each application software package, firmware, and hardware equipment component delivered by the successful Proposer shall undergo acceptance testing as part of the installation process. The acceptance testing of the PARCS is described in Section 3.03, Page 129, of the Functional Specifications and shall occur in the following sequence:

1. Factory Acceptance Test (FAT)
2. Lane Acceptance Test (LAT)
3. Site Acceptance Test (SAT)
4. Operational Demonstration Test (ODT)

4. Warranty Services and Preventative Maintenance Requirements:
Warranty Service and Preventative Maintenance details are contained in Section 1.11 through 1.13 on pages 24 through 36 of the Functional Specifications.

As described in Section 1.11 of the Functional Specifications, Proposer shall maintain all systems that are operating prior to formal system acceptance and start of the warranty period, at no cost to the Port. Following successful completion of the Operational Demonstration Test (ODT) and upon receipt of acknowledgement of formal system acceptance by the Port, the successful Proposer shall warranty all parts, materials, and workmanship for a period of twelve (12) consecutive months, at no additional cost to the Port.

Proposers shall propose a total annual cost to perform PARCS Maintenance Services including software support services\(^1\) described within their proposal, for

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\(^1\) See Section 1.12-page 26 of the Attachment 12-Functional Specifications.
the nine years following the one-year warranty period (Years 2 through 10). These costs shall be included in the PARCS Proposal Cost Form (Attachment 4 of this RFP). Maintenance services shall be performed as defined in the Proposer’s recommended maintenance procedures manual submitted with the Proposal and as accepted by the Port. Additionally, maintenance services shall include preventive maintenance per manufacturer’s recommendations or as necessary to keep equipment in good working order at all times. The description of the approach to providing maintenance services must specify what contractor staffing and facilities will be maintained onsite and offsite, what functions will be performed by contractor staff onsite and offsite, the proposed division of system maintenance responsibilities between the contractor and Airport Parking staff; and the maximum contractor response times to unanticipated disruptions to PARCS operations.

5. Equipment Requirements:
The list of required equipment to be procured, by location, is described in Attachment 4 — Cost Proposal Form. The form is a separate Excel spreadsheet file but directions for completing that form are in Attachment 4 of this RFP.

B. Project Implementation and Schedule
The Port anticipates issuing a Notice to Proceed during the first half of 2016 with substantial project completion date anticipated to occur within 8 months or less.

The Proposer shall prepare a detailed project schedule (in calendar days) that includes and depicts duration and milestone schedules for deliverables and/or completion of all required tasks, and complementary phasing plans depicting critical event sequences, including but not limited to tasks involved in the cutover from the existing to new PARCS and project closeout. The Schedule and Phasing Plans should clearly show how Proposer will achieve full project implementation, beginning with the Notice to Proceed from the Port. The anticipated total project duration is 8 months, from the Notice to Proceed to the Operational Demonstration Test (ODT). The Port shall transmit a Notice of Formal Project Acceptance upon satisfactory completion of all project tasks and goals by the Proposer.

The Proposer shall successfully install, test, validate and activate hardware and application software that meets or exceeds the Airport’s stated project goals and PARCS technical requirements for at least 10 years following Formal Project Acceptance.

III. Purchase/Financing Option:
The Port may be interested in alternative project funding sources. Attachment 4 — Proposal Cost Form includes a section for proposed vendor financing terms. Though not mandatory, proposers are encouraged to complete this section as part of the overall cost proposal.
IV. Port Policy Requirements
The successful Proposer will be required to comply with the following Port Policy Requirements:

A. Non-Discrimination and Small Local Business Utilization Policy (NDSLBUP)
The Port desires to maximize the participation of small local business and has instituted a Non-Discrimination and Small Local Business Utilization Policy (NDSLBUP). The NDSLBUP consists of two parts:

- Non-Discrimination policy which all Suppliers (Proposers) must adhere to, by providing the enclosed “Non-Discrimination and Small Local Business Utilization Policy Program Affidavit” (Attachment 6) with their proposals
- Preference points to small local businesses who qualify under the Port’s definition of a small local business. In order to qualify for preference points, Suppliers (Proposers) must be either certified by the proposal due date or download a Certification Application at: http://www.portofoakland.com/srd/ and submit it along with any supporting documentation to the Port’s Social Responsibility Division seven (7) business days prior to the proposal due date.

A summary of the Port’s Non-Discrimination and Small Local Business Utilization Policy (“NDSLBUP”) is included herein as Attachment 5. The entire policy is available at: http://www.portofoakland.com/pdf/responsibility/ndslbu_policy.pdf

Proposers that are already certified with the Port do not need to submit proof of certification, but still need to check the Port’s certification database at: http://www.portofoakland.com/srd/ to ensure their certification has not expired and must fill out the Chart for Submitting Data for Calculation of Preference Points (Attachment 5-A), and the Local Participation Questionnaire (Attachment 5-B), and submit them with your proposal. All Suppliers (Proposers) must still provide proof of adhering to the Port’s Non-Discrimination policy by submitting the NDSLBUP Program Affidavit.

A copy of the Port-certified Small Local Business Enterprises can also be downloaded at: http://www.portofoakland.com/srd/

For questions or assistance regarding NDSLBUP, contact Ms. Donna Cason, Contract Compliance Officer, (510) 627-1252, or dcason@portoakland.com in the Port’s Social Responsibility Division.

B. Insurance Requirements
All Proposers who plan on submitting a proposal in response to this RFP must meet the Port’s Insurance requirements listed in the Professional Services Agreement (Appendix C of Attachment 11), and must provide proof of insurance at the time of project award. Proposers must include a statement (Attachment 9) with their proposal agreeing to the Port’s insurances requirements and indicate they will be able to obtain the proper insurances at the time of project award.
C. Security Sensitive Information

By submitting a proposal, Proposer acknowledges that in the course of performing services under this contract, the selected Proposer will come into possession of sensitive information subject to Port of Oakland regulation. Firms that are included on the short list for final consideration will be required to comply strictly with the Port of Oakland’s policies and practices for sensitive information.

D. Living Wage Policy

On March 5, 2002, the voters in the City of Oakland passed Measure I, adding to the City Charter Section 728 ("§728") entitled "Living Wage and Labor Standards at Port-assisted Businesses." §728 requires Port Aviation and Maritime businesses that meet specified minimum threshold requirements to pay all nonexempt employees a Living Wage rate established by City Ordinance and adjusted annually based on the Consumer Price Index for the San Francisco, Oakland, and San Jose area. The Living Wage rate as of July 1, 2015 is at least $12.53 with credit given to the employer for the provision to covered employees of health benefits, and $14.40 without credit for the provision of health benefits. Specifically, §728 applies to Port Proposers and financial assistance recipients with the Aviation or Maritime divisions that have contracts worth more than $50,000 and that employ more than 20 employees who spend more than 25% of their time on Port-related work. §728 also provides covered employers with incentives to provide health benefits to employees, establishes a worker retention policy, requires covered employers to submit quarterly payroll reports and requires covered employers to allow Port representatives access to payroll records in order to monitor compliance and labor organization representatives access to workforces during non-work time and on non-work sites. Covered employers are responsible for complying with the provisions of §728 from the date the covered contract is entered into. When a contract is awarded, the Proposer will be required to fill out the attached Employer Self-Evaluation for Port of Oakland Living Wage Form (see Attachment 7-A) and Certificate of Compliance—Living Wage (see Attachment 7-B) and return them to the Social Responsibility Division. (i.e., do not include these forms in with your proposal). For more information, please call Connie Ng-Wong in the Port of Oakland’s Social Responsibility Division at (510) 627-1390.

Proposer shall acknowledge reviewing the Port’s Living Wage program and compliance, by submitting the Statement of Living Wage Requirement (Attachment 8) with their proposal.

E. Prevailing Wages, License, and Sub-contracting Requirements

A portion of this project is considered “Public Works”. Proposer submitting a proposal for a “public works” project (defined below) are required to pay prevailing wages pursuant to California Labor Code, Section 1720, et seq, and to abide by all subcontracting and subletting practices as defined by California Public Contract Code section 4100 et seq., and to abide by any Contracting Licensing requirements as defined by California Business and Profession Code. All Contractors performing work on Port property are required by law to be licensed and regulated by the Contractors State License Board.
California Labor Code Section 1720, (a)(1) provides that the term “public works” means:

Construction, alteration, demolition, installation, or repair work done under contract and paid for in whole or in part out of public funds, except work done directly by any public utility company pursuant to order of the Public Utilities Commission or other public authority. For purposes of this paragraph, “construction” includes work performed during the design and preconstruction phases of construction including, but not limited to, inspection and land surveying work.

General prevailing rate of per diem wages in the locality in which the work is to be performed for each craft, classifications or type of worker needed to execute the contract, including employer payments for health and welfare, pension, vacation, apprenticeship and similar purposes is available at the Department on Industrial Relations Internet site accessible at


The schedule of per diem wages is based upon a working day of eight hours. The rate for holiday and overtime work shall be at least time and one half.

It shall be mandatory upon the Contractor to whom the contract is awarded, and upon any sub-contractor under him, to pay not less than the specified rates to all workers employed by them in the execution of the contract. It is the Contractor’s responsibility to determine any rate change, which may have or will occur during the intervening period between each issuance of published rates by the Director of Industrial Relations.

In addition, any contractor or subcontractor performing Public Works for this project must be registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Port has adopted an electronic monitoring system to satisfy certain certified payroll reporting requirements. The successful proposer will be required to utilize WAMS to satisfy said requirements. Weekly certified payroll reports must be input into the Port of Oakland’s Web Accessed Monitoring System (WAMS) within one (1) week after a subject payroll date. All firms are required to register with Hill International’s subsidiary (MyLCM Solutions Inc.) to submit certified payroll reports. Instructions for using MyLCM will be given to the selected proposer.

G. **Payment and Performance Bonds**

For Public Works portion of work over $25,000, the Proposer must provide a 100% Performance Bond and a 100% Payment (Labor and Material) Bond (**RFP Attachment 10**).

H. **Maritime and Aviation Project Labor Agreement (MAPLA)**

The Port has entered into a Maritime and Aviation Project Labor Agreement (MAPLA) with the Building and Construction Trades Council of Alameda County, AFL-CIO that covers all capital construction in the Port area, whether funded by the Port or by tenants. MAPLA is included as Document 00823 in the Port’s Standard Contract Provisions manual for public works projects, which can be downloaded in PDF format from the Port’s website at http://www.portofoakland.com/business/standard.asp. MAPLA has resulted in a Substance Abuse Prevention Policy on drug testing (Document 00824), a Social Justice Labor Management Cooperation Trust Fund (Document 00825), and requirements for Utilization of Off-Site Apprentice Work Force (Document 00826). MAPLA will apply to the construction aspects of this project.

I. **Port’s New Systems IT Standards \ Requirements**

RFP Attachment 13 contains the Port’s “New Systems IT Standards \ Requirements” manual. It describes the Port’s approval policies and guidelines for any new computer hardware and software, including database systems, procured by the Port. It also provides guidelines for conduit and cabling for voice and data transmission and related labeling standards.

J. **Port’s Standard Professional Services Agreement**

Submission of a proposal will confirm that the proposer fully understands the provisions of the Port’s Professional Services Agreement and will execute such agreement if awarded the contract. Any objections to any provisions in such contract must clearly be identified in your proposal. Changes are discouraged. A copy of the template for the agreement to be executed between the Port and the successful proposer is attached as **Attachment 11**.

V. **Submission Requirements and Content of Proposal**

The Port has scheduled a Mandatory Pre-proposal meeting on the date indicated in the table labeled “Proposal Information” on the first page of the invitation for this RFP, to review the submission requirements.

Before submitting a Proposal, Proposers shall review this RFP, Functional Specifications and all attachments, and make all other inquiries, investigations and examinations necessary to
ascertain all conditions and requirements affecting the preparation of proposals and full performance of the Contract.

Lack of knowledge of such conditions and requirements resulting from failure to make such investigations and examinations will not relieve the Proposer from its obligation to meet the specifications and requirements of the RFP and the resulting Contract, and the Port shall not have liability to pay any additional compensation to cover the costs of meeting said specifications and requirements.

Please respond to the following eleven (11) submission requirements in a straightforward, concise delineation of your capabilities proposed to satisfy the requirements of the RFP. The Port will use your responses to objectively determine your capabilities and experience. Please label your responses 1 through 11, in the order presented below.

**A. Submittal Format**

Responses may not be longer than 40 pages, printed on 8 ½” x 11” paper (double-sided) and formatted in no smaller than 11-point font. The required forms referenced in the section below, V.B.8 and V.B.11 – including the cost proposal form (V.B.7) - are excluded from this page limit. Each section shall be labeled according to the sections below. All submitted material must be bound with only one staple or binder clip in the upper left corner. Please no binders or any other type of binding. Submittals must be able to fit into a 9 x 11.5 inch folder. Please submit one (1) “original” proposal marked as “Original”, one (1) USB electronic version of the Proposal (in PDF format), and six (6) copies of the Proposal marked as “Copy”.

**B. Submission Requirements:**

Proposers must submit the following information and documents in the order specified below. Failure to do so may render your proposal non-responsive. Tabs must be used to separate each subsection described below.

1. **Table of Content and Executive Summary:** A Table of Contents is required to outline the major sections of the written proposal in sequential order. All pages must be consecutively numbered and correspond to the table of contents.

   Incorporate an Executive Summary or letter including the name of the firm submitting the proposal, its mailing address, Federal Tax ID number, telephone number, and the name of an individual to contact and email address. This letter should contain a statement of the Proposer’s basic understanding of the RFP. This should be based on existing information available in this Request for Proposals. This letter should also contain an expression of the Proposer’s interest in the work and any summary information that may be useful or informative to the Port. If your company is making any exceptions to the Port’s standard Professional Services Agreement (RFP Attachment 11), they must be clearly set forth in your proposal and noted in this section. Exceptions are discouraged and may result in lower evaluation points during the Port’s evaluation of your proposal. Finally, provide a brief statement of who is authorized to submit the proposal on the behalf of your company. Please make sure that person signs and dates the statement.
Any addenda issued for this RFP should also be acknowledged in the Executive Summary and RFP Acknowledgement & Signature Form (Attachment 3).

2. **Proposer and Sub-Proposer Company Information:** Provide the name of your company (including the name of any parent company) and names and titles of key management personnel, and a brief history of your company. Identify office location or locations of the firm’s primary place of business by the vendor and any sub-contractors. Identify any sub-contractors that will be performing portions of the work. Please make sure to clearly identify any sub-proposer who will be performing the public work aspect of this project and make sure they have a valid California Contractor’s license to perform the work and that they are registered with the Department of Industrial Relations.

3. **Knowledge and Experience, Key Team Members:** Indicate the number of years in business under current company organization. Please describe your company organization and segmentation. Include an organization chart, which indicates key team members who will be working on this project.

Describe your qualifications to provide a PARCS to the Port, demonstrating your experience in the installation, operation and maintenance of an Airport PARCS within the past five years, including:

a) Technical Ability – ability to adapt to and meet installation requirements and to provide technical enhancements at other installations.

b) Length of time and experience providing similar parking revenue control systems at medium and large-hub American airports.

c) Number, type, and qualifications of software development staff and resources.

Include descriptions of projects that were similar in scope and complexity to this project and undertaken by proposer within in the last five years, and who worked on them. Describe the challenges faced, and solutions developed by the team.

4. **Project Approach:** Describe your overall approach to this project, in a manner that addresses the Project Goals described in RFP Section I.C on pages 3 and 4.

a) Describe your plan and approach to fulfill the Functional Specifications (RFP Attachment 12) including project installation phasing, deactivation of old PARCS and activation of new PARCS, and testing regimens. Describe how the objectives listed in RFP Section II.A.2 on pages 5 and 6 and Attachment 12 will be achieved.

b) Describe what data your system collects from or about the parking public including a description of your system’s credit card data collection and transmission requirements; and the report generator including its ability to create customized reports.

c) Describe any loyalty programs and how related data on personal and/or corporate transactions and rewards is collected, manipulated and presented.

d) Describe how your system implements cybersecurity generally. Specifically describe how your system is configured and controlled, and how data is collected from vehicles and customers. Describe any system integrity and/or security issues your system has experienced in the past three (3) years, when
they occurred, how they were resolved and how long these incidents took to resolve.
e) Describe the location and accessibility of national and local spare parts storage depots and ability to provide timely delivery of spare parts and equipment.
f) Describe your plan and approach to fulfill the PARCS Maintenance requirements attached to this RFP. Describe how you propose to meet the requirements for conducting Preventative Maintenance and Emergency Services, at both the technical and operational levels as described in Functional Specifications (Section 1.13 pages 27 through 36); specifying both onsite and offsite staffing and parts resources.

5. **Clients References:** Provide references from five (5) customers of systems that are similar or larger in size and scope to the proposed OAK project. If applicable include one or more references for projects involving expanded or extended systems; e.g., adding facilities or more lanes.

6. **Ability to Provide Identified Services in a Timely Manner:** Provide a detailed project installation, testing and activation schedule. Describe how the firm will mobilize to begin installation following receipt of a Notice to Proceed and how soon installation would begin. Provide other information that may assist the Port in evaluating the ability, flexibility and responsiveness of the Proposer in providing required services in a timely manner.

7. **Cost/Pricing Proposal Form – RFP Attachment 4:** This template is on a separate MS Excel File which must be downloaded as part of the RFP package. Attachment 4 of this RFP contains instructions for completing that form. Proposers must print and attach their completed Cost Proposal form to each copy of their proposal document, and submit an electronic file.

8. **Specifications Submittal Requirements: Section 1.05, pages 11 through 17, of the Functional Specifications document contains a detailed list of required submittals by the Contractor, and the timing for each submittal.** Proposers must submit these items by the prescribed milestone date. The following list is a condensed summary of items to be included in your Proposal.

   A. Phasing Plan
   B. Sample Set of Standard Reports
   C. Proposed data archiving method
   D. Product Data (See Submittal Requirement for complete list)
   E. Most recent PA DSS Report of Validation
   F. Most recent SSAE-16 or equivalent independent audit including any findings
   G. Credit Card Processing Subsystem Flowchart
   H. Identification of Generation of PARCS Software
   I. Software Interface Documentation
   J. Preventative Maintenance Plan
   K. List of Clearinghouses for which the Proposer has a certified interface
   L. Color Illustration (See Submittal Requirement for complete list)
   M. Resume of Proposed Maintenance Staff
N. Detail Job Description for all Maintenance Staff Position
O. Process and frequency of software update releases including any 3rd party software components
P. Process to inform Port of system integrity and/or cybersecurity vulnerability

9. Litigation Information: Provide information describing any litigation, arbitration, investigations, or any other similar actions that Proposer or Proposer principals, directors, and employees have been involved in during the last five (5) years, related to Proposer’s products and services. List (a) name and court case identification number of each case, (b) jurisdiction in which it was filed, and (c) outcome of litigation (e.g. whether the case is pending, a judgment was entered, a settlement was reached or the case was dismissed). The Port will review the reason and timing of the action before it can determine if your firm can be considered for this project. Failure to provide the litigation information may disqualify your proposal.

10. Debarment Statement: Provide a written statement that your company has not been debarred from providing services to any State or Federal Agency within the last five (5) years. Sign and date your statement. If your firm has been debarred, you will need to provide background information and reason for the debarment. Provide the name and contact information for the agency that debarred your company. The Port must review the reason and duration for the debarment before it can determine if your firm can be considered for this project.

11. Required Forms and Adherence to Port Policy Requirements: The Proposer must fill out all the forms included in this RFP (listed in the “List of Attachments” section and marked with a “Yes” in the column titled “Must Be Returned with Proposal”), and return them with your proposal. By returning the listed forms, your company is supporting and agreeing to the Port’s Policy Requirements, listed in Section IV - Port Policy Requirements of this RFP). Failure of the Proposer to provide any of the forms listed in this RFP may result in your proposal being rejected for being non-responsive. These required forms will not count against the specified maximum Proposal page count as indicated above.

Complete and include the following required forms (included in the RFP) as part your proposal:

- Attachment 1 Non-Collusion Declaration
- Attachment 2 Statement of Equal Employment Opportunity
- Attachment 3 RFP Acknowledgement and Signature Page
- Attachment 4 Proposal Cost Form
- Attachment 5-A Chart for Submitting Data for Calculation of Preference Points *
- Attachment 5-B Local Participation Questionnaire *
- Attachment 6 Non-Discrimination and Small Local Business Utilization Policy Program Affidavit.
- Attachment 8 Statement of Living Wage Requirements
- Attachment 9 Insurance Acknowledgement Page

*Note: If you are submitting a new Certification Application for preference points, then your completed application is due 7 business days prior to the proposal due date.
VI. Proposal Evaluation Criteria

Prior to contract award, the recommended successful Proposer must assure and provide evidence to the Port that it has all of the resources required to successfully perform under the contract. This includes, but is not limited to personnel with required skills and experience, relevant firm experience, and financial and other resources required to provide the specified products and services. If during the evaluation process, the Port cannot be assured of the Proposer’s ability to perform under the contract, the Port has the option of requesting any information that the Port deems necessary to determine the Proposer’s capabilities. If such information is required, the Respondent will be notified and will be permitted five (5) working days to submit the requested information.

In awarding the contract, the Port will evaluate a number of factors, in combination. Please be sure to submit responses to all items listed in the RFP Submission Requirements (Section V.B) section. Your responses will be evaluated based on the weighted evaluation criteria (“Criteria”) shown in the table below. These Criteria reflect the Proposer’s proven ability to provide the desired PARCS Solution, and quality of that solution; based on your Proposal’s adherence to the Project Goals (RFP Section I.C) and Functional Specification Objectives (RFP Section II.A.2 and Attachment 12).
### A. Evaluation Criteria and Weights Information

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| 1    | **ADHERENCE AND RESPONSIVENESS TO PORT POLICY REQUIREMENTS AND DEBARMENT STATEMENT**  
(Submission Requirements 10, 11)  
Proposals from companies who have not or will not adhere to the Port Policy Requirements or who have been debarred and have not provided sufficient reasons/justification for the Port to review the circumstances surrounding the debarment, will not be reviewed or considered by the Evaluation Panel. | Pass/Fail |
| 2    | **PROPOSER CAPACITY**  
Table of Content and Executive Summary, Proposer and Sub-Proposer Company Information, Client References, and Litigation Information  
(Submission Requirements 1, 2, 5, 9)  
Proposer’s (corporate) operational capacity, and proven ability to provide the required PARCS installation, operation and maintenance services as evidenced by company information, quality of client references, and litigation information. | Pass/Fail |
| 3    | **PROPOSER TEAM EXPERIENCE AND RESPONSIVENESS**  
Knowledge and Experience of Team and Key Staff; Client References;  
Ability to Provide Identified System and Services in a Timely Manner  
(Submission Requirements 3, 5 and 6)  
Proposer team member knowledge and experience in the installation, operation and maintenance of Airport PARCS with similar functionality and complexity as described in the Functional Specification requirements; and a proven track record of adherence to proposed and agreed upon installation and activation milestone schedules, and staff training obligations. | 20% |
| 4    | **QUALITY OF PROPOSED APPROACH AND SOLUTION**  
(RFP Project Goals 1-3, Submission Requirements 4 and 8)  
Responsiveness to Specifications Submittals Requirements; Effectiveness of PARCS Solution at improving performance, enhancing business intelligence, and maximizing revenue and customer service. | 35% |
| 5    | **COST PROPOSAL**  
(RFP Project Goal 4, (Submission Requirement 7, RFP Attachment 4)  
As evidenced in Proposer’s response to Item 7 of Submission Requirements section, and submitted Proposal Cost Form (RFP Attachment 4), based on the estimated total cost of PARCS acquisition (Base Project + Optional Tasks); and operating and maintenance cost. | 30% |
| 6    | **NON-DISCRIMINATION & SMALL LOCAL BUSINESS UTILIZATION POLICY**  
Does your company meet the Port’s definition of Small Local Business? The Port will evaluate companies that have provided substantiating documentation to prove they meet the Port’s definition of Small Local Business, and award qualifying companies up to the maximum 15 points. | 15% |

**Total** | 100% |
B. Selection Procedure:
All proposals received by the deadline that meet the RFP’s requirements will be presented to an Evaluation Committee or Panel ("Panel") comprised of Port staff and possibly others. The Panel will evaluate the proposals and score all submissions according to the Criteria. The selection procedure may also include oral interviews (at the discretion of Port Staff) for the top scoring submissions. If interviews are held, the top scoring Proposers will be notified. Interview details and scoring requirements will be provided to selected Proposers prior to the interviews.

When the Port completes its evaluation of proposals and interviews, the Port will declare a “Successful Proposer” with whom the Port intends to award the Contract. Following this declaration, the Port and the Successful Proposer will either agree on the terms as described here and in the Proposal, or the two parties will enter into negotiations to determine the final terms of the Contract. All such negotiations must be completed within 45 calendar days of the declaration of the Successful Proposer, or the Port may choose to end negotiations and enter into a Contract with one of the other Proposers, or the Port may reissue an RFP for this work.

After both parties sign a Contract, the Port will then issue a Notice to Proceed (NTP) to the Contractor.

VII. Additional Provision:
The terms “Company”, “Consultant”, “Proposer”, “Respondent”, “Seller”, “Supplier”, and “Vendor” whenever appearing in this RFP or any attachments, are used interchangeably to refer to the company or firm submitting a proposal in response to this RFP. The term “Contractor” refers to the company or firm that submitted a responsive, successful proposal and subsequently executed an agreement with the Port.

A. Port’s Legal Name and Jurisdiction
The Port of Oakland (the “Port”) is legally known as the City of Oakland, a Municipal Corporation, Acting by and through its Board of Port Commissioners. The Port is an independent department of the City of Oakland. The Port has exclusive control and management of all Port facilities and properties. Port facilities and properties consist of marine terminals, a railway intermodal terminal and container storage areas (collectively, the “Seaport”); the Oakland International Airport (the “Airport”); and commercial and industrial land and properties (collectively, “Commercial Real Estate”); and other recreational land, other land, undeveloped land, and water areas, all located in Oakland, CA. The Port issues Purchase Orders under the name Port of Oakland.

B. Ownership of Proposal
All rights to information developed, disclosed, or provided in a Proposal and its attendant submissions are the property of Port, unless a Proposer makes specific reference to data that is considered proprietary. To the extent that a Proposer does not make specific reference to data that is considered proprietary, submission of an RFP constitutes the Proposer’s express (a) grant and assignment of a perpetual, transferable (in whole or in part), non-exclusive royalty-free license to the Port for
copyright, patent, or other intellectual property right (collectively referred to as “intellectual property”), and (b) agreement that the Port may use any such intellectual property without charge for any lawful purpose in connection with other Port development projects, including without limitation the creation of derivative works and issuance of sublicenses.

C. **Public Records Act**
Per the Public Records Act (Gov. Code 6250 et seq.), the Port may be obligated to make available to the public the submitted proposal and all correspondence and written questions submitted during the Request for Proposal process. However, such disclosure shall not be made prior to the date on which the Port publishes a final Board agenda report recommending award of the contract. Any trade secrets or proprietary financial information, which a Proposer believes should be exempted from disclosure, shall be specifically identified and marked as such. Blanket-type identification by designating whole pages or sections shall not be permitted and shall be invalid. The specific information must be clearly identified as such.

The Port reserves the right to independently determine whether any document is subject to disclosure and to make such information available to the extent required by applicable law, without any restriction.

D. **Indemnification**
If Proposer is selected to receive a contract, it will be required to agree to the indemnification clause contained in the Professional Services Agreement. See Section 5 of the Professional Services Agreement (Attachment 11).

E. **Reimbursable Expenses**
All expenses incidental to performing Consultant’s Basic Services including, but not limited to, reproduction of documents and other materials associated with Proposer’s deliverables and presentation materials; reproduction of Proposers’ installation plans and submittals; reproduction of Proposers’ Plan and Design completion submittals; transportation and subsistence; telephone, computer, facsimile, or other similar costs; and the like, shall be included within the Contract Price.

F. **Port’s Right to Modify**
Proposers are advised that the Port has not incurred any obligations or duties in soliciting this Request for Proposals. The Port, at its sole discretion, reserves the right to reject any or all proposals submitted in response to this RFP; to request additional information or clarification of information submitted; to cancel or modify, in part or in its entirety, this RFP; to request new RFPs or pursue any other means for obtaining the desired services; to waive any informalities or minor irregularities in the RFP, and other inconsequential deviations from the RFP’s requirements. The Board of Port Commissioners retains the right to award this project in part or in total to the Proposer(s) of its choice, and to decide to undertake the project or to terminate the project at any time prior to approval of a formal contract.
G. Conflicts of Interest
By submitting a proposal, the Proposer represents that it is familiar with Section 1090 and Section 87100 et seq. of the Government Code of the State of California, and that it does not know of any facts that constitute a violation of said sections in connection with its proposal. Proposer also represents that its proposal has completely disclosed to the Port all facts bearing upon any possible interests, direct or indirect, which Proposer believes any member of Port, or other officer, agent or employee of Port or any department presently has, or will have, in any agreement arising from this RFP, or in the performance thereof, or in any portion of the profits there under. Willful failure to make such disclosure, if any, shall constitute ground for rejection of the proposals or termination of any agreement by Port for cause. Proposer agrees that if it enters into a contract with the Port, it will comply with all applicable conflict of interest codes adopted by the City of Oakland and Port of Oakland and their reporting requirements.

H. Cost of Preparing a Response
All costs for developing a response to this RFP and attending any proposal meetings or selection meetings are entirely the responsibility of the Proposer and shall not be chargeable to the Port.

I. Law Compliance
The Proposer must comply with all laws, ordinances, regulations and codes of the Federal, State, and Local Governments, which may in any way affect the preparation of proposals or the performance of the contract.

J. Proposer’s Relationship
The Proposer’s relationship to the Port shall be that of independent Proposer and not deemed to be agent of the Port.

K. Proposal Considerations and Legal Proceeding Waiver
The Port has absolute discretion with regard to acceptance and rejection of proposals. In order to be considered the party submitting a proposal waives the right to bring legal proceedings challenging the Board of Port Commissioners choice of the award.

L. False Statements
False statements in a proposal will disqualify the proposal.

M. Taxes
The Proposer will be responsible for all Federal, State, and Local taxes.

N. Grade of Service
The Proposer must provide professional service and maintain appropriate personnel to provide expedient and courteous service.
O. The Proposer’s Liability
The Proposer shall be responsible for any and all damages to the Port’s premises resulting from the negligent acts or willful misconduct of the Proposer’s agents or employees.

P. Amendments
The Port may, at its sole discretion, issue amendments to this RFP at any time before the time set for receipt of proposals. The Proposers are required to acknowledge receipt of any amendments (addenda) issued to this RFP by acknowledging the Addendum in the space provided on the RFP Acknowledgement and Signature Form. The Port shall not be bound by any representations, whether oral or written, made at a pre-proposal, pre-contract, or site meeting, unless such representations are incorporated in writing as an amendment to the RFP or as part of the final contract. All questions or requests for clarification concerning material terms of the contract should be submitted in writing for consideration as an amendment.

Q. Withdrawal or Modification of Offers
The Proposer may modify or withdraw an offer in writing at any time before the deadline for submission of an offer.

R. Acceptance
Any offer received shall be considered an offer which may be accepted or rejected, in whole or in part, by the Port based on initial submission with or without discussions or negotiations.

S. Representations
No representations or guarantees of any kind, either made orally, or expressed or implied, are made with regard to the matters contained in this document, including any attachments, letters of transmittal, or any other related documents. The Proposer must rely solely on its own independent assessment as the basis for the submission of any offer made.

T. Award Consideration
The Port shall not be bound to accept the lowest-quote fee and will award the contract (if any) to the company/firm selected through the competitive process (and any subsequent interviews) outlined in this RFP.

U. Contract Termination
The Port may terminate the system installation contract with the successful Proposer on thirty day notice for the failure of the Proposer to comply with any term(s) of the agreement/contract between the Port and the Proposer.

V. Protest Procedures
Any party that has timely submitted a responsive proposal may file a protest of award in accordance with the provisions set forth below:
1. Any protest must be submitted in writing to John Betterton, Secretary of the Board, no later than 5:00 p.m. by the third (3rd) business day following publication of the identity of the apparent successful proposer (or of Notice of intend to Award, if such notice is issued).

2. The protest must include the name, address and telephone number of the person representing the protesting party.

3. The initial protest document must contain a complete statement of the basis for the protest, including in detail, all grounds for protest, including without limitation all facts, supporting documentation, legal authorities and argument in support of the grounds for the protest; any matters not set forth in the written protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence.

Any protest not conforming to the foregoing shall be rejected by the Port without recourse.
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

(To Be Executed By Proposer and Submitted With Proposal)

I, ______________________________________________________, declare as follows:

That I am the _________________of ________________________________, the party making
the attached proposal; that the attached proposal is not made in the interest of, or on behalf of, any
undisclosed person, partnership, company, association, organization, or corporation; that the proposal is
genuine and not collusive or sham; that the proposer has not directly or indirectly induced or solicited any
other proposer to put in a false or sham proposal, or that anyone shall refrain from proposing; that the
proposer has not in any manner, directly or indirectly, sought by agreement, communication, or to fix any
overhead, profit, or cost element of the proposal price, or of that of any other proposer, or to secure any
advantage against the public body awarding the contract of anyone interested in the proposed contract;
that all statements contained in the proposal are true; and further, that the proposer has not, directly or
indirectly, submitted his or her proposal price or any breakdown thereof, or the contents thereof, or
divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation,
partnership, company association, organization, proposal depository, or to any member or agent thereof
to effectuate a collusive or sham proposal.

Any person executing this declaration on behalf of a Proposer that is a corporation, partnership,
joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents
that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is
true and correct.

Executed this ____________ day of __________________________, 201__, at
_____________________________, California

_______________________________________
Signature

Authority: Public Contract Code 7106

CCP 2015.5

RFP 15-16/05, Attachment 1
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

I hereby certify that _________________________________________________ (Legal Name of Respondent/Supplier/Consultant/Proposer), will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry, age (over 40), physical or mental disability, cancer-related medical condition, a known genetic pre-disposition to a disease or disorder, veteran status, marital status, or sexual orientation.

I declare under penalty of perjury under the laws of the state of California that the information I have provided herein is true and correct and is of my own personal knowledge.

________________________________________________________
Signature

________________________________________________________
Print Name

________________________________________________________
Title

________________________________________________________
Date:
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems ("PARCS")

The undersigned having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Invitation, the General Conditions, the Specifications and all of the documents for this project, proposes to enter into a contract with the Port of Oakland to perform the work listed in this RFP, including all of its component parts, and to furnish any and all required labor, materials, equipment, insurance, bonding, taxes, transportation and services required for this project in strict conformity with the plans and specifications prepared, including any Addenda, within the time specified.

Addendum Acknowledgement

The following addendum (addenda) is (are) acknowledged in this RFP: _________________________

Acknowledgement and Signature:

1. No Proposal is valid unless signed in ink by the person authorized to make the proposal.
2. I have carefully read, understand and agree to the terms and conditions on all pages of this RFP. The undersigned agrees to furnish the services stipulated in this RFP.

Respondent’s Name and Title: _______________________________________________________
Company Name: __________________________________________________________________
Address: _________________________________________________________________________
Telephone: __________________________ Fax: __________________________
Email: ____________________________ Cell Number: __________________________
Proposer’s License# (if applicable) ______________ Expiration Date: ______________
Federal Tax Identification Number: ______________
Authorized Signature* __________________________ Date: _______________________

Decline RFP:

We do not wish to submit a Proposal on this Project. Please state your reason below. Please also indicate if you would like to remain on our Supplier list.

Reason: _________________________________________________________________________

Company: _____________________________________________________________________
Address: _____________________________________________________________________
Name: ________________________________________________________________________
Signature: __________________________ Date: _______________________

RFP 15-16/05, Attachment 3
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems ("PARCS")

PARCS Acquisition and Maintenance Cost Proposal Form
Proposers are required to use the accompanying MS Excel file "PARCS Cost Proposal Worksheet" to prepare cost estimates and to complete all requested pricing information for the specified equipment quantities. The Port reserves the right to adjust final, deliverable equipment quantities in the event that existing parts and equipment may be retained and re-used. Cost Proposals will be rated based on a combination of Base Project acquisition cost, Optional Task acquisition cost, 10-Year Maintenance cost and Project Financing terms.

Instructions and Guidelines to Complete the PARCS Cost Proposal Form
The PARCS Cost Proposal file is a spreadsheet with three tabs (pages) that Proposers must complete, as described below in the sequence shown, as essential data from Tab 1 will auto-populate in Tabs 2 and 3.

1. Tab 1 - Equipment-Pricing
   - This tab shows parts and quantities required for the Base System, and Optional Tasks by location.
   - Proposers must enter unit equipment costs in the green shaded cells. All other cells will auto-populate.
   - Use the “Clarifications and Assumptions” box to include any useful information to explain your submittal.
   - Fill in the information requested at the bottom of the page including authorized signature and date.

2. Tab 2 - PARCS Base Project
   - This tab shows all software, hardware, equipment and services required to complete the Base PARCS installation.
   - Proposers must enter unit costs for computer software/hardware, and for all services in the green-shaded cells (Parts A-D). All other cells will auto-populate.
   - PARCS Warranty & Maintenance (Part F): Proposers must enter annual Maintenance Cost data for years 2-10.
   - Project Financing (Part G): The Port may consider alternative sources of project financing including vendor-sourced financing. Though non-mandatory, Proposers are encouraged to propose capital financing terms by entering the proposed financing amount, lease duration (# months) and financing interest rate in the green-shaded cells.
   - Use the “Clarifications and Assumptions” boxes to include any useful information to explain your submittal.
   - Fill in the information requested at the bottom of the page including authorized signature and date.

3. Tab 3 - Optional Tasks
   - This tab shows all equipment, services and costs for each Optional Task.
   - Proposers must enter the cost of services for each task in the green-shaded cells (Parts A-E).
   - Use the “Clarifications and Assumptions” boxes to include any useful information to explain your submittal.
Non-Discrimination and Small Local Business Utilization Policy

RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

Non-Discrimination: Port of Oakland (Port) policy prohibits discrimination or preferential treatment because of race, color, religion, sex, national origin, ancestry, age (over 40), physical or mental disability, cancer-related medical condition, a known genetic pre-disposition to a disease or disorder, veteran status, marital status, or sexual orientation.

Local Business Utilization: On October 7, 1997, the Board of Port Commissioners initiated a formal policy to encourage full participation of firms from its Local Business Area (“LBA”), the counties of Alameda and Contra Costa, particularly those in its Local Impact Area (“LIA”), in its work. The LIA includes the cities of Oakland, Alameda, Emeryville and San Leandro. The LBA includes all cities within the counties of Alameda and Contra Costa. The Port will also take into consideration efforts the prime and sub-consultants make to assist in the community, e.g., assigning meaningful work to small and/or very small local sub-consultants, mentor protégé relationships, participation in job/trade fairs, hiring interns, pro bono work, and working with local schools, etc.

Consultant Preference Points: The Port allots preference points for the percentage of work being performed by consultants/sub-consultants located in either the LBA or the LIA and for community involvement (i.e. mentoring, intern programs, job fairs, community rehabilitation groups and re-entry programs) for a maximum total of up to 15 points. These points are added to a maximum of 85 technical points for a composite maximum of 100 points in evaluating consultant proposals as follows:

- Up to 5 points will be credited proportionately (counting the whole team, prime consultant and sub-consultant(s)) for LIA certified firms, and 2.5 for LBA certified firms.
  Note: LIA/LBA credit is given only for certified firms which have had established active offices in the respective area for at least a year at the time of proposal due date, and NOT for outside firms which plan to do the project work at a LIA/LBA office;

- An additional 3 points will be credited for an LIA certified prime consultant (proportionate to the share of prime consultant work in the case of a joint venture) and 1.5 points for an LBA certified prime consultant;

- Up to 4 points will be credited proportionately (counting the whole team, prime consultant and sub-consultant(s)) for Very Small Business Enterprise (VSBE) certified firms, and 2 points for Small Business Enterprise (SBE certified firms); and

- Up to 3 points for commitment to the Port’s values and programs, e.g., mentoring small and/or very small local businesses and providing meaningful work for small and/or very small local sub-consultants; utilization of college and high school interns from the LIA; participation in job fairs and trade fairs targeted to LIA residents and businesses; and other work showing the consultant’s efforts to contribute to the economic development of the LIA.

RFP 15-16/05, Attachment 5
In summary, please submit the following attachments in each copy of your proposal:

1. Attachment 5-A, Chart for Submitting Data for Calculation of Preference Points. List the team members’ (prime and subs) names, roles, location and LIA/LBA/SBE/VSBE status in the format shown in Attachment 5-A. Be specific as to the nature and estimated percentage of the work to be performed by the prime, any joint venture partners and/or sub-consultants.

2. Attachment 5-B, Local Participation Questionnaire. Complete for each sub-consulting firm or individual, as well as for the prime consultant.

3. Attachment 5-C and 5-D, Monthly and Final Utilization of Local and Small Business Enterprises are required after contract award. Attachment 5-C is required after contract award and a final report attachment 5-D, is required after completion of the project.

Any proposal that fails to complete and submit the above two items (Prime and sub-consultants) will not be considered. For firms headquartered outside the LIA/LBA wishing to obtain credit for their local office, for the purpose of this project shall utilize personnel from this local office. Additionally, mail, correspondence and telephone calls will be made to this local office.

To obtain credit for these factors and for any preference points on this RFP, consultants or any team member must be certified by the proposal due date or submit an application:

- Consultants or any team members wishing to be certified by the Port must submit a Certification Application, with all supporting documentation seven (7) business days prior to the proposal due date. The questionnaire and checklist of necessary supporting documents for certification may be obtained at: http://www.portofoakland.com/srd/. For questions regarding certification, you may contact Pamela Bell at pbell@portoakland.com or (510) 627-1419. Firms certified by the Port of Oakland do not need to submit proof of certification.

(Please note Port certification must be current and not expired to count for preference points. Certification is valid for a two year period.)

For questions or assistance regarding this section, contact Ms. Donna Cason (510) 627-1252, or dcason@portoakland.com in the Port’s Social Responsibility Division.
**Chart for Submitting Data for Calculation of Preference Points**

**RFP No.: 15-16/05 – Parking Access and Revenue Control Systems ("PARCS")**

<table>
<thead>
<tr>
<th>Company</th>
<th>Nature of Work to be Performed</th>
<th>Prime or Sub?</th>
<th>Location of Firm</th>
<th>*LIA/LBA SBE/VSBE Certification Status</th>
<th>Percent of Total Contract</th>
<th>Percent of Sub-consulting Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Name of Prime)</td>
<td>Prime</td>
<td></td>
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<tr>
<td>(Name of Subs)</td>
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<td>Sub</td>
<td></td>
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</tr>
</tbody>
</table>

**Total** (must add up to 100%) 100% 100%

*In order to qualify for preference points, the firm must be certified by the Port of Oakland.* Local Impact Area (LIA), Local Business Area (LBA), Small Business Enterprise (SBE), Very Small Business Enterprise (VSBE)

**Notes:**
- Please make sure the column labeled “Percent of Total Contract” adds up to 100%
- Please make sure the column labeled “Percent of Sub-consulting Work” adds up to 100% of the Sub-consulting work.

RFP 15-16/05, Attachment 5-A
Local Participation Questionnaire

RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

(Use additional paper if necessary)

1. Is the consultant or large sub-consultant mentoring or providing a professionally meaningful share of the project to small and/or very small LIA firms on this project?  Yes___ No___

   If the response is “yes”, please provide specific details on how the mentoring or sharing will be performed. In addition, be specific as to the nature of the relationship and the persons responsible for implementing it.

2.  (A) Do any team members regularly use local students as interns in their work?  Yes___ No ___
   (B) Do any team members currently use local students as interns in their work?  Yes___ No ___
   (C) Have any team members used local students as interns in past work?  Yes ___ No___
   (D) If planning to use interns on this project, how will you utilize them?

   If you answered “yes” to any of these questions, please state from what schools or programs the interns were obtained, what type of work was performed by them, and any other details that might be relevant, i.e. paid internship, length of service, number of interns.

3. Have firms in the team participated in other community projects, e.g., job fairs targeted to local neighborhoods, youth or school programs, community rehabilitation groups, etc.?  Yes___ No___ If so, please give details.
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

<table>
<thead>
<tr>
<th>PRIME PROPOSER</th>
<th>BUSINESS ADDRESS</th>
<th>CONTRACT BID AMOUNT</th>
<th>DATE OF THIS REPORT</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>PORT PROJECT NAME</th>
<th>PORT PROJECT NUMBER</th>
<th>WORK AUTHORIZATION #</th>
<th>TOTAL CONTRACT AMOUNT INCLUDING CHANGE ORDERS</th>
<th>PROJECT COMPLETION DATE</th>
</tr>
</thead>
</table>

(1) Name and Address of Small/Local Firm [Prime, Subcontractor, Supplier or Trucking Broker]  
(2) Description of Work Performed and or Materials Supplied  
(3) Prime and Sub(s) Original Bid Amount  
(4) Port Certification Number

<table>
<thead>
<tr>
<th>CONTRACT PAYMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5a) * LIABE Dollars</td>
</tr>
</tbody>
</table>

TOTAL $ $ $ $

List all certified local/small prime and subs regardless of tiers throughout the life of the project, whether or not firms were listed on the original bid. Xerox this page if additional sheets are needed.

If actual sub dollars were different than the approval amount at time of award, provide comments on back of form. List actual amount paid to each sub at the above chart.

* LIABE (Local Impact Area Business Enterprise), LBABE (Local Business Area Business Enterprise), SBE (Small Business Enterprise), and VSBE (Very Small Business Enterprise).

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE, TRUE AND CORRECT

<table>
<thead>
<tr>
<th>AUTHORIZED PROPOSER REPRESENTATIVE SIGNATURE and TITLE</th>
<th>BUSINESS PHONE NUMBER</th>
<th>DATE</th>
</tr>
</thead>
</table>

Distribution: Original – SRD  
Copy To – Engineering Construction / Resident Engineer

RFP 15-16/05, Attachment 5-C, Page 1 of 2
Instructions--Monthly Utilization of Local and Small Business Enterprises

(I) Enter the project information requested on the first two rows on page 00816-1 (Prime Proposer, Business Address, Contract Bid Amount, etc.)

(II) Provide the following information for each portion of the contract work performed by (and for each amount of materials supplied by) a Port-certified small and/or local business, including the prime Proposer if the prime is a Port-certified small/local business:

Column 1: Name and address of the firm performing work and/or supplying materials.

Column 2: Description of the work performed and/or materials supplied by said firm.

Column 3: For Subcontractor, supplier or trucker: dollar amount of the bid submitted by the firm to prime bidder, as listed in the Subcontractor and Supplier List Form submitted by prime bidder with its bid. If the Subcontractor, supplier or trucker was not listed in the Subcontractor and Supplier List Form, enter "0". For small/local prime bidder: dollar amount of the prime bidder’s bid excluding all Subcontractor/supplier/trucking broker bid amounts, as listed in the Subcontractor and Supplier List Form.

Column 4: Port Certification Number of firm. (Port-certified small/local Subcontractors, suppliers and truckers should provide their certification number to the Prime Bidder and notify Prime Bidder in writing with the date of the decertification if their status changes during the course of the project.)

Columns 5a-5d Enter the dollar amount of the work performed and/or materials supplied by the firm in either Column 5a, 5b, 5c or 5d, depending on the firm’s certification status. Firm certification status must be certified and determined at the time of bid by Port of Oakland. The certified firm is issued a letter by the Port of Oakland that states their certification status as well as the expiration date of the certification. Firms’ certification status may be obtained by accessing the Port of Oakland website (http://www.portofoakland.com/srd/) or by calling (510) 627-1419. Refer to the following table for a description of the certification status:

<table>
<thead>
<tr>
<th>Certification Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIABE (Local Impact Area Business Enterprise)</td>
<td>firm located in Oakland, Alameda, Emeryville, or San Leandro</td>
</tr>
<tr>
<td>LBABE (Local Business Area Business Enterprise)</td>
<td>firm located in Alameda County or Contra Costa County</td>
</tr>
<tr>
<td>SBE (Small Business Enterprise)</td>
<td>business with 3 year average annual gross revenue not to exceed $14,000,000</td>
</tr>
<tr>
<td>VSBE (Very Small Business Enterprise)</td>
<td>business with 3 year average annual gross revenue not to exceed $3,500,000</td>
</tr>
</tbody>
</table>

If the firm was decertified before completing its portion of the work of this contract, enter the dollar amount of ALL work performed/materials supplied by the firm, INCLUDING WORK PERFORMED/MATERIALS SUPPLIED AFTER THE DATE OF DECERTIFICATION. If the amount listed in Column 5 differs from the amount listed in Column 3, provide an explanation in the ‘COMMENTS’ section as provided.

Column 6: Date on which the firm listed in Column 1 completed the work described in Column 2.

Column 7: Date on which prime Proposer made the ‘final payment’ for the work described in Column 2 to Subcontractor/supplier/trucking broker.

(III) In the ‘TOTAL’ row, enter the column sums of the dollar amounts listed in Columns 5a through 5d.

(IV) The authorized Proposer representative shall certify the information supplied by signing in the space provided. Per Port of Oakland provisions, Final Payment WILL NOT be made until this form is properly filled out and submitted to the Port of Oakland.

COMMENTS:
## Final Utilization of Local and Small Business Enterprises

### RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

<table>
<thead>
<tr>
<th>PRIME PROPOSER</th>
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### PORT PROJECT NAME

<table>
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<tr>
<th>(1) Name and Address of Small/Local Firm</th>
<th>(2) Description of Work Performed and/or Materials Supplied</th>
<th>(3) Prime and Sub(s) Original Bid Amount</th>
<th>(4) Port Certification Number</th>
<th>CONTRACT PAYMENTS</th>
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<tbody>
<tr>
<td>[Prime, Subcontractor, Supplier or Trucking Broker]</td>
<td></td>
<td></td>
<td></td>
<td>(5a) <strong>LIABE Dollars</strong></td>
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### CONTRACT PAYMENTS

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<tr>
<th>TOTAL</th>
<th>$</th>
<th>$</th>
<th>$</th>
<th>$</th>
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List all certified local/small prime and subs regardless of tiers throughout the life of the project, whether or not firms were listed on the original bid. Xerox this page if additional sheets are needed. If actual sub dollars were different than the approval amount at time of award, provide comments on back of form. List actual amount paid to each sub at the above chart.

* LIABE (Local Impact Area Business Enterprise), LBABE (Local Business Area Business Enterprise), SBE (Small Business Enterprise), and VSBE (Very Small Business Enterprise).

### I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE, TRUE AND CORRECT

<table>
<thead>
<tr>
<th>AUTHORIZED proposer representative signature and title</th>
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Distribution: Original – SRD Copy To – Engineering Construction / Resident Engineer

RFP 15-16/05, Attachment 5-D, Page 1 of 2
Instructions--Final Utilization of Local and Small Business Enterprises

(I) Enter the project information requested on the first two rows on page 00816-1 (Prime Proposer, Business Address, Contract Bid Amount, etc.)

(II) Provide the following information for each portion of the contract work performed by (and for each amount of materials supplied by) a Port-certified small and/or local business, including the prime Proposer if the prime is a Port-certified small/local business:

- **Column 1**: Name and address of the firm performing work and/or supplying materials.
- **Column 2**: Description of the work performed and/or materials supplied by said firm.
- **Column 3**: For Subcontractor, supplier or trucker: dollar amount of the bid submitted by the firm to prime bidder, as listed in the Subcontractor and Supplier List Form submitted by prime bidder with its bid. If the Subcontractor, supplier or trucker was not listed in the Subcontractor and Supplier List Form, enter “0”. For small/local prime bidder: dollar amount of the prime bidder’s bid excluding all Subcontractor/supplier/trucking broker bid amounts, as listed in the Subcontractor and Supplier List Form.
- **Column 4**: Port Certification Number of firm. (Port-certified small/local Subcontractors, suppliers and truckers should provide their certification number to the Prime Bidder and notify Prime Bidder in writing with the date of the decertification if their status changes during the course of the project.)

Columns 5a-5d

Enter the dollar amount of the work performed and/or materials supplied by the firm in either Column 5a, 5b, 5c or 5d, depending on the firm’s certification status. Firm certification status must be certified and determined at the time of bid by Port of Oakland. The certified firm is issued a letter by the Port of Oakland that states their certification status as well as the expiration date of the certification. Firms’ certification status may be obtained by accessing the Port of Oakland website [http://www.portofoakland.com/srd/](http://www.portofoakland.com/srd/) or by calling (510) 627-1419. Refer to the following table for a description of the certification status:

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</tr>
<tr>
<td>VSBE (Very Small Business Enterprise)</td>
<td>business with 3 year average annual gross revenue not to exceed $3,500,000</td>
</tr>
</tbody>
</table>

If the firm was decertified before completing its portion of the work of this contract, enter the dollar amount of ALL work performed/materials supplied by the firm, INCLUDING WORK PERFORMED/MATERIALS SUPPLIED AFTER THE DATE OF DECERTIFICATION. **If the amount listed in Column 5 differs from the amount listed in Column 3, provide an explanation in the ‘COMMENTS’ section as provided.**

- **Column 6**: Date on which the firm listed in Column 1 completed the work described in Column 2.
- **Column 7**: Date on which prime Proposer made the ‘final payment’ for the work described in Column 2 to Subcontractor/supplier/trucking broker.

(III) In the ‘TOTAL’ row, enter the column sums of the dollar amounts listed in Columns 5a through 5d.

(IV) The authorized Proposer representative shall certify the information supplied by signing in the space provided. **Per Port of Oakland provisions, Final Payment WILL NOT be made until this form is properly filled out and submitted to the Port of Oakland.**

COMMENTS:
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

I hereby certify that _______________________________ (Legal Name of Respondent/Supplier/Consultant/Proposer), shall carry out applicable requirements in the award and administration of this contract and cooperate with the Port of Oakland in meeting its commitments and objectives with regard to ensuring nondiscrimination, and shall use best efforts to ensure that barriers to participation of Small Local Businesses do not exist.

Upon execution of an Agreement, the selected consultant will be required to complete Small and Local attainment reports and a final report at contract completion, and submit them to the Social Responsibility Division.

I declare under penalty of perjury under the laws of the state of California that the information I have provided herein is true and correct.

________________________________________________________________________
Signature

________________________________________________________________________
Print Name

________________________________________________________________________
Title

________________________________________________________________________
Date:

RFP 15-16/05, Attachment 6
EMPLOYERS SUBJECT TO §728 OF THE CITY CHARTER MUST COMPLY WITH THE FOLLOWING REQUIREMENTS:

1) Pay all non-exempt employees the living wage rates (Effective July 1, 2015, $14.40 without health benefits or $12.53 with health benefits). Port Ordinance No. 3666, as amended also requires that covered businesses provide employees at least twelve compensated days off per year, including holidays.

2) Pay at least $1.87 per hour worked toward the provision of health care benefits for employees and/or their dependents, if the employer claims credit for health benefits.

3) Provide written notification to each current and new employee, at time of hire, of his or her rights to receive the benefits under the provisions of these regulations. The notification shall be provided in English, Spanish and other languages spoken by a significant number of the employees, and shall be posted prominently in communal areas at the work site. A copy of said notification is available from the Port Division of Social Responsibility.

4) Provide all employees earning less than $12/hour notification in English, Spanish, and any other language spoken by a significant number of employees of their right to advance Earned Income Credit payments.

5) Maintain a list of the name, address, date of hire, occupation classification, rate of pay, benefits paid for each of its employees, and compensated time off - and submit this list to the Port’s Social Responsibility Division, Attention: Connie Ng-Wong, Living Wage Compliance Officer, by March 31st, June 30th, September 30th, and December 31st of each year. If a covered employer has obtained a waiver from the Port Board of Directors, then the employer must still submit an annual payroll report covering each of its employees by December 31st of each year. Failure to provide the list within five days of the due date will result in a penalty of $500 per day. Covered employers shall maintain payrolls and basic records for all employees and shall preserve them for a period of at least three years after the close of the compliance period.

6) Require Subcontractors, tenants and subtenants, or licensees who are covered by these requirements to comply with the provisions of these regulations. Covered employers shall be responsible for including language committing the sub-Proposer’s, tenant’s or licensee’s agreement to comply, in the contract with the Subcontractor. Covered employers shall submit a copy of such subcontracts or other such agreements to the Port Division of Social Responsibility.

7) Permit authorized Port representatives access to work sites and, with employee consent, relevant payroll records for the purpose of monitoring compliance with these regulations, investigating employee complaints of non-compliance and evaluating the operation and effects of these regulations, including the production for inspection and copying of its payroll records for any or all of its employees for the applicable compliance period. Permit a representative of the labor organizations in its industry to have access to its workforce at the Port during non-working time and in non-work areas to ensure compliance.

Employers who fail to submit documents, declarations or information required to demonstrate compliance with these regulations shall be deemed noncompliant or non-responsive and subject to the remedies as set forth in §728.
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems ("PARCS")

COVERED BUSINESS CHECKLIST WRITE YES/NO ANSWER IN APPROPRIATE BOX:

1. ☐ Is the Business entering into a contract, tenancy agreement or subordinate agreement (such as, subcontract, sub tenancy, or sublicense) with the Port? *If no, go on to question 2. If yes, go to question 3.*

2. ☐ Has the Business amended an existing contract, tenancy agreement or subordinate agreement at any time since April 2002? *If no to 1 and 2, stop here: the business is not covered. If yes, go to question 3.*

3. ☐ Is the contract with Aviation or Maritime divisions for a value of greater than $50,000 over the life of the contract (over the next five years if contract is for less than a year and expected to be renewed or extended)? *If no, stop here; the contract is not covered. If yes, go to question 4.*

4. ☐ Is the contract for service other than the delivery of products, equipment or commodities? *If no, stop here: the business is not covered. If yes, go to question 5.*

5. ☐ Does the Business employ more than 20 employees who spend at least 10 hours per week (4 hours per week if part time employees) working under the contract with the Port or on Port property? Indicate the number of employees that are employed by the Proposer_________. *If no, stop here the business is not covered. If yes, go to question 6.*

All employees of a covered employer are required to be provided compensation and other benefits as provided under §728 of the Charter, except for specified employees exempt under the following exemptions. The following questions should be answered for each employee.

6. ☐ Does the employee work less than 25% of his/her time (10 hours per week for full time employee) under the contract with the Port? If yes, stop here; the specified employee is exempt. If no, go to question 7.

7. ☐ Is the employee under 21 years of age, employed by a government agency or nonprofit for after school or summer employment, or as a trainee for 90 days or less? *If yes, stop here; the specified employee is exempt. If no, go to question 8.*

8. ☐ Has the Business obtained a waiver that covers the employee? *If yes, stop here; the specified employee is exempt. If no, go to question 9.*

9. ☐ Is the employee participating in a bona-fide temporary job-training program in which a significant part of the compensation consists of acquiring specialized knowledge, abilities or skills in a recognized trade? *If yes, stop here; the specified employee is exempt. If no, go to question 10.*

RFP 15-16/05, Attachment 7-A, Page 1 of 2
10. [ ] Is the employee a volunteer who is not compensated other than for incidental expenses or stipends? If yes, stop here; the specified employee is exempt. If no, go to question 11.

11. [ ] Is the employee working for the Business less than 20 hours per week for a period of 6 months or less? If yes, stop here the specified employee is exempt. If no, go to question 12.

12. [ ] Of the remaining employees (employees for which no exemption applies as indicated by your answers to questions 6 through 11), are there 20 or fewer non-exempt employees working for the employer under the Port Contract? If yes, stop here; each of the remaining specified employee(s) is/are exempt. If no, each of the remaining specified employee(s) is covered by §728.

The undersigned authorized representative of Proposer hereby certifies under penalty of perjury that all of the information on this form is true and accurate.

Company Name

Signature of Authorized Representative

Address

Type or Print Name & Title

Area Code and Phone

Email Address

Name of Primary Contact

Date

Project Name (Be Specific)

Submit Completed Checklist To:
Connie Ng-Wong

Port of Oakland
Social Responsibility Division
530 Water Street
Oakland, CA 94607
Phone: (510) 627-1390 Fax: (510) 451-1656Email: cng-wong@portoakland.com
Certificate of Compliance – Living Wage

RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

The City of Oakland Living Wage Charter §728 ("§728") and Port Ordinance No. 3666 ("Ordinance 3666") as amended, provide that certain employers that enter into a contract, lease, license (or a subcontract, sublease, sublicense, or other agreement) with the Port for $50,000 or more over the term of the contract and certain recipients of Port financial assistance for $50,000 or more shall pay a prescribed minimum level of compensation to their covered employees ("Employees").

The undersigned ("Proposer") submits this certificate under penalty of perjury and as a condition of payment of its invoice(s) for service provided under the __________________________ agreement between the Port and Proposer.

1) Proposer hereby certifies that it is in compliance with §728 and Ordinance 3666 with respect to all non-exempt Employees of Proposer engaged in Port-related employment or work on Port property.

2) Proposer hereby acknowledges that the Port is relying on Proposer’s certification of compliance with §728 and Ordinance 3666 as a condition of payment of Proposer’s invoice(s).

3) Proposer understands that it may be subject to fines or penalties for noncompliance with §728 and Ordinance 3666 up to and including potential fines of $500 per day until Proposer complies.

4) Proposer hereby certifies that claims, records and statements relating to Proposer’s compliance with §728 and Ordinance 3666 are true and accurate, that such claims, records and statements are made with the knowledge that the Port will rely on such claims, records and statements, and that such claims, records and statements are submitted to the Port for the express benefit of Proposer’s employees engaged in Port-related employment or work on Port property.

   a.) Please check the appropriate box and sign below

☐ Proposer hereby certifies its compliance with all of its obligations under §728 and Ordinance 3666;

☐ Proposer hereby certifies that all Employees of Proposer working under Proposer’s contract with the Port are compensated at wage rate(s) greater than $12.00 per hour;

☐ Proposer hereby certifies that it is not currently covered by §728 or Ordinance 3666. Proposer further certifies that should §728 or Ordinance 3666 become applicable, Proposer will comply with all of its Living Wage obligations.

All terms used herein and not defined shall have the meaning ascribed to such terms in §728 and Ordinance 3666.

The undersigned authorized representative of Proposer hereby certifies under penalty of perjury that all of the information on this form is true and accurate.

__________________________
Company Name

__________________________
Signature of Authorized Representative

__________________________
Address

__________________________
Type or Print Name & Title

__________________________
Area Code and Phone

__________________________
Email Address

__________________________
Name of Primary Contact

__________________________
Date

__________________________
Project Name (Be Specific)

Submit to: Connie Ng-Wong, Port of Oakland, Social Responsibility Division, 530 Water Street, Oakland, CA 94607. Email: cng-wong@portoakland.com

RFP 15-16/05, Attachment 7-B, Page 1 of 1
RFP No.: 15-16/05 – Parking Access and Revenue Control Systems (“PARCS”)

I hereby certify that ____________________________ (Legal Name of Respondent/Supplier/Consultant/Proposer), has reviewed the Living Wage Requirements, included herein as Attachment 7 to this Request for Proposal and will comply with said requirement. Upon execution of an Agreement, the selected consultant will be required to complete the attached Employer Self-Evaluation Form and Certificate of Compliance–Living Wage Form of this Request for Proposal, and submit them to the Social Responsibility Division.

I declare under penalty of perjury under the laws of the state of California that the information I have provided herein is true and correct.

______________________________
Signature

______________________________
Print Name

______________________________
Title

______________________________
Date:
I hereby certify that ____________________________ (Legal Name of Respondent) agrees to meet all of the Port’s Insurance requirements included in the Professional Services Agreement (Attachment 11, Appendix C) attached to this Request for Proposal and Respondent will be able to evidence such insurance when and if awarded the contract and will provide proof of insurance at the time of project award if awarded the contract.

I declare under penalty of perjury under the laws of the state of California that the information I have provided herein is true and correct and is of my own personal knowledge.

____________________________
Signature

____________________________
Print Name

____________________________
Title

____________________________
Date:
CONSTRUCTION PERFORMANCE BOND

THIS CONSTRUCTION PERFORMANCE BOND ("Bond") is dated ________________ is in the penal sum of one hundred percent (100%) of the Contract Sum, which is ________________, (___________________), and is entered into by and between the parties listed below to ensure the faithful performance of the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, Sections 1 through 12, attached to this page. Any singular reference to _____________________________ (Lic. No. ____________) the "Contractor"), (the "Surety"), City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners (the "Port") or other party shall be considered plural where applicable.

CONTRACTOR:

Name

Address

OWNER:

CITY OF OAKLAND,
A Municipal Corporation, By and
Through Its Board of Port Commissioners

Address: 530 Water Street
Oakland, CA 94607
Attention: Port Attorney

SURETY:

Name

Principal Place of Business

CONTRACTOR AS PRINCIPAL
Company:

Signature: __________________________
Name and Title: __________________________

SURETY Company:

Signature: __________________________
Name and Title: __________________________

Address

Contact Person

Telephone Number

Approved as to Form and Legality this __________day of ________________________, 20____

__________________________
DANNY WAN, Port Attorney

Dated: ________________, in the amount of $ __________________________

Contract No.

RFP 15-16/05, Attachment 10-A
BOND TERMS AND CONDITIONS

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Port for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor completely and properly performs all of its obligations under the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Port Default, the Surety's obligation under this Bond shall arise after:

   3.1. The Port has declared a Contractor Default under the Construction Contract pursuant to the terms of the Construction Contract; and

   3.2. The Port has agreed to pay the Balance of the Contract Sum to:

      3.2.1. The Surety in accordance with the terms of this Bond and the Construction Contract; or

      3.2.2. To a contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.

4. When the Port has satisfied the conditions of Section 3, the Surety shall promptly (within thirty (30) days) and at the Surety's expense elect to take one of the following actions:

   4.1. Arrange for the Contractor, with consent of the Port, to perform and complete the Construction Contract (but Port may withhold consent, in which case the Surety must elect an option described in Sections 4.2, 4.3 or 4.4, below); or

   4.2. Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

   4.3. Obtain bids from qualified contractors acceptable to the Port for a contract for performance and completion of the Construction Contract, and, upon determination by the Port of the lowest responsible bidder, arrange for a contract to be prepared for execution by the Port and the contractor selected with the Port's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract; and, if the Surety's obligations defined in Section 6, below, exceed the Balance of the Contract Sum, then the Surety shall pay to the Port the amount of such excess; or

   4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor acceptable to the Port and with reasonable promptness under the circumstances, and, after investigation and consultation with the Port, determine in good faith the amount for which it may then be liable to the Port under Section 6, below, for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefor to the Port with full explanation of the payment's calculation. If the Port accepts the Surety's tender under this Section 4.4, the Port may still hold Surety liable for future damages then unknown or unliquidated resulting from the Contractor Default. If the Port disputes the amount of Surety's tender under this Section 4.4, the Port may exercise all remedies available to it at law to enforce the Surety's liability under Section 6, below.

5. If the Surety does not proceed as provided in Section 4, above, then the Surety shall be deemed to be in default on this Bond ten (10) days after receipt of an additional written notice from the Port to the Surety demanding that the Surety perform its obligations under this Bond. At all times the Port shall be entitled to RFP 15-16/05, Attachment 10-A
enforce any remedy available to the Port at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect work, mitigate damages, or coordinate work with other consultants or contractors.

6. The Surety's monetary obligation under this Bond is limited by the penal sum of this Bond. Subject to these limits, the Surety's obligations under this Bond are commensurate with the obligations of the Contractor under the Construction Contract. The Surety's obligations shall include, but are not limited to:

6.1. The responsibilities of the Contractor under the Construction Contract for completion of the Construction Contract and correction of defective work;

6.2. The responsibilities of the Contractor under the Construction Contract to pay liquidated damages, and for damages for which no liquidated damages are specified in the Construction Contract, actual damages caused by non-performance of the Construction Contract, including but not limited to, all valid and proper back-charges, offsets, payments, indemnities, or other damages;

6.3. Additional legal, design professional and delay costs resulting from the Contractor Default or resulting from the actions or failure to act of the Surety under Section 4, above.

7. No right of action shall accrue on this Bond to any person or entity other than the Port or its successors or assigns.

8. The Surety hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, purchase orders and other obligations, including changes of time. The Surety hereby waives all other rights and remedies which any law gives to sureties or guarantors arising out of this Bond and agrees not to assert or take advantage of any such rights or remedies. The Surety consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, modification, deletion, or addition to the Contract Documents, or of the work required thereunder, shall release or exonerate Surety on this Bond or in any way affect the obligations of Surety on this Bond.

9. Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction where a proceeding is pending between the Port and the Contractor regarding the Construction Contract, or in the courts of the County of Alameda, or in a court of competent jurisdiction in the location in which the work is located.

10. Notice to the Surety, the Port or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by the Surety, the Port or the Contractor at the address shown on the signature page, however accomplished, shall be sufficient compliance as of the date received.

11. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein.

12. Definitions.

12.1. Balance of the Contract Sum: The total amount payable by the Port to the Contractor pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved modifications to the Construction Contract.

12.2. Construction Contract: The agreement between the Port and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

RFP 15-16/05, Attachment 10-A
12.3. Contractor Default: Material failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract, including but not limited to, “default,” as provided in Document 00700 General Conditions.

12.4. Port Default: Material failure of the Port, which has neither been remedied nor waived, to pay the Contractor progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted Contractor Default and is sufficient to justify the Contractor’s termination of the Construction Contract.

END OF DOCUMENT
CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND

THIS CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND ("Bond") is dated ____________, is in the penal sum of one hundred percent (100%) of the Contract Sum, which is ______________ ($_________), and is entered into by and between the parties listed below to ensure the payment of claimants under the Construction Contract listed below. This Bond consists of this page and the Bond Terms and Conditions, Sections 1 through 13, attached to this page. Any singular reference to ___________ (Lic. No. ___________) (the "Contractor"); ___________ (the "Surety"); the City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners (the "Port") or other party shall be considered plural where applicable.

CONTRACTOR:

Name
____________________________________
____________________________________
Address
______________________________
Principal Place of Business

OWNER:

CITY OF OAKLAND,
A Municipal Corporation, By and Through Its Board of Port Commissioners

Address:
530 Water Street
Oakland, CA 94607
Attention: Port Attorney

CONSTRUCTION CONTRACT:

[Project Title]
[Project Title]
[Project Title]

Dated: ________________, in the amount of $ ________________
Contract No.

CONTRACTOR AS PRINCIPAL
Company:

Signature:

Name and Title:

SURETY
Company:

Signature:

Name and Title:

Approved as to Form and Legality this ________ day of ________________, 20___

______________________________

DANNY WAN, Port Attorney

RFP 15-16/05, Attachment 10-B
1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Port and to Claimants, to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2. With respect to the Port, this obligation shall be fully satisfied if the Contractor:
   
   2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

   2.2. Defends, indemnifies and holds harmless the Port from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Construction Contract, provided the Port has promptly notified the Contractor and the Surety (at the address described in Paragraph 11) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Port Default.

3. With respect to Claimants, this obligation shall be fully satisfied if the Contractor promptly makes payment, directly or indirectly through its subcontractors, for all sums due Claimants. However, if Contractor or its subcontractors fail to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Contractor or subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, then Surety will pay for the same, and also, in case suit is brought upon this Bond, a reasonable attorney’s fee, to be fixed by the court.

4. Consistent with the California Mechanic's Lien Law, Civil Code §3082, et seq., the Surety shall have no obligation to Claimants under this Bond unless the Claimant has satisfied all applicable notice requirements.

5. The Surety's total obligation shall not exceed the penal amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety under this Bond.

6. Amounts due the Contractor under the Construction Contract shall be applied first to satisfy claims, if any, under any Construction Performance Bond and second, to satisfy obligations of the Contractor and the Surety under this Bond.

7. The Port shall not be liable for payment of any costs, expenses, or attorney’s fees of any Claimant under this bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

8. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9. Suit against the Surety on this Payment Bond may be brought by any Claimant, or its assigns, at any time after the Claimant has furnished the last of the labor or materials, or both, but, per Civil Code §3249, must be commenced before the expiration of six months after the period in which stop notices may be filed as provided in Civil Code §3184.

10. Notice to the Surety, the Port or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Port or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

11. This Bond has been furnished to comply with the California Mechanic's Lien Law, including, but not limited to, Civil Code §§3247, 3248, et seq. Any provision in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom to the extent of the conflict and all provisions conforming to such statutory or other legal requirements shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

RFP 15-16/05, Attachment 10-B
12. Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

13. DEFINITIONS

13.1.1. Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract, as further defined in California Civil Code §3181. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a stop notice might be asserted. The term Claimant shall also include the Unemployment Development Department as referred to in Civil Code §3248(b).

13.1.2. Construction Contract: The agreement between the Port and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

13.1.3. Port Default: Material failure of the Port, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract, provided that failure is the cause of the failure of Contractor to pay the Claimants and is sufficient to justify termination of the Construction Contract.

END OF DOCUMENT
Attachment 11

(Professional Services Agreement)

Parking Access and Revenue Control Systems
CONTRACT FOR PROFESSIONAL SERVICES

Between

CITY OF OAKLAND, A MUNICIPAL CORPORATION,
ACTING BY AND THROUGH ITS BOARD OF PORT COMMISSIONERS
as the "Port of Oakland"

And

[Parking Access and Revenue Control System]

(Contract No. ______)

Dated
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CONTRACT FOR PROFESSIONAL SERVICES

(Parking Access and Revenue Control System)

THIS CONTRACT FOR PROFESSIONAL SERVICES ("Contract") is entered into on ______________ between the City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners ("Port"), and the ("Contractor"), identified on Appendix D, who agree as follows:

1. SCOPE OF PROFESSIONAL SERVICES.

The Contractor shall perform all services described in Appendix A ("Services"), for the compensation set forth in Appendix B ("Payment"), which appendixes are attached and made a part of this Contract.

2. TERM.

This Contract shall become effective upon its execution by Contractor and by Port (including approval by the Port Attorney). All Services whenever performed shall be deemed performed under this Contract, and all compensation paid to the Contractor on account of the Services performed shall be deemed as payments of the Compensation.

3. STANDARD OF PERFORMANCE.

The Contractor represents that it possesses all necessary training, licenses and permits to perform the Services, and that its performance of the Services will conform to the standard of practice of a professional that specializes in performing professional services of like nature and complexity of the Services.

4. SUBCONTRACTORS AND SUBCONSULTANTS.

The Contractor shall perform the Services using the subcontractors and subconsultants listed in Appendix A. The Contractor shall hire only qualified persons or firms who are experienced in performing work of like nature and complexity to the Services, and who agree to be bound to the terms of the Contract to the extent of this scope of services. The Contractor may substitute personnel or subconsultants prior to any such subconsultants commencing work only upon the Project Manager's written consent, which may be withheld or delayed in Port's discretion.

The Port of Oakland, as a Department of the City of Oakland, participates in the California Public Employees' Retirement System ("CalPERS"), and the use of any consultant or sub-consultant employees who have retired from a CalPERS agency shall be in compliance with applicable CalPERS rules and regulations.

5. INDEMNIFICATION AND LIABILITY.

5.1 To the fullest extent permitted by law (including, without limitation, California Civil
Code Section 2782, 2782.6 and 2782.8), The Contractor shall defend (with legal counsel chosen or approved by the Port Attorney), indemnify and hold harmless Port and its officers, agents, departments, officials, representatives and employees (collectively “Indemnitees”) from and against any and all claims, loss, cost, damage, injury (including, without limitation, injury to or death of an employee of the Contractor or its Subcontractors or Subconsultants), expense and liability of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, paralegal and attorneys’ fees (including costs attributable to in-house paralegals and attorneys), Port staff costs, litigation expenses and fees of expert consultants or expert witnesses incurred in connection therewith and costs of investigation) that arise from or relate to, directly or indirectly, in whole or in part, from: (1) the Services under this Agreement, or any part thereof, or (2) any negligent act or omission of the Contractor, any Subcontractor or Subconsultant, anyone directly or indirectly employed by them, or anyone that they control (collectively “Liabilities”). Such obligations to defend, hold harmless and indemnify any Indemnitee shall not apply to the extent that such Liabilities are caused in whole or in part by the sole negligence, active negligence, or willful misconduct of such Indemnitee, but shall apply to all other Liabilities.

5.2 The Contractor shall defend (with legal counsel chosen or approved by the Port Attorney), indemnify and hold harmless the Indemnitees from all loss, cost, damage, expense, liability or claims, in law or in equity, including paralegal and attorneys’ fees (including costs attributable to in-house paralegals and attorneys), Port staff costs, court costs, litigation expenses and fees of expert consultants or expert witnesses, that may at any time arise for any infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark or any other proprietary right of any person or persons in consequence of the use by Port, or any of the other Indemnitees, of articles or Services to be supplied in the performance of this Agreement.

6. NOTICES.

The Port and the Contractor shall provide all notices to the other in writing, sent by facsimile and by U.S. Mail. If to the Port, it shall be addressed to the Project Manager (identified on Appendix E) at:

Port of Oakland
530 Water Street
Oakland, CA 94607

or to such other place as the Port may such similar notice in writing designate. If to the Contractor, the same shall be addressed to the individual and address noted on Appendix D hereto or to such other place as the Contractor may by such similar notice in writing designate.

7. INSURANCE.

At its own expense, the Contractor shall maintain in force during the term of this Agreement insurance type(s) and in the amount(s) required by Appendix C hereof.

8. INDEPENDENT CONTRACTOR.

The Contractor shall at all times be deemed an independent contractor wholly responsible for the manner in which it performs the Services, and fully liable for the acts and omissions of its employees, subcontractors, subconsultants and agents. Under no circumstances shall this Contract be construed as creating an employment, agency, joint venture or partnership relationship between Port and the Contractor, and no such relationship shall be implied from performance of this Contract. Terms in this Contract referring to direction from Port shall be construed as providing for direction as to policy and the result of services only, and not as to means and methods by which such
a result is obtained. The Contractor shall pay all taxes (including California sales and use taxes) levied upon this Contract, the transaction, or the Services and/or goods delivered pursuant hereto without additional compensation, regardless of which party has liability for such tax under applicable law, and any deficiency, interest or penalty asserted with respect thereto. The Contractor represents that it will collect, report, and pay all sales and or use taxes to the State Board of Equalization. Upon full payment, the Contractor will issue the Port a receipt pursuant to California Revenue and Taxation Code Section 6203, relieving the Port of all liability for any tax relating to the scope of this Agreement. The Contractor shall pay all other taxes including but not limited to any applicable City of Oakland business tax, not explicitly assumed in writing by the Port hereunder. The Contractor shall comply with all valid administrative regulations respecting the assumption of liability for the payment of payroll taxes and contributions as above described and to provide any necessary information with respect thereto to proper authorities.

9. CONFLICT OF INTEREST; CONFIDENTIALITY.

9.1 The Contractor represents that it is familiar with Section 1090 and Section 87100 et seq. of the Government Code of the State of California, and that it does not know of any facts that constitute a violation of said sections.

9.2 The Contractor represents that it has completely disclosed to Port all facts bearing upon any possible interests, direct or indirect, which the Contractor believes any member of Port, or other officer, agent or employee of Port or any department presently has, or will have, in this Agreement, or in the performance thereof, or in any portion of the profits thereunder. Willful failure to make such disclosure, if any, shall constitute ground for termination of this Agreement by Port for cause. The Contractor agrees to comply with all conflict of interest codes adopted by the City of Oakland and Port of Oakland and their reporting requirements.

9.3 The Contractor covenants that it presently has no interest, and shall not have any interest, direct or indirect, which would conflict in any manner with the performance of Services required under this Agreement. Without limitation, the Contractor represents to and agrees with the Port that the Contractor has no present, and will have no future, conflict of interest between providing the Port the Services hereunder and any interest the Contractor may presently have, or will have in the future, with respect to any other person or entity (including but not limited to any federal or state wildlife, environmental or regulatory agency) which has any interest adverse or potentially adverse to the Port, as determined in the reasonable judgment of the Port. The provisions of this Section 9 shall remain fully effective indefinitely after termination of Services to the Port hereunder.

9.4 The Contractor acknowledges and agrees that, in the performance of the Services under this Agreement or in the contemplation thereof, the Contractor may have access to private or confidential information which may be owned or controlled by Port and that such information may contain proprietary or confidential details, the disclosure of which to third parties may be damaging to Port. The Contractor agrees that all information disclosed by Port to or discovered by the Contractor shall be held in strict confidence and used only in performance of the Agreement. The Contractor shall exercise the same standard of care to protect such information as a reasonably prudent the Contractor would use to protect its own proprietary data, and shall not accept employment adverse to the Port’s interests where such confidential information could be used adversely to the Port’s interests. The Contractor agrees to notify the Port immediately in writing if it is requested to disclose any information made known to or discovered by the Contractor during the performance of or in connection with this Agreement.

9.5 Any publicity or press releases with respect to the Project or Services shall be under the Port’s sole discretion and control. The Contractor shall not discuss the Services or Project, or
matters pertaining thereto, with the public press, representatives of the public media, public bodies or representatives of public bodies, without Port’s prior written consent. The Contractor shall have the right, however, without Port’s further consent, to include representations of Services among the Contractor’s promotional and professional material, and to communicate with persons or public bodies where necessary to perform under this Agreement.

9.6 The provisions of this Section 9 shall remain fully effective indefinitely after termination of Services to the Port hereunder.

10. **SUSPENSION AND TERMINATION OF SERVICES.**

The Port may direct the Contractor to suspend, delay or interrupt Services, in whole or in part, for such periods of time as Port may determine in its sole discretion. Port may issue such directives without cause. Port will issue such directives in writing. Suspension of Services shall be treated as an excusable delay. (ii) Port may terminate performance of the Services under this Contract in whole, or from time to time in part, for default, should the Contractor commit a material breach of this Contract, or part thereof, and not cure such breach within ten (10) calendar days of the date of Port’s written notice to the Contractor demanding such cure. In the event Port terminates this Contract for default, the Contractor shall be liable to Port for all loss, cost, expense, damage and liability resulting from such breach and termination. (iii) Port may terminate performance of the Services under this Contract in whole, or from time to time in part, for convenience, whenever Port determines that such termination is in Port’s best interests. In the event Port terminates this Contract for convenience, the Contractor shall be entitled to recover its costs expended up to the termination plus reasonable profit thereon to the termination date, but may recover no other cost, damage or expense.

11. **OWNERSHIP OF WORK PRODUCT.**

Any interest (including copyright interests) of the Contractor or its subcontractors or subconsultants, in studies, reports, memoranda, computational sheets, drawings, plans or any other documents (including electronic media) prepared by the Contractor or its subcontractors or subconsultants in connection with the Services, shall become the property of the Port. To the extent permitted by Title 17 of the United States Code, work product produced under this Contract shall be deemed works for hire and all copyrights in such works shall be the property of the Port. With Port’s prior written approval, the Contractor may retain and use copies of such works for reference and as documentation of experience and capabilities.

12. **AUDIT/INSPECTION OF RECORDS.**

12.1 The Contractor shall maintain all documents and records prepared by or furnished to the Contractor during the course of performing the Services for at least three (3) years following completion of the Services, except that all such items pertaining to hazardous materials shall be maintained for at least thirty (30) years. Such records include, but are not limited to, correspondence, internal memoranda, calculations, books and accounts, accounting records documenting its work under its Contract, and invoices, payrolls, records and all other data related to matters covered by this Contract. The Contractor shall permit Port to audit, examine and make copies, excerpts and transcripts from such records. The State of California or any federal agency having an interest in the subject of Contract shall have the same rights conferred to Port by this section. Such rights shall be specifically enforceable.

12.2 The Contractor shall maintain full and adequate records in accordance with Port requirements to show the actual costs incurred by the Contractor in the performance of this
Agreement. If such books and records are not kept and maintained by the Contractor within a radius of fifty (50) miles from the offices of the Port at 530 Water Street, Oakland, California, the Contractor shall, upon request of the Port, make such books and records available to the Port for inspection at a location within said fifty (50) mile radius or the Contractor shall pay to the Port the reasonable, and necessary costs incurred by the Port in inspecting the Contractor's books and records, including, but not limited to, travel, lodging and subsistence costs. The Contractor shall provide such assistance as may be reasonably required in the course of such inspection. The Port further reserves the right to examine and reexamine said books, records and data during the three (3) year period following termination of this Agreement or completion of all work hereunder, as evidenced in writing by the Port, and the Contractor shall in no event dispose of, destroy, alter, or mutilate said books, records, accounts, and data in any matter whatsoever for three (3) years after the Port makes the final or last payment or within three (3) years after any pending issues between the Port and the Contractor with respect to this Agreement are closed, whichever is later.

12.3 If the Contractor's books and records have been generated from computerized data, the Contractor agrees to provide the Port or its representative extracts of data files in a computer readable format on data disks, e-mail with attached files or suitable alternative computer data exchange formats. The Contractor should not charge the Port for the reasonable use of the the Contractor's photocopying machine while conducting the audit, nor for any cost of retrieving, downloading to diskette, and or printing any records or transactions stored in magnetic, optical, microform or other media.

12.4 The Contractor agrees, upon commencement of an audit by or on behalf of the Port pursuant to this Section 12 (an "Audit"), to toll for the Tolling Period (as defined below) all applicable periods of any statutes of limitations, laches or other defenses based on the Port’s failure to file an action during the Tolling Period with regard to any matter arising out of the Audit. Such tolling shall commence on the Port’s written notice to the Contractor that the Audit has commenced (the “Tolling Effective Date”) and shall end four years after the date that the Port delivers to the Contractor a written copy of the Port’s final findings on the Audit or on such later date as may be set forth in a written agreement between the parties (the later of such dates is the “Tolling Termination Date,” and the period commencing on the Tolling Effective Date and ending on the Tolling Termination Date is the “Tolling Period”); provided, however, that the Tolling Period shall in no event be in excess of the time provided for in California Code of Civil Procedure § 360.5. The Contractor agrees not to assert the defense of laches, statute of limitations or any other defense based upon the Port’s failure to timely file an action during the Tolling Period with regard to any matter arising out of the Audit. Notwithstanding the foregoing, the tolling agreement set forth in this paragraph shall be inadmissible to determine liability or damages or any issue in dispute (other than the Tolling Period) under the Audit, whether before regulatory bodies, alternative dispute resolution proceedings or state or federal courts.

13. NON-DISCRIMINATION.

The Contractor acknowledges that it has received and reviewed a copy of the most current version of the Port of Oakland’s Unlawful Harassment Policy and Procedures. The purpose of these procedures is to provide an effective and expedited system of resolving allegations of employment discrimination and prevention of unlawful harassment in the workplace. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry age (over 40), physical or mental disability, cancer-related medical condition, a known genetic pre-disposition to a disease or disorder, veteran status, marital status, or sexual orientation. The Contractor shall take affirmative action to ensure that applicants and employees are treated fairly. Such action shall include, but not be limited to the following: hiring, upgrading, recruitment, advertising, selection for training, including apprenticeship, demotion, transfer, compensation, lay-off or termination, or any other term or conditions of employment.
14. **DISPUTES.**

The Contractor shall continue its work throughout the course of any dispute, and the Contractor’s failure to continue work during a dispute shall be a material breach of this Contract.

15. **CALIFORNIA LAW.**

This Contract shall be deemed to have been executed in the City of Oakland, Alameda County, California. Enforcement of this Contract shall be governed by the laws of the State of California, excluding its conflict of laws rules. The exclusive venue for all litigation arising from or relating to this Contract shall be in Alameda County, California. Should any clause, provision or aspect of this Contract be determined at any time to be unenforceable or in contravention of law, then the remaining clauses and provisions of this Contract shall be enforceable to the fullest extent permitted by law and construed to give effect to fullest extent possible the intent of this Contract.

16. **NO THIRD PARTY BENEFICIARIES.**

Except as expressly provided in this Contract, nothing in this Contract shall operate to confer rights or benefits on persons or entities not party to this Contract. Time is of the essence in the performance of this Contract.

17. **ENTIRE CONTRACT.**

This Contract and any written modification shall represent the entire and integrated agreement between the parties hereto regarding the subject matter of this Contract, shall constitute the exclusive statement of the terms of the parties’ agreement, and shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of this Contract or written modification. All prior negotiations are merged into this Contract and shall be inadmissible in any enforcement of this Contract.

18. **NO WAIVER.**

The granting of any progress payment, and any inspections, reviews, approvals or oral statements by any Port representative, or certification by any governmental entity, shall in no way limit the Contractor’s obligations under this Contract. Either party’s waiver of any breach, or the omission or failure of either party, at any time, to enforce any right reserved to it, or to require strict performance of any provision of this Contract, shall not be a waiver of any other right to which any party is entitled, and shall not in any way affect, limit, modify or waive that party’s right thereafter to enforce or compel strict compliance with every provision hereof. This Contract may not be modified, nor may compliance with any of its terms be waived, except by written instrument executed and approved by fully authorized representatives of Port and the Contractor.

19. **STATUTES OF LIMITATION.**

As between the parties to this Contract, any applicable statute of limitations for any act or failure to act shall commence to run on the date of Port’s issuance of the final Certificate for Payment, or termination of this Contract, whichever is earlier, except for latent defects, for which the statute of limitation shall begin running upon discovery of the defect and its cause.

20. **COVENANT AGAINST CONTINGENT FEES:**

20.1 The Contractor warrants that no person or agency has been employed or retained to
solicit or obtain the Agreement upon an agreement or understanding for a contingent fee, except a bona
fide employee or agency. For breach or violation of this warranty, the Port, at its option, may annul the
Agreement or deduct from the contract price or otherwise recover from the Contractor the full amount of
the contingent fee.

20.2 As used in this Section, "bona fide agency" means an established commercial or selling
agency, maintained by the Contractor for the purpose of securing business, that neither exerts nor
proposes to exert improper influence to solicit or obtain Port contracts nor holds itself out as being able
to obtain any Port contract or contracts through improper influence.

20.3 As used in this Section, "bona fide employee" means a person, employed by the
Contractor and subject to the Contractor's supervision and control as to time, place, and manner of
performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Port
contracts nor holds itself out as being able to obtain any Port contract or contracts through improper
influence.

20.4 As used in this Section, "contingent fee" means any commission, percentage, brokerage,
or other fee that is contingent upon the success that a person or concern has in securing a Port contract.

20.5 As used in this Section, "improper influence" means any influence that induces or
tends to induce a Port Commissioner, employee or officer to give consideration or to act regarding a
Port contract on any basis other than the merits of the matter.

21. SEVERABILITY.

Any provision or portion thereof of this Contract prohibited by, or made unlawful or
unenforceable under any applicable law of any jurisdiction, shall as to such jurisdiction be ineffective
without affecting other provisions or portions thereof of this Contract. If the provisions of such
applicable law may be waived, they are hereby waived to the end that this Contract may be deemed
to be a valid and binding agreement enforceable in accordance with its terms to the greatest extent
permitted by applicable law.

22. COMPLIANCE WITH LAWS.

22.1 The Contractor represents that it will comply with all applicable laws, ordinances,
general rules or regulations, permits, or land use restrictions or limitations at any time applicable
thereto of any public or governmental authority, including the City and the Port, including but not
limited to The Charter of the City (including without limitation Section 728 entitled “Living Wage
and Labor Standards at Port-Assisted Businesses” and Port Ordinance No. 3666 entitled “An
Ordinance Establishing a Living Wage Requirement”) in the performance of the Services, regardless
of whether such laws are specifically stated in this Agreement and regardless of whether such laws
are in effect on the date hereof. The Contractor shall comply with all security requirements imposed
by authorities with jurisdiction over the Project (including, but not limited to, Federal Aviation
Administration, U.S. Department of Transportation, and other government agencies), and will
provide all information, work histories and/or verifications as requested by such authorities for
security clearances or compliance.

22.2 The Contractor further represents that all plans, drawings, specifications, designs
and any other product of the Services will comply with all applicable laws, codes and regulations,
consistent with the standard of care in this Agreement.

22.3 The Contractor, as a condition of execution of this Contract certifies under penalty of
perjury and as a condition of payment of its invoice(s) for service provided under this Contract as
follows:

a. All Employees, as defined respectively under Port Ordinance No. 3666, and Section 728 of the Charter of the City of Oakland (Hereinafter “Living Wage laws”), as amended from time to time, engaged in Covered Activities (as defined in the respective Living Wage laws) shall be compensated in compliance with the requirements of the respective and applicable Living Wage laws;

b. Claims, records and statements relating to the Contractor’s compliance with the Living Wage laws are true and accurate, and are made with the knowledge that the Port will rely on same, and that they are submitted to the Port for the express benefit of the Contractor’s employees engaged in Covered Activities;

c. Should the Living Wage laws not apply to the Contractor at the time this Contract is entered into, but thereafter become applicable, the Contractor will comply with all of its obligations under the respective Living Wage laws, when applicable; and

d. All terms used in this Section 22.3 and not defined shall have the meaning ascribed to such terms in the respective applicable Living Wage laws.

23. **AGENT FOR SERVICE OF PROCESS.**

Pursuant to California Code of Civil Procedure, Section 416.10, the Contractor hereby designates an agent for service of process as identified in Appendix D hereto.

The Contractor may at any time designate a new agent for service in the State of California by providing written notice, duly executed in the same manner as this Agreement, of the full name and address of its new agent. Unless otherwise agreed in writing by the Port of Oakland, no attempt to revoke the agent’s authority to receive service shall be valid unless Port of Oakland has first received a duly executed designation of a new agent meeting the requirements of California law.

24. **PREVAILING WAGE AND OTHER CONSTRUCTION RELATED REQUIREMENTS.**

(a) **Basic Requirements:** the Contractor agrees that:

(1) The Contractor acknowledges that under the California Labor Code, certain types of work performed “during the design and preconstruction phases of construction” constitute “public works” as that term is defined in the Labor Code. To the extent that the Contractor’s scope of services under this agreement includes “public works,” the Contractor shall comply with the prevailing wage requirements of this Agreement with respect to the workers performing such public works:

“(A) The Public Work Prevailing Wage Requirements, which are the applicable prevailing wage requirements of California Labor Code Sections 1720 et seq. and Port Ordinance No. 1606, as amended, and which generally apply to construction, costing more than $1,000.00, which is made on or to Port property and the cost of which is paid for in whole or in part by the Port’s advance or reimbursement to the Contractor or by credit against other sums due the Port; and

(b) **Additional Prevailing Wage Provisions:** The following provisions of this subsection apply only if, and to the extent that, the prevailing wage requirements are applicable.
The prevailing wage requirements shall apply to the employees of any employer including the Contractor, any subcontractor or subconsultant of the Contractor, any general contractor or subcontractor or other contractor engaged in construction for the Improvements by the Contractor, including their successors and assignees, but shall not apply to supervisory or managerial personnel or to persons employed in the rental, operation or (in the case of Private Work Prevailing Wage Requirements only) maintenance of the Premises.

The Contractor shall cause the provisions of this subsection to be incorporated into each contract and subcontract, and Agreement which would be subject to this subsection. In the event the provisions are not so incorporated, the Contractor shall be liable to the worker in any action or proceeding for the difference between the prevailing wage rate required to be paid and the amount actually paid to the worker, including costs and attorney fees, as if the Contractor were the actual employer.

The prevailing wage requirements of this subsection will be monitored and enforced by the Port. In addition to any other rights provided by California law to recover compensation, a worker that has been paid less than the prevailing wage rates shall have a right to commence an action or proceeding against the employer of the worker for the difference between the prevailing wage rates and the amount paid to such worker for each calendar day or portion thereof for which the worker was paid less than the compensation required to be paid under the provisions of this subsection. No issue other than that of the liability of the employer for the amount of unpaid wages allegedly due shall be determined in such action or proceeding, and the burden shall be on the employer to establish that the amounts demanded are not due. A worker recovering any or all of the wages claimed to be due shall recover his costs and attorney fees in securing such recovery. Nothing in this section shall preclude its enforcement by the California Division of Labor Standards Enforcement.

Nothing in this Agreement shall prevent the employment of any number of properly registered apprentices, as defined in Chapter 4, Division 3 of the Labor Code. Every such apprentice shall be paid not less than the standard wage paid to apprentices under the regulations of the crafts or trade at which the apprentice is employed, and shall be employed only at the work of the craft or trade to which the apprentice is registered. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which the apprentice is in training. Good faith efforts shall be made to maintain a ratio of apprentices to journeymen of not less than 20%, if the employer is signatory to an agreement to train, or otherwise bound to train, apprentices. When submitting the certified payroll records required hereunder the Contractor shall submit documentary proof of the valid apprentice status of any worker listed as an apprentice.

The Contractor agrees that, any action by the Contractor or its assignee against the Port for the recovery of penalties or forfeitures shall be commenced, and written notice thereof shall be actually received by the Port, within the ninety-day period after the Port's Chief Engineer notifies the Contractor in writing that the Chief Engineer has determined that the work is Substantially Complete. The Contractor agrees that such suit on the Agreement for alleged breach thereof in not making an advance or reimbursement or in not permitting a credit to rent or other sums due the Port is the exclusive remedy of the Contractor or the Contractor's assignee with reference to such penalties or forfeitures. The Contractor or the Contractor's assignee may bring such suit without permission of the Port, but the suit shall be limited to the recovery of the penalties or forfeitures without prejudice to the Contractor or the Contractor's assignee's rights in other matters affecting the Agreement. The Contractor agrees that no other issues shall be presented to the court in such case and the burden shall be on the plaintiff to establish plaintiff's right to the penalties or forfeitures withheld or to be withheld.

The Contractor agrees that to the extent that Contractor is required to comply with the prevailing wage requirements, the Contractor shall ensure that all workers are paid the
prevailing rate of per diem wages, and travel and subsistence payments (defined in applicable collective bargaining agreements filed in accordance with Section 1773.8 of the California Labor Code), in effect on the date of the Port's first approval of a building permit or other approval of the work. Copies of the applicable prevailing rate of per diem wages are on file at the Port's principal office and will be made available to any interested party on request. The Contractor agrees to post a copy of the prevailing rate of per diem wages at each job site.

The Contractor, as a penalty to the Port, shall forfeit twenty-five dollars ($25) for each calendar day, or portion thereof (or such other sum as specified from time to time by Section 1775 of the California Labor Code), for each worker paid less than the applicable prevailing rates for such work or craft in which such worker is employed. The difference between such prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor.

To the extent that there is insufficient money due the Contractor as an advance, reimbursement or credit to cover all penalties forfeited and amounts due and in all cases where the Agreement does not provide for a money payment by the Port to the Contractor, and except in cases where enforcement authority is vested in the State pursuant to Section 1775 of the California Labor Code, the Port not later than ninety (90) days after the filing of a valid notice of completion in the office of the Alameda County Recorder or not later than ninety (90) days after the Port's acceptance of the work, whichever last occurs, may maintain an action in any court of competent jurisdiction to recover the penalties and the amounts due provided for herein. The Contractor agrees that no issue other than that of the liability of the Contractor for the penalties allegedly forfeited and amounts due shall be determined in such action, and the burden shall be upon the Contractor to establish that the penalties and amounts demanded in such action are not due. Out of any money withheld or recovered or both there shall first be paid the amount due each worker and if insufficient funds are withheld or recovered or both to pay each worker in full the money shall be prorated among all such workers.

The Contractor agrees to keep or cause to be kept by each contractor and subcontractor an accurate payroll record for each worker employed on work covered by this Paragraph showing all of the information specified in subsection (a) of Section 1776 of the California Labor Code. All such payroll records shall be certified, available for inspection and filed in accordance with the procedures specified in subsections (b)-(e) inclusive of Section 1776 of the California Labor Code. In addition, copies of such certified payroll records shall be filed with the Port within a reasonable time not to exceed fifteen (15) days from close of payroll by the respective employer.

It is understood and agreed that all documents that the Contractor is required to submit to or file with the Port under this subsection shall constitute public records that shall be available to any member of the public for review or copying in accordance with the California Public Records Act.

In the event of repetitive breach of the requirements of this subsection by the Contractor, the Port shall be entitled, in addition to all other remedies hereunder for breach of the Agreement, to appoint at the Contractor's expense a special monitor to oversee the Contractor's compliance. Fees for said special monitor shall be billed to the Contractor, which fees the Contractor agrees to pay as additional rent within 10 days after the Contractor's receipt of such bill. In the event of noncompliance with the foregoing requirements concerning payroll records which continues for more than ten (10) days after the Port gives to the Contractor written notice specifying in what respects the Contractor must comply, the Contractor shall forfeit as a penalty to the Port for each worker twenty-five dollars ($25) for each calendar day, or portion thereof, until strict compliance is effectuated.

The Contractor shall be responsible for complying with Section 1777.5 of the California Labor Code concerning apprenticeable occupations, with respect to all work covered by that
Except where the context otherwise requires, the definitions of terms and phrases contained in the State prevailing wage law, Sections 1720 et seq. of the California Labor Code, and in the implementing administrative regulations, shall apply to the same terms and phrases which are used in the prevailing wage requirements of this subsection.

25. **CONTRACT TIMES AND LIQUIDATED DAMAGES.**

25.1 **Contract Times**

   (a) The Contractor must commence, perform, and complete all Work required for switchovers from the existing PARCS to the new PARCS between 12:01 am and 4 am.

   (b) The Contractor must complete all Work and meet all other requirements for Substantial Completion within __________ calendar days from the date of the signed Agreement. Substantial Completion will be successful completion and Port acceptance of Tasks 1 through 9 as described in Appendix B – Payment.

   (c) The Contractor must complete all Work and meet all other requirements for Final Completion as defined in Section 01770, Contract Closeout, as appended to this Contract, within __________) calendar days from the date of the signed Contract.

25.2 **Liquidated Damages**

   As part of this Agreement:

   (a) The Port and the Contractor recognize that the Port will suffer financial losses in the form of lost revenue and contract administration expenses (including project management and consultant’s expenses) if the Contractor does not complete work within the time specified in Section 25.1, Contract Times, plus any extensions as allowed by this Contract, or if the work performed by the Contractor inhibits or prohibits the Port from collecting parking revenue for any period of time.

   (b) The Contractor and the Port agree that because of the nature of the work damages actually sustained by the Port as defined below would be impracticable or extremely difficult to precisely calculate.

   (c) Accordingly, the Port and Contractor agree that as liquidated damages for delay, the Contractor pay the Port:

      (1) One Thousand Dollars ($1,000) for each day or fraction thereof that expires after the time specified herein for the Contractor to Substantially Complete the Work.

      (2) Five Hundred Dollars ($500) for each day or fraction thereof that expires after the time specified herein for the Contractor to Complete the Work, as evidenced by issuance of “Certificate of Final Acceptance” by Port.

      (3) One Thousand Dollars ($1,000) for each hour or fraction thereof that any switchover work from the existing PARCS to the new PARCS at the Premier Lot is not within the Contract Time described in subsection 25.1 (a) of this agreement.

      (4) One Thousand Dollars ($1,000) for each hour or fraction thereof that
any switchover work from the existing PARCS to the new PARCS at the Hourly Lot is not within the Contract Time described in subsection 25.1 (a) of this agreement.

(5) One Thousand Dollars ($1,000) for each hour or fraction thereof that any switchover work from the existing PARCS to the new PARCS at the Daily Lot is not within the Contract Time described in subsection 25.1 (a) of this agreement.

(6) One Thousand Dollars ($1,000) for each hour or fraction thereof that any switchover work from the existing PARCS to the new PARCS at the Economy Lot is not within the Contract Time described in subsection 25.1 (a) of this agreement.

(7) After System Transition and before Final Completion of the Work, Two Hundred and Fifty Dollars ($250) for each instance and One Thousand Dollars ($1,000) for each hour or fraction thereof when the new Contractor-installed PARCS fails to operate in any parking lot to the extent that the Port cannot process tickets or payments in that lot. After Final Completion, the penalties and payment deductions for system downtime in accordance with the Emergency Maintenance rules as described in the Functional Specifications apply.

(d) Liquidated damages shall not be considered a penalty, but as agreed monetary damages incurred by the Port for estimated increased expenses and decreased revenues.

(e) Should the Contractor fall behind in the performance of the work in accordance with the approved progress schedule, the Port reserves the right to deduct liquidated damages based on the estimated lateness in completing scheduled work. Should money due or to become due to the Contractor be insufficient to cover aggregate liquidated damages due, then the Contractor forthwith must pay the remainder of the assessed liquidated damages to the Port.

(f) The liquidated damages referred to in this section are intended to be and are cumulative, and shall be in addition to every other remedy now or hereinafter enforceable at law, in equity, by statute, or under the Contract.

26. DEPARTMENT OF INDUSTRIAL RELATIONS REQUIREMENTS.

Effective March 1, 2015, if the services are being performed as part of an applicable “public works” or “maintenance” project, in addition to the foregoing, then pursuant to California Labor Code Sections 1725.5 and 1771.1, the Contractor and all subcontractors and subconsultants must be registered with the Department of Industrial Relations (“DIR”). Contractor shall maintain registration for the duration of the project and require the same of any subcontractors and subconsultants. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

In addition, Contractor and any subcontractors who will be performing the public works aspect of this project are required by law to be licensed and regulated by the Contractor’s State License Board. Contractor must be properly licensed for the particular public works aspects called for in this Agreement and must agree to comply with all applicable laws, regulations and requirements for public works of improvement.
IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the day first mentioned above.

CITY OF OAKLAND, a municipal corporation, acting by and through its Board of Port Commissioners,

By ____________________________

J. CHRISTOPHER LYTLE
Executive Director

Date: ____________________________

a ____________________ corporation,

By ____________________________

Authorized Signature

____________________________________
Print Name and Title
(If Corporate: Chairman, President or Vice President)

Date: ____________________________

Attest ____________________________

Authorized Signature

____________________________________
Print Name and Title
(If Corporate: Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer)

Date: ____________________________

Approved as to form and legality this _________ day of __________________________ 2015.

__________________________
DANNY WAN
Port Attorney

Port Resolution No.

P.A.#: _______
APPENDIX A – SCOPE OF SERVICES

This is an appendix attached to, and made a part of, the Contract dated ______________, between the City of Oakland acting through its Board of Port Commissioners (“Port”) and the (“Contractor”) for the provision of professional services.

SCOPE OF WORK

{The Scope of Work will be as described in the Request for Proposals for the Parking Access and Revenue Control System dated July 2015, and as amended during the Proposal process}.

APPROVED SUBCONTRACTORS AND SUBCONSULTANTS: The Contractor shall use only the following subcontractors and subconsultants in performing Services.

____________________
____________________
____________________

COMMENCEMENT AND TERM:

A. Subject to the provisions of this Agreement, the contract will be in effect for [no. of years] commencing on __________ through __________.

B. The Port has the option of extending the Agreement for an additional [no. of years] in [no. of years] increments as authorized by the Executive Director, provided, however, that there shall be no increase in the maximum compensation payable hereunder.
APPENDIX B – PAYMENT

This is an appendix attached to, and made a part of, the Contract dated __________ between the City of Oakland acting through its Board of Port Commissioners (“Port”) and the (“Contractor”) for the provision of professional services.

1. **PARCS Installation (“Basic”) Services.** The Port will pay the Contractor for Basic Services, including costs for reimbursable expenses as identified below. Such payment shall be full compensation for all Basic Services required, performed or accepted under this Contract. If Port and the Contractor previously executed a purchase order for services within the scope of the Services of this Contract, then the services performed and the compensation paid under that purchase order shall be subject to the terms of this Contract and the previous payments deemed payments against the Contract Price established in this Appendix. Such maximum compensation may only be increased as follows:

   - With the prior written approval of the Executive Director for an additional amount not to exceed the limit authorized by the Board in Resolution No. __________. Increase in maximum compensation with additional changes in scope of work shall be documented by a supplemental agreement to this contract.

   - With the adoption of authorizing resolution by the Board of Port Commissioners.

2. **Payment Schedule.** Progress payments for Basic Services for each phase of the work shall be made as follows:

   - upon completion of the work  
   - monthly  
   - as invoiced  
   - as set forth in the following schedule.

The Port agrees to pay Contractor a total firm fixed price amount of $ ______________ (“Contract Amount”) for the design, demonstration, installation, integration, construction, implementation, testing, training, Documentation and Deliverables, in conformance with the Contract Documents, for the Phase 1 Requirements, and as follows.

1. **Task Payment No. 1:** Ten percent (10%) of the Contract Amount upon successful completion and Port acceptance of the Conceptual System Design Review, a total lump sum amount of $______________.

2. **Task Payment No. 2:** Ten percent (10%) of the Contract Amount upon successful completion and Port acceptance of the Critical Design Review, a total lump sum amount of $______________.

3. **Task Payment No. 3:** Five percent (5%) of the Contract Amount upon successful completion and Port acceptance of the Software Development Review, a total lump sum amount of $______________. 
4. Task Payment No. 4: Fifteen Percent (15%) of the Contract Amount upon successful completion and Port acceptance of all Factory Acceptance Tests, a total lump sum amount of $_______________.

5. Task Payment No. 5: Ten percent (10%) of the Contract Amount upon the installation of all equipment at the site and the Port’s acceptance of the installations, a lump sum amount of $___________.

6. Task Payment No. 6: Twenty percent (20%) of the Contract Amount upon successful completion and Port acceptance of Live Lane tests, a lump sum amount of $___________.

7. Task Payment No. 7: Ten percent (10%) of the Contract Amount for successful completion and Port acceptance of 72 Hour Demonstration Period, a total lump sum amount of $___________.

8. Task Payment No. 8: Ten percent (10%) of the Contract Amount for successful completion and of all required system reporting tools, a total lump sum amount of $_________________.

9. Task Payment No. 9: Ten percent (10%) of the Contract Amount for successful completion and Port acceptance of the 60 Day Demonstration Period, a total lump sum amount of $_______________.

3. Retention.

The Port will retain five percent (5%) of all progress payments, and the Port may withhold portions or all payments at any time as per 5.3 below.

4. Annual PARCS Maintenance Services

PARCS Hardware and Software Maintenance Services - Following the expiration of the one-year Warranty Period the Port shall retain the Option(s), to be exercised at its sole discretion, of extending Maintenance Support Services for up to nine (9) additional one (1)-year periods in accordance with the following payment schedule.

1. Year two annual hardware and software maintenance for a firm fixed price amount of $______________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

2. Year three annual hardware and software maintenance for a firm fixed price of $______________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

3. Year four annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $_________________, which includes annual consumables, tickets, receipt, paper and toner.
4. Year five annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

5. Year six annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

6. Year seven annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

7. Year eight annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

8. Year nine annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

9. Year ten annual hardware and software maintenance for a fixed price of $_________________, payable quarterly in arrears in the amount of $______________, which includes annual consumables, tickets, receipt, paper and toner.

5. Invoices. All payments shall require a written invoice from Contractor in a form acceptable to Port. Port shall make payment on approved amounts within each invoice within 30 days of receipt. Original invoices shall be sent to PORT OF OAKLAND, Accounts Payable, P.O. Box 28413, Oakland, CA 94604.

5.1 Task Payments: Contractor may submit payment requests upon completion of each Task, as described in this Appendix B.

5.2 With the submission of each request for a payment, the Contractor shall certify the following:

"I HEREBY CERTIFY that the information contained in this Request for Payment accurately represents the actual amounts due for work performed and the materials supplied to date under the terms of this Contract; and further that there has been full compliance with all labor provisions included in Contract. I understand that an intentional violation of this certification is a criminal offense and subject to penalties for fraud."

5.3 In addition to retention as described above, the Port may withhold all or part of any payment otherwise due the Contractor if any one of the following conditions exists:

1. Defective work or failure to execute the Work or provide required Deliverables in strict accordance with the Contract Documents;

2. Unauthorized deviations from the Contract Documents;
3. Damage to another contractor;
4. Work not fully completed or corrected.
5. Reasonable doubt that the Work will be completed within the Contract Time; and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay.
6. Unpaid amounts owed to the Port for fees and charges for services or permits, assessments for damage to Port property, or use of Port facilities and services.
7. Failure to comply with the Phasing Plan.
8. Errors due to any cause that may be discovered in any previous payment.
9. Filed stop notices for the work.

When the above reasons for withholding payment are resolved, payment will be made for amounts previously withheld.

6. Final Payment (not including Maintenance Services as described below).

6.1. As soon as practicable after the Contractor satisfactorily completes all required work in accordance with this Agreement and including the Contractor’s maintenance after Final Acceptance and the Contractor has submitted all required contract closeout documents as set forth in Section 01770, Contract Closeout and as set forth here, the Port will pay to the Contractor, in manner provided by law, the unpaid balance of the Contract Sum of the Work, or the whole Contract Sum if no progress payment has been made. This amount shall be determined in accordance with terms of the Contract Documents, less sums as may be lawfully retained under any provisions of the Contract Documents or by law.

6.2. Prior progress payments shall be subject to correction in the final payment. The Port’s determination of amount due as final payment shall be final and conclusive evidence of amount of Work performed by the Contractor under the Contract Documents, and shall be full measure of compensation to be received by the Contractor.

6.3. The Contractor and any assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment and as a condition precedent to final payment, Document 00650, Agreement and Release of Any and All Claims, discharging the Port, its officers, agents, employees and consultants of and from liabilities, obligations, and claims arising under the Contract Documents.
APPENDIX C - INSURANCE

This is an appendix attached to, and made a part of, the Contract dated between the City of Oakland acting through its Board of Port Commissioners ("Port") and the ("Contractor") for the provision of professional services as defined and required by the Agreement (hereinafter “Services”).

1. Commercial General Liability Insurance
   - **Coverage**: Standard ISO Commercial General Liability form.
   - **Limits**: $1,000,000 per occurrence; $2,000,000 annual general aggregate; $2,000,000 products and completed operations aggregate; $1,000,000 each offense for personal and advertising injury.
   - **Deductible/Self-Insured Retention**: Not more than $250,000 per occurrence.
   - **Additional Insured**: The City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners, Port of Oakland, its commissioners, officers, agents and employees.
   - Cross liability/separation of insureds.
   - Waiver of subrogation in favor of additional insured.
   - If the Services involve construction activities, completed operations coverage must remain in force until at least 5 years after completion and acceptance of the Services.

2. Business Automobile Liability Insurance
   - **Coverage**: Standard ISO Business Automobile Liability form for all owned, non-owned and hired automobiles.
   - **Limits**: $1,000,000 each accident, except $5,000,000 for vehicles operating in the South Field, the Aviation Operating Area ("AOA"), or any active airfields of the Oakland International Airport.
   - **Deductible/Self-Insured Retention**: Not more than $250,000 per accident.
   - **Additional Insured**: The City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners, Port of Oakland, its commissioners, officers, agents and employees.
   - Waiver of subrogation in favor of additional insured.

3. Workers’ Compensation and Employer’s Liability Insurance
   - **Coverage**: Statutory Workers’ Compensation and Side B Employer’s Liability form.
   - **Limits**: Statutory for workers’ compensation and $1,000,000 per accident, $1,000,000 bodily injury each employee, and $1,000,000 policy limit for bodily injury by disease, for Employer’s Liability.
   - **Deductible/Self-Insured Retention**: Not more than $250,000 per occurrence for Employer’s Liability.
   - Waiver of subrogation in favor of the City of Oakland, a municipal corporation, acting by and through its Board of Port Commissioners, Port of Oakland, its commissioners, officers, agents and employees.

4. Professional Liability Insurance - This section applies only to the extent not otherwise eligible for the Professional Liability Insurance Program (PLIP) described in other insurance below.
   - **Coverage**: For errors and omissions arising out of the Services.
   - **Limits**: $5,000,000 per claim and annual aggregate.
   - **Deductible/Self-Insured Retention**: Not more than $1,000,000 per claim.
   - **Additional Term**: 2 years after completion and acceptance of the Services.
• If Services involve software or technology services, Technology Liability coverage, including coverage for privacy liability.
• If the Services involve outsourced technology or internet services, Network and Media Liability coverage.

Other Insurance Requirements:

• **Capital Improvement Projects are subject to conversion to OCIP, and/or PLIP.** The Port reserves the right (but shall not have an obligation) to include this contract in an Owner Controlled Insurance Program (OCIP) or Professional Liability Insurance Program (PLIP), or to purchase project specific or wrap up insurance when the services provided by the Contractor support a capital improvement construction project. It is anticipated that an OCIP and/or PLIP program will be instituted for this project. The Contractor and its independent contractors shall comply with the requirements of the OCIP and/or PLIP program, as the program is generally described in Port’s Project Insurance Manual and/or Professional Liability Insurance Procedures Manual (as applicable), which are available in the office of the Risk Manager, and may be modified from time to time. It is anticipated that the Contractor will be required to enroll in the PLIP program for any design work related to the construction phase of the project and that the Contractor and its sub-contractors will be required to enroll in OCIP for the actual construction phase of the project. The Contractor shall maintain separate professional errors and omissions liability coverage for the technology services phase of the project (as required in item #4 above). The Contractor’s obligations under this subsection shall be specifically enforceable. Notwithstanding the foregoing, the Port makes no representations or warranties that it will obtain the insurance authorized by this subsection, and the Contractor expressly disavows reliance on any such representations or warranties.

• **Deductibles/Self-Insured Retentions.** Deductibles or self-insured retentions that are higher than specified for each of the insurance coverages above must be disclosed and pre-approved by the Port’s Risk Manager.

• **Notice of Cancellation.** The Contractor or the Contractor’s agent must provide 30-days prior written notice to the Port Risk Management Department of any insurance policy cancellation, except 10-days prior written notice for non-payment of premium.

• **Proof of Insurance/Insurer Rating.** The Contractor must deliver to the Port Risk Management Department, prior to the commencement of the Services, certificates of insurance evidencing all required insurance and additional insured status for the Port. All required insurance shall be provided by insurance companies with current A.M. Best ratings of A- VII or better. Upon failure to so file such insurance certificate, the Port may without further notice and at its option either (1) exercise the Port’s rights; or (2) procure such insurance coverage at the Contractor's expense and the Contractor shall promptly reimburse the Port for such expense (Services may be interrupted without proper evidence). In addition to the certificate of insurance, the Contractor shall provide copies of the actual insurance policies if requested by the Port.

• Please send certificates and other required insurance information to:
  Port of Oakland
  Attn: Risk Management Dept.
  530 Water Street
  Oakland, CA 94607
  Email: risktransfer@portoakland.com
CONTRACTOR AND CONTRACTOR’S NOTICE ADDRESS

Full Legal Name of the Contractor:

Corporate Address:

Form of Business Entity  (Check one)

☐ Sole proprietorship
☐ Corporation: State of _____________
☐ Partnership: ☐ General ☐ Limited
☐ Limited Liability Company
☐ Other: _____________________________

If Corporation:  (Required Information)
Agent for Service of Process (Name and Address)

Contact Individual / Position:

Telephone No.:

Facsimile No.:

E-Mail Address (if any):

Website (if any):
APPENDIX E

PROJECT MANAGER

Division Director

Technical Manager
APPENDIX F

AGREEMENT ADDENDUM

This is an Addendum attached to and made a part of and incorporated by reference with the Agreement made as of ____________, between the Port of Oakland ("Port") and the ____________ ("Contractor"). The following provisions are deemed fully incorporated in this Addendum:

1. **Resolution of Construction Claims.** The Contractor and Port shall resolve construction claims pursuant to Public Contract Code Section 20104.

2. **Workers’ Compensation Certificate.** The Contractor shall secure workers’ compensation coverage for its employees pursuant to Labor Code Section 3700. By executing this Agreement, the Contractor certifies that the Contractor is aware of the provisions of Section 3700 of the Labor Code, and the Contractor will comply with such provisions before commencing the performance of the work of this Agreement.

3. **Prevailing Wages.** The Contractor shall pay prevailing wages on all public works projects in excess of $1,000, pursuant to Labor Code Section 1771.

4. **Payment Bond.** The Contractor shall obtain a payment bond in accordance with California Civil Code Section s3247 and 3248.

5. **Working Hours Restriction.** The Contractor shall adhere to the eight-hour workday/fourty-hour workweek restriction and payment of overtime requirements of Labor Code Section 1810, et seq.

6. **Payroll Records.** The Contractor and subcontractors shall maintain accurate payroll records and certify them upon request, pursuant to California Labor Code Section 1776.

7. **Apprentices.** The Contractor shall adhere to the policies regarding hiring of apprentices, pursuant to California Labor Code Section 1777.5

8. **Substitution of Securities for Retention** shall be permitted pursuant to Public Contract Code Section 22300, which is incorporated here in full by this reference.

9. **Antitrust Claim Assignment.** The Contractor shall offer and agree to assign any antitrust claim governed by Public Contract Code Section 7103.5 to the Port.
APPENDIX G

SECTION 01770

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 SUMMARY

This Section describes contract closeout procedures.

1.02 RELATED DOCUMENTS

A. Document 00650, Contractor’s Release of Claims (Appendix I)
B. Document 00655, Contractor’s Certificate of Completion (Appendix J)
C. Section 01780, Project Record Documents (Appendix H)

1.03 DEFINITIONS

A. Substantial Completion - The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Port as evidenced by a duly authorized Certificate of Substantial Completion, the Work is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment is evidenced by written recommendation of the Port for final payment. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

B. Final Completion - Completion of all Work, to the Port’s satisfaction, in accordance with the Contract Documents, including, but not limited to full compliance with the applicable requirements of this Section.

C. Final Acceptance - The Port's acceptance of the Work following Final Completion, subject to any express written exceptions.

D. Work - Includes and is the result of providing labor, materials, and equipment to complete the Project as required by the Contract Documents including the Plans and Specifications. Wherever the word "work" is used, rather than the word "Work," it shall be understood to have its ordinary and customary meaning.

1.04 SUBSTANTIAL COMPLETION PREPARATION

The Contractor must complete the following prior to requesting Port inspection for Substantial Completion:

A. Substantially Complete all Work described in the Contract, to the standards specified in the Functional Specifications.

B. Remove any and all temporary materials, equipment, and services.
C. Clean and repair any and all damage caused by installation or use of temporary facilities to restore any damaged property to its pre-construction condition.

D. Restore permanent facilities used during construction to their pre-construction condition unless otherwise specified.

1.05 SUBSTANTIAL COMPLETION

A. When the Contractor considers the Work, or a designated portion thereof, to be Substantially Complete, the Contractor must notify the Engineer in writing.

B. Following Contractor’s written notice of Substantial Completion the Port will inspect to determine whether the Work is Substantially Complete to the Port’s satisfaction. At the Port’s discretion, the Engineer may arrange to meet with the Contractor at the Site to examine the completed Work with any tenants, Port revenue division representatives, or other interested parties, and or to develop a punch list for items to be completed or corrected prior to Final Completion.

C. The Contractor must start up and run manufactured units, equipment, and systems as required in the Functional Specifications for periods prescribed therein as part of the Work required to meet Substantial Completion requirements.

D. If the Port determines that the Work, or the designated portion thereof, is not Substantially Complete, the Port will notify the Contractor in writing, listing all defects and omissions that must be corrected to achieve Substantial Completion.

E. After completing and listed deficiencies as noted in Article 1.04 D above, the Contractor must again notify the Engineer in writing requesting re-inspection for Substantial Completion. The Port will re-inspect the Work, and if any the deficiencies previously noted have not been corrected to the Port’s satisfaction, the Contractor must pay the Port’s costs for the re-inspection. The Engineer will furnish the Port’s labor rates to the Contractor upon the Contractor’s request.

F. When the Port concludes that all Work, or a designated portion thereof, is Substantially Complete, the Port will issue a Certificate of Substantial Completion, which may be accompanied by the punch list. The punch list may include the Port’s estimated cost to correct each punch list item if not timely corrected by the Contractor, as well as the date by which each punch list item must be corrected to the Port’s satisfaction. If the Contractor fails to satisfactorily correct a punch list item within the specified time, the Port may withhold from release of retention up to 150% of the estimated amount of the Port’s cost to correct the item.

1.06 FINAL CLEANING

The Contractor must employ skilled workers to perform all final cleaning prior to final inspection, including, but not limited to the following:

A. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces; and vacuum carpeted and soft surfaces.

B. Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment operated during construction; clean ducts, blowers, and coils of units operated without filters during construction.
C. Clean the Site generally, including mechanically sweeping paved areas as applicable.

D. Remove waste and surplus materials, rubbish, and construction facilities from the Site.

1.07 FINAL COMPLETION

Final Completion occurs when all of the Work is completed to the Port’s satisfaction, in accordance with the requirements of the Contract Documents, and as further defined in Section 01420, References and Definitions. When the Contractor considers Work is Finally Complete, the Contractor must:

A. Submit a signed, written Document 00655, Contractor’s Certification of Completion that the Contractor has performed all of the following:

1. Inspected the Work for compliance with the Contract Documents, and determined that all requirements for Final Completion have been met.

2. Completed the Work, except for Contractor maintenance required after Final Completion, in accordance with the Contract Documents, and has corrected all deficiencies described in the punch list.

3. Tested equipment and systems in the presence of the Port’s representative, and confirmed that they are fully operative, as required by the applicable Specifications.

4. Delivered all items required by the Contract to be delivered to the Port, including, but not limited to, the Project Record Documents required in Section 01780, Project Record Documents.

5. Returned to the Port all personnel identification media, vehicle permits, keys, and other such items which were temporarily issued by the Port to the Contractor for use during execution of the Work.

B. Ensure that all of the Work is complete and meets the requirements of the Contract Documents and is ready for final inspection by the Port.

1. The Port will return the Contractor’s Certificate of Completion, noting exceptions or identifying incomplete or defective items.

2. The Contractor must promptly remedy the deficiencies and then resubmit a Certificate of Completion when the Work is ready for re-inspection.

3. If failure to timely remedy the deficiencies operates to delay the Contract Times, the Contractor may be subject to liquidated damages for unexcused delay.

C. Complete, execute, and deliver to the Port Document 00650, Agreement and Release of Any and All Claims.

1.08 FINAL ACCEPTANCE

A. Once the Engineer has determined that all of the Conditions for Final Completion have been satisfied, the Engineer will recommend Final Acceptance of the Work as finally complete, subject to any express exceptions, if any.
B. The Port may record a Notice of Completion after Final Acceptance. Final Payment and release of undisputed retention will not occur until at least 35 days after recordation of the Notice of Completion.

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

Not applicable to this Section.

END OF SECTION
APPENDIX H

SECTION 01780

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SUMMARY

This Section specifies the administrative and procedural requirements for Project Record Documents. The term “Project Record Documents,” as used in this Section, means all of the documents identified in Article 1.02, below, and any other documentation pertaining to the completed Project which must be submitted to the Port as a condition to Final Completion.

1.02 SUBMITTALS

Between Substantial Completion and Final Completion the Contractor shall submit the following, as a condition of Final Completion:

A. One set of the Project Record Drawings as that term is defined below in Article 1.03 of this Section.

B. Two sets of Final Drawings incorporating the changes shown on the Project Record Drawings drafted using Autocad or similar Computer-Aided Drafting and Design (CADD) software, and an electronic copy of the Final Drawings CADD files.

C. Other Project Record Documents, including two identical sets of the following in binders:

1. Contact information for all Subcontractors and suppliers used for the Work, and a summary of Work performed by each Subcontractor and supplier.

2. All closed-out permits and all special inspection results required for the permits.

3. Copies of all operation and maintenance manuals, whether or not previously submitted and accepted.

4. A Project warranty as per Article 1.04 of this Section.

5. As required by the Functional Specifications, and as per Article 1.04 of this Section, final, accepted copies of special warranties for equipment, materials, or installed manufactured products.

1.03 PROJECT RECORD DRAWINGS

The term “Project Record Drawings” means a complete set of the Project Plans and Shop Drawings which have been marked up to show the as-built conditions as specified in this Article 1.03. The Project Plans include, but are not necessarily limited to all completed schematics, block diagrams, interconnection diagrams, interface plans, interface control documents, and system and subsystem flow charts as submitted by the Contractor and
accepted by the Port as part of the Critical Design Review (CDR) described in the Functional Specifications. The intended purpose of the Project Record Drawings is to provide the Port with a detailed, complete and accurate set of the Plans and Drawings depicting the Project as built, so that the Port and subsequent contractors may rely on the Project Record Drawings for use, maintenance, and subsequent development on the Project Site.

A. Mark-up Procedure: During construction, the Contractor must continuously maintain the set of the Project Plans pursuant to the preceding Article, and any accepted Shop Drawings as described below.

1. Label on first page of the marked up Plans and each set of Shop Drawings "AS-BUILT" in 2 inch high printed letters.

2. Identify on the first sheet of the Plans and each set of Shop Drawings, the person who has marked up the documents. If multiple persons mark up the Plans and Drawings, note this on the first sheet and initial each mark up. As per Article 1.03 B of this Section, the person marking the Plans and Drawings should have direct knowledge of the changes as marked.

3. Note any changes on the Plans and Shop Drawings as the Project proceeds. As applicable, provide cross-references to Change Orders, RFIs, Field Orders and other external documentation, but do not solely rely on such cross-references where revised drawings or markings can accurately depict the changes wholly or in part.

4. Mark the Project Record Drawings to indicate the actual location of Project elements when the installation of those elements is different from that shown on the original Contract Plans. Give particular attention to information on concealed elements which would be difficult to identify or measure and record later. At minimum, note the following as applicable:
   a. Dimensional changes from the Plans or Shop Drawings;
   b. Revisions to details shown on the Plans or Shop Drawings;
   c. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements;
   d. Location of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of structure;
   e. Locations of underground work, points of connection with existing utilities, changes in direction, and similar items;
   f. Actual numbering and labeling of telecommunication and electrical circuits;
   g. Field changes of dimension and detail;
   h. Revisions to routing of piping and conduits;
   i. Revisions to telecommunication and electrical circuitry;
   j. Actual equipment locations;
   k. Duct size and routing;
   l. Changes made by Change Order; and
   m. Construction details not on the accepted Project Plans.
5. Mark the Plans or Shop Drawings, whichever is the most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, provide a cross-reference note on the Plans.

6. Mark Project Record Drawing sets with red erasable colored pencil except where other colors are needed to distinguish between changes for different categories of the Work at the same location.

7. Mark important additional information which was either shown schematically or omitted from original Contract Plans.

B. Responsibility for Mark-up: Where feasible, the individual or entity who obtained the information requiring changes to the Record Drawings, whether the individual or entity is the Contractor, Subcontractor, installer or similar entity, must prepare the mark-up on the Project Record Drawings.

1. Accurately record information using a clear and legible drawing technique.

2. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.

C. Completion of Record Drawings: Immediately after Substantial Completion, schedule a meeting to review completed marked-up Project Record Drawings with the Port and refer any instances of uncertainty to the Engineer for resolution during the review meeting. Prior to the review meeting:

1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each Drawing with the date of the final revisions.

2. Whether or not recording any changes and additional information, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets.

1.04 PROJECT GUARANTEE AND WARRANTIES

A. Requirements for the Contractor's guarantee of completed Work are included in the Functional Specifications.

B. The Contractor must guarantee Work done under this Contract against failures, leaks or breaks, or other defects, and must perform repair work or replacement, as required, at the Contractor's sole expense, for period of one year beginning on date of Final Acceptance, unless a longer period of time is specified elsewhere in the Contract Documents for all or specific portions or components of the Work. If the Contractor is given notice of a defect within the applicable warranty period, the Contractor's duty to correct the defects will continue past the expiration of the warranty period until the defect is corrected to the Port's satisfaction.

C. The Contractor or any company performing the warranty work at the Site must perform warranty work in accordance with all terms of this Contract, including, but not limited to, the indemnification and insurance requirements.
D. Notwithstanding the foregoing, the Port may make repairs to defective Work without further notice to the Contractor, at the Contractor’s sole expense, under either of the following circumstances:

1. The Contractor fails to promptly commence or complete the required repair within seven (7) calendar days after the Port has mailed of written notice of defective work to the Contractor or authorized agent.

2. In an emergency or when, in the opinion of the Port, delay would cause a risk of hazard to health or serious loss or damage. The Contractor must reimburse the Port for the Port’s repair cost within 30 days of the Port’s request for reimbursement under this provision.

E. If, after installation, the operation or use of Materials or equipment furnished by the Contractors proves to be unsatisfactory to the Port, the Port has the right to operate and use the unsatisfactory Materials or equipment until they can be taken out of service for correction or replacement, at a time (to be determined by the Port) which is least likely to cause loss, damage, or disrupt the Port’s operations. The use of defective Materials or equipment pending correction or replacement will not decrease the guarantee period required for acceptable corrected or replaced items of Materials or equipment, or limit any extension of that guarantee period.

F. None of the warranties required under the Contract Documents are intended to operate as a waiver by the Port of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have under state law for patent or latent defects.

G. When performing warranty work, the Contractor is solely responsible for all costs associated with the warranty work.

H. Nothing in any warranty form will operate to limit the Contractor’s obligations under the Contract Documents, including, but not limited to, its warranty obligations under this Section.

I. Manufacturer’s warranties must be countersigned by the Contractor. Where specified, warranties must also be countersigned by Subcontractors and installers. By countersigning warranties required from third parties, the Contractor agrees it is responsible as co-guarantor of the warrantied Materials, equipment, or Work.

PART 2 - PRODUCTS

Not applicable to this Section.

PART 3 - EXECUTION

Not applicable to this Section.

END OF SECTION
APPENDIX I

DOCUMENT 00650

CONTRACTOR'S RELEASE OF CLAIMS

THIS RELEASE OF CLAIMS ("Release"), made and entered into this __________ day of __________, __________, by and between the CITY OF OAKLAND, a municipal corporation, acting by and through its BOARD OF PORT COMMISSIONERS (the “Port”), acting under and by virtue of the authority vested in the City of Oakland by the laws of the State of California, and _______ (the "Contractor"), whose place of business is at _______.

1. Contractor acknowledges that its sole and exclusive remedy for any claims against the Port arising from the Contract is to submit a timely, written claim in accordance with California Public Contract Code Section 20104.

2. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against the Port arising from or related to the Contract, except for the claims listed below, whether pending or not yet submitted. The following claims are disputed (hereinafter, the "Disputed Claims") and are specifically excluded from the operation of this Release:

<table>
<thead>
<tr>
<th>Claim No.</th>
<th>Date Submitted</th>
<th>Description of Claim</th>
<th>Amount of Claim</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Attach information separately and specifically identify any claims that have not yet been resolved, if any]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. It is the intention of the parties in executing this Release that this Release will be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of the Contractor against the Port, arising from or related to the Contract, all its respective agents, employees, inspectors, assignees and transferees except for the Disputed Claims set forth in Section 2, above. Nothing in this Release is intended to limit or modify the Contractor's continuing obligations referenced in Section 5, below.

4. Consistent with California Public Contract Code Section 7100, with the exception of the Disputed Claims identified by the Contractor above, by signing below, the Contractor agrees that in consideration of the Port’s release of any undisputed retention and payment of the undisputed balance of the Contract Sum, the Contractor releases and forever discharges the Port, all its agents, employees, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way relating to the Contract.

5. Guarantees and warranties for the Work, and any other continuing obligation of the Contractor, including, but not limited to, bond and indemnity obligations, remain in full force and effect as specified in the Contract Documents.

6. The Contractor hereby waives the provisions of California Civil Code Section 1542 which provides as follows:

A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him, must have materially affected his or her settlement with the debtor.
7. The provisions of this Certification and Release are contractual in nature and not mere recitals and are considered independent and severable, and if any such provision or any part of this Release is held invalid in whole or in part under any federal, state, county, municipal or other law, ruling or regulations, then such provision, or part will remain in force and effect only to the extent permitted by law, and the remaining provisions of this Release will also remain in full force and effect.

8. The Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connecting with this Release.

9. All of the Port’s rights shall survive completion of the Work and termination of Contract and execution of this Release.

10. Nothing in this Release shall be construed to waive, affect or impair the rights of any claimants under Chapter 3, Title 1, Part 6 of Division 4 of the California Civil Code.

[Signature page follows.]
CONTRACTOR:

By: ______________________________ Date: __________________
Signature

Print Name

Its: ______________________________
Title (If Corporation: Chairman, President or Vice President)

By: ______________________________ Date: __________________
Signature

Print Name

Its: ______________________________
Title (If Corporation: Secretary, Assistant Secretary, Chief Financial Officer or Assistant Treasurer)

CITY OF OAKLAND, a municipal corporation, acting by and through its Board of Port Commissioners:

By: ______________________________ Date: __________________
Signature

________________________, Chief Engineer
Print Name

END OF DOCUMENT
APPENDIX J

DOCUMENT 00655

CONTRACTOR'S CERTIFICATION OF COMPLETION

A. For completion by the Contractor:

Pursuant to Section 01770, Contract Closeout, the undersigned Contractor certifies all of the following:

1. The Contractor has inspected the Work for compliance with the Contract Documents, and has determined that all requirements for Final Completion, including completion of all punch list items, have been met as of the following date: ____________________________.

2. The Contractor has completed all of the Work, except for Contractor maintenance required after Final Completion, in accordance with the Contract Documents, and has corrected all deficiencies described in the punch list.

3. The Contractor has tested all equipment and systems in the presence of the Port's representative, and confirmed that they are all fully operative, as required by the applicable Specifications.

4. The Contractor has delivered all items required by the Contract to be delivered to the Port, including, but not limited to, Document 00650, Contractor's Release of Claims, and the Project Record Documents required under Section 01780, Project Record Documents.

5. The Contractor has returned to the Port all personnel identification media issued by the Port, vehicle permits, keys, and other such items which were temporarily issued to the Contractor for use during execution of the Work.

Contractor Name: _________________________________________

By: ___________________________ Date: _______________________

Signature

Name: __________________________ Title: _______________________

Print

B. For completion by the Port:

1. The Port received the Contractor’s certifications on: ______________.

2. The Port has reviewed the Contractor's certifications in Part A above and:

   __ a. Agrees with the Contractor’s certifications.
__ b. Agrees with the Contractor’s certifications subject to the following exceptions
(attach separate list if needed):

_________________________________________________________________________
_________________________________________________________________________

__ c. Disagrees with the Contractor’s certifications for the following reason(s) (attach separate list if needed):

_________________________________________________________________________
_________________________________________________________________________

2. If item (a) is checked, the Port hereby confirms that the date of Final Completion for this Project is: ___________________________

3. If item (b) or (c) is checked, the Contractor must complete the following and revise and resubmit its certification of completion no later than __________________ (attach separate list if needed):

_________________________________________________________________________
_________________________________________________________________________

Port of Oakland:

By: ___________________________ Date: ___________________________

Signature

Name: ___________________________ Title: ___________________________

Print

END OF DOCUMENT
Attachment 12
(Functional Specifications)

Parking Access and Revenue Control Systems
Functional Specifications

Parking Access and Revenue Control System (PARCS) Replacement Project

Oakland International Airport
Oakland, CA

June, 2015

Prepared by:
Kimley-Horn and Associates, Inc.
12012 Wickchester Lane, Suite 500
Houston, TX  77079

KHA No. 061258004.3

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PROJECT FUNCTIONAL SPECIFICATIONS

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PARKING ACCESS AND REVENUE CONTROL SYSTEM (PARCS)

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Section 11 12 11  Parking Access and Revenue Control System

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D. This Section 11 12 11 contains the requirements for replacement of the Oakland International Airport’s (Port) existing Parking Revenue Control System (PARCS). The PARCS replacement shall not only utilize the industry's latest technological advancements to control access and calculate and accurately report revenue for the parking facilities but shall improve the overall management, system efficiency, revenue accounting, revenue security, and customer service aspects of the parking operations at the Airport. This project shall implement hardware and application software that will meet or exceed the Port’s parking access and revenue control needs for at least 10 years after the system’s final acceptance. These specifications will describe the functional requirements for the new PARCS and what, if any, existing equipment will be used with the new system.

E. This project will replace the existing parking access and revenue control systems at all public and potential employee parking facilities. Some of the equipment for these facilities will be identified as optional, therefore, contractors shall provide separate pricing for all alternate proposal items.

1.02 REFERENCES

A. Codes and Regulations:
   1. Local Codes: Comply with State and Local codes as applicable.

B. Information Security Standards and Requirements:
   1. Payment Card Industry Data Security Standard (PCI DSS), latest version at the time of Contract Award
   2. Payment Application Data Security Standard (PA DSS), latest version at the time of Contract Award
   3. EMV standards to go into effect October 1, 2015

C. Port Standards, Preferred Products, and Guidelines:
   1. Oakland International Airport, Information Technology Department Communication Cabling Standards

1.03 DEFINITIONS
A. Definitions of terms used in these specifications are located in the General Requirements to be provided separate from these specifications and as follows:

1. Acts of God – Those events which are outside of control of humans and for which no one can be held responsible and which cannot be prevented. Acts of God include, but are not limited to, severe weather phenomena such as hail, flooding, extreme drought, hurricanes, tornados, tropical storms, fire, earthquakes, and lightning.

2. Airport – Oakland International Airport, Facility and Location of the Project. Also referred to as OAK.

3. Automated Pay Station: a computerized PARCS device that facilitates payment of parking fees prior to a patron returning to their vehicle. Also referred to as a Pay-on-Foot Station or POF.

4. Automated Vehicle Identification – Also referred to as AVI, is a Radio Frequency Device (RFID) that emits an electronic signal that can be read by an associated reader/ antenna. The signal contains information relating to the account and transponder number.

5. Barrier Gate – An automated gate utilized by the PARCS to control ingress into and egress from a parking facility.

6. Cashier Station – a computerized PARCS device located in a staffed cashier booth at an exit lane that facilitates multiple methods of exit from a parking facility; commonly referred to as: cashier terminal.

7. CBEMA – Computer and Business Equipment Manufacturers Association: The CBEMA curve illustrates the acceptable under-voltage and over-voltage conditions that most equipment can sustain for a period of time.

8. CCI/CCO – Credit Card In/Credit Card Out: an express parking transaction whereby a patron inserts a credit card into an entry station to gain access into a parking facility. Upon exit the patron inserts the same credit card into the exit station. The system matches the entry event with the exit event, calculates the appropriate parking fee, and charges the credit card. Upon positive authorization of the credit card, the barrier gate raises and patron exits the facility.

9. Conceptual Design Document – This document and subsequent review meeting shall insure Contractor has a full and complete understanding of the Port’s parking operations and the requirements of this specification for the new PARCS.
10. Contract Documents – The Contract Documents executed by the Port and the Contractor outlining the requirements for the Work to be performed as it relates to the implementation of the PARCS.

11. Contractor – The individual, partnership, firm, or corporation primarily liable for the acceptable performance of the Work contracted and for the payment of all legal debts pertaining to the work who acts directly or through lawful agents or employees to complete the Work.

12. Corporate Parking Program – A program offered to corporate accounts to provide specific parking spaces and a loyalty program for multiple vehicles associated with one corporate account. The Corporate account could be issued unique credentials for ingress and egress.

13. Crash – A system failure in which the PARCS cannot properly process revenue transactions.

14. Critical Design Document – This document shall contain detailed description of the proposed PARCS and system components including schematics, diagrams, interface control documents, etc.

15. Customer Loyalty Program – A program to provide benefit to patrons who frequently park at the airport. Also referred to as a “Frequent Parker Program” or “Corporate Parking Program.”

16. DVD – Digital Video Disk – Read Only Memory: an optical disk used to store data that once created, cannot be erased or filled with new data.

17. Dynamic Signage – signage capable of displaying varying text and/or graphics to relay specific messages to patrons via a matrix of LED lights. Dynamic signage can be used for various applications including displaying the method of payments accepted at a specific lane, the number of available spaces in a facility/level, or providing guidance to patrons.


19. EMV – European MasterCard/VISA credit card standard, referring to a chip embedded credit card associated with a personal PIN used for payment of parking fee due. Sometimes referred to as “Chip and PIN”. EMV Standards are currently scheduled to be required as of October 1, 2015.

20. Entry Station – a computerized PARCS device located in an entry lane that facilitates multiple methods of entry including issuing a magnetically encoded or barcode parking ticket, ingesting and reading a magnetically encoded or barcode access card or credit card, reading an EMV (chip embedded) card, reading an AVI transponder, reading a proximity access card, reading a bar code or QR code from a cell
phone or hard copy document, or reading a contactless credit card; commonly referred to as: ticket issuing machine or TIM.

21. Exit Station – a computerized PARCS device located in an express exit lane that facilitates multiple methods of exit from a parking facility including ingesting and reading a magnetically encoded or barcode parking ticket, ingesting and reading a magnetically encoded or barcode access card or credit card, reading an EMV (chip embedded) card, reading a bar code from a cell phone or hard copy document, or reading a proximity access card or credit card fob via RFID. The exit station uses the data from the inserted or detected media to validate exit privileges or calculate and process the associated parking fee; fees can be paid via credit card, debit card, or cell phone, or exit is granted via access card or validated/pre-paid magnetically encoded ticket; commonly referred to as: express exit terminal or exit verifier.

22. FAT – Factory Acceptance Test: a test of the PARCS Contractor’s system and equipment prior to delivery to a project site to ensure that the equipment and system meets the intent of these Functional Specifications.

23. FMS – Facility Monitoring System: A system that provides operational and performance information of the system components.

24. Frequent Parker Program – A program to provide benefit to patrons who frequently park at the airport. This system will be a web-based application to allow patrons to sign up and maintain their account. This system is tied to the vehicle license plate number or AVI account and will recognize a vehicle with an approved account, open the exit gate and bill the credit card on file. Also referred to as a “Customer Loyalty Program.”

25. GUI – Graphical User Interface: A program interface that takes advantage of a computer’s graphics capabilities in an attempt to make the program user-friendly and intuitive to use.

26. IDF – Intermediate Distribution Frame: a room that interconnects and manages the telecommunications wiring between a MDF and field devices or workstations.

27. IP – Internet Protocol: IP is a network layer protocol in the Internet protocol suite and is encapsulated in a data link layer protocol (e.g., Ethernet). As a lower layer protocol, IP provides the service of communicable unique global addressing amongst computers.

28. IRW – Image Review Workstation: a workstation that is used to review images from the LPR system.
29. ISO – short for International Organization for Standardization: An international organization comprised of national standards bodies from around the world. ISO is the world’s largest developer and publisher of standards.

30. LAT – Lane Acceptance Test: a test of a Contractor’s installed equipment at the lane level to ensure that the equipment meets the intent of these Functional Specifications. LATs are conducted on all entry lanes and exit lanes.

31. LCIP – Lane Control Interface Processor: The computer processor used for communication between the Servers and the lane equipment.

32. LED – Light Emitting Diode: a type of light commonly used for dynamic signage.

33. LPN – License Plate Number

34. LPR – License Plate Recognition: a combination of cameras, software, infrastructure, and monitoring stations that allow for the automated recording of a vehicle’s license plate number upon entry using application software utilizing OCR. The license plate number is linked to the vehicle’s entry event within the PARCS. Upon exit, the license plate is checked again by the LPR system to verify that the vehicle attempting to exit is the same vehicle that is linked with the entry event of that transaction; a subsystem to a PARCS.

35. Major Deviation – Any deviation or failure of a FAT, LAT or Site Acceptance Test (SAT) procedure that affects fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), revenue processing, calculations, or reporting.

36. MDF – Main Distribution Frame: a cable rack that interconnects and manages the telecommunications wiring between itself and any number of IDFs. Generally, the MDF connects private and public lines to an internal network.

37. Minor Deviation – Any deviation or failure of a FAT, LAT or Site Acceptance Test (SAT) procedure that does not affect fee calculation accuracy, transaction count accuracy, exception count accuracy, active ticket inventory accuracy (system vs. actual), revenue processing, calculations, or reporting.

38. NEMA – National Electrical Manufacturers Association: An association that develops standards related to the generation, transmission, distribution, control, and end-use of electricity.
39. N-Factor – a term used to quantify the accuracy of the OCR for an automated license plate reading system including LPR, where “N” represents the number of characters on any given license plate. If all characters are interpreted correctly by the OCR then it is said to be an “N read”. If all but one character is read correctly then it is said to be an “N minus one” or “N-1” read, etc.

40. NEC – National Electric Code: part of the National Fire Code, the NEC is a standard for the safe installation of electrical wiring and equipment.

41. Normal Conditions - Normal conditions are considered to be equipment malfunctions, parts usage under normal wear and tear, and performance of scheduled services.

42. Normal Weather Conditions - Normal weather conditions are applicable to weather conditions that are common to the Oakland, CA region such as rain, driving/tropical rain, strong thunderstorms, drought, freezing temperatures, snow, hail, ice, 100+ degree temperatures, and high winds, among others.

43. OAK – Oakland International Airport/Port of Oakland: the owner and initiator of this project. Also referred to as “Port.”

44. OCR – Optical Character Recognition: a set of software algorithms that enable LPR application software to analyze a digital image of a license plate and determine the digitized values of the license plate characters through an automated process.

45. ODBC – Open Database Connectivity: In computing, ODBC provides a standard application software programming interface method for using database management systems. ODBC is intended to infer an independence from programming languages, database systems, and operating systems.

46. ODT – Operational Demonstration Test: a test of a fully installed PARCS to monitor the system during normal operating conditions and ensure that the system is functional over a defined period of time in a manner consistent with the intent of these Functional Specifications.

47. OTDR – Optical Time Domain Reflectometer: an instrument that analyzes the light loss in an optical fiber in optical network trouble shooting

48. PA DSS – Payment Application Data Security Standard: a set of comprehensive data security requirements and parameters for computer applications that process credit card payments.
49. PARCS – Parking Access and Revenue Control System: A combination of equipment, subsystems, and supporting infrastructure that allows an entity to accurately calculate, collect, track, and report revenues for parking within one or more facilities. A PARCS also monitors and controls ingress and egress to and from those facilities.

50. Pay-on-Foot Station: a computerized PARCS device that facilitates payment of parking fees prior to a patron returning to their vehicle. Also referred to as an Automated Pay Station or APS.

51. PC – Personal Computer: a microcomputer designed for individual use for such applications as word processing, data management, or financial analysis.

52. PCI DSS – Payment Card Industry Data Security Standard: a set of comprehensive requirements and parameters for enhancing payment card account data security to help facilitate the broad adoption of consistent data security measures on a global basis.

53. PDF – Portable Document Format: a document-encoding process developed by Adobe that maintains page layout, fonts, and graphics and can include many other features such as hyperlinks.

54. PIN – Personal Identification Number: A number selected by a user to gain access to certain areas of the PARCS or to associate with a chip embedded credit card required by EMV standards.

55. Preventive Maintenance - This type of maintenance includes but is not limited to scheduled inspection, testing, necessary adjustment, alignments, lubrication, parts cleaning, replacement of consumables, communication system maintenance, server administration, database administration, and application support of the PARCS hardware and software.

56. PSCS – Parking Space Count System: a combination of vehicle detection devices, dynamic signage, and supporting infrastructure that allow for the automated counting of vehicular ingresses and egresses to and from a parking facility. The resultant count is displayed on operational workstations as well as a series of dynamic signs to inform patrons of the location of available parking; a subsystem to a PARCS.

57. QA/QC – Quality Assurance/Quality Control: The quality processes and quality checks used to ensure the PARCS and its components comply with the Contract requirements.

58. QR Code – A QR code is a form of a bar code that can store more data than a standard binary bar code.
59. RFI/EMI – Radio Frequency Interference / Electromagnetic Interference: Radio Frequency and Electromagnetic Interference are phenomena that occur when the radio frequency of electromagnetic field of one device disrupts, degrades, or impedes another device.

60. RFID – Radio Frequency Identification: the technology utilized by proximity card systems or Automatic Vehicle Identification systems, such as HID™, FasTrak™, or PayPass™, for identifying a patron’s credential. A RFID system consists of an antenna, a transceiver (which reads the radio frequency and transfers the information to a processing device), and a transponder, also called a tag (which is an integrated circuit containing the RF circuitry and information to be transmitted).

61. Site Acceptance Test (SAT): A test of a Contractor’s installed equipment at the site or facility level over a defined period of time to ensure that the equipment meets the intent of these Functional Specifications.

62. SNMP – Simple Network Management Protocol: SNMP forms part of the internet protocol suite and is used in network management systems to monitor network-attached devices for conditions that warrant administrative attention.

63. SQL – Structured Query Language: a database computer language designed for the retrieval and management of data in relational database management systems, database schema creation and modification, and database object access control management.

64. SSAE - #16 - Statement on Standards for Attestation Engagements no. 16 (SSAE 16) is the new "attest" standard put forth by the Auditing Standards Board (ASB) of the American Institute of Certified Public Accountants (AICPA). For reporting periods ending on or after June 15, 2011, SSAE 16 will become the new standard for reporting on controls at service organizations, essentially replacing Statement on Auditing Standards no. 70, simply known as SAS 70.

65. Swapped Ticket – The occurrence when a patron "swaps" the original parking ticket obtained upon entry to a parking facility with a second, more current parking ticket and attempts to exit using the more current parking ticket.

66. TCP/IP – Transmission Control Protocol/Internet Protocol: The Internet Protocol Suite (commonly known as TCP/IP) is the set of communications protocols used for the Internet and other similar networks.
67. TIA – Telecommunications Industry Alliance: Associations that helps develop standards for the telecommunications and electronics industries.

68. UL – Underwriters Laboratories, Inc.: UL is a U.S. not-for-profit, privately owned and operated product safety testing and certification organization. Based in Northbrook, Illinois, UL develops standards and test procedures for products, materials, components, assemblies, tools and equipment, chiefly dealing with product safety. UL is one of several companies approved for such testing by the U.S. federal agency OSHA. OSHA maintains a list of approved testing laboratories, known as Nationally Recognized Testing Laboratories.

69. UPS – Uninterruptible Power Supply: A UPS is a device that maintains a continuous supply of electric power to connected equipment by supplying power from a separate source when utility power is not available; also known as a continuous power supply or a battery backup.

70. Unusual Conditions – Unusual conditions are those conditions other than normal conditions that are out of the control of the Contractor. These events include willful or careless damage to the equipment including patron accidental damage as well as Acts of God.

71. Validation Program – The offering of discounted parking through a paper or electronic credential that may be presented to either a cashier or read by a bar code reader in an Express Exit Lane.

72. VPN – Virtual Private Network: a network that is constructed by using public wires to connect nodes. For example, the Internet may be used as the medium for transporting data. These systems use encryption and other security mechanisms to ensure that only authorized users can access the network and that the data cannot be intercepted.

73. Work – Services or goods to be provided by the Contractor per the Contract.

1.04 SYSTEM DESCRIPTION

A. The objectives of the PARCS project include, but are not limited to:

1. The PARCS shall be designed with an open architecture in order to provide integration to third party applications.
2. Contractor shall reuse existing infrastructure when possible, including such items as existing conduit, AVI equipment, etc.
3. Provide mechanisms to strengthen internal controls and minimize theft and loss of revenue.
4. Achieve a PCI DSS compliant environment and maintain the cardholder environment consistent with ongoing compliance.
5. Provide flexibility in offering new capabilities to promote parking and other Port services in a web-enabled environment.
6. Enhancing the ability to accurately track required financial and statistical information
7. Accurately calculate appropriate fees
8. Accurately document the revenues generated by the parking operations
9. Increase efficiency of operations and maintenance
10. Provide flexibility and capability to user in the timing and formatting of the pertinent operational and management reports
11. Provide flexibility in rate configurations for all parker types, and to vary rates by time of day and day of week
12. Ensure flexibility and scalability for any future need to update, upgrade, and/or expand the system readily (additional lanes and parking products as well as additional facilities)
13. Provide an intuitive and user-friendly interface for the Port and its personnel
14. Provide electronic coupons and/or validations that may be presented by the patron in all lanes, including processing in self-service lanes,
15. Provide business intelligence tools for better managing parking system and forecasting results of potential modifications or additions of programs
16. Provide Loyalty programs specified and designed by user, e.g. fee adjustments for frequent users, corporate program users.
17. Simplified maintenance procedures for lane equipment and back-office / IT infrastructure.

B. During the life of the new PARCS, the Port may add facilities that will provide additional public parking. The proposed PARCS shall be upgradeable, scalable, and modular in design such that it can support all of the future needs of these facilities. The system shall be designed with excess capability that shall process as many as 150% of the current volume of transactions without any degradation in system performance even during peak periods.

C. The parking and other control equipment components provided by the Contractor shall operate as a complete system. Each equipment component shall perform its function in relation to other components. As such, each component shall be compatible with all related components. All components shall be compatible with the geometric circumstances of the facility or place where they are installed.

D. The Contractor shall bring any deficiencies or discrepancies in these specifications that they believe may exist to the attention of the Port in their Proposal. No deficiency or discrepancy in these Functional Specifications shall relieve the Contractor of the responsibility to provide a satisfactorily performing, reliable system.

1.05 SUBMITTALS
A. Contractor shall submit to the Port plans and specifications for any necessary civil/site work.

B. All submittals shall be submitted to the Port.

C. All Port comments, responses, and approvals of Contractor submittals shall be transmitted by the Port to the Contractor. Contractor shall incorporate Port comments and responses and resubmit the document to the Port for review and approval. Should the Contractor’s resubmittal not incorporate the appropriate comments or otherwise fail to meet the requirements, this cycle shall continue until the Contractor produces an acceptable submittal that is approved by the Port in writing.

D. Submittal schedule (with submittal timing) for all submittals, including those proposed by the Contractor that is not listed in the Contract Documents, to be included in the Contractor’s Proposal.

E. Submittals shall include the following:

1. Proposed interface file specifications and all software documentation for all database files used in the system that shall contain identification and plain English descriptions of all databases, tables, records, fields, field attributes (type, length, permissible values, etc.), and relationships among data.

2. A description of Contractor’s Factory Training Program for technicians. This description shall include an outline of training program, requirements to attend the program, and the certification that will be achieved by the technician completing the program.

3. Product data for review and approval for all field equipment prior to the manufacture or procurement of the equipment. Product data shall include; equipment dimensions, cut out locations for electrical and communications connection points, and manufacturer cut sheets of all Contractor-supplied and third party components incorporated in the various devices (including manufacturer, model number, etc.).

4. Sample set of reports that are fundamental and readily available with the PARCS as part of the Proposal. After coordinating with the Port on report layout for all standard and custom reports, the Contractor shall submit a sample format of each report for final approval 45 calendar days prior to the FAT.

5. Submit manuals 45 calendar days prior to the respective system or subsystem’s installation unless otherwise noted. The Port shall review the structure and contents of the manuals. The Port shall return comments to the Contractor within 14 calendar days, and the Contractor shall incorporate all comments into a revised user’s manual before installation. The Contractor shall submit the revised manuals
for approval prior to commencing system installation. The Contractor shall submit the following manuals in both hardcopy and electronic (PDF or Microsoft Word) format:

- PARCS user manuals
- PARCS subsystems manuals
- Maintenance manual
- Cashier’s manual
- Audit manual
- Training manuals – including workbooks, lecture notes/overheads, and manuals to be used in live training sessions to include the following:
  1. Supervisor Manual
  2. Audit Manual
  4. CCI/CCO subsystem manual
  5. Loyalty Program manual(s) including Frequent Parker and Corporate Parker Programs
  6. Manual for validation and coupon programs
  7. Failover/fallback manual
  8. LPR User Manual

6. Submit a Phasing Plan with the Proposal for the transition from the existing system to the new PARCS. The Phasing Plan shall be a complete plan for implementation, training and testing and shall include provisions for the new PARCS to operate concurrently with the old system until implementation is complete. Phasing Plan to include:

- Milestone dates in the form of a Gantt Chart Schedule
- Narrative description of phasing to decommission each lane, install new field devices, perform LAT, and activate for public use
- A lane switchover approach
- Training timing as system is activated
- Decommissioning strategy for existing PARCS that maintains all critical systems and functionalities throughout the switchover process
- Contractor recommendations that benefit the overall project schedule and switchover process

7. Disaster Recovery Plan: The final documentation shall include a disaster recovery plan. The plan shall provide the step-by-step procedures for disaster recovery for each point of failure. These procedures shall be comprehensive.

- The first steps shall be in diagnostics. The remaining steps shall provide procedure for resolution in order to bring the system back to full operational status.
b. Should disaster occur immediately following, or as a result of, a patch or software update the disaster recovery process shall return the system to the software version in effect prior to the patch or update being applied.

c. Points of failure shall include each component and subcomponents in complex units, such as servers.

d. The disaster recovery plan shall include requirements for and location of spares.

8. Testing procedures shall test all system functionalities that are described in these Functional Specifications as well as any other functionalities performed by the system (e.g. standard functionalities for the PARCS) that are not specifically described within these Functional Specifications. The test procedures document shall be submitted for review and comment a minimum of 45 calendar days prior to a required test. Fourteen (14) calendar days after receipt, review comments will be returned to the Contractor by the Port. The Contractor shall incorporate the Port’s review comments into the Test Procedures. This revised document shall be resubmitted for verification that all comments have been incorporated. Ten calendar days after receipt, review comments will be returned to the Contractor by the Port. The approved document shall be bound and termed the Test Procedures Document. One bound copy shall be an original, containing original signatures of the test observers and this copy shall become the Port’s record copy. No test shall commence until the finalized Test Procedures Document is received by the Port. The Contractor shall develop all test procedures for the tests that are listed below:

   a. Factory Acceptance Test (FAT)
   b. Lane Acceptance Test (LAT)
   c. Site Acceptance Test (SAT)
   d. Operational Demonstration Test (ODT)

F. Contractor shall submit the Process and frequency of software update releases, including any third party software components.

G. Contractor shall submit their process to inform the Port of the system integrity and/or cybersecurity vulnerabilities.

H. The following tables contain a listing of required Contractor submittals and the timing for the respective submittal:

<table>
<thead>
<tr>
<th>Contractor Submittal</th>
<th>Submittal Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phasing Plan</td>
<td>Proposal</td>
</tr>
<tr>
<td>Factory Training Program for Technicians</td>
<td>Proposal</td>
</tr>
<tr>
<td>Sample set of standard reports</td>
<td>Proposal</td>
</tr>
<tr>
<td>Proposed data archiving method</td>
<td>Proposal</td>
</tr>
<tr>
<td>Product Data - UPS units</td>
<td>Proposal</td>
</tr>
</tbody>
</table>

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<p>| Product Data - Entry Station | Proposal |
| Product Data - Cashier Station | Proposal |
| Product Data - Express Exit Station | Proposal |
| Product Data - Entry/Exit Vehicle Detection Devices | Proposal |
| Product Data - Barrier Gate | Proposal |
| Product Data - Lane Open/Closed Light | Proposal |
| Product Data - Dynamic Signage | Proposal |
| Product Data - Dynamic Signage controller | Proposal |
| Product Data - LPR camera | Proposal |
| Product Data - Proximity card reader | Proposal |
| Product Data - PSCS Dynamic Signage | Proposal |
| Product Data - Intercom base station | Proposal |
| Product Data - Entry Station display screen | Proposal |
| Product Data - Express Exit Station display screen | Proposal |
| Product Data - Patron Fee Display | Proposal |
| Product Data - Communication Network Components | Proposal |
| Product Data - Validation re-encoder | Proposal |
| Product Data – CCTV Camera &amp; software | Proposal |
| PA DSS Report of Validation | Proposal |
| Credit Card Processing Subsystem Flowchart | Proposal |
| Identification of generation of PARCS software | Proposal |
| Software interface documentation | Proposal |
| Preventive Maintenance Plan | Proposal |
| List of clearinghouses for which the Contractor has a certified interface | Proposal |
| Color Illustrations (photo or scale drawing) of Ticket Dispenser and Close-up of Ticket Dispenser Display | Proposal |
| Close-up, Color Illustration (photo or scale drawing) of proposed exit station’s patron display | Proposal |
| Color Illustrations (photo or scale drawing) of proposed Pay on Foot (POF) Station and Close-up of POF Station’s Display Panel | Proposal |
| Close-up, Color Illustration (photo or scale drawing) of proposed cashiers station including screen shots | Proposal |
| Close-up, Color Illustration (photo or scale drawing) of all proposed electronic signs that will be provided as a part of the contract | Proposal |
| Resumes of proposed maintenance staff | Proposal |
| Detailed job descriptions for all maintenance staff positions | Proposal |
| Notice of refusal to extend maintenance agreement | 180 calendar days prior to withdrawal from maintenance contract |
| Request to begin Site Acceptance Test | 30 calendar days prior to completion of LATs |</p>
<table>
<thead>
<tr>
<th>Manual/Document Description</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual - Manufacturer’s recommended maintenance procedures manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Manual - PARCS user manuals</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Manual - Cashier manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Manual - Audit manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Manual - PSCS user manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Manual - LPR user manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Manual – Frequent Parker user manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Systems Administration Manuals</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>CCI/CCO subsystem manual</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>PSCS screen layout</td>
<td>30 calendar days prior to implementation</td>
</tr>
<tr>
<td>Means for remote scoring of LPR system</td>
<td>30 calendar days prior to implementation</td>
</tr>
<tr>
<td>Naming conventions for field devices</td>
<td>30 calendar days prior to installation</td>
</tr>
<tr>
<td>Conceptual Design Document</td>
<td>Within 45 calendar days of Contract Award</td>
</tr>
<tr>
<td>Critical Design Document</td>
<td>45 calendar days prior to FAT</td>
</tr>
<tr>
<td>Test Procedures – Factory Acceptance Test</td>
<td>45 calendar days prior to test start</td>
</tr>
<tr>
<td>Test Procedures – Lane Acceptance Test</td>
<td>45 calendar days prior to test start</td>
</tr>
<tr>
<td>Manual - Instructional training manuals (workbooks, lecture notes, user manuals)</td>
<td>45 calendar days prior to the respective training class</td>
</tr>
<tr>
<td>Instructional Training course outline</td>
<td>45 calendar days prior to the respective training class</td>
</tr>
<tr>
<td>Failover &amp; Failback procedures manual for PARCS (Disaster Recovery)</td>
<td>45 calendar days prior to implementation</td>
</tr>
<tr>
<td>Report Formats and layout for all reports</td>
<td>45 calendar days prior to FAT</td>
</tr>
<tr>
<td>Interface File Specifications</td>
<td>Six weeks prior to implementation</td>
</tr>
<tr>
<td>Software Documentation</td>
<td>Six weeks prior to implementation</td>
</tr>
<tr>
<td>Manufacturer Specifications of components in the event of PARCS industry withdrawal</td>
<td>60 calendar days prior to withdrawal</td>
</tr>
<tr>
<td>Written evaluation of software modification’s impact on PARCS</td>
<td>Seven calendar days prior to installing modification</td>
</tr>
<tr>
<td>Proposed Instructional Training Schedule</td>
<td>Prior to system implementation</td>
</tr>
<tr>
<td>Perpetual Software Licenses</td>
<td>When software is installed</td>
</tr>
<tr>
<td>Financial Reporting Application/General Ledger Interface Design</td>
<td>Within 30 calendar days of Contract Award</td>
</tr>
<tr>
<td>Credit Card Clearinghouse Interface Design</td>
<td>Within 30 calendar days of Contract Award</td>
</tr>
<tr>
<td>Parking Ticket Specifications</td>
<td>Within 30 calendar days of Contract Award</td>
</tr>
<tr>
<td>PARCS System Design Document</td>
<td>Within 90 calendar days of Contract Award</td>
</tr>
<tr>
<td>Outstanding Punch List items w/estimated completion date</td>
<td>Weekly after the completion of FAT</td>
</tr>
<tr>
<td>As-Built Documentation</td>
<td>Prior to Final System Acceptance</td>
</tr>
</tbody>
</table>

1.06 QUALITY ASSURANCE
A. All PARCS components and their installation shall comply with all laws, ordinances, codes, rules, and regulations of public authorities having jurisdiction over this part of the work. It shall be 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. It shall be the Contractor’s responsibility to obtain any and all permits that are required to complete this work.

B. The PARCS shall be an open-architecture system where all interfaces (hardware and software) conform to national and International Organization for Standardization (ISO) standards.

C. All materials and equipment shall be listed, labeled or certified by a nationally recognized testing laboratory to meet Underwriters Laboratories, Inc. (UL), standards where test standards have been established. Equipment and materials which are not covered by UL Standards will be accepted provided equipment and material is listed, labeled, certified or otherwise determined to meet safety requirements of a nationally recognized testing laboratory. 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.

D. Housings of the components exposed to weather shall meet NEMA 4 standards or better to be moisture-proof and shall provide sufficient protection so that the components continue to function without moisture, dust, heat, or extreme cold related interruption.

E. The Contractor’s application software shall conform to the latest publicly known PCI DSS standards and be PA DSS certified. The Contractor shall submit the most recent PA DSS Report of Validation as part of their Proposal to which their system is certified.

1.07 DELIVERY AND STORAGE

A. Contractor shall be responsible for insuring all shipped items. Any items damaged during shipping shall be replaced and shipped to the Port, by expedited means if requested, at no additional cost to the Port.

B. The Port shall provide the Contractor with a designated storage/staging area for PARCS equipment that has not been installed. The Contractor shall describe in their Proposal the square footage of area required, and what is planned to be stored in the area. The Port shall determine the exact location after Contract Award. It is the Contractor’s responsibility to protect the equipment from theft and damage until final acceptance including installation of fencing, locks, and any other security provisions. Should the stored
equipment be stolen or damaged prior to final acceptance, the Contractor shall replace the equipment at no additional cost to the Port.

C. After equipment is installed, 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 Port or Port employees or the using public are excluded as a cost incurred by the Contractor. Also excluded from the costs incurred by Contractor are damages due to Acts of God that occur after installation.

1.08 PROJECT/SITE CONDITIONS

A. All field equipment and components shall be fully protected from the ambient environment when installed in the proper housing provided by the Contractor. Operation of the equipment shall not be affected in any way by Normal Weather Conditions. In addition, operation of the equipment shall not be effected in any way by the conditions listed below:

1. Ambient Temperatures: -10°F to 120°F (with addition of solar loading)
2. Humidity: 0% to 95% (non-condensing)
3. Rain: Blowing rain with 80 mph gusts
4. Dust: Blowing dust and fine sand
5. RFI/EMI: Port standard environment

B. The equipment shall be electromagnetically compatible with other equipment at the Port including radio frequency emissions. The equipment shall not be susceptible to noise induced from the emissions of Electro Magnetic Interference (EMI) of high power radar, navigation aids, and radio equipment normally utilized at the Port.

C. Environmental conditions shall not inhibit the PARCS from performing in accordance with these Functional Specifications. The Contractor shall provide a system such that environmental conditions in a cabinet shall not cause failure of the installed electronics.

D. Electrostatic and electromagnetic forces within the environment, e.g., non-direct lightning strikes, or other types of power interference shall have no effect upon the integrity or operation of the PARCS. The Contractor’s solution for preventing power interference shall be presented to the Port for approval prior to implementation. Lightning protection through surge arrestors or earthen ground rods or a combination thereof shall be provided and installed for the PARCS. The Contractor shall determine, based upon their system requirements, the appropriate lightning protection method to use for the location where the equipment is installed. Equipment shall be UL approved for use as part of a master labeled lightning protection system and marked in accordance with UL procedures.

E. Existing Conditions and Facilities: The existing PARCS was implemented in 2007. The majority of the basic operational functionalities performed by the
existing PARCS (ticket issue, gate up, etc.) shall be upheld in the replacement system, however there are no customized or unique features, functionalities, or hardware from the existing PARCS that will be implemented in the replacement PARCS. As such, only a limited discussion of the existing PARCS is provided.

1. Existing Communications
   a. The existing PARCS consists of entry and exit lane controls communicating via a combination of copper wiring and fiber optic cabling to a central server currently located in the Parking Management Office (PMO) and the Terminal server room.
   b. The existing fiber optic network that supports the PARCS components shall be used as a part of this project. Contractor shall upgrade the fiber switches as a part of this project.
   c. Microwave point to point radios are currently installed at two locations. The Former (inactive) economy lot has a currently disabled radio that connected the lot to the parking management office. The current economy lot has a multimode fiber connecting the lot, but also uses a microwave radio to communicate with one shuttle gate.

2. Existing Power
   a. The Contractor shall utilize the existing power infrastructure in the new PARCS.
   b. A lane specific UPS shall be installed within each lane (with the exception of employee lots) to provide sixty minutes to either restore failed electrical service or allow for properly shutting down the lane equipment

3. Parking Facilities
   a. The following parking facilities are included in this project and are further depicted in Figure 1.8.E.1:
   (1) Premier Parking lot
   (2) Hourly Lot
   (3) Daily Lot
   (4) Current Economy Lot
   (5) Retired Economy Lot (optional task)
   (6) Oakland Maintenance Facility (OMC) (optional task)
   (7) Lot 214 (optional task)
   b. Entry/Exit Control: Entry and exit lanes are distributed as detailed in Table 1.8.E.1.
c. Parking Management Office (PMO): The PMO is located adjacent to the nine (9) lane exit plaza and serves as the base of operations for the Port’s parking operations. The office is staffed 24-hours a day, 7-days a week.
Figure 1.8.E.1 – Primary Scope of Work Parking Facilities

Figure 1.8.E.2 – Optional Scope of Work Parking Facilities
### Exit Lanes by Facility

<table>
<thead>
<tr>
<th>Lot #</th>
<th>Facility</th>
<th># Entry Lanes</th>
<th># Exit Lanes</th>
<th>Bus Only Lanes (AVI &amp; badge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Premier Lot</td>
<td>1</td>
<td>9&lt;sup&gt;1&lt;/sup&gt;</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Hourly Lot</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Daily Lot</td>
<td>3</td>
<td>1/1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Economy Parking Surface Lot</td>
<td>3&lt;sup&gt;2&lt;/sup&gt;</td>
<td>2</td>
<td>1&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>5</td>
<td>Retired Economy Lot</td>
<td>2</td>
<td>2</td>
<td>1/1</td>
</tr>
<tr>
<td>6</td>
<td>Oakland Maintenance Facility</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Lot 214</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

<sup>1</sup> Retired Economy
<sup>2</sup> Oakland Maintenance Center
<sup>3</sup> 214 Management/Executive Parking Lot

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1.09 PROJECT SEQUENCING

A. The Contractor shall propose sequencing in the Phasing Plan that achieves full implementation of the PARCS starting approximately with a proposed Notice to Proceed delivered in February, 2016 with full implementation to be completed by October 31, 2016, with the exception of the Operational Demonstration Test (ODT).

1.10 ACCEPTANCE TESTING

A. Acceptance testing shall serve to verify the functional performance of the PARCS and its components to ensure adherence to these Functional Specifications. The Acceptance testing process shall not take away from or reduce the responsibility of the Contractor to provide a finished and fully functioning system that meets all requirements of these Functional Specifications. Each application software package, firmware, and hardware equipment component delivered by the Contractor shall undergo acceptance testing as part of the installation process. The acceptance testing of the PARCS is described in Section 3.03 and shall occur in the following sequence:

1. Factory Acceptance Test (FAT)
2. Lane Acceptance Test (LAT)
3. Site Acceptance Test (LAT)
4. Operational Demonstration Test (ODT)

B. The PARCS shall successfully pass each testing phase before the next testing phase commences. The LATs shall not begin until the FAT has been successfully completed; the Site Acceptance Test shall not begin until all LATs for that facility have been successfully completed; and the ODT shall not begin until all Site Acceptance Tests have been successfully completed. Tests shall not be excluded or conducted out of sequence without prior written authorization from the Port.

C. Thirty calendar days prior to the anticipated completion of all LATs for a parking facility’s implementation, the Contractor shall submit a written request for starting the Site Acceptance Test. A Site Acceptance Test shall be performed for each individual facility after all LATs for that parking facility have been successfully completed. Following successful completion of all Site Acceptance Tests, an ODT shall be conducted to assess the entire PARCS installation as a system.
D. The Contractor shall submit the proposed Phasing Plan as outlined in the submittal guidelines. Testing shall not disrupt the normal entering and exiting of vehicles from the parking facility areas regardless if the lane is connected to the existing PARCS or the new PARCS.

1.11 WARRANTY (HARDWARE AND SOFTWARE SUPPORT) – YEAR 1

A. The Contractor shall warranty all parts, materials, and workmanship following successful completion of the ODT and receipt of acknowledgement of formal system acceptance by the Port, for a period of twelve (12) consecutive months. All inclusive costs (parts, labor, maintenance, warranty repairs, Contractor travel time, Contractor expenses, etc.) incurred during the warranty period shall be provided without additional cost to the Port.

B. 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 Port or Port employees or the using public are excluded as a warranty item. Also excluded from the warranty are damages due to Acts of God. For services that are excluded from the warranty, the Contractor shall provide Hourly Service Rates, by type, as defined below:

1. Regular Business Hours – 7:00 AM through 11:00 PM, 7 days a week
2. Outside of Business Hours – 11:00 PM through 7:00 AM, 7 days a week

C. The Port will not pay overtime charges.

D. The warranty period on the PARCS shall begin when the ODT has been successfully completed and the Contractor has received written notice of formal system acceptance from the Port. The Contractor shall maintain all systems that are operating prior to starting the warranty period at no cost to the Port. Maintenance services shall be as defined within the Manufacturer's recommended maintenance procedures manual submitted with the Proposal and as accepted by the Port.

E. The Contractor shall maintain all systems throughout the warranty period. Maintenance services shall be as defined within the Contractor's recommended maintenance procedures manual submitted with the Proposal as accepted by the Port. All preventative maintenance shall be performed at non-peak periods during regular business hours.

F. Software Support during the Warranty Period: In this section PARCS software shall refer to the Contractor’s software used in the PARCS.

1. The Contractor shall make available to the Port normal PARCS software improvement releases (updates) when they become available. Where PARCS software problems are identified and are agreed to be minor, that is not affecting revenue, reporting, or the
entry/exit or payment functionalities, these problems shall be corrected in a new PARCS software release to be available to the Port within thirty (30) calendar days of notification. All upgrades or improvements to PARCS software shall be documented and approved, prior to implementation. The Contractor shall correct major PARCS software problems immediately on a priority basis. Major PARCS software problems are defined as those causing erroneous financial transactions, revenue loss, reporting errors, loss of entry/exit functionality, loss of payment functionality, system instability, database corruption and compromised operational efficiency. Where PARCS software problems are identified and are agreed to be major, these problems shall be corrected in a new PARCS software release to be available to the Port within five (5) calendar days of notification.

2. All PARCS software patches and updates shall be provided free of charge during the warranty period; however, the Port shall have the option of implementing the updates or not. Seven calendar days prior to all PARCS software modifications, patches, updates, and upgrades, the Contractor shall provide accurate and complete documentation that describes:
   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
   e. list of other installations where the patch has been previously installed, and contact information for those customers

3. Contractor shall coordinate the testing and implementation of all patches and updates with the Port.

4. Contractor shall coordinate all remote and physical access into the servers with the Port.

5. The Contractor shall support upgrades to their application based on operating system patch and upgrade requirements (For example, if the PARCS runs on a Microsoft operating system, the software shall be able to be patched according to the Microsoft patch and upgrade schedule without breaking any application. If Microsoft decommissions an operating system, the Contractor must be capable of releasing code compatible with next operating system upgrade prior to Microsoft ending support for current operating system, at no cost to the Port.)

6. The Contractor shall commit to provide corrective patches and upgrades in the event security vulnerability or system availability issues are discovered within fifteen (15) business days of discovery.
7. Software Upgrades - Copies of all software (and software updates/upgrades made during the warranty period) must be provided to the Port at the conclusion of the warranty period. All software updates shall be provided free of charge during the manufacturer contractor’s warranty period; however, the Port shall have the option of implementing the updates or not. All software updates must be accompanied by accurate and complete documentation. When software upgrades include new functions and processes (enhancements), the Vendor shall provide a written evaluation of the upgraded software’s impact on the Port’s PARCS prior to installation of the upgraded software. The PARCS servers and workstations shall be delivered with the most recent service packs and software patches and must be updated throughout the warranty period, unless otherwise specified by the Port.

1.12 POST-WARRANTY SOFTWARE SUPPORT SERVICES – YEARS 2 THROUGH 10

A. The Contractor shall propose a scope of work to provide post-warranty Software Support Services similar to the services provided during the warranty period, and as described in Section 1.13.F, above. Services to be described in the scope of work include, but are not limited to:

1. On-Site Software Support for both PARCS and all 3rd party software applications
2. Remote Software Support for both PARCS and all 3rd party applications
3. 24/7 Hotline Telephone Support
4. All PARCS software patches and updates shall be provided free of charge during years 2 - 10; however, the Port shall have the option of implementing the updates or not. Seven (7) calendar days prior to all PARCS software modifications, patches, updates, and upgrades, the Contractor shall provide accurate and complete documentation that describes:
   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
   e. List of other installations where the patch has been previously installed, and contact information for those customers

5. Contractor shall provide a listing detailing all required or proposed software patches, updates, or modifications that will be installed on a monthly basis prior to any installation.

6. Contractor shall coordinate the testing and implementation of all patches and updates with the Port.
B. Proposed scope of work shall be subject to modification and ultimate approval of the Port.

C. The Contractor shall propose a total cost to perform software support services contained within their proposal for the year following the warranty period as well as the subsequent nine years (YEARS 2 THROUGH 10). These costs shall be included in the Total Proposed Annual Base Price.

D. The Port will not pay overtime charges.

1.13 POST-WARRANTY HARDWARE MAINTENANCE SERVICES – YEARS 2 THROUGH 10 (ADDITIVE/ALTERNATE PROPOSAL ITEM)

A. The Contractor shall make components available for ten years after the Project acceptance.

B. In the event that the Contractor withdraws from the manufacture, distribution, or support of parking revenue control systems in the United States; or sunsets a hardware component, the Contractor shall provide the Port with the notice of such occurrence at least 180 calendar days in advance of withdrawal. In addition, the Contractor shall provide the Port with manufacturing specifications for all Contractor-manufactured components and sourced-proprietary components of the PARCS, and the Port shall be provided the opportunity to purchase a suitable amount of spares of all discontinued components.

C. Preventive Maintenance and Emergency Support Agreement

1. The Contractor shall propose a scope of work to provide post-warranty Preventative Maintenance and Emergency Support Services similar to the services provided during the warranty period. Services to be described in the scope of work include, but are not limited to:

   a. Maintenance support will be provided by the Port or it’s representative
   b. Contractor shall provide factory training for Port or it’s representative to provide maintenance support
   c. On-Site Maintenance for all PARCS components not covered by items a and b above.
   d. Remote Support and Maintenance for all PARCS components
   e. Preventive Maintenance services in accordance with the approved Preventive Maintenance Plan
   f. On-Site Emergency Response Support
   g. 24/7 Hotline Telephone Support

2. Proposed scope of work shall be subject to modification and ultimate approval of the Port.
D. The Contractor shall propose an annual cost to perform the preventive maintenance services contained within the scope of work as well as an hourly rate for various types of technical response during emergency support or response situations for the year following the warranty period as well as the subsequent nine years (YEARS 2 THROUGH 10). These costs shall be clearly indicated in the Proposal as Additive/Alternate Proposal Items, and shall not be included in the Total Proposed Base Price. These prices shall be valid prices for the Port to purchase the Maintenance Services through a service agreement between the Port and the Contractor. For emergency support services, the Contractor shall provide Hourly Service Rates, by type, as defined below:

1. Regular Business Hours – 7:00 AM through 11:00 PM, 7 days a week
2. Outside of Business Hours – 11:00 PM through 7:00 AM, 7 days a week

E. The Port will not pay overtime charges.

F. Maintenance Services

1. The Maintenance Services to be provided by the Contractor include maintenance for the PARCS hardware components used for the public parking operation, and the subsystems, namely the Employee Proximity Access Card System, Automated Vehicle Identification System, License Plate Recognition System, License Plate Inventory System, Intercom System, and the Parking Space Count System. The services proposed by the Contractor shall also cover any additional subsystems that are installed by the Contractor as part of this project.

2. The support to be provided by the Contractor under the maintenance contract shall provide the Port with complete PARCS support. The service coverage for hardware covered by the maintenance contract is 24 hours per day, seven days per week, and 365 days per year. Contractor-certified technicians shall provide total system support. Access to a Contractor-certified technician includes contact by telephone, e-mail, and on-site as needed to provide the levels of support defined within the Contract. The Contractor shall be responsible for providing all labor, materials, equipment, and supervision required to maintain and repair all PARCS hardware installed as part of this project, as well as PARCS hardware installed during the term of the maintenance contract. The scope of the maintenance work includes Preventative Maintenance and Emergency Services Maintenance.

Contractor shall provide a thorough description of the internal training program that is required of all “factory trained” technicians. All technicians working on the Port of Oakland project shall have successfully completed the factory training prior to working at the Port. Certificates ensuring successful completion of the factory training
course shall be provided to the Port prior to the technician working on any equipment installed at the Port’s parking facilities.

3. Maintenance Responsibilities

   a. There are two types of maintenance, Preventive Maintenance and Emergency Services Maintenance, and each type is further divided into two levels, Technician Level and Operational Level. The Contractor shall only be responsible for providing Technician level services. All Operational level services shall be provided by Port staff as defined within this section.

   b. Any individual providing Technician Level Maintenance Services as part of the maintenance agreement shall be a Contractor factory trained and certified technician.

   c. Failure to resolve the issue within a period not to exceed five (5) calendar days shall result in the Port withholding payment of maintenance funds until such time as the issue has been satisfactorily resolved. Any issue affecting revenue functions, payment functions, entry/exit shall be resolved within a period not to exceed four hours.

4. Preventive Maintenance – Technician Level

   a. Preventive Maintenance Plan: The Contractor shall submit a proposed Preventive Maintenance Plan for all hardware specified in the Contract that ensures all hardware operates as designed and specified. The Contractor shall submit the Preventive Maintenance Plan as part of their Proposal response. Preventive Maintenance services shall include but are not limited to inspection, testing, necessary adjustment, alignments, lubrication, parts cleaning, replacement of consumables, battery refresh, and communication system maintenance of the PARCS hardware provided as part of this project by the Contractor. The Port reserves the right to modify any portion of the Preventive Maintenance Plan throughout the life of the Contract. Preventive Maintenance services shall be performed on each hardware component of the PARCS in accordance with the approved Preventive Maintenance Plan. The Contractor shall provide a list of Preventive Maintenance tasks and frequencies for each component, to include daily, weekly, bi-weekly, monthly, quarterly, semi-annual, and annual overhauls.

   b. Preventive Maintenance shall be scheduled to the greatest extent possible during non-peak periods. The Contractor shall consult with the Port to determine periods of peak activity for the various devices.
1. Scheduled maintenance services shall follow this general procedure:

   (a) Prepare – This includes reading and becoming familiar with all manuals and material concerning the equipment, ensuring safety precautions are taken, obtaining all tools, taking the equipment out of service, initiating service documentation, and updating the Maintenance Log.

   (b) Visually Inspect – Includes checking for loose wires, missing hardware, structural damage, bent pins, damaged cables, cracked displays, peeling labels, rust, etc.

   (c) Service and Repair – This includes performing the service and repairing items noted faulty during the inspection.

   (d) Test – This includes testing the equipment to ensure functionality in accordance with the Contract.

   (e) Return to Service – Once testing is complete and successful the technician shall return the equipment back into service.

   (f) Complete Service Documentation – The technician shall complete the service documentation, file paperwork for historical purposes, and update the Maintenance Log.

c. As part of the Preventive Maintenance procedures for each piece of equipment the Contractor shall initial and note the date and time the Preventive Maintenance was performed either a handheld computer or laptop computer and update a maintenance log stored on the server. The Port shall, at any time, access the maintenance log to compare the entries to the scheduled and logged maintenance services within the Maintenance Log and monthly reports provided to the Port by the Contractor.

d. The Contractor shall be responsible for providing all tools and test equipment or any specialized tools required to perform the tasks of the maintenance agreement as well as any method of transportation, such as a vehicle, required to transport the technician(s) and store required tools and spare parts.
e. All consumable office supplies shall be the responsibility of the Contractor.

5. Preventive Maintenance Services - Operational Level:

a. The Port’s parking staff shall have the responsibility of providing the Operational Level Preventive Maintenance services as follows:

1. Checking the status the lane status lights and Dynamic Signage
2. Checking printer clarity
3. Checking gate arms for tightness and serviceability
4. Checking printer paper and ticket stock
5. Aesthetic cleaning of the PARCS equipment

6. Emergency Services – Technician Level

a. Emergency Services shall be performed in response to specific events, and shall return equipment to an operating state following a malfunction. Emergency services shall include inspections and necessary tests to determine the causes of PARCS hardware malfunction or failure. The emergency services shall also include the furnishing and installation of components and/or parts that are required to repair malfunctioning system elements.

b. The Contractor shall perform Emergency Services in response to notifications by the Port under normal conditions as described herein. In addition, the Contractor shall perform Emergency Services in response to notifications by the Port under unusual conditions. Unusual conditions may include a vehicle striking lane equipment thereby damaging the equipment so that the equipment may stop working. Services performed under unusual conditions shall be invoiced to the Port above the Contract value on a time and materials basis. The Contractor shall propose hourly rates based on the time of day, day of week, etc. that the services are performed. Parts required to perform Emergency Services under unusual conditions, that are not included in the spare parts inventory, shall be invoiced to the Port at the agreed upon rates used to replenish the spare parts inventory under normal conditions.

c. Due to the gravity of an equipment malfunction/failure, emergency responses and associated corrective actions shall be provided within the response times specified in this Section 1.15. When Emergency Services are required, as determined by the Port, the Port shall notify the Contractor at any time, twenty-four (24) hours per day, seven days per week, three
hundred sixty-five (365) days per year. As with Preventive Maintenance, emergency services shall be tracked in the Maintenance Log. Contractor shall follow Port provided procedures on who to contact to inform and/or update the status or resolution of a problem.

d. The Port shall enforce that only authorized staff shall notify the Contractor to initiate emergency service notifications as identified in Section 1.15.F.8.a. The intent of this provision is to reduce or eliminate unnecessary service notifications and interventions onsite. The Port shall provide to the Contractor a list of all individuals authorized to place emergency service notifications. This list shall be included in the maintenance agreement and shall be updated as required by the Port. Contractor shall answer all notifications, but shall only respond to a notification for emergency service if call was initiated by an authorized representative. On the returned call the Contractor shall notify any unauthorized individuals that the service request must be placed by an authorized individual in order for the service to be initiated.

e. The Port reserves the right to modify notification policies and procedures at any time throughout the life of the maintenance agreement.

f. License Plate Recognition Services

1. The Port will perform random LPR accuracy testing on various lanes within the PARCS each month. Contractual accuracy standards defined in the Specification shall be maintained throughout the life of the system.

2. In the event that the random test results do not meet these standards, an Emergency Services Maintenance notification shall be made to the Contractor by the Port. The Contractor shall then respond to the notification and resolve the issue accordingly.

g. Emergency Services to be provided by Port Staff:

1. The Port’s staff will have the responsibility of providing the Operational Level Emergency Service as follows:

   (a) Replenishing ticket stock
   (b) Replenishing printer paper
   (c) Clearing simple ticket and credit card jams that present no risk of damage to the equipment
h. Performance Review

1. The Contractor shall submit monthly detailed reports that itemize the total invoice cost into scheduled PM task effort (set amount each month) and EM response effort, should such effort be required, (amount will vary based on actual effort performed each month)

7. Preventive Maintenance Performance Requirements

a. The Contractor shall complete no less than ninety-eight (98.00%) percent of all Preventive Maintenance Services scheduled during the month. Percentages shall be calculated on the total number of Preventive Maintenance tasks scheduled for just that month and the total number of Preventive Maintenance tasks fully completed in the month even if the scheduled maintenance is a monthly, quarterly, or annual maintenance requirement. Partial completion of a scheduled Preventive Maintenance item shall not meet this requirement and shall not meet the Port’s standards of fully completed. Any month that falls below this level shall require a written justification from the Contractor and with measures implemented to assure Port staff that performance will improve. For each percentage point (below 98%) of total scheduled maintenance tasks that the Contractor does not complete, the Contractor’s monthly invoice PM amount shall be reduced by $1,000.00. For example, if the Maintenance Tracking System indicates that the Contractor performed 96% of all scheduled maintenance tasks, the Contractor’s monthly invoice shall be reduced by $2,000.00.

b. Factors beyond the control of the Contractor, such as unexpected delays in parts, delays due to accidents or damage created at no fault of the Contractor, severe weather and unusual traffic volume during the holiday seasons shall be thoroughly documented in the Maintenance Log and reported to the Port the next business day. The Port retains the right to determine if the non-performance was beyond the Contractor’s control and is a valid reason for non-performance.

8. Emergency Service Maintenance Performance Requirements

a. The Contractor shall provide three methods of notification to be used for emergency contact information including: telephone, email, and pager. The methods of notification shall provide a means of tracking the date and time the message was delivered. Examples of some documented communication include, cell phones, and email. The Contractor shall provide a response call within 30 minutes of notification by the Port to all
emergency maintenance notifications. Performance shall be calculated as the total number of response calls returned to the Port within 30 minutes divided by the total emergency notifications placed in one month. For each percentage point (below 100%) of total emergency maintenance calls that the Contractor does not respond to within 30 minutes, the Contractor’s monthly invoice shall be reduced by 5% of its Emergency Maintenance (EM) invoice amount. Each thirty minutes in excess of the response to the maintenance call shall be treated as an additional call. For example, if the Maintenance Tracking System indicates that the Contractor responded within 30 minutes to 98% of all emergency maintenance calls, the Contractor’s monthly EM invoice amount shall be reduced by 10%. The following table provides some examples of expected response times to given situations:

<table>
<thead>
<tr>
<th>Situation/Problem</th>
<th>Anticipated Response Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call from airport</td>
<td>Within 30 minutes</td>
</tr>
<tr>
<td>Critical software malfunction</td>
<td>Within 30 minutes</td>
</tr>
<tr>
<td>Credit card system malfunction</td>
<td>Within 30 minutes</td>
</tr>
<tr>
<td>Ticket/credit card reader not working</td>
<td>1 hour</td>
</tr>
<tr>
<td>Gate malfunction</td>
<td>1 hour</td>
</tr>
<tr>
<td>Slowness in lanes</td>
<td>1 hour</td>
</tr>
<tr>
<td>Broken gate arm</td>
<td>2 hours</td>
</tr>
<tr>
<td>Lane status light malfunction</td>
<td>2 hours</td>
</tr>
</tbody>
</table>

b. Resolution of the situation within four hours after notification is required in all situations. A temporary solution is acceptable in the event replacement parts are not available in inventory. Performance shall be calculated as the total number of emergency events resolved within four hours divided by the total emergency notifications placed in one month. Each four hour timeframe after the initial maintenance call shall be treated as a separate maintenance call. For each percentage point (below 100%) of total emergency maintenance calls that the Contractor does not resolve within 4 hours, the Contractor’s monthly invoice shall be reduced by 5% of its EM invoice amount, unless the Port agrees that there were factors beyond the Contractor’s control that prevented them from performing. For example, if the Maintenance Tracking System indicates that the Contractor resolved 98% of all emergency maintenance calls within 4 hours or less, the Contractor’s monthly invoice shall be reduced by 10%.

c. Factors beyond the control of the Contractor, such as unexpected delays in parts, accidents, severe weather, and
unusual traffic, shall be thoroughly documented in the Maintenance Log and reported to the Port the next business day. The Port may grant relief for the service hour requirement after reviewing these factors.

d. The Port shall cooperate with the Contractor to fully explore any concerns regarding service and performance standards.

e. The Port shall notify the Contractor in writing of performance problems with respect to the service standards within 20 calendar days after the end of each month based on the performance reports from the maintenance tracking system.

f. The Contractor shall be given 30 calendar days from receipt of notification to take corrective actions with respect to the problem identified by the Port or request relief.

9. Maintenance Staff

a. The Contractor shall provide resumes for the proposed maintenance staff as a part of the Proposal

b. The Contractor shall provide detailed job descriptions for all positions as a part of the Proposal

c. The Contractor shall adhere to the requirements noted below, and then propose an appropriately sized staff to ensure successful performance of routine Preventive Maintenance and Emergency Services Maintenance. The Contractor’s staffing plan shall take into consideration extenuating circumstances such as illness, family emergencies, vacations, etc. such that at all times the required number of technicians are available. Anticipated on-site hours and typical numbers of technicians on-site at any one time shall be provided by the Contractor in their proposal.

d. The Contractor’s maintenance staff that will perform the scope of work described shall consist of:

1. Factory trained hardware technicians available throughout the life of the maintenance Contract to handle Preventive Maintenance.

2. Factory trained hardware technicians to handle emergency maintenance services calls, available by text, email, fax, phone, or pager twenty-four (24) hours a day, seven (7) days a week, three hundred sixty five (365) days a year.
e. Port shall have the right to have any personnel removed from the Site at its sole discretion. Contractor shall immediately remove personnel from Port upon notification.

10. Electronic Maintenance Tracking System

a. The Contractor shall utilize a Maintenance Tracking System to monitor and record all scheduled, requested, and performed maintenance services. Contractor shall propose the Maintenance Tracking System to the Port for review and approval prior to the implementation of such system. The Port reserves the right to select their own Maintenance Tracking System for use by the Contractor.

b. The Contractor shall fill in all required fields, completely, for all Preventive Maintenance and Emergency Maintenance Services scheduled and performed at the Port.

c. The Contractor shall submit Monthly Maintenance Reports in the Port-approved format to designated personnel during the Contract period. All reporting requirements shall be determined at the time of Contract start.

1.14 Spare Parts

Contractor shall provide listing of all spare components and manufacturers of those spare components to the Port with contact information, pricing, and availability. The Contractor shall propose a list of spare parts (type and quantity) to be maintained on site. The list of all spare parts required to maintain the system under the submitted preventive maintenance program shall be clearly identified and included in the Proposal. In addition, the Contractor shall submit a price list for the proposed spare parts inventory that lists the cost of each part on the spare parts inventory.

Contractor shall provide an asset management application that is accessible by the Port representatives. This application shall maintain an ongoing inventory of all available spare parts and components, parts distribution, and pricing. The asset management application shall track on a daily basis and provide an up to date inventory of spare parts. The Port shall have access to the asset management application to include review of spare parts inventory at any time.

The Contractor shall provide guaranteed component pricing for five (5) years inclusive of a maximum percentage increase not to exceed the published CPI index for all components following Contract Award. These prices shall be valid prices for the Port to purchase the spare parts through a service agreement between the Port and the Contractor.

The Port reserves the right to order additional parts and manage the PARCS spare parts inventory as required to maintain the system.
The proposed spare parts list is subject to the approval of the Port, and the Port reserves the right to modify the spare parts inventory throughout the term of the Contract. The Port shall provide a storage location of the spare parts, exact location to be identified by the Port after Contract Award. The Contractor shall have access to the spare parts inventory and shall have the responsibility of ordering replacement components or parts as components or parts are used prior to completion of the warranty. Contractor shall replace used spare parts immediately upon use.

All equipment and parts shall be newly manufactured within the past 6 months and never installed in any other operational system other than for factory test purposes for this contract.

When delivered to the Port, an itemized list of Contractor's part numbers, model numbers, pricing, supplier's address, supplier's telephone numbers, and any single source components shall be identified by the Contractor. Contractor shall provide listing of all spare components and manufacturers of those spare components to the Port with contact information, pricing, and availability.

1.15 CONSUMABLES

A. The Contractor shall provide the Port with receipt specifications; parking ticket specifications (front and back sides of a typical parking ticket delineating required formats; magnetic stripe or barcode location; and proposed ticket printer) for the new PARCS within 30 calendar days following Contract Award. The ticket format shall be such that the Port can input their required information on the ticket and submit the revised ticket to the Contractor for review and revisions as required. An agreed upon ticket format for each facility shall be finalized within sixty calendar days after Contract Award. Ticket stock delivery shall occur prior to or concurrent with the first equipment delivery to the Port. Ticket stock, receipt paper, and proximity cards shall be printed with the Port logo and branding.

B. The Contractor shall provide a twelve month supply of receipt paper and tickets to the Port upon the purchase of the system. The number of tickets that are supplied shall be based upon the number of parking transactions processed plus 50% allowance for growth in the number of transactions processed. Contractor shall submit proofs for each component for review and approval by Port prior to placing any order. Port reserves the right to require a specific supplier/vendor to provide the paper tickets and receipt stock.

C. The Port desires to not be tied down to any one particular ticket supplier. As such, ticket specifications shall be reproducible by multiple ticket printers.

PRODUCTS

2.01 SOFTWARE

A. All software and software licensing required by the system shall be provided by the Contractor. The PARCS shall adhere to the Port’s IT Department
Information Technology Standards. Each such software package shall be identified in the Contractor’s Proposal. Unless specified elsewhere, all third party software provided by the Contractor shall be the latest available version at the time of system implementation. The Contractor shall be responsible for making any necessary modifications, and providing documentation of such modifications, to existing software programs that the Contractor adopts for the system. Should the Contractor and the software vendor be separate entities, the standard system software supplied shall not be modified by the Contractor in any way that shall preclude the purchase of a standard maintenance and service contract from the Contractor. The Contractor shall purchase software maintenance for all third party software naming the Port as the software owner and contact. All third party software maintenance agreements shall remain valid throughout the duration of the warranty period and shall be extended on an annual basis according to the provisions to be negotiated and described within the post-warranty Software Support, Preventative Maintenance and Emergency Support Agreement.

B. The Contractor shall provide perpetual licenses and/or authorization for all software used by the Port. If available, a site license shall be provided to the Port. The Contractor shall identify any and all third party software and their associated licenses in the Proposal. Licenses shall cover future updates as required by the Contract Documents for as long as the software is maintained by the third party provider. The operating systems, application software, development language, peripheral software, and PARCS hardware diagnostic software shall be licensed in perpetuity to the Port. Original CD-ROMs, DVDs, and software documentation shall be delivered to the Port prior to system acceptance testing.

C. Clock/Calendar – Clock/calendar that is synchronized with an official network time source such as the Naval Observatory or the Port’s Network Clock. All field devices shall synchronize their time settings with a Server at least every hour.

1) PCI DSS V3.0: Using time synchronization technology, synchronize all critical system clocks and times and ensure that the following is implemented for acquiring, distributing, and storing time.

   Note: One example of time synchronization technology is Network Time Protocol (NTP).

   (a) PCI DSS V3.0: Critical systems have the correct and consistent time
   (b) PCI DSS V3.0: Time data is protected
   (c) PCI DSS V3.0: Time settings are received from industry-accepted time sources

D. Database Management System
1. Application software shall consist of software to provide complete operation of the PARCS and include the database management system.

2. Data recorded by the PARCS shall be maintained in files that are in ODBC compatible formats. Solution shall support a relational database format for the storage of data based on Port standards.

E. Operating System Platform

1. Operating system software shall consist of software to support system setup, system operation, routine hard drive backups, diagnostics, and other maintenance routines.

2. The desktop/laptop operating system shall comply with Port standards.

3. The server operating system shall comply with Port standards.

4. Upon commercial release of a new operating system version, the Contractor shall upgrade the PARCS application to operate on the most current operating system and version. Upon completion of successful testing, Contractor shall recommend implementation of the patch. Implementation shall be subject to the Port's approval.

F. System Design Reviews

1. Contractor shall submit necessary documentation to conduct a Conceptual System Design Review (CSDR), Critical Design Review (CDR) and Software Development Review (SDR) for the new PARCS, in that order. Required documentation and all hands-on use of the PARCS shall demonstrate to the Port that the Contractor's proposed system meets 100% of the requirements of this specification. The Port shall require a minimum of five (5) business days for the review of each system design. To receive written acceptance, Contractor shall incorporate and demonstrate the Port's feedback/comments from CSDR and CDR prior to commencement of the next milestone review. Contractor shall not proceed with the next design requirement until receipt of written acceptance presented by the Port. Contractor shall submit the following review requirements for both the Phase 1 and Phase 2 functionality. The following summarizes in detail the requirements of these reviews:

   a. Thirty (30) calendar days prior to the CSDR, the Contractor shall submit for the Port's review and approval a CSDR Plan that includes the time, place and length of the review; review format; overall description of review; goals of the review;
agenda items and topics; recommended participants; and the role/responsibilities of Port personnel in the review.

b. Ten (10) business days prior to CSDR, the Contractor shall submit twenty (20) copies of the CSDR documentation, including all Port feedback and comments, to the Port for review. Documents to be submitted shall include, but not limited to, the following:

1) Overall description of the PARCS and system components
2) System schematics, block diagrams, interconnection diagrams, and flow charts
3) Specifications or cut sheets for all proposed components and installation procedures
4) Standard reports samples and proposed formats for new reports
5) Software design approach, database design and list of all software
6) Detailed description of central server system, network components, network connection to the Port’s LAN, and communications
7) Operational flow chart or sequence of activities diagram
8) User screen formats
9) Transition Plan
10) Testing
11) Operational procedures; and
12) Detailed description of each activity, functionality, and operation, described in sequence and encompassing all system hardware and software components.

c. Contractor shall facilitate and conduct the CSDR at the Port or at a location approved by the Port.


a. Thirty (30) calendar days prior to the CDR, the Contractor shall submit for the board review and approval a CDR Review Plan that includes the time, place and length of the review; review
format; overall description of review; goals of the review; agenda items and topics; recommended participants; and the role/responsibilities of the Port in the review.

b. Ten (10) business days prior to CDR, the Contractor shall submit twenty (20) copies of the CDR documentation, including all Port feedback and comments, to the Port for review. Documents to be submitted shall include, but not limited to, the following:

1) Detailed description of PARCS and system components

2) Completed schematics, block diagrams, interconnection diagrams, interface plans, interface control documents, and system and subsystem flow charts

3) Detailed specifications and/or manufacturer’s cut sheets for all proposed components

4) Detailed and installation procedures

5) All standard and new reports

6) Detailed software design documentation

7) List of all hardware necessary for initial operations

8) Spare parts inventory

9) Detailed central server system, network and communications design documentation

10) Operations Plan describing and detailing end-to-end operations of the system

11) Maintenance and servicing procedures for system components

12) Graphical User Interface (GUI) User Screens

13) Detailed and phased testing plan including both internal and Port observed; and

14) All software and database documentation including, but not limited to, licensing information and agreements, system and subsystem block diagram schematics, data flow diagrams and structures.

c. Contractor shall facilitate and conduct the CDR at the Port or at
a location approved by the Port. The CDR shall address those system design documents listed above as well as the following:

1) Hands-on use and evaluation for no less than a three (3) business day period of the PARCS by Port.


a. Thirty (30) calendar days prior to the SDR, the Contractor shall submit for Port review and approval an SDR Review Plan that includes the time, place and length of the review; review format; overall description of review; goals of the review; agenda items and topics; recommended participants; and the role/responsibilities of Port personnel in the review.

b. Ten (10) business days prior to SDR, the Contractor shall submit twenty (20) copies of all SDR documentation, including all Port feedback and comments, to the Port for review. Documents to be submitted shall include, but not limited to, the following:

1) Description of all software and firmware for all programs and subsystem, including data flow and data structure diagrams, database documentation, and software inter-relationships and integrations

2) Detailed description of each program, program function and operation

3) Files and message formats

4) GUI and user screen layouts, contents and formats

5) Documentation for all object-oriented software including application specifics, object diagrams, event coding, and relationships

6) Documentation for all command, batch, script or other files used to compile, link, load and/or execute application software and/or firmware

7) Operating systems, communication programs, assemblers, compilers, and utility programs used in the PARCS

8) Software Contractor’s standard manuals

9) Software maintenance plan including all routine, preventative, corrective and emergency maintenance and servicing procedures and commands
10) All standard and new reports

11) All other pertinent software and database development issues and documentation including, but not limited to, licensing and ownership information and agreements.

c. Contractor shall facilitate and conduct the SDR at the Port or at a location approved by the Port. The SDR shall address those software development documents listed above as well as the following:

1) Real-time, hands-on PARCS demonstration of all software programs, commands, functions and screen formats

2) Hands-on use and evaluation for no less than a five (5) business day period of the PARCS by Port.

G. Application Software

1. Application software shall be comprised of computer application programs to provide complete operation of the PARCS and includes the database management system. Application software shall be compatible with the operating system platform. The software programs provided shall allow for future upgrade and expansion of the PARCS system.

2. Servers and workstations solution shall allow multiple groups and roles that govern individual access to the system and transactions within the system. The assignment of a group/role will determine whether or not the individual may access a transaction, and if the access is update or view only.

3. The Contractor shall install and configure all application software and firmware required by the PARCS with all software licenses registered to the Port.

4. The application software shall provide the following:

a. Any action that could compromise the integrity of the operating system or application software shall be password controlled and shall comply with current, up-to-date PCI standards. Separate login shall be required for the separation of file maintenance and routine data entry and retrieval.

b. PCI DSS V3.0: Assign all users a unique ID before allowing them to access system components or cardholder data.
c. PCI DSS V3.0: In addition to assigning a unique ID, employ at least one of the following methods to authenticate all users:

(1) Something you know, such as a password or passphrase
(2) Something you have, such as a token device or smart card.
(3) Something you are, such as a biometric.

d. PCI DSS V3.0: Incorporate two-factor authentication for remote access (network-level access originating from outside the network) to the network by employees, administrators, and third parties. (For example, remote authentication and dial-in service (RADIUS) with tokens; terminal access controller access control system (TACACS) with tokens; or other technologies that facilitate two-factor authentication.)

e. PCI DSS V3.0: Render all passwords unreadable during transmission and storage on all system components using strong cryptography.

f. PCI DSS V3.0: Ensure proper user identification and authentication management for non-consumer users and administrators on all system components.

g. PCI DSS V3.0: Control addition, deletion, and modification of user IDs, credentials, and other identifier objects.

(1) Verify user identity before performing password resets.
(2) Set passwords for first-time use and resets to a unique value for each user and change immediately after the first use.
(3) Immediately revoke access for any terminated users.
(4) Remove/disable inactive user accounts at least every 90 days.
(5) Enable accounts used by vendors for remote access only during the time period needed. Monitor vendor remote access accounts when in use.
(6) Communicate authentication procedures and policies to all users who have access to cardholder data.
(7) Do not use group, shared, or generic accounts and passwords, or other authentication methods.
(8) Change user passwords at least every 90 days.
(9) Require a minimum password length of at least seven characters.
(10) Use passwords containing both numeric and alphabetic characters.
(11) Do not allow an individual to submit a new password that is the same as any of the last four passwords he or she has used.
(12) Limit repeated access attempts by locking out the user ID after not more than six attempts.
(13) Set the lockout duration to a minimum of 30 minutes or until administrator enables the user ID.
(14) If a session has been idle for more than 15 minutes, require the user to re-authenticate before re-activating the terminal or session.
(15) Authenticate all access to any database containing cardholder data. This includes access by applications, administrators, and all other users.
(16) Restrict user direct access or queries to databases to database administrators.

h. All changes to data, system, or operating system shall be logged and recorded in accordance PCI requirements and shall not jeopardize PCI Compliance.

i. Browser-based – PARCS software shall be browser-based and web-browser enabled, i.e. the PARCS software shall be accessible by an authorized user through an internet browser. Users shall not need a client version of the software installed on their workstations to access the software. Access rights to the system for Port personnel and others shall be defined during implementation.

j. Solution shall provide role-based access control using the principle of least privilege for all system functions including system administration and security administration.

k. Integration with the Port’s website – The PARCS shall utilize web services to publish data from the PARCS in real-time, in a format specified by the Port, to be published by the Port’s website. The Port shall construct the website page(s) and inform the Contractor of the specific information to be published. At a minimum, the integration shall accommodate:

(1) Real-time Open/Full status and graphical depiction of each public parking facility – homepage, mobile website, or mobile application.
(2) The real-time number of available parking spaces in each public parking facility – homepage, mobile website, or mobile application.
(3) The system shall charge variable rates based upon the time of day, day of week, and special events. The Contractor shall provide independent, variable rate structure for each facility.
(4) The rate structure shall be programmable to establish daily, weekly, monthly maximum fees, grace times, and complimentary periods.

(5) Should reference access to Loyalty program registration and access to user accounts

(6) Should reference marketing messages and integration or tie-in with other airport marketing programs.

l. Automatically detect and report fault conditions through a Facility Management System (FMS) - The system shall perform a self-check on a routine basis and provide notification for fault conditions and equipment failure. Fault conditions shall be categorized by severity and the system shall notify designated Port personnel via email and or text message for any individual fault condition, category of fault, or Port-selected group of faults. The system shall provide a continuous end-to-end self-checking capability.

m. Reporting as outlined in the Audit and Reporting Subsection.

n. Facilities monitoring of all field devices, e.g., entry station status, barrier gate status, express exit station status, cashier stations status, lane status display, Dynamic Signage status, UPS unit status, etc.

o. Allow Supervisors to authorize exception transactions occurring in a cashiered exit lane and remotely process an Express Exit Lane transaction from a workstation in the parking office. Authorization shall be auditable by username, date, and time. The PARCS shall provide a “drop down” box to facilitate authorization of common exception transaction processing descriptions/explanations. All other exception transactions shall require a more definitive explanation to be entered by the supervisor prior to the completion of the transaction.

p. Require Supervisors to enter reason for adjusting any ticket in a comment field. Each use of this function shall be automatically logged in the system with date, time, and username.

q. Central access and control of field devices – Users with the appropriate authorization shall be able to issue remote commands from system workstations to the field devices such as raising and lowering the barrier gates; rebooting the entry or exit station; putting the entry or exit station in or out of service; changing the lanes status signs; applying software patches and updates; etc.
(1) The use of central controls shall be logged with user ID, time, device controlled and action taken.

r. Parking rate, grace period, and time increment changes – All parking rate, grace period and time increment changes shall be conducted at the server level and shall be auditable within the system. The PARCS shall remotely communicate with all devices in real-time for a general broadcast of information or software update or an ability to communicate to a single device to upload information or software. Broadcasting information such as rate changes or time increment changes shall be in real-time to all field devices. It shall be possible to remotely shutdown a field device’s operating system, upload updates and remotely restart the field device. The system shall correctly process 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), or

(3) from one rate to another (e.g., rate shall have an effective date so that patrons 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). This requirement shall apply to the parking fees as well as any tax rates or structures.

s. Create system generated alarms – System shall generate alarms for any user selectable event type. Alarm Hierarchy shall be completely configurable so that the Port can adjust priority of alarms, audible tones, where the alarms are sent (email, text, etc.), etc. Initial Alarm Hierarchy shall be coordinated with the Port during implementation.

t. Ability to export all query results to multiple formats including comma-separated-value, Microsoft Excel®, Microsoft Access®, etc.

5. Industry standard software packages shall be utilized. Each such software package shall be identified in the Contractor’s Proposal. The Contractor’s Proposal shall state the purpose of the software package, where it will be used, and how it will be used. If one software package is required to interface with another software package, the interface shall be documented and supported by flowcharts or block diagrams as appropriate. The Contractor shall advise if the software used in the system will be customized or “off the shelf” software, and shall describe
the method of obtaining further software updates or modifications. Application software shall have been designed for use in PARCS systems, and shall be written in a standard, industry-accepted computer language such as Java, C++, Visual Basic, etc. The Contractor shall identify the version of PARCS software that will be used at the Port in their Proposal.

H. Audit and Reporting

1. The PARCS system shall document parking revenue and activity and generate revenue and activity reports. All reports shall be available online, report data during user-specified dates, and on demand for Port personnel who have proper password access.

2. The Port shall be able to establish its virtual midnight for transaction processing, credit card batch close, and report cutoff times. The establishment of virtual midnight shall be a Port responsibility that follows applicable instruction and training of Port personnel by the Contractor.

3. The system shall identify and produce reports that reflect separately public parking, and employee parking activities.

4. Public parking data shall be able to be separated by Parking Facility, and Parking Product for reporting purposes.

5. Provide electronic event journal that can be accessed by a supervisor from a PARCS workstation during a cashier shift and following shift close to perform cashier closeout.

6. The PARCS transactional stream of data shall be compiled in an ODBC compliant database. The Port shall prepare custom reports using this data including the exportation of data to a report generation application such as a Business Intelligence tool or Microsoft Excel©, at a minimum, via a comma-separated-value file format or as a PDF file.

7. All reports shall query, filter, and sort transactions by date/time, location, ticket id, vehicle license plate number, field device unique identifier, parking fee, transaction type, exception, validation type, or cashier, at a minimum.

8. Capture, record and report separately all exception transactions that could not be processed 100% and automatically by the system (swapped, unreadable, lost, foreign, mutilated, used, disputed fee, cancelled, credit card transactions processed in an off-line mode, etc.). Any declined credit card transaction shall be automatically resubmitted for approval within twenty-four hours from receipt of initial decline by the credit card clearinghouse.
9. Provide the Contractor’s PARCS standard reports including report descriptions, selectable data fields, and report layouts for all standard reports. Contractor to submit standard reports for Port review and approval.

10. Open CCI/CCO transactions shall be closed by the Port or its operator with the appropriate rights and privileges to access the transactional data.

11. The Port shall create receipts for transactions that have occurred as many as sixty (60) calendar days prior to the date of the request.

12. Contractor shall provide a definitions key for every report including a narrative description of what data each column and row represents and calculation formulas that define how all figures are obtained.

13. Develop and prepare up to ten (10) additional “custom” reports. The content and layout of the information in these new reports shall be dictated by the Port in consultation with the Contractor. The Port shall have up to the end of the warranty period to request the new reports. Contractor’s Proposal shall include time and effort for development of the ten (10) custom reports.

14. The Contractor shall coordinate with the Port as required during the system design to address the specific reporting needs of the Port. All standard and custom-designed reports shall be proven accurate prior to the contractor receiving formal system acceptance from the Port. At a minimum, reports provided shall include:

   a. **Shift Reports**
      1. Cashier shift report
      2. Express exit station shift report
      3. Daily shift report
      4. Weekly shift report
      5. Monthly shift report
      6. Yearly shift report
      7. Cashier detail report – w/ date range

   b. **Monthly Reports**
      1. Monthly ISF summary
      2. Monthly lost ticket summary
      3. Monthly lost ticket transactions that could not be reconciled by LPR (i.e., charged the daily maximum rate)
      4. Monthly lane load factors report
      5. Monthly exit lane summary
      6. Monthly transactions by lane summary
7. Monthly revenue summary
8. Monthly credit card summary
9. Monthly cash & credit card transaction summary
10. Monthly paid ISF summary
11. Monthly peak occupancy report
12. Monthly year to date transaction & revenue summary

c. Daily Reports

1. Daily Shift Summary of (Date)
2. Daily Credit Card Summary of (Date)
3. Daily Revenue Summary
4. Daily Transactions by Lane
5. Daily Revenue Summary (Relating to Facility)
6. Daily Validations by Facility
7. Daily Validations by Type
8. Daily Validations by Amount
9. Daily Validations by Cashier/Issuer
10. Daily Validations Summary
11. Daily Exception Transactions Report

d. Access Card Reports

1. Active Access Card Listing
2. Access Cards Blocking Listing
3. Access Cards Delete Listing
4. Access Card Expired Listing
5. Daily Access Card Granted Entry Listing

e. Reports that allow queries over any length of time (hours or days)

1. Occupancy (including the peak occupancy over a given timeframe)
2. Length of stay (vehicle staying over XX (parameter driven) days)
3. Transactions by lane
4. Revenue statistics
5. Summary report turnover – movement
6. Summary report events
7. Event journal
8. Proximity card/AVI access use

f. Gate Open Report – For manual gate raises

1. A report noting if a gate (entry or exit) was manually opened and by whom (or who was logged on at the time). Also noting if the gate was opened from a terminal or at the device.
g. Lost Ticket Transactions Tracking Report (available in daily, monthly, and yearly containing the sort-able/filterable columns below)

1. Exit date & time
2. Transaction #
3. Lost Ticket Amount
4. Last name (non-case sensitive)
5. First name (non-case sensitive)
6. Middle initial (non-case sensitive)
7. Address
8. Phone #
9. LPN State
10. LPN
11. Cashier (non-case sensitive)
12. Supervisor approval (non-case sensitive)

h. Reports specific to each program

1. Coupons & coupons detail report
2. Credit card in & out
3. Etc.

i. Summary Reports

1. Cashier All Transactions
   (a) Non-specific
   (b) Specific
   (c) Specific with Entry Time

2. Cashier Cancelled Transactions
   (a) All Cashiers
   (b) Specific Cashier

3. Credit Card In & Out
   (a) By Date
   (b) W/ Dollar Amount
   (c) Day, Month & Year
   (d) Transaction activity

4. Employee & Company Proximity Access Card
   (a) Company Activity
   (b) Card Activity
   (c) Customer Activity
(d) Activity By Date/Time  
(e) Access Card Revenue Detail  
(f) Access Card Revenue Summary  
(g) Monthly Activity Detail  
(h) Monthly Activity Summary

5. Instantaneous (access card) presence check  
   (a) Specific areas in the lot, or nested area.

6. All transactions for a specific device

7. Cashier Lost & Unreadable details  
   (a) 2 days  
   (b) Most recent 30 days  
   (c) Ticket back details  
   (d) Cancelled

8. Cashier Shift Summary

9. Credit card transactions for cashiers

10. Free of charge ticket for cashiers

11. Insufficient Funds  
   (a) Paid transactions for cashiers

12. Ticket by rate  
   (a) Most recent 15 days  
   (b) Choose date range  
   (c) For prior month

13. Customer Loyalty Program Reports (Frequent Parker, Corporate Parking, etc.):  
   (a) Patron account information  
   (b) Transaction history  
   (c) Transaction detail  
   (d) Point accumulation  
   (e) Point utilization  
   (f) Credit card expiration information

14. Coupons and Park Free Programs  
   (a) Patron account information  
   (b) Transaction history  
   (c) Transaction detail  
   (d) Summary information
15. Where the authorized remote address is requesting modification to the PARCS Server systems’ application software, an authorization check shall be made based on the requester’s PIN. Where the change and/or update is authorized, an audit trail and report containing the following information shall be maintained:

a. Date/time of change
b. Login ID of who made the change
c. Remote access address making change
d. Authorization PIN code to make change (varies based on type of clearance)
e. Record of change made
f. Record of data modified or changed (prior to change)
g. File identities and record count

2.02 POWER

A. Existing power infrastructure (transformers, panels, conduits, and cabling) shall be re-used by the Contractor to support the new PARCS.

B. It is possible that the existing cables may not be able to be reused where cables have become damaged or corroded. For this unforeseeable situation, the Contractor shall propose a cost to the Port upon discovery to install new power conduits and cabling to replace the unusable portions. The additional cost will be added to the total Contract cost through a Contract Amendment. Contractor shall use a Port’s approved vendor for all cabling requirements. Port will provide contact information upon request.

C. The Contractor shall provide power grounding of all devices per NEC. If an isolated ground is required, there may be instances where power-conditioning equipment may be required due to the location of equipment in relation to the power distribution panel and transformers.

2.03 COMMUNICATIONS

A. The PARCS shall reside on an existing fiber optic cable communication backbone. Fiber optic communication shall be made available at all device locations and shall be utilized by the Contractor.

B. In addition to the requirements in these Functional Specifications, the Contractor shall comply with the Port’s IT Standards and Cabling Standards.

C. The Contractor may select specific interfaces for lane equipment, however; standard, open-architecture interfaces at the physical layer shall be utilized. Ethernet shall be utilized from the computerized Lane Controllers to the Servers. Ethernet connectivity is required at all locations.
D. All Ethernet equipment and design must meet the Port’s IT standards.

E. All field component communications shall be configured in a point-to-point configuration.

2.04 EQUIPMENT AND SUBSYSTEMS

A. System Architecture

1. Contractor shall propose a local, redundant server solution for this project.

2. Hot redundant, fault tolerant PARCS Central Servers shall operate using the latest release of Window’s server solution. The database management features requires a Microsoft SQL or better solution. All appropriate database system documentation shall be provided for the Owner’s use. Network management tools such as SolarWinds or CISCOWorks should be used to the greatest extent as possible, as a minimum, inclusive of all elements with an Ethernet Interface.

3. The PARCS shall be an open-architecture system where all interfaces (hardware and software) conform to national and International Standards Organization (ISO) standards. Where there are no standards, documentation shall be supplied to the level defined by Open Architecture.

4. The Server systems shall be connected to the Port’s network with appropriate firewall protection. The PARCS network shall be a unique subnet separate and not integrated to the Port’s primary LAN. Port’s personnel shall, with appropriate two level authentications, have access to data that is stored on the Central Servers.

5. PARCS Network Management and Remote Monitoring:

   a. The PARCS shall be designed to support stand-alone operations (distributed system with intelligent devices) as well as centralized management of the PARCS.

   b. The PARCS Servers shall be installed in terminal locations designated by the Port. The Intercom system, CCTV monitors, and printers, etc., shall reside in the Parking Management Office. Real-time communications between the PARCS Servers and the peripheral field equipment components such as barrier gates, TIM’s, cashier terminals, pay station and the like shall be fiber optic cabling. The PARCS Servers shall contain all PARCS software databases that are associated with revenue-closeout activity statistics and designated reports. In addition to the fault tolerant Servers, workstations shall be provided as stated elsewhere within these specifications.
6. System Performance to be Achieved:
   a. The PARCS shall operate 24 hours per day, seven days per week. A failure shall be defined as any malfunction that causes the loss of functionality according to the specifications. A system failure is considered a failure where loss of more than one function occurs. System failures shall not occur more than 0.02% of the time.
   b. Concerning revenue activity, the system shall meet the accuracy as defined below:
      - fee calculation accuracy – 100.0%
      - transaction counts – 100.0%
      - exception counts – 100.0%
      - protocol sequence counts – 100.0%
      - revenue – 100.0%
      - calculations – 100.0%
   c. Contractor shall deliver a PARCS that can remotely communicate with all devices in real-time for a general broadcast of information or software update or to communicate to a single device to upload information or software. Broadcasting information such as rate changes or time increment changes shall be in real-time to all field devices. It shall be possible to remotely shutdown a field device’s operating system, upload software and remotely restart the field device.

7. System Level Reliability, Redundancy, and Maintenance:
   a. All equipment provided under this procurement shall meet maintainability requirements as follows:
      1. Incorporate features that shall reduce to a minimum the maintenance requirements for preventive maintenance, failure repairs, and performance verification. This includes the use of SNMP (V2 or V3) at all functional levels of the system.
      2. Provide for the capability of easy removal and replacement of component parts. Where fault tolerance is provided, hot swap out shall be supported.
      3. Design equipment for easy access, minimizing the removal of other items to gain access to a specific part.
      4. Reduce or minimize the requirement for special tools and test equipment.
      5. Design equipment so that performance can be verified, failures detected, and adjustments made with a minimum effort.
6. All devices shall have electrical surge protection (comply with UL 1449).

b. The Vendor shall have built into the system structured exception handling so that the system responds predictably to error conditions, without lock-up or “crashing,” and without distribution of corrupted data throughout the system. Error handling includes those caused by hardware failures, and errors caused by operators and errors induced deliberately or accidentally in software. Software shall include the latest available anti-virus capability that covers all known viruses identified at the testing date. Contractor shall provide updates throughout the length of the contract for all new releases of the anti-virus software.

c. Upon system acceptance, the Port shall maintain the system to eliminate faults or to keep the hardware or software in satisfactorily working condition, including applicable tests, measurements, replacement, adjustments, and repairs as is detailed in the Vendor’s Systems’ Administrative Maintenance Manual. The Vendor shall notify the Owner of all test equipment necessary to support the PARCS.

d. The field intelligent devices shall be PC based with the latest processors available at the time of contract and shall have sufficient memory capacity to retain a minimum of 1,800 transactions plus minimum 30% built-in spare including buffer memory.

e. During implementation and testing, on-line, real-time communication between the Vendor’s PARCS Servers and the Vendor’s software support team for supporting and maintaining the system is required. This communication shall be via a VPN connection communication link from the Vendor’s home office that will be required to go through a firewall to get onto the Owner’s backbone and thence to the PARCS Servers. All communication access shall be in compliance with the most current PCI published requirements.

8. System Hardware:

a. Network Hardware

1. Network switches shall be manufactured by Cisco to maintain network consistency at the Port. All switches shall be fault tolerant and possess dual multi-mode fiber optic interfaces.

2. Network switches shall be supported by APC SNMP compatible UPS units at all locations. UPS units shall
b. Central Server – local server solution

1. The Vendor shall design and implement a hot standby server solution that provides high availability and redundant data storage. All operational functions shall occur without data loss upon failure of any single memory or associated interface. The Vendor shall provide the appropriate management software package.

2. The Server system shall provide mirrored databases that are updated concurrently. The Server system shall utilize a hot redundancy configuration, digital-based system, minimally multi-tasking/multi-user and shall include as a minimum the central processing unit and hardware as follows:

   (a) Processors shall be the fastest available at the time of deployment.
   (b) The server(s) shall process the current volume of transactions plus 150% of the current volume.
   (c) 23” viewable flat screen monitors
   (d) The Vendor shall stipulate the hard disk capacity for their system
   (e) Tie into an official network time source such as the Naval Observatory or the Port’s Network clock system
   (f) The disk operating program, software, and firmware shall be furnished fully installed on the Server computers with all required system software licenses registered to the Port. The Server computers shall exclude any hardware that would preclude the purchase of standard maintenance and service contracts from the manufacturer, dealer or vendor.

3. Hard disk shall be sufficient so that the database can be configured in a manner as to:

   (a) Maintain twelve (12) months of on-line data of all associated transactional data; entry date/time, LPR information, exit date/time, fee due, fee paid, and other information considered as part of the transaction. This data will be readily accessible on the real-time Server database, and should be accessible without any delay in processing.
(b) Keep operational data on-line for the prior four years, and year to date for the current year, cumulative to five years of data. Operational data includes: date/time with cause for equipment failures; the failed equipment component shall be identified by functional name, model number, and serial number; daily event log of exception transactions including date, time entry/exit gate identification, etc. Detailed event data shall be maintained for 180 days with the balance of data up to 24 months shall be in summary format. The exception information shall be easily retrievable and software provided to assist an operator in building and maintaining a report/database of incidents. The Server’s hard disk capacity shall be sized to process the transaction activities of the PARCS as described in these Performance Specifications as well as capacity for doubling the number of transactions and the operation.

(c) Diagnostics – The Servers shall incorporate built-in diagnostics implemented with the software/firmware, hardware, or both. Each time the Servers are started or re-booted, it shall automatically execute a series of built-in tests and report equipment malfunctions, configuration errors, and inaccuracies on the system printer. An audible alarm shall be annunciated if the Servers fail the built-in diagnostics and each failure or exception shall be in a system maintenance log for which printer is user selectable. The built-in diagnostics shall transmit alarms to a pager, SMS/Text, email, or other form of electronic messaging to inform individuals of a fault condition.

(d) Long Term Storage Media – The Servers shall have long term storage ability to archive all summary reports for up to five years with simple retrieval capability. The Vendor shall provide an optical back/archiving system whereby reports are properly catalogued such that historical data can be retrieved, added to new reports, or printed.

(e) Clock/Calendar – The Servers shall have a clock/calendar that is tied into an official network time source such as the Naval Observatory or the Port’s central clock system.

4. Central Server’s Security
(a) The PARCS Servers shall have secured access. The Owner’s network administrator that is based upon a “need to know” decision shall establish an appropriate password system. The Owner shall have complete capability to add to, delete from, or revise the passwords that are established by the network administrator. The password system shall include the provision of logging the event and user’s name each time a password is used to gain access to or within the PARCS.

(b) The PARCS software shall reside on the Servers provided by the Vendor.

(c) The Owner shall designate the terminal location for the Servers. An appropriate firewall shall be provided to limit access to the Servers and the accompanying data.

B. The PARCS solution shall utilize Port Standards as the desktop/laptop operating system.

C. All computing resources, application, information management, and information distribution design and configuration are subject to the approval of the Port’s IT Department.

D. All lane equipment performing a like function and of the same part number shall be fully interchangeable without the requirement for physical modifications.

E. The Contractor shall utilize equipment that supports TCP/IP and remote monitoring of distributed units. SNMP shall be utilized for all equipment with Ethernet connections, i.e., Servers, networking equipment, lane control interface processors, etc., as well as all UPS units.

F. Each field device shall be assigned a unique identifier within the PARCS that is not shared with any other field device. Should the field device need to be replaced, the replacement field device would assume the old device’s unique identifier. Contractor shall coordinate with the Port to develop the naming convention for the field devices.

I. The PARCS configuration shall provide lane autonomy such that no single point of failure of a device shall cause an operational failure of surrounding lanes. Equipment at a single lane may fail causing a shutdown of a lane; however, the failure shall not affect other lanes.

J. Contractor shall reuse existing infrastructure, including such items as cashier booths, AVI equipment, etc.
G. Application and Data Servers

1. All Application and Data Server hardware components that will support the PARCS shall be provided by the Contractor.

2. System Architecture
   a. Server design shall comply with the Port’s Standards for Computing Resources. All Server and database system documentation shall be provided for the Port’s use.
   b. The network monitoring tool, SolarWinds or CISCOWorks shall be used to monitor all elements with an Ethernet Interface with agents installed on the PARCS Servers that allow monitoring or CPU utilization, disk fullness, etc.
   c. The PARCS shall utilize TCP/IP for data communication.

3. PARCS Central Servers
   a. The PARCS shall be designed to support stand-alone operations (distributed system with intelligent devices) as well as centralized management of the PARCS.
   b. The PARCS Servers shall contain all PARCS database software that is associated with revenue-closeout activity statistics and designated reports.
   c. The application software shall be fully installed and configured on the Servers with all required system software licenses registered to the Port.
   d. The PARCS Servers shall reside on a standalone, PARCS network. As such, the PARCS Servers shall have secured access. The Port’s network administrator based upon a “need to know” decision shall establish an appropriate user-level password system. The Port shall add to, delete from, or revise the passwords that are established by the network administrator. The password system shall include the provision of logging the event and user’s name each time a password is used to gain access to or within the PARCS.
   e. An appropriate mechanism shall be provided to limit access to the Servers and the accompanying data. The security functions provided by the system shall include but not be limited to:
(1) VPN access: Firewall application access and “router” address filtering utilizing multi-factor authentication – no unauthorized, remote address shall be granted access.

(2) Comply with NIST, FISMA, and PCI standards for remote access.

(3) Where the change and/or update is authorized, an audit trail and report shall be created including the following:

(a) Date/time of change
(b) Remote access address making change
(c) Authorization PIN code to make change
(d) Record of change made
(e) Record of data modified or changed (prior to change)
(f) File identities and record count

f. Contractor shall provide recommended storage capacities required for each component to support the solution.

g. Contractor shall purchase all servers according to Port standards.

h. The Database Servers shall be configured such that the following features and functionalities are attainable:

(1) Maintain 12 months of on-line data of all PARCS data. This data shall be readily accessible without any delay in processing.

(2) Meet Port data retention requirements as defined in the RFP.

(3) The Database Servers’ processing capability shall be sized to process the transaction activities of the PARCS as described in these Functional Specifications as well as for handling 150% of the number of transactions (processing power, data storage, etc.,) and the operation without any degradation in system performance or processing speeds.

(4) Long Term Storage Media – archival of all summary data for up to five years with simple retrieval capability.

i. Contractor shall provide an Archive Database Server. Contractor shall provide a mechanism and applicable server specifications whereby all information and reports can be archived from the database servers onto a separate database server after 12 months. All data shall be stored on the Archive Server such that all historical data can be retrieved, queried, or printed from any PARCS workstation. The Contractor shall provide the Archive Server and all necessary tools for archiving data. The Archive Database Server shall be expandable such
that all PARCS data collected over the life of the system can reside on the Archive Database Server.

H. Credit Card Processing Subsystem

1. Approximately 85% of the parking revenue is processed as credit card transactions. The respondent's solution shall be certified to process credit card transactions through the Port's current Merchant Banking Services Provider's (Transactional Services, Inc.) platform. Should the Merchant Banking Services Provider change, the Respondent shall be required to adjust to accommodate possible changes in the platform utilized.

2. All Contractor-provided aspects of the credit card processing subsystem shall be PCI-compliant, such that no Contractor-provided product or solution will prevent the Port from achieving PCI Compliance in its parking operation.

3. Contractor's proposed PARCS shall conform to PCI DSS Version 3.0, or most current version, and the PARCS application shall be PA-DSS certified and PIN Transaction Security (PTS) for all PIN transaction devices according to the most recent PCI standards as of the Contract Award date.

4. Solution must truncate credit cardholder account numbers and eliminate the expiration date on all receipt copies (including cardholder and merchant copies).

5. Solution enables credit card payments to be authorized for the exact amount of parking services being purchased.

6. Because credit card processing is critical to the Port parking operations, processing redundancy shall be built into the system. The Contractor shall provide a system such that processing credit card transactions shall not degrade the time allowed for positive authorizations. The PARCS shall process and store credit card transactions at each field device that accepts credit cards while in an offline mode due to a communication loss. Specifically, every Express Exit Station and Cashier Station shall process and store credit card transactions during a communication loss regardless of where in the network the communication loss occurs. For example, if the communication cable to an exit station is unplugged inside of the Express Exit Station, that Express Exit Station shall process credit card transactions without achieving real-time authorization and shall store all transactions in a PCI-compliant manner until communication is reestablished. Once communication is reestablished, the system shall request authorization for all credit card transactions that were processed while offline. If a credit card transaction is denied, the Port shall receive notice of such denial in the revenue reports and as a
posting to the Daily Event Log. The PARCS shall automatically re-submit declined transactions up to three attempts.

a. In the event that the device’s offline storage capacity is filled, and the device needs to shut down, all stored credit card information shall be stored while the device is shut down, until the power and communication is restored at which time the stored data shall be forwarded to the server for processing.

b. In the event that a device is operating in off-line mode and on UPS power, the device shall permanently store all credit card information prior to shutting down in the event that the UPS battery power is depleted. Once power and communication has been restored, all data shall be forwarded to the server for processing.

7. Credit card authorizations shall use the Port’s existing internet connection and firewall. The credit card system shall be supplied with an appropriate connection to connect the credit card servers to the communication pathway established by the Port. The system shall switch to a redundant connection for processing credit cards should the Port’s primary connection fail. Secondary internet connection shall be provided by the Port should they decide to activate the secondary connection.

8. Where the credit card clearinghouse utilizes multiple IP addresses for clearing redundancy, the PARCS shall be configured to send transactions to all of the available IP addresses offered by the clearinghouse.

9. As part of their Proposal, the Contractor shall submit a flowchart diagram depicting the credit card processing subsystem architecture and the process for credit card transaction approvals.

I. Business Intelligence Functionality

1. The Port desires a Business Intelligence application for its customer loyalty programs including; frequent parking patrons, FasTrak AVI users, reserved parking patrons among others.

2. The application would be a web-enable program.

3. The Port’s patrons would log in externally to the Port’s website, go to the parking page to access their account following initial enrollment.

4. The parking patrons would establish a secured parking account set up on either a Port hosted account or to a third party hosted application.

5. The parking account would include the patron’s name, address, contact phone numbers, vehicle make, model, license plate number, account type (frequentarker, FasTrak AVI, reserved parker, etc..),
email account and credit card number and expiration date.

6. The parking patron would be able to log onto their account to make edits, such as address, phone number, vehicle and credit card number and expiry date or other account information that is contained within the application.

7. If the account type is a frequent parker, the parking patrons would receive a number of free parking days based upon “points” accumulated for the number of days parked. It would be up to the Port’s parking patron as to when to use the frequent parker points. If the account type is a FasTrak AVI user or a reserved parker, each parking stay at the Port, for each exit event, a credit card on file would be charged for the parking stay. The credit card holder would receive an alert one month before the credit expiry date and would be automatically be blocked if a replacement card is not edited into the cardholders account.

8. Whether the account is hosted by the Port or a third party, all parking charges would be posted within the PARCS. All parking revenues would be posted at gross. If hosted by a third party and there is a charge for the third party hosting the account and the parking fee, the third party fee for each parking charge would be posted within the PARCS as a credit (deducted from) to the parking revenue posted for each transaction.

9. All parking transactions would be recorded within each patron’s account(s) and monitored by the system.

10. Any parking transaction would automatically trigger an email to the patron thanking him/her for the business. The email would be a template defined by the Port.

11. The application would provide for up to 999 different templates to be defined by the Port.

12. The Port could use the database for marketing purposes to initiate emails and/or letters encouraging patrons to use a coupon or marketing initiative based upon whatever marketing program defined by the Port.

J. PARCS Workstations

1. All non-proprietary PARCS workstation hardware components that will support the PARCS will be purchased separately from this Contract by the Port through exiting purchase agreements.

2. Solution shall utilize existing Port desktop and laptop hardware. In addition, the Port will provide two (2) new workstations in the parking
administration building to serve as Image Review Workstations to support the LPR system. These workstations will meet Contractor’s requirements as well as the Port’s IT Department’s requirements and standards. Contractor shall provide minimum requirements for these devices.

3. Contractor shall provide minimum recommended requirements of workstations where they differ from the Port standards.

4. The workstations shall exclude any hardware that shall preclude the purchase of standard maintenance and service contract from the computer manufacturer, dealer, third party or Contractor.

5. Any workstation shall be able to access any module of the PARCS based on access rights of the user including PARCS, PSCS, LPR, Employee, AVI or Proximity Access System.

K. Entry Stations

1. The Contractor shall provide the quantity of Entry Stations identified in the associated Pricing Schedule.

2. Each Entry Station shall consist of the following components and capabilities:

   a. ADA requirements and standards
   b. Access door with appropriate tamper-resistant locking system (all entry stations keyed alike, and unique to this installation)
   c. Single-slot technology such that all ticketing and card reading shall be from a single slot in the Entry Station’s face. Note: The EMV credit card reader may be a separate reader.
   d. Issues one credit card-sized, side-striped or center striped, magnetically encoded or barcode parking ticket for each entry transaction
   e. Entry Station ticket slot shall read an International Standards Organization (ISO) standard side-stripe magnetically encoded card such as a credit card
   f. Camera to activate upon activation of intercom
   g. Inserted credit cards shall be read in a minimum of two directions
   h. Active color matrix message screen, minimum six inch diagonal display that is easily readable in all ambient lighting conditions. Sample of this screen shall be provided with the Contractor’s Proposal Response
   i. Utilize visual instructions for patrons to understand the sequence of events to complete a transaction
   j. Issues audio voice instructions to compliment the visual instructions
   k. Push-button or touch screen ticket issue
I. Illuminated ticket slot
m. Push-button intercom integrated into the face of the Entry Station (propose VOIP intercom solution)
n. Retractable ticket mechanism
o. Uniquely encoded parking tickets printed for each specific parking area
p. Unique machine identification number
q. Computerized Lane Control and Interface Processor (LCIP) to control equipment component communications within the lane and to the Servers utilizing TCP/IP
r. Stand-alone capabilities for each Entry Station in the event that network communication is lost, and regardless of where on the network the communication interruption occurs. Specifically, each Entry Station shall provide offline transaction storage capacity for all transactional information for a minimum of 1,800 transactions. Credit Card In functionality shall be disabled while in an off-line mode. The lane shall automatically close in the event that the minimum transaction threshold is reached and shall remain closed until reestablishment of communications. Entry Station shall automatically upload all transaction information to the Servers once communications is restored.
s. Proximity Card Reader with a minimum read range of six inches integrated into the face of the Entry Station
t. Bar code / QR code reader to read either paper or electronic (smartphone) bar code and QR code.
u. Ticket Stock Low alarm generated on FMS
v. Ticket Stock Out alarm generated on FMS

3. As part of their Proposal, the Contractor shall submit product data of proposed Entry Stations.
4. Entry lanes shall utilize existing infrastructure.

L. Cashier Stations

1. All cashiered lanes shall be dual-use such that they are capable of operating in a cashiered mode through the cashier station when a cashier is present or in an un-manned mode through the Express Exit station when a cashier is not present. The cashier station operating in un-manned mode shall operate in the same manner as an Express Exit lane.

2. The Contractor shall provide the quantity of Cashier Stations as included in the pricing schedule.

3. Each cashier station shall be equipped with the following components:
   a. ADA requirements and standards
b. Cashier terminal (computerized device that shall operate the exit cashiering functions) with integrated credit card functionality

c. Ticket reader/validator that accepts ISO standard readable cards, magnetic stripe or barcode parking tickets, validations, and credit cards through the same single slot. Note: EMV credit card reader may be a different device.

d. Cashier terminal shall read bar codes and QR codes from a cell phone or from hard copy.

e. Ten key pad for entry of PIN

f. Barcode and QR code readers to read either paper or electronic (smartphone) barcode.

g. Emergency alarm – this alarm may be provided as a separate, standalone device

h. Touch screen cashier monitor supplemented with standard QWERTY keyboard and mouse

i. PARCS shall process all acceptable payment methods

j. PARCS shall cancel a credit card or cash & credit card transaction before the credit card is ingested into the ticket transport mechanism

k. Intercom using VoIP

l. Receipt printer to produce receipts for a transaction. Duplicate receipt function shall be a user selectable feature that can be disabled if desired. Receipt printer inside cashier booth shall automatically be disabled in unmanned mode. Customers shall be given the option for a receipt for all transactions (no auto-issued receipts).

(1) Upon successful payment and if customer has requested, print a receipt that includes:

(a) Port brand-logo and address
(b) Receipt #/Transaction #
(c) Time, date and lane in/out
(d) Length of stay
(e) Parking fee
(f) Total amount
(g) Method of payment
(h) Amount paid
(i) Change Due
(j) Breakdown of charges by time and rate
(k) Cashier ID#

(2) The Port shall have the option to change receipts for credit card transactions to be auto issue or by request. This function shall be a parameter driven changeable by Port staff with appropriate privileges.
m. The PARCS shall implement cashier booth fee displays that are easy to read in all ambient light conditions, LED – type mounted on the exterior of the cashier booths.

n. Dual cash drawer operation (relief cashier shall operate out of a separate cash drawer) with removable, lockable inserts.

o. Upon cashier log out, the lane shall automatically switch to Express Lane exiting through the use of the Exit Station.

p. Computerized LCIP to control equipment component communications within the lane and to the Servers utilizing TCP/IP.

q. Stand-alone capabilities for each Cashier Station in the event that network communication is lost, and regardless of where on the network the communication interruption occurs. Specifically, each Cashier Station shall provide offline transaction storage capacity for all transactional information, including storing encrypted credit card data, for a minimum of 1,800 transactions. The lane shall automatically close in the event that the minimum transaction threshold is reached and shall remain closed until reestablishment of communications. Cashier Station shall automatically upload all transaction information to the Servers once communications is restored.

(1) In the event that the device’s offline storage capacity is filled, and the device needs to shut down, all stored credit card information shall be permanently stored and accessible once the device is powered on.

(2) In the event that a device is operating in off-line mode and on UPS power, the device shall permanently store all credit card information prior to shutting down in the event that the UPS battery power is depleted.

r. Cashier Station shall alert cashier when the transaction threshold is nearing allowing the cashier to prepare the lane for closure.

s. Swipe Credit Card reader integrated into the transaction panel

M. As part of their Proposal, the Contractor shall submit product data of proposed Cashier Station CCTV and Audio/Visual Functionality

1. CCTV cameras and microphones shall be installed within each cashier booth to capture interaction between the cashier and the patron or to capture the interaction of the patron to the lane equipment when the lane is operating in an unmanned mode. The image and audio shall be tied to each transaction. All cameras and audio shall be synchronized, record each transaction, and be associated with each transaction. The CCTV and Audio/Visual shall exist as one integrated system and not separate subsystem components. The PARCS shall store data for a minimum of fourteen (14) calendar days online and archive an additional thirty (30) calendar days
N. Transaction Panel - Ticket reader/validator installed in the sidewall of the booth in a location that the patron is able to interact with a cashier if necessary.

1. The Contractor shall provide the quantity of Transaction Panels listed in the pricing schedule.

The Transaction Panel shall have the following functionalities:

1. Accepts ISO standard readable cards, magnetic stripe or barcode parking tickets, validations, and credit cards through the same single slot. EMV credit card reader and associated ten-key PIN pad.
2. Inserted credit cards shall be read in all four directions.
3. Illuminated ticket slot.
4. Capability to print a patron receipt and/or a credit card voucher that requires no signature. All customer receipts shall be issued through the transaction panel, in unmanned mode.
5. Upon successful payment, print a receipt that includes the lane number, facility identification, time and date in/out, length of stay, amount paid, and transaction number.
6. The Port shall have the option to change receipts for credit card transactions to be auto issue or by request. The configurable timeout function for receipt request shall be initially set for 20 seconds or until the next ticket is inserted.
7. Receipt Stock Low alarm generated on FMS while in unmanned mode
8. Receipt Stock Out alarm generated on FMS while in unmanned mode
9. Patron fee display capable of being easily read in direct sunlight and at night with ambient lighting, and either an active matrix display or flat screen CRT monitor. Active color matrix display, minimum size six inches measured diagonally. Display shall have brightness and contrast controls to allow a patron easy viewing and recognition of information under all lighting conditions.
10. Utilize visual instructions for patrons to understand the sequence of events to complete a transaction
11. Issues audio voice instructions on to compliment the visual instructions
12. Cancel button that allows a patron to cancel a transaction once a parking ticket has been inserted.
13. Push-button intercom, with camera, integrated into the face of the Transaction Panel (reuse existing audio cabling and intercom head end equipment or propose new VOIP intercom solution)
14. Contactless Credit Card reader integrated into the face of the Transaction Panel.
15. Proximity Card Reader with a minimum read range of six inches integrated into the face of the Transaction Panel.
16. Barcode and QR code reader(s) for reading coupons, tickets, and electronic visual display integrated into the face of the Transaction Panel.
17. Transaction panel shall fit in existing booth with minimal modifications to booth.

O. Express Exit Stations

1. The Contractor shall provide the quantity of Express Exit Stations listed in the pricing schedule.

2. Each Express Exit Station shall be equipped with the following components and capabilities:

   a. ADA requirements and standards
   b. Access door with appropriate tamper-resistant locking system (each express exit station keyed alike, and unique to this installation)
   c. Ticket reader/validator that accepts ISO standard readable cards, magnetic stripe or barcode parking tickets, validations, and credit cards through the same single slot that shall print a patron receipt and/or a credit card voucher that requires no signature. EMV card readers may be a separate device with an associated ten-key PIN pad
   d. Push-button intercom integrated into the face of the Express Exit Station (propose new VOIP intercom solution) Push-button intercom integrated into the face of the Express Exit Station
   e. Pinhole camera that activates upon activation of intercom
   f. Bar Code and QR Code reader for coupons or registrations transmitted via cell phones or hard copy.
   g. Customers shall be given the option for a receipt for all transactions (no auto-issued receipts). Receipt shall include:

      (1) Port brand-logo and address
      (2) Receipt #/Transaction #
      (3) Time, date and lane in/out
      (4) Length of stay
      (5) Parking fee
      (6) Total amount
      (7) Method of payment
      (8) Amount paid

   h. The Port shall have the option to change receipts for credit card transactions to be auto issue or by request. The configurable timeout function for receipt request shall be initially set for 20 seconds or until the next ticket is inserted.
   i. Receipt Stock Low alarm generated on FMS
   j. Receipt Stock Out alarm generated on FMS
   k. Active color matrix display, minimum size six inches measured diagonally, shall be readable in all lighting conditions
   l. Utilize visual instructions for patrons to understand the sequence of events to complete a transaction

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m. Issues audio voice instructions to compliment the visual instructions

n. Cancel button that allows a patron to cancel a transaction once a parking ticket has been inserted. Upon activation of the cancel button, the parking ticket shall be returned to the patron.

o. Secured switch for activating/deactivating all lane equipment

p. A computerized LCIP to control equipment component communications within the lane and to the Servers utilizing TCP/IP

q. Stand-alone capabilities for each Express Exit Station in the event that network communication is lost, and regardless of where on the network the communication interruption occurs. Specifically, each Express Exit Station shall provide offline transaction storage capacity for all transactional information, including encrypted credit card data, for a minimum of 1,800 transactions. The lane shall automatically close in the event that the minimum transaction threshold is reached and shall remain closed until reestablishment of communications. Express Exit Station shall automatically upload all transaction information to the Servers once communications is restored.

(1) In the event that the device’s offline storage capacity is filled, and the device needs to shut down, all stored credit card information shall be permanently stored and accessible once the device is powered on.

(2) In the event that a device is operating in off-line mode and on UPS power, the device shall permanently store all credit card information prior to shutting down in the event that the UPS battery power is depleted.

r. Proximity Card Reader with a minimum read range of six inches integrated into the face of the Express Exit Station

2. As part of their Proposal, the Contractor shall submit product data of proposed Express Exit Stations.

P. Entry and Exit Lane Vehicle Detection Device

1. Saw cut or embedded loops shall be used for entry and exit lane vehicle detection.

2. Contractor shall replace all existing loops and loop detectors.

3. Entry Lane Vehicle Detection: Entry lane vehicle detectors shall detect vehicular presence, legal entry, illegal exit, and back-out. Dual arming loops shall be provided for all public entry lanes.

4. Exit Lane Vehicle Detection: Exit lane vehicle detectors shall detect vehicular presence, legal exit, illegal exit, and back-out.
5. The loop detectors shall be dual channel detectors. The detectors shall detect the presence or transit of a vehicle over an embedded loop of wire.

6. The loop detector shall provide two channel pulse and presence outputs.

7. The loop detector shall provide separate, momentary contact closures upon detection of a vehicle, along with continuous contact closures during the period that the vehicle is detected.

8. The loop detector shall contain two fully separate, self-tuning, vehicle loop detectors and directional logic circuitry.

9. The loop detectors shall each incorporate a sensitive Tailgate Recognition System capable of resolving two automobiles within six inches of each other on a standard 2.5 ft. W x 6 ft. loop.

10. The loop detectors shall each operate in three separate sensitivity modes: high, medium and low.

11. Different sensitivity settings shall allow vehicles of varying height and size to be properly detected.

12. The loop detector shall be fully microprocessor-based.

13. Each detector shall continuously retune itself to its loop frequency during non-detect periods to prevent the detector from generating a false detect output due to frequency variances caused by environmental effects or other factors. Analog type detectors requiring periodic manual tuning or any type of detectors that do not retune unless a manual function is performed shall be unacceptable.

14. The loop detector shall generate two loop frequencies. No two frequencies shall be the same. This shall minimize the possibility of detector crosstalk or interference between two detector loops mounted within close proximity. Detectors generating an identical frequency shall be unacceptable.

15. Loop wire shall be either #16 AWG THHN or TFFN stranded wire, at a minimum.

Q. Barrier Gates

1. The Contractor shall provide the quantity of base system Barrier Gates listed in the pricing schedule.
2. All barrier gates referenced in these Functional Specifications shall contain the following:
   a. Direct drive mechanism
   b. Aluminum gate with padded arm (articulating gate arm as appropriate)
   c. Electronically controlled rebound feature
   d. Non-resettable, mechanical gate action counter mounted in the barrier gate housing
   e. Gate arm length of ten feet (the gate in far right exit lane at Bowl is extra-long due to lane width)
   f. Single piece gate arm

3. Barrier gates shall have sufficient power/resistance to ensure they cannot manually be forced open.

4. Barrier gates installed at the entry lanes shall remain in the closed position in an event there is a power failure and the UPS is no longer able to provide sufficient power to operate the lane.

5. Barrier gates installed at the exit lanes shall fail to the closed position in an event there is a power failure and the UPS is no longer able to provide sufficient power to operate the lane.

6. As part of their Proposal, the Contractor shall submit product data of all proposed barrier gates.

7. Barrier gates shall be installed utilizing existing infrastructure.

R. Lane Open/Closed Signs (Lane Status Lights)

1. The Contractor shall provide the quantity of Lane Open/Closed Signs listed in the pricing schedule.

2. Lane Open/Closed Signs shall be LED type with the word “OPEN” in green letters and the word “CLOSED” in red letters. Details for additional text or graphics shall be discussed with and approved by the Port. Lane Open/Closed Sign shall be easily readable in all ambient lighting conditions from a distance of 200 feet and a minimum viewing angle of 120 degrees.

3. The message displayed by the Lane Open/Closed Sign shall be controlled automatically by the entry/express exit station. When the entry station is in operation, the Lane Open/Closed Sign shall automatically be set to “OPEN”. When the entry/express exit station is out of operation the Lane Open/Closed Sign shall be automatically set to “CLOSED”. When the entry/express exit station is set into a maintenance mode, the Lane Open/Closed Sign shall automatically be set to “CLOSED”. 

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4. For the public entry lanes, the sign matrix size shall be proposed by the Contractor to fit within the geometric circumstances of each location. Minimum character height shall be 5”.

5. As part of their Proposal, the Contractor shall submit product data of the proposed Lane Open/Closed Signs.

S. Uninterruptible Power Supplies

1. Conditioned/emergency power through the TCP/IP-enabled UPS units shall be provided for the following components and facilities to protect components from loss of power, power spikes, and power sags:
   a. Public entry lanes
   b. Public cashiered exit lanes
   c. Public Express Exit lanes

2. UPS battery back-up for all lanes shall be sized to last sixty (60) minutes.

3. An on-line, solid state UPS shall provide both backup power and transient surge protection as defined as necessary by the CBEMA. The Contractor is alerted to the fact that there are a number of power distribution panels providing electrical service Port wide. The Contractor shall be responsible for providing the UPS backup requirements for each of the locations where UPS backup is required, based upon the equipment that is actually being supplied by the Contractor. The Port shall review and approve the UPS units to be provided by the Contractor. The Contractor shall test all UPS system components during the LATs and Site Acceptance Tests for each parking lane/facility. The UPS shall be sized with 50% spare capacity. This shall facilitate 30% expanded load with an 80% continuous load factor.

4. A single UPS unit, appropriately sized, shall support all devices at an individual entry lane or exit lane with the exception of cashier booth HVAC units. UPS units that supply conditioned and back-up power to multiple components are required to minimize maintenance.

5. All UPS units shall be SNMP compatible to allow automated notification when battery power is activated or the battery levels become critically low. On-line communication using an appropriate UPS monitoring software application shall be provided on one or more workstations with user selectable options to view the status of each
individual installed UPS unit. At a minimum, the monitoring software shall display the operational status of each UPS unit (line/battery, online/offline) and generate alarms in the event the UPS unit’s battery power is activated, becomes low or is completely exhausted.

6. As part of their Proposal, the Contractor shall submit specification sheets of all proposed UPS devices and UPS monitoring software. Included in the UPS product data shall be the manufacturer’s recommended battery refresh cycle.

T. Dynamic Display

1. The Contractor shall provide the quantity of Facility Availability Dynamic Displays to show facility lot status listed in the pricing schedule. The signs for the Premier and Hourly Lots shall display space availability separately for both T-1 and T-2 Airline Terminals.

2. The Contractor shall provide the quantity of Exit Lane Dynamic Displays to show the status of the exit lane listed in the pricing schedule.

3. The Contractor shall replace the existing Exit Lane Dynamic Displays. The Exit Lane Dynamic Display shall be Daktronics Model AF-3500-20-RGB-SF or equal. Proper sign matrix size shall be proposed by the Contractor to fit within the geometric circumstances of each installation location. The Contractor shall be responsible for any and all mounting bracket analysis, design, fabrication and installation required to mount the signs to the existing canopy structure.

4. The Contractor shall provide the appropriate controller and software for the Exit Lane Dynamic Display such that the message being displayed can be remotely controlled via any workstation with access to the PARCS.

5. The Exit Lane Dynamic Displays shall not be controllable from within the cashier booths.

6. Exit Lane Dynamic Display control software shall be Daktronics Venus 1500 or equal.

U. LPR System

1. A LPR system shall be installed at the Port as part of the PARCS replacement project in all public entry and exit lanes.
2. No impediment to the spontaneous and immediate access and retrieval of any LPR data shall result from use of the database(s) or any other system architecture, hardware or software.

3. Throughout this Section, the term “LPR database” shall refer to a generic database(s) that may be housed entirely or in part on the PARCS central databases or on the LPR Subsystem hardware.

4. The LPR Subsystem shall consist of all hardware and software necessary to provide a complete and functional LPR subsystem that achieves the Port’s required functionality and accuracy percentages, and that does not adversely affect any function of the PARCS.

5. The Contractor shall be responsible for providing a LPR subsystem that is fully interfaced and integrated into the PARCS. This integration shall include linking the LPN captured at entry to the unique ticket identification (or other entry credential information) 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 LPN and ticket shall be removed from their respective active (open transaction) inventories once the vehicle has exited.

6. The LPR database shall be used to conduct automated searches and queries for special circumstances, such as outstanding balances, unresolved incidences, and prior entries with no exits, Gray/Black List, and police requests.

7. LPR images shall be maintained in the active database for the same duration as all other transactional information.

8. The LPR system shall keep a “Gray List” of exception transactions based upon vehicle LPN information. Exception transactions shall include insufficient fund transactions, lost ticket transactions, swapped media transactions and passback violation transactions. This Gray List shall reside on the PARCS server system’s database. As an exception transaction is processed, the LPN and corresponding transaction information shall be recorded as part of the Gray List record.

9. LPR Cameras
   a. The Contractor shall provide the quantity of LPR cameras listed in the pricing schedule.
   b. The Contractor shall furnish and install image capture cameras including any lights or shade canopies necessary at all public entry and exit lanes to provide system functionality.
c. Devices shall be placed in theft deterrent and vandal resistant housings that meet applicable code requirements for outdoor equipment.

d. The Contractor shall determine the exact location of each device and utilize existing infrastructure.

e. All entry images shall be post-capture, meaning that the cameras are placed in such a position that a vehicle’s LPN is photographed after the entry credential issuance to the patron or accepted by the system.

f. All exit images are to be pre-capture, meaning that the cameras are placed such that a vehicle’s LPN is photographed before the patron presents their parking credential at the exit.

g. The preferred method of illumination for license plate capture is infrared light.

h. As part of their Proposal, the Contractor shall submit product data of the proposed LPR cameras.

10. LPR Image Review Workstations (IRWs)

a. Two (2) dedicated IRWs shall be provided by the Port, all being installed in the Parking Management Office. Each IRW shall provide an operator to review images for manual read and data correction into the LPR database.

b. When any LPR exception occurs, it shall be displayed as a high priority alarm on all logged-in system workstations at the same time. Once an LPR exception is resolved from any workstation, the alarm shall instantly be removed from all system workstations.

c. Exit transactions shall be given higher priority than entry transactions for review at all IRW’s.

d. Entry lane images shall be reviewed and corrected if necessary after the fact; that is after the vehicle has entered the parking facility. No time limit shall be stipulated for after the fact entry lane LPN correction, therefore, entry lane corrections can be made during off-peak transaction processing time. LPR images up for review will be placed into a single queue and be dispatched to the LPR Review Workstations that are active. Exit review will be given priority over entry reviews.

e. License plate images that fail to match the numbers that are captured at entry shall be alarmed into an IRW for correction. It
shall be possible for the Port to “turn-off” the alarm and requirement to correct license plate numbers at entry.

f. Authorized users shall use the IRW to enable remote processing of exception transactions (e.g. Lost Ticket, Mutilated, Unreadable, etc.) at all Cashier Stations and Express Exit Stations. The authorized user shall use the LPR data sent from the lane to the IRW to verify entry information and transmit the entry information to the exit station for automated calculation of the appropriate parking fee. Remote exception processing shall cause the Cashier Station or Express Exit Station to generate and swallow an exception ticket for audit purposes.

V. Proximity Card Access System

1. The Contractor shall provide a turnkey proximity card access system that shall provide the following features and capabilities:

a. Port employees shall utilize the system for ingress and egress to/from their dedicated parking facilities.

b. Port staff and maintenance crewmembers shall utilize the system for ingress and egress to/from authorized parking facilities as necessary.

c. The Port shall issue and register proximity cards. The Port shall create 1,000 user groups or categories of proximity cards, at a minimum.

d. Supervisors shall view and program proximity card privileges and access rules. The Proximity Card Access System shall provide for expiration of account/proximity card for unpaid fees; also, imposition of late fee at user-programmable intervals.

e. The Contractor shall provide the Port with the appropriate tools to program and/or encode proximity cards from multiple PARCS workstations.

f. All proximity cards shall have a mill thickness equal to that of a standard credit card.

g. System shall have anti-passback capabilities that can be turned on or off at the Port’s discretion.

h. The system shall report the occupancy of proximity card patrons in each facility, in real-time.
i. All user group parameters and rules shall be accessible and changeable by the Port via a Graphical User Interface (GUI) accessible on any of the PARCS workstations provided with the system. Software code changes shall not be required to edit user group parameters and rules.

j. User groups and individuals within the user groups shall each assign access privileges based upon facility, date, day of week, time of day, or any combination thereof. For example, it shall be possible to set an employee’s access privileges to allow access to the Employee Parking Lot valid only Monday – Friday from 8:00 AM – 5:00 PM. It shall also be possible to modify user groups or individual accounts to be exempt from anti-passback rules.

k. The system shall encode and control proximity cards that allow universal access to one, multiple, or all facilities depending on parameters that are input.

l. The proximity card management system shall provide full accounting functions including account generation, tracking, invoicing, and account payment collection.

m. The system shall provide an online billing and payment option for proximity cardholders to make payments through the Port’s website.

n. Proximity cards may be used for customer access as part of a prepaid, reserved parking program or loyalty program. Card accounts must be able to be tied to personal credit card numbers in a PCI compatible manner.

2. As part of their Proposal, the Contractor shall submit product date of all proposed Proximity Card Readers.

3. Public Entry and Exit Proximity Card Readers

   a. Proximity card readers shall be installed on all public Entry Lanes, all Exit Lanes, and in all Cashier Booths.

   b. Proximity card readers located at the public entry and exit lanes shall have the following features and capabilities:

      (1) Integrated into the respective entry or express exit station, e.g. not mounted on a separate pedestal

      (2) Minimum read range of six inches

4. Optional Employee Parking Lot Proximity Card Readers
a. Proximity card readers shall be installed at the following employee entry and exit lanes.

b. Proximity card readers located at the employee entry and exit lanes shall have the following features and capabilities

   1. Standalone reader mounted on Contractor-provided pedestals
   2. Reader shall have a minimum read range of six inches
   3. VOIP Intercom for customer service

5. Proximity Cards

   a. The Contractor shall provide 1,000 blank proximity cards that meet the requirements of the proximity card readers being provided.

W. Parking Space Count System (PSCS)

1. The Contractor shall design and implement PSCS software and infrastructure.

2. The PSCS shall be integrated into the PARCS such that the available parking spaces within the PARCS (based upon a differential count between entries and exits) and available spaces within the PSCS are the same. The PSCS shall consist of the detectors located at each entry/exit lane (from the PARCS) for detecting vehicular movements relative to entering and exiting a parking facility. The PSCS shall obtain count impulses from the detectors used by the parking facilities’ entry and exit lanes and through the detectors located in the slip lanes from premier and hourly parking into daily.

3. The vehicle count inputs shall be transmitted to the Servers that shall process the data on a real-time basis. The processing shall consist of adding, subtracting, and comparing the respective vehicle counts against a predetermined number of parking spaces within each section of the each surface lot including the Premier, Hourly, Daily and Economy Lots. Counts must be manually adjustable from a user workstation.

4. The PSCS shall provide the following:

   a. automatic and manual control of the status of the space count signage,
   b. automatic update of the number of parking spaces available on dynamic signs every ten seconds; frequency of update up to 30 second intervals shall be configurable by the Port,
c. long term maximum and minimum counts for each parking facility,
d. hourly flow rates through entries and exits,
e. receipt of input signals from the entry and exit lanes for valid entries and exits,
f. control of the Dynamic Signage that supports the PSCS,
g. Contractor shall design, furnish and install any additional infrastructure that the PSCS requires, and
h. Integration with the Port’s website to upload parking availability in real-time for public viewing as well as a Contractor provided Mobile application. Port will provide Contractor the required file format for providing this information.

5. The PSCS shall be fully automated with no Port intervention required under normal operating circumstances. While in operation, there shall be allowances for manual adjustments and override of the PSCS via the workstations, including but not limited to:

a. establishing the initial number of parking spaces within each parking facility;
b. setting parking space variance values;
c. manual control of all parking space count dynamic signs;
d. adjustment of the number of spaces available within each parking facility, and
e. reconciliation after a survey or inventory by authorized user.

6. Workstation Functions

a. All data required to monitor, and adjust the PSCS shall be available on system workstations. The PSCS workstation functionality shall be made available on all authorized PARCS workstations. The screen formats shall be designed for the Port’s parking configurations (layout). All screen formats for the PSCS purposes shall reflect the physical layout of the Port’s parking facilities for ease of associating the displayed data with physical conditions. The Contractor shall submit proposed screen layouts for the PSCS for approval 30 calendar days prior to system implementation. Any change in the configuration screen formats shall be subject the submittal approval process.

b. Workstation application shall include the following:

   (1) GUI, real-time graphical displays of the parking surface lots with both the number of available parking spaces and spaces occupied (immediate user identification of count status). Red = Full; Yellow = Approaching capacity; and Green = Spaces Available;
(2) Alarms shall be configurable by Port staff with appropriate rights and privileges.
(3) Alarms to notify when a facility is “FULL”;
(4) Alarms of component failures;
(5) User access levels with password restrictions;
(6) Operating status of all dynamic signage, including message currently being displayed;
(7) Display of summary statistics of parking space availability by specified date/time period.

c. The Port shall determine the initial number of vehicles that a parking facility will accommodate. It shall be possible for the Port to adjust the total parking spaces for each parking level and parking facility as a whole.

d. In the event vehicles continue to enter a surface parking lot after the “FULL” sign is activated, a warning indicator on a workstation’s display shall be activated and the appropriate gates automatically close thereby not allowing vehicular access to the “FULL” area. This indication shall cause the PSCS to record negative parking spaces occupied should the facility’s capacity be exceeded. As vehicles exit a parking level or surface parking lot, the negative spaces occupied shall decrease until the spaces occupied is less than the designated full number.

e. An inventory of a surface lot shall provide an exact count of the vehicles in surface lot. Provisions shall be included to manually adjust count information into the PSCS.

7. PSCS Design Requirements

a. The PSCS shall be designed and manufactured to accommodate all parking spaces within all surface lots that are part of this project regardless of how those spaces are assigned. The central controller shall have sufficient input-output ports and interfaces to receive the inputs, communicate with, and control all detectors, status signs and other devices for all parking facilities. The system shall incorporate capacity for space control and detection of a 150% expansion of the number of parking spaces and ingress/egress points.

8. Operational Procedures

a. “Vehicle Count” shall be the number of vehicles located in a parking facility. “Spaces Available” is defined as the unoccupied spaces in any given facility resulting from the number of vehicle counts affecting the space availability.
b. For each parking facility, the system shall receive input from the PARCS at each entry lane and at each slip lane between parking lots. As a vehicle enters a parking facility, a valid entry event shall cause a signal to be dispatched to the PSCS software. The PSCS shall record the event and decrement by a count of one, the number of available parking spaces and increment by a count of one, the vehicle count for the respective facility. When a vehicle exits a parking lot (Premier Lot for example) and enters the Hourly Lot, the event shall cause the number of available spaces within the Premier Lot to increment by one and the number of available spaces in the Hourly Lot to decrement by one. At an exit lane, a valid exit event shall cause the number of available spaces within the parking facility to increment by one, and the vehicle count for the facility to decrement by one. For the Premier Lot the system shall also add and subtract vehicle counts for the T1 and T2 sides of the BART station, by placing loop sensors in the main north-south access roadway, beneath the BART station.

9. Parking Space Count System Hardware

a. All PSCS dynamic signs shall be LED type. The sign types include:

(1) Facility Open/Full Sign – dynamic signs on approach roadways or at entry plazas that depict the status for each facility by displaying “OPEN” in green or “FULL” in red

b. Proper sign matrix size shall be proposed by the Contractor to fit within the geometric circumstances of each installation. Minimum character height shall be as follows:

(1) Facility Open/Full Signs – 8”
(2) Facility Summary Level Status Sign – 5”
(3) Individual Level Status Signs – 5”

c. The PSCS software shall control the message that is displayed on all signs.

d. The PSCS shall allow the Port to override the status displayed and to change the predetermined occupancy number that triggers a change from one sign display to another displayed status.

e. As part of their Proposal, the Contractor shall submit product data and photographs of all proposed PSCS Dynamic Signage.
X. Pinhole camera

1. Contractor shall install a pinhole camera in each device so that when a transaction is initiated or the intercom button is pushed, the camera captures an image of the driver of the vehicle.

2. The image shall be associated with the transaction and stored as an integral part of the transaction.

3. Pinhole cameras shall be installed in the following devices:
   a. Entry column
   b. Exit column
   c. Transaction Panel
   d. Standalone Proximity card reader

Y. Intercom System

1. The Contractor shall provide a turn-key intercom system that consists of two host intercom stations and an integrated microphone and speaker in each Entry Station, Express Exit Station, and Employee Parking Proximity Card Reader Pedestal.

2. The intercom shall be a push-button intercom with integrated camera that focuses on driver such that in the event a patron needs assistance while stopped in a lane, the button can be pushed and a connection established between the field location and the host intercom station.

3. In the event that the arming loops are triggered for a configurable amount of time with no transaction being initiated, the intercom station in the lane shall automatically call the Parking Management Office.

4. The intercom system shall utilize VOIP.

5. The intercom communications shall be directed to a command desk console located in the Parking Management Office (PMO) with roll over capabilities to a second base station as designated by the Port or other telephone/cell phone. The PMO shall be equipped with an intercom base station that displays the physical location of the incoming intercom call. Incoming calls to the base station should employ visible and audible signals to alert PMO staff.

6. Once activated, two-way communication shall be possible and the intercom line remains open until the parking staff member terminates the call.

7. All intercom conversations shall be recorded and stored for a minimum of thirty (30) consecutive days.
8. It shall be possible that if one intercom is open, and a second call comes in, the attendant shall place the first call on hold and answer the second call.

9. As part of their Proposal, the Contractor shall submit product data of the intercom base station and push button intercom terminals.

Z. Validation System

1. The PARCS shall create, process, and track multiple forms of fee discounts and validations electronically in the system. Discounts and fee modifications can be related to: Americans with Disabilities Act (ADA), Disabled Veterans, Port developed validations and coupons, etc.

2. The Contractor shall provide an electronic validation system whereby the Port may discount a patron’s parking fee by either re-encoding their parking ticket, issuing a magnetically encoded, barcode or QR code voucher, or issuing an electronic barcode or QR code for presentation by a smartphone.

3. Validations shall be made for fee modifications or discounts expressed in specific dollar amounts per transaction or per time period (e.g. $5.00 off total fee or $5 off per day), specific durations of time (e.g. two hours free, one or more days free, etc.), for the entire parking fee, or a fee calculated at a reduced or alternate rate structure for an individual ticket. Contractor shall provide a method of tracking validations issued by user with a comment field to be completed upon entering the validation.

4. The Port shall create validations via Validation Stations that are connected to the browser-based PARCS, and protected by username and password. The Contractor shall be responsible to ensure that the validation stations function in accordance with these specifications even if the validation stations are connected to an existing Port computer workstation.

5. Only users with appropriate authorization shall issue validations and the PARCS shall track all validations for auditing purposes by user, validation date, validation type, and validation amount.

6. Three (3) validations stations shall be provided by the Contractor, locations to be determined by the Port.

7. The Contractor shall submit a cut sheet of the proposed Validation Stations as part of their Proposal.

W. Mobile LPR System
1. Contractor shall equip two (2) Port provided vehicles with LPR CCTV cameras and associated computers to record license plate data of vehicles parked within the Port’s parking facilities. The vehicles shall capture license plate data on a nightly basis and require no more than three (3) hours to capture all vehicles parked within the Port’s parking facilities.

2. The nightly inventory shall be automatically uploaded into the PARCS servers within thirty minutes of completion of the inventory.

3. The Mobile LPR system shall use route-specific software for the inventory taking process, meaning that the inventory takers shall follow a pre-defined route when circulating through the facilities to obtain the inventories. However, because the availability of parking spaces and possible reconfiguration of the parking layouts, the Contractor shall provide a GUI capability to alter the pre-defined route in order to reflect changed parking configurations. Contractor shall develop the most efficient routing through the Port’s parking facility to minimize the amount of time required to capture the nightly LPI.

4. Vehicles shall be equipped with multiple cameras in order to capture license plate data from vehicles parked on either side of a bi-directional or uni-directional drive aisle. Multiple passes down a single drive aisle shall not be acceptable.

5. Each Mobile LPR vehicle shall acquire an image of a vehicle’s entire license plate at a ninety-nine percent (99%) rate for all non-exception vehicles as defined within this section.

6. The Mobile LPR system shall alert the driver of a possible miss-read and allow the driver to correct data at the time of taking inventory. Alternatively, corrections can be performed once the inventory has been uploaded to the server.

7. Each Mobile LPR vehicle shall achieve an N Factor rating of ninety (90%) meaning specifically that the LPR Subsystem shall read all license plate characters, exclusive of stacked characters, correctly ninety-five percent (95%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem shall 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 LPN “ABC123” exactly.) Additional characters added before or after the license plate characters shall count against the read rate. (i.e., “1ABC123” would not constitute an N read.)

8. Exception vehicles shall 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 (having a foreign object within .375 inches (⅜”) of any LPN character).
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 12 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

e. Vehicles with temporary cardboard (non-reflective) “Dealer Plates.”

f. Motorcycles

9. Ambient lighting conditions shall have no effect on the accuracy of the LPR system regardless of the time of the day and night. The Contractor shall provide any necessary shading or lighting elements required to mitigate the effect of the ambient lighting conditions on the LPR system performance.

10. The LPR subsystem shall read all plates, reflective and non-reflective, that are present in the Oakland, CA area.

11. The Contractor shall provide a means, subject to approval by the Port, to remotely score the Mobile LPR system to ensure it meets the Functional requirements. The Contractor shall transfer images from each vehicle to a storage format such as CD-ROM, DVD, or uploaded to an FTP site that can then be viewed and scored on a standalone PC by County or Architect/Engineer. Port shall be able to select any images stored on the LPR database for scoring purposes. The Contractor shall provide all software needed to test the LPR Subsystem’s performance. The software shall be downloadable to a standalone PC used for testing.

AA. LPI System Backup

1. The Contractor shall propose a License Plate Inventory (LPI) system to manually capture vehicle LPNs for a LPI database to assist in exception transaction processing and to facilitate customer service activities such as helping patrons locate a lost vehicle. The LPI system shall use route-specific software for the inventory taking process, meaning that the inventory takers shall follow a pre-defined route when circulating through the facilities to obtain the inventories. However, because the availability of parking spaces and possible reconfiguration of the parking layouts, the Contractor shall provide a GUI capability to alter the pre-defined route in order to reflect changed parking configurations. Only authorized users shall be able to modify routes or data. The PARCS shall modify user access levels to the LPI system.

2. The LPI system shall include all hardware and software for a fully functioning LPI taking and reporting system that is completely and fully reconcilable with the PARCS ticket inventory and the LPR system’s active image inventory. The Contractor shall provide an automated, software application to reconcile the LPI inventory and LPR image
inventory. The software shall include reconciliation tools, vehicle lookup tools, and LPR/PARCS/PSCS reconciliation software.

3. The LPI system shall accommodate the following tasks:
   
a. Inventory taking – at specified intervals (e.g. each night), inventory takers shall circulate the parking facilities with handheld devices to record each vehicle’s LPN. The LPI shall record by facility, aisle, unique space number, and LPN.
   
b. Inventory upload – after completing the inventory, the inventory takers shall be able to return the handhelds to a docking station connected to the LPI workstation to upload the nightly inventory. Appropriate checks and balances shall be in-place to detect possible data entry errors.
   
c. Reconciliation – Upon successful upload and adjustment of the Port-wide inventory, the LPI shall be reconciled with the LPR active inventory. The reconciliation process shall not alter the accuracy of the true number of vehicles parked in a parking facility.
   
d. Route modification – it shall be possible to add, delete, or modify the inventory routes as well as add or delete entire facilities from the LPI system.
   
e. The LPI system shall recognize a vehicle that has changed spaces since the last inventory was taken, but that has not exited the facility and re-entered.
   
f. Nightly upload of data into PARCS and reconciled against LPR data.

4. LPI Handhelds
   
a. The Contractor shall provide the quantity of LPI Handhelds listed in the pricing schedule with the following capabilities and features:
   
   (1) LPN Field that accommodates one to eight characters
   (2) Automatically recalls the LPN that was parked in each space on the previous night
   (3) Docking capability for upload of LPN Inventory
   (4) Withstands drops from a height of up to four feet on concrete
   (5) Dust/Water/rain resistant to a minimum IP code rating of IP54.
   
   b. As part of their Proposal response, the Contractor shall submit product data of all proposed LPI Handhelds.

5. LPI Workstations
a. The LPI subsystem shall be accessible from any authorized workstation on the Port network. In addition, the Port shall make available one workstation as to be located in the Parking Operations Office whose primary function will be LPI. This workstation will host the docking ports from the handheld devices and serve as the location to perform the nightly LPI/LPR reconciliation.

BB. Automated Pay Stations (Also referred to as “Pay-on-Foot”) – The Port may elect to install Automated Pay Stations as a part of this project.

1. Automated Pay Stations shall be installed on in the following locations, (Port may elect to purchase additional devices at any time):

   a. Economy Lot in close proximity to the exit plaza: 1

2. Overview

   a. Contractor shall provide Automated Pay Stations (APS) devices that are integrated into the PARCS. Actual deployment locations will be designated by the Port. Contractor to provide the Port with electrical and communications requirements as a part of the proposal for the Automated Pay Station devices and the Port will provide all electrical and data communication infrastructure to support the APS devices.

3. APS Requirements

   a. Cash/Credit Card APS features - All APS devices shall provide the following features and functionalities:

      (1) ADA requirements and standards
      (2) Access door with appropriate locking system
      (3) Intercom equipped with camera that focuses on patron – identical to intercom equipment as provided elsewhere in the PARCS
      (4) Visual instructions for patrons to understand the sequence of events to complete a transaction
      (5) Color patron interface monitor
      (6) Cancel button that allows a patron to cancel a transaction once a parking ticket has been inserted. Any cash inserted shall be returned to the patron upon execution of the cancel button
      (7) Colors for the pay stations, all text, and graphics shall be configurable and approved by the Port prior to manufacturing
      (8) Integrated and on-line within the PARCS
      (9) Utilizes single-slot technology for ticket and credit card insertion and reading
(10) Reading contactless credit cards (EMV chip embedded cards) and magnetic striped credit cards.
(11) Ten key pad for entry of PIN codes.
(12) Readers to read either paper or electronic (smartphone) bar code and QR code.
(13) Completing on-line, real-time credit card authorization.
(14) Operate offline when network connectivity is interrupted.
(15) The grace time (the number of minutes between the time a ticket is paid and the time a driver exits with vehicle through exit lane) shall be parameter driven and with modification by the Port. The APS grace time shall be configurable for each parking facility.
(16) Log when a cabinet has been opened or closed; date and time recorded in real-time on the Event Log.
(17) Receipt generation
   i. Upon successful payment, print a receipt that includes the pay station identification number, facility identification, time and date, amount paid, and transaction number.
   ii. Receipts for credit card transactions shall be either auto issue or by request. The configurable timeout function for receipt request shall be set for 20 seconds or until the next ticket is inserted.
   iii. Create an alarm when the receipt paper is low.

3.1 Cash/Credit Card APS features - In addition to the requirements above, the cash and credit card APS devices shall provide the following functionalities:
   a. Processing parking fee payments using multiple forms of payment, e.g., any combination of cash credit cards, EMV cards, and validations.
   b. EMV reader with ten-key PIN pad.
   c. Four way bank note acceptor capable of accepting bank note denominations of $1, $5, $10, and $20 in all directions with alarm when acceptor is approaching capacity.
   d. Bank note dispenser for dispensing change with alarm for when the dispenser is running low. Bank notes dispensed as change shall be in denominations of $1, $5 and $10.
   e. The APS Stations accepting cash shall be designed with a note escrow that will accept and hold the currency until the transaction has either been completed or until the patron has cancelled the transaction and the APS Station has returned the notes.
   f. The APS Stations accepting cash shall include a note recycler.

3.2 Exiting with a Pre-Paid Ticket - All bowl parking exit lanes shall process tickets that are pre-paid at the APS devices. Exit lanes shall
calculate and process the additional fee if the patron has exceeded their grace time for exiting after paying at the APS.

3.3 Reporting – the PARCS shall contain reports for the APS devices that adhere to the requirements described these Functional Specifications.

CC. **Automatic Vehicle Identification (AVI)**

1. The Port currently has a TransCore AVI system featuring overhead receivers in operation. Contractor shall integrate existing AVI equipment as identified in the pricing schedule.

2. The Contractor shall reuse existing in lane AVI equipment.

3. The Contractor shall provide one (1) new AVI antenna and reader for the new (2nd) Premier Parking Entry Lane.

4. The functionality to be provided by the AVI system shall be an access control system for Port maintenance vehicles, certain VIP (Port specified) users, and Customer Loyalty Parking Program users to enter and exit the facilities without the requirement for printing and withdrawing a paper ticket. The AVI system shall provide a fully functional office and accounting system to be administered by the Port.

5. The Contractor shall provide a turnkey end-to-end solution that includes the following components and services:

   a. Software to meet the functions and specifications described herein.
   b. Integration to the PARCS. This integration shall allow for vehicles using a valid AVI transponder to enter or exit through all lanes without the requirement to issue a parking ticket at the entry lane or present a parking ticket at the exit lane.
   c. Installation and commissioning services.
   d. Transaction processing
   e. Report generation
   f. Selected vendor shall install, integrate, implement, and test the system to ensure components and software performs as required and as designed.
   g. Contractor shall provide FCC licensing for all AVI equipment

6. Specific requirements are included in a subsequent section of these specifications. The AVI system shall meet the following minimum specifications:

   a. The AVI system shall read and account for one or more tagged vehicles passing near the read zones for each antenna and reader simultaneously.
   b. The AVI system shall read and accurately identify no less than 99.8% of properly mounted tags that pass through the read zone.
c. The AVI system shall provide continual uploading of data to the main computer system in an online, real-time basis as soon as the system completes the decoding process for the transponder.

d. The AVI system shall process transponder reads at multiple locations, as required, to create a completed transaction. Completed transponder transactions shall be compiled once per day to create actual revenue transactions. Incomplete transponder read transactions, shall be buffered in the system and remain unprocessed until the host computer receives the matching transactions.

e. The reader system shall buffer a minimum of 2,000 transactions per lane and a minimum of sixty (60) consecutive days of transactions, if there is a failure of an in-lane controller or communication.

f. Upon restoration of the main server or communications, the reader system shall automatically transmit previously un-transmitted, buffered data to the main server.

g. AVI transactions must be completed, and the entry or exit gate opened, within a maximum of eight (8) seconds.

7. Transponders

a. Contractor shall provide a minimum of 1,000 new transponders of the eGo standard

8. Desktop Reader/Programmer

a. The selected vendor shall provide a desktop reader/programmer with the initial transponder delivery. The desktop reader/programmer shall be provided with all necessary software and hardware to operate the unit using a standard personal computer running Windows.

8. Lane System

a. Each lane system shall operate stand-alone operation, if communications to the Host computer are lost. Each lane system shall maintain a local clock which shall be synchronized to the Host computer at an hourly basis. Adjustments to the system clock shall not cause errors in the database or system reports.

9. Software Application

a. The AVI system shall be fully integrated into the parking system in order to provide a seamless access/control system that is fully auditable and provides integrated reports for the parking system as a whole.
b. The AVI system shall include fully a functional administrative and reporting system that provides the following minimum functions:

1) Account administration  
   a. Open accounts  
   b. Close accounts  
   c. Modify accounts

2) System shall require the following fields to be entered and maintained:
   a. Patron name  
   b. Patron’s address  
   c. Email address  
   d. Vehicle identification
      i. Make  
      ii. Model  
      iii. License plate number  
   e. Credit card information with expiration date  
   f. Transponder number

3) Report preparation and printing  
4) Audit controls

9. Transponder Inventory Management System

a. The AVI system shall provide a transponder inventory management system that shall include the following information, at a minimum:

1) Total number of transponders in inventory  
2) Active transponders and assignee  
3) Transponders in storage  
4) Lost, stolen, or invalid transponders  
5) Delinquent payment on transponders

b. Authorized users shall maintain the inventory to update the status and quantity of transponders, add or delete transponders, and make other adjustments to the inventory as may be necessary.

DD. Customer Loyalty Programs - Frequent Parker Program (FPP), Corporate Parker Program, etc.

1. The PARCS shall provide a Customer Loyalty Parker Program to allow patrons to open and maintain an account with the Port to provide automatic billing for each parking transaction at the Port.

2. The PARCS shall provide the following functions:
   a. Web-based accounts for patrons to establish/open an account and maintain the information within the account:
      1. Patrons can perform the following functions:
         (a) Register for program
(b) Maintain account information
(c) Change or edit account information
(d) Request/print receipts
(e) View current point accumulation
(f) Track the number of free days of parking accrued by lot
(g) Select which day(s) to redeem their rewards

b. Account information shall contain the following minimum information:
   1. Name
   2. Billing address
   3. Credit Card number(s)
   4. Expiration date
   5. Email address(es)
   6. License Plate Numbers of vehicles associated with the account – there could be multiple LPNs in the case of a corporation.

a. Account registration procedures should be available for establishment of corporate as well as individual loyalty program accounts.

3. Transaction Process:
   a. Vehicle drives into Entry Lane and the AVI system, proximity card, or credit card identifies a valid account holder, the LPR system captures the license plate number, associates the LPN to the entry transaction and raises the gate.
   b. As the Patron drives into an Exit Lane, the AVI system, proximity card, or credit card identifies a valid account holder, the LPR system captures the LPN, matches the entry transaction, raises the gate, and charges the credit card on file.

4. The Port may offer discounted parking to the Loyalty Parkers or other types of promotions, such as free parking in various parking facilities.

5. The Customer Loyalty Program shall provide marketing opportunities through email solicitations or mailing solicitations to account holders. This shall require the ability for specified web-enabled elements or pages of the user interface of the Parking Loyalty software module, to integrate with specified pages of the Port’s website.

EE. CCTV VIDEO EQUIPMENT

1. Description

   This work shall consist of furnishing and installing a digital closed circuit television (CCTV) camera. The installed equipment shall provide unobstructed video images of the current conditions around the site, respond to camera control signals from the operator, and ensure video images can be transmitted to remote locations for observation.
2. Equipment

(a) Camera General Specifications

1. Electrical Specifications - The CCTV camera system shall operate using a nominal input voltage at the cabinet of 120 volts alternating current (VAC). If the camera or any camera-related ancillary device requires operating voltages other than these, appropriate voltage converters shall be provided. Ground loop isolators shall be provided and installed for each CCTV. Power consumption shall not exceed 125 watts.

2. Environmental Specifications

The camera housing shall be a weather-tight enclosure carrying a NEMA 4X/IP-67 rating, or better.

All external connectors and cable through-holes shall have weather-tight fittings compatible with the size and type of cable/connectors used. Wires shall not protrude outside of the housing enclosure.

The CCTV camera shall perform all required functions during and after being subjected to an ambient operating temperature range of -30º to 165º F, as defined in the environmental requirements section of the NEMA TS 2 standard. Humidity rating shall be 5% to 95%, non-condensing. Documentation shall be provided to the Engineer verifying that the CCTV camera manufacturer certifies that the device has successfully completed environmental testing as defined in the environmental requirements section of the NEMA TS 2 standard. A heater/blower shall be used to maintain internal temperatures within the manufacturer required operating temperatures.

The housing shall protect the camera and other internal components from rain, dust, corrosive elements, and typical conditions found at a roadside environment. Verify and document that
the CCTV camera, mounting hardware, and any other camera-related material exposed to the environment shall be designed for 90 mph winds, with a 30% gust factor, in accordance with the current AASHTO Standard Specifications.

3. **Physical Specifications**

The camera housing and associated equipment shall be an outdoor rated pan-tilt-zoom (PTZ) camera assembly. The camera housing shall be equipped with a sunshield to reduce the solar heating of the camera and glare. The total weight of CCTV cameras (including the housing, sunshield, and all internal components) shall be less than 18.0 pounds. The outer body of the camera housing shall be distortion free clear plastic over the lens area. The outer body of the camera housing shall be white in color for the remainder of the housing.

Each camera assembly shall be equipped with cables used for video feed, camera control including PTZ, communications signaling, and power supply. CCTV composite cables shall be connectorized at the camera end and unconnectorized in the cabinet. The unconnectorized end shall be terminated to the transient volt surge suppressor (TVSS). The cables shall be the full length of cable from the CCTV camera to the cabinet with an additional 10 feet of slack in the cabinet and with sufficient length for lowering device connectivity and splicing where applicable. The Contractor shall determine the appropriate cable lengths required for each site.

Spliced cable, shield or conductor, used for video, control, communications signaling, or power supply shall not be allowed. All conductors shall be identified by color and number. The Contractor shall identify the conductor function in the documentation included in the camera assembly documentation. The connectorized end connector shall be designed for use with the CCTV camera.
The cable furnished for power, signaling, control, and video must be compatible with these installation materials.

(c) Digital Camera - Digital cameras shall be PTZ day/night color. The cameras shall meet the camera general specifications and the following minimum requirements:

1. Mechanical Specifications

i. Sensor:

1.2MPixel, or better, progressive scan digital imaging sensor camera
Sensor Resolution: 1280 x 960
Effective resolution of 1280 x 720p
Optical Zoom 18x
Lens: 4.7mm to 84.6mm, minimum
Sensor size 1/3”
Electronic-Shutter: dip-switch selectable electronic shutter with speed range from 1/30 of a second (off) to 1/10,000 of a second
Overexposure protection: The camera shall have built-in circuitry or a protection device to prevent any damage to the camera when pointed at strong light sources, including the sun
Low light condition imaging
Scene Illumination Sensitivity at 50 IRE:
o 1.8 Lux (0.18 fc) @ 1/30 shutter, or better (color mode)
o 0.02 Lux (0.002 fc) @ 1/4 shutter, or better (mono mode)
Aspect Ratios Supported: 4:3 and 16:9
Wide dynamic range (WDR) operation with manual override option
White Balance (Auto/Manual)
Electronic image stabilization
Automatic focus with manual override
Iris control (Auto/Manual)
Day/Night IR cut filter

ii. Operations/Environment:
high-speed positioner-style camera
Auto-flip at bottom of tilt travel
Sector/Privacy Zones: 8 minimum
Positioning to 0.2° accuracy
Preset Pan speed: 180 deg/sec minimum
Preset Tilt speed: 160 deg/sec minimum
Manual Pan speed: 0.1 to 80 deg/sec
Manual Tilt speed: 0.1 to 40 deg/sec
Video Tours: 8 minimum
Presets: 64 minimum
Built-in Title Generation (Camera ID, and
Preset Titles, at a minimum)

Each CCTV assembly shall accept status information from PTZ equipment for preset positioning of those components. The CCTV assembly shall accept “goto” preset commands from the test panel and central software, decode the command data, perform error checking, and drive the pan/tilt and zoom lens to the correct preset position. The preset commands will consist of unique values for the desired pan, tilt, zoom, and focus positions.

2. Communication Standards - The CCTV camera shall support the appropriate NTCIP 1205 communication protocol (version 1.08 or higher), ONVIF, or approved equal for full functionality/compatibility with the Regional Traffic Operations Center’s (TOC’s) ATMS software.

3. Networking Standards:

   Network Connection: 10/100 Mbps auto-negotiate
   Frame Rate: (30, 15, 7, 4, 2, 1fps min.)
   Data Rate: scalable from 64k to 5Mbps per stream
   Built-in Web Server
   Unicast & multicast support
   Two simultaneous video streams (Dual H.264 and MJPEG):
     o Video 1: H.264 (Main Profile, at minimum)
     o Video 2: H.264 or MJPEG
   Multiple camera protocol support compatible with VDOT’s central system software
   Supported Protocols: DNS, IGMPv2, NTP, RTSP, RTP, TCP, UDP, DHCP, HTTP, IPv4

   The video camera shall allow for the simultaneous encoding and transmission of the two digital video
streams, one in H.264 format (high-resolution) and one in H.264 or MJPEG format (low-resolution). High resolution streams shall allow video bit rates from 1 to 5 Mbps and the low resolution stream shall allow video bit rates from 64 kbps to 2 Mbps. Initially configure these formats for 2.5 Mbps and 384kbps, respectively.

Initially use UDP/IP for video transport and TCP/IP for camera control transport unless otherwise approved by the Engineer.

The camera shall support resolutions of 720p, CIF (352 (H) x 240 (V)), and D1 (720 (H) x 480 (V)) at a minimum.

The 10/100BaseTX port shall support half-duplex or full-duplex and provide auto negotiation, and shall be initially configured for full-duplex.

The camera unit shall be remotely manageable using standard network applications via web browser interface administration. Telnet or SNMP monitors shall be provided.

(d) CCTV Composite Cables Digital - The cable for connection to CCTV unit shall contain CCTV Ethernet and power lead-in conductor wires in a single cable jacket that is rated for outdoor use meeting outdoor temperature, water blocking, ultraviolet and insulation characteristics. Furnish a shielded CAT6 twisted pair cable that prevents cross-talk and RFI/EFI between conductors. Cable shall be equipped with standard connections on both ends compatible with the equipment to which it will be connected. The power connections shall be of the conductor size required to operate with voltage drop and signal loss characteristics of the equipment being connected.

(e) CCTV Camera Attachment - The mounting hardware shall allow for mounting as shown on the detail sheets.

The CCTV assembly shall be attached to the pole with stainless steel banding that allows for the removal and replacement of the CCTV enclosure as well as providing a weatherproof, weather tight seal that does not allow moisture to enter the enclosure.
(f) Surge Suppression - All equipment at the top of the pole shall be protected by grounded metal oxide varistors connecting each power conductor to ground. Communication Interface Requirements: Optical isolation shall be provided with an isolation of no greater than 2000 VAC for data signals and ground.

(g) Communication Standards:

1. Wiring - Wiring shall meet NEC requirements and follows the equipment manufacturers’ recommendations for each device connected on the pole at the lowering device and in the cabinet.

2. Connector Block - Contact connections between the fixed and movable lowering device components shall be capable of passing EIA-232, EIA-422, EIA-485, and Ethernet data signals and 1 volt peak to peak (Vp-p) video signals, as well as 120 VAC, 9-24 VAC, and 9-48 VDC power.

3. Measurement and Payment

No separate payment will be made for coordinating with the utility companies or installing and integrating items associated with the work as described herein but the cost thereof will be considered incidental to other appropriate items of work.

The cost of furnishing and installing the bond system shall be included in the unit price bid for each type and size of conduit wherein no separate measurement or payment will be made.

CCTV Camera (Type) will be measured in units of each and will be paid for at the contract unit price per each. This price shall include furnishing and installing the CCTV camera, mounting arms, fittings, miscellaneous cabling, testing, operational software package(s) and firmware(s), supplies, support, training, shop drawings, documentation, and all materials, tools, labor, equipment and incidentals necessary to complete the work.

CCTV Composite Cable (Type) when designated as a pay item will be measured in units of linear feet and will be paid for at the contract unit price per linear foot. This price shall include furnishing and installing the cabling, connectors, and all
materials, tools, labor and incidentals necessary to complete the work.

Payment will be made under:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCTV Camera (Type)</td>
<td>Each</td>
</tr>
<tr>
<td>CCTV Composite Cable (Type)</td>
<td>Linear Foot</td>
</tr>
</tbody>
</table>

4. CCTV System Software

A. FUNCTIONAL REQUIREMENTS

i. General

The overall architecture of the system shall be a client server design based on hybrid centralized/distributed intersection control concepts.

Processing shall be distributed and the communications protocol of the state-licensed local controller software shall be used for all intersection controller interfaces. Client workstations shall access networked file servers that perform traffic management, system communications, database management, and system graphics.

The system shall be implemented using standard, commercially available computer hardware. Windowing graphical user interfaces (GUI) using object-oriented design and geographically coded database components shall be an integral part of the system design. These elements shall form the basis of all user interactions with the system.

The software shall be portable, as a minimum, across multiple PC hardware platforms and shall be designed to integrate with off-the-shelf PC software. For
example, the system shall provide the ability to exchange files with common office productivity software products.

All software and firmware furnished under this project that maintain internal clocks and utilize those clocks for display of time, reporting of time back to system users, reporting of time on reports and event logs, and/or use of internal time clock to coordinate actions and activities with other software or devices shall be able to adjust to leap-year and current day light savings time dates automatically without user intervention or adjustment.

1. Local Area Network Requirements
   A 10/100/1000 Base-T Ethernet, local area network (LAN) shall support the distributed client/server architecture.

   The software shall allow for a minimum of sixteen (16) simultaneous users (including remote users) of the system applications software. No degradation in system performance shall occur when sixteen operators use the system simultaneously. Access by any particular user to any particular command shall be allowed or disallowed based upon that user's assigned security level.

2. Software License
   Provide a perpetual, irrevocable software license to the Owner that gives them the right to copy and use the software furnished with this project at any facility within the limits.

   Furnish software modifications necessary for system operation as per this Project Special Provision to the agency at no additional cost during the warranty period.
For any software functionality that is specifically developed for this project, the software developer shall provide hardcopy and digital copies of the un-compiled source code of the software. This source code must be fully documented and commented, so that an experienced programmer/developer (3 plus years) in the language(s) that the software is written may interpret, modify, and debug the code. The required software compilers shall be specifically and clearly identified and include the operator system platform, the version number, release number and date, and brand.

For copyrighted commercial off-the-shelf (COTS) software, a copy of the source code (both hardcopy and un-compiled digital commented as described in the preceding paragraph) shall be held in an escrow account by an independent agent agreed to prior to final acceptance of the system by the Owner. The version of the source code in the escrow account shall be updated as modifications, fixes, enhancements, and improvements are made to the software and implemented on the software products used by the Owner. In the event the provider of COTS software product(s) defaults, discontinues support of the software product(s) furnished under this project, goes out of business, or otherwise is unavailable to support the software product(s), the software source code contained in the escrow account shall immediately become the property of the Owner.

Provide any third party software licenses to the Owner for software that may be used. Example: report-configuring, diagnostic, or monitoring software.
3. Operating System

The operating system for all software provided under this project shall be the latest revision available as recommended by the supplier of the system software.

B. CCTV System Software - The Contractor shall load CCTV system software on the digital video server for a user to distribute video streams among different monitor outputs and control the PTZ operations of the CCTV cameras in the field. The system software shall provide for the management of IP based video networks and be fully compatible with the digital video system provided under this project. The system software shall support TCP/IP and SNMP. The system software will have the capability to access and control (pan/tilt/zoom) the video images. The system software will have access to the video network and have the ability to select CCTV images to be brought to any operator workstation running the CCTV software client as well as be directed to the display wall monitor or overhead projector. The system software will have full control over the selection of video inputs and outputs through the use of a single Graphical User Interface (GUI). Table-based and map-based video selection shall be provided by the GUI. This CCTV system software will have the following basic functions:

- Provide standard windows based user interfaces and will run on the servers and workstations being provided under this project.
- The software will operate in Client/Server architecture and communicate with the video management server via IP.
- Utilize GUI for the purpose of directing CCTV to display wall monitors seamlessly via a simple mouse click.
• Utilize GUI for Pan/Tilt/Zoom (PTZ) of video system CCTV cameras.

• Provide menu tree structure for selection of devices and provide simple-to-use Telnet hook commands for incorporation into map based GUI.

• Provide the capability to receive, view, and distribute standard formatted digital video (H.264 or MPEG-4) simultaneously in one application utilizing the same GUI window.

• Allow the user to select any video signal and view it on any computer desktop with the software client and tied to the LAN with a connection containing a suitable bandwidth.

• The software shall allow the computer Operator to view the selected video image in a separate window on the computer desktop.

• The software shall launch a window for the viewing of video images on the computer desktop.

• Images selected will automatically switch views within the viewing window once a connection to the video source has been made.

• The software shall support the creation of CCTV tours. A minimum of 25 tours shall be supported with each tour consisting of a minimum of 20 individual steps and/or commands. These shall include individual CCTV assignment of specific devices, movement to preset position and zooming of individual CCTV to preset position.

• The software shall support the assignment of a default preset position (pan, tilt, and zoom) for each camera. Upon an Operator selecting the camera and adjusting any of the PTZ controls, the software shall initiate a
countdown period of a user-defined length of time. Once the countdown period has completed, the software shall automatically return the camera to the default preset position.

The client software interface will allow the Operator to execute the following commands:

- Select CCTV cameras from the video network to be displayed on the Operator's computer desktop.
- Command and control of CCTV cameras such as pan, tilt and zoom (PTZ), iris controls and presets where available.
- Store and recall CCTV camera presets, where available.
- Select video images brought to the Operator's computer to be redirected for display on the LCD monitor or video projector.
- Setup Quad displays for viewing of four (4) individual video signals to be displayed in one full screen view.
- Allow the selection of video feeds for viewing through the use of a programmable menu tree structure.
- Contain a map based GUI for the selection of video signals. The GUI shall provide a graphic of the overall project area with icons representing camera locations. This graphic shall be identical to the map used for the signal system software. Selecting an icon will provide the user with camera control, unless the camera is in use by another user. If the selected camera is in use by another user, a message identifying the current user shall be displayed.
- The software shall allow each client interface with the ability to simultaneously connect to and control up to four (4) separate video sessions in one Client GUI.
The client and server software, as an integrated system, shall have the intelligence necessary to handle the contention mentioned above and it shall have a facility for the display of which video streams are linked to which network devices. This may be a tabular text or graphic representation and will also be a function of the administrative software.

- The system will direct selected video images to appear in a window, one image at a time, on the Operator’s computer desktop and will allow the Operator to redirect the images to selectable endpoints such as the monitors or projector.

- Through the use of the client software, the Operator will have the ability to view live, streaming video on the Operator’s workstation and shall have the capability to distribute selected video streams to the dedicated video processor units for viewing on the monitors or projector.

- The network server and administration software must have the capability to fully manage and distribute the multicast streams within the video network.

- The video control software must allow for grouping of video network resources to specific video network users or devices.

- The video control software shall have an unlimited amount of user priority levels available, enabling the allocation of specific video resources to be available to specific users.

  - The priority level scheme shall allow for a user with a higher priority level to automatically take control of video resources when logging into the video control software.
- The priority level scheme shall allow for the provisioning of a single user login with unlimited access to all video resources.

- Priority level settings will be assigned to each user of the video control software.

- Upon login to the video network via username and password, the system will automatically recognize the user and allocate the available video resources allowed of that user’s priority level setting.

- The video management server shall have a command pathway to the CCTV cameras and shall have serial (RS-232/422/485) connectivity to the CCTV camera.

- The video management server shall use a Lightweight Directory Access Protocol (LDAP) database for storage of all system devices and users.

- The video management server shall communicate with the Operator’s workstation and the dedicated video processor units via Internet Protocol (IP).

- The video management server shall be fully manageable remotely via IP using the administrative software. The administrative software shall allow the Operator to have the capability to execute the following commands both locally and remotely:
  - Connect and disconnect calls between devices
  - Configure user profiles
  - Configuration of the video network and video network devices
  - Manage system security
The furnished software shall be capable of managing a minimum of 50 unique digital video input streams, and 50 output devices, and 5 controller access points.

C. INSTALLATION AND INTEGRATION

General
Install and fully integrate CCTV central software on CCTV server called for in Section Error! Reference source not found. of these Project Special Provisions as required.

Install all software furnished for the system in accordance with the procedures recommended by the software supplier.

Register all software products furnished with this project with the software supplier. The Owner shall be identified as the registered owner of all software.

1. Operating System
   Install and integrate the operating system and all necessary utilities.

CCTV System Software
Install and integrate the CCTV system software with the field hardware. Install server version of the CCTV system software onto CCTV server. Install CCTV client software onto workstations and notebook computers. Fully integrate all new and existing CCTV cameras that are shown in the Plans.

MEASUREMENT AND PAYMENT

CCTV system software shall be measured and paid as a lump sum. This shall include the furnishing, installation, testing, and all materials, 3rd party software for reporting, equipment, labor, tools, storage, shipping, and incidentals necessary to install the software, complete system integration, and provide a complete
operating system. No payment will be made for providing software license and source code as required in these Project Special Provisions.

All other software and hardware otherwise required to accomplish the functionality required by the Project Special Provisions will not be paid for separately but will be considered incidental. No payment will be made for providing software license and source code as required in these Project Special Provisions.

Testing will not be paid for separately but will be considered incidental to equipment installation.

2) PATRON PROCESSING PROCEDURES

A. Public Entry Procedures

1. The following shall take place for all entry events:

   a. When the entry lane arming loops are not activated, the screen shall display the date and time.
   b. When the vehicle activates the arming loops, the message on the Entry Station’s display shall read, and an audible voice shall sound, “Welcome to Oakland Port, Please Insert or Present Credit Card or Press Button for Ticket”.
   c. When the vehicle activates the arming loop, the AVI antenna/reader is activated to acquire the transponder should a transponder be present.
   d. The patron will extract the ticket, insert a valid credit card, present a bar or QR code, or the proximity card reader or AVI antenna/reader will recognize a valid card or AVI transponder and the barrier gate will be opened. Only a single entry event shall be permitted for each arming event, e.g., if the ticket issue button is pressed, no other entry type shall be permitted.
   e. Upon clearing the barrier gate’s closing detector, the barrier gate arm shall lower to the closed position, the LPR camera shall capture the image of the LPN and associate the LPN with the entry transaction and the ticket number and reset the lane for a subsequent transaction.
   f. The barrier gate’s mechanical counter shall increment by a count of one.
   g. The entry event shall be validated and the associated data with the entry event shall be stored.
h. The Parking Space Count System shall decrement the number of available spaces by a count of one from the appropriate facility.

2. Transaction specific procedures are required in addition to those listed above. The transaction specific entry procedures and procedures for abnormal events are detailed below.

3. Normal Entry with Ticket

a. When a patron presses the ticket issue button, no other entry method is allowed at that point and the Entry Station shall issue a uniquely numbered parking ticket while an audible signal shall sound. The Entry Station shall dispense a magnetically encoded or bar code or QR code imprinted parking ticket and print on the ticket the year, month, date, entry time (hour/minute/second), facility code, lane number, entry sequence number, unique transaction number, and unique machine number. Abbreviations are acceptable; time stamps shall be in 24-hour, military time.

b. When the printed/encoded ticket is extracted from the Entry Station, the audible signal shall cease and the display shall read and an audible voice shall sound “Welcome to Oakland International Airport”. The barrier gate shall rise to the open position, allowing the vehicle to enter the parking facility.

c. Once the vehicle has activated the closing loop, the LPR camera shall capture the LPN of the vehicle and associate the LPN with the entry transaction and the ticket number.

4. Normal Entry with a Mag-Stripe Credit Card (Credit Card in)

a. When a patron inserts a credit card as their entry credential, no other entry method is allowed at that point and the Entry Station shall read the credit card and verify that the card is valid. The card is returned to the patron through the Entry Station’s ticket throat an audible signal sounds.

b. After the patron retrieves their credit card, the audible signal shall cease, and the display shall read, and an audible voice shall sound, “Please Insert Same Credit Card at Exit”. The barrier gate shall rise to the open position, allowing the vehicle to enter the parking facility.

c. Once the vehicle has activated the closing loop, the LPR camera shall capture the LPN of the vehicle and associate the LPN with the entry transaction and the ticket number.

d. The card’s presence shall be set to present in facility.

5. Normal Entry with a Contactless Credit Card (Credit Card In)
a. When a patron presents a contactless credit card as their entry credential, no other entry method is allowed at that point and the Entry Station shall read the credit card and verify that the card is valid.

b. After the contactless credit card is verified, the display shall read, and an audible voice shall sound, “Please Present Same Card at Exit”. The barrier gate shall rise to the open position, allowing the vehicle to enter the parking facility.

c. Once the vehicle has activated the closing loop, the LPR camera shall capture the LPN of the vehicle and associate the LPN with the entry transaction and the ticket number.

d. The card’s presence shall be set to present in facility.

6. Normal Entry by AVI

a. When a patron activates the arming loop, the AVI antenna)reader acquires the transponder number, no other entry method is allowed at that point and the Entry Station shall verify that the AVI transponder is valid and is associated with a valid frequent parker account.

b. After the AVI account is verified, the display shall read, and an audible voice shall sound, “Welcome to Oakland International Airport”. The barrier gate shall rise to the open position, allowing the vehicle to enter the parking facility.

c. Once the vehicle has activated the closing loop, the LPR camera shall capture the LPN of the vehicle and associate the LPN with the entry transaction and the transponder number.

d. The transponder’s presence shall be set to present in facility.

7. Back out at Entry

a. If a patron pushes the ticket issue button and backs out of the lane without retrieving the ticket the barrier gate shall remain closed and the ticket shall be retracted and retained in the Entry Station. The ticket shall be invalidated by the entry station and within the system to prevent future use. The back out entry event shall be stored in the system and the lane shall reset for a subsequent transaction.

8. Stolen Ticket at Entry

a. If a patron pushes the ticket issue button, retrieves the ticket, and then backs out of the lane the barrier gate shall automatically return to the closed position (no timed delay to lower the barrier gate arm to the closed position shall be acceptable), the ticket shall be invalidated within the system,
and an alarm shall be generated. The stolen ticket entry event shall be stored in the system. The ticket shall be electronically invalidated and shall not be allowed to be processed at any exit.

B. Express Exit Lane Procedures

1. All messages to be displayed at the device level shall be configurable by Port staff with the appropriate rights and privileges.

2. The following shall take place for all normal exit transactions at an Express Exit Lane:

   a. As the vehicle approaches the Express Exit Lane, the patron shall see the dynamic signage with the appropriate message and/or graphics displayed. Exact messages to be displayed shall be determined by the Port during installation.

   b. When the Express Exit Lane arming loops are not activated, the patron’s display screen in the Express Exit Station shall display the Oakland International Airport’s logo, date, and time for a period of no longer than ten (10) minutes and then shall blank the screen to be activated when the next vehicle crosses the arming loop.

   c. Vehicle crosses over the LPR trigger loop, the LPR system captures the LPN.

   d. After activating the arming loops, the display reads, and an audible voice sounds, “Insert Ticket, Present Credit Card Used at Entry, Insert Ticket, or present coupon”.

   e. After the appropriate entry credential is presented, the LPR verification takes place and the message “Processing, Please Wait” is displayed. Once positive verification of LPR data occurs, the display shows the fee due. The display reads, and an audible voice sounds, “Please Insert or Present Credit Card for Payment”. For CCI/CCO transactions, the credit card authorization begins automatically. For CCI/CCO transactions, once the parking fee is calculated, the parking fee shall be displayed on the Patron Fee Display. See below for Frequent Parker user transactions.

   f. The patron inserts or presents a credit card.

   g. During credit card authorization, the display shows the message “Processing, Please Wait”.

   h. Once payment is obtained the card, if inserted, is returned through the ticket slot and the display reads, and an audible voice sounds, “Please Take Credit Card”.

   i. Card is removed, the station gives the option to print the patron receipt, if selected the display reads, and an audible voice sounds, “Please Take Receipt”, and the station produces an audible “beep”.

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j. Receipt is taken, audible “beep” ceases, the display reads, and an audible voice sounds, “Thank you from the staff of Oakland Port Parking”, and the barrier gate rises.

k. Vehicle crosses the closing loop, the barrier gate closes, and the lane resets for the next transaction.

l. The barrier gate’s non-resettable mechanical counter increments by a count of one.

m. LPN is moved from the active LPR inventory to inactive LPR inventory, the ticket is moved from active ticket inventory to inactive ticket inventory, and the PSCS increases the number of available spaces by a count of one for the appropriate facility, Hourly, Daily, or Economy Parking.

n. For Frequent Parker Transactions, the AVI antenna/reader captures the AVI transponder number, verifies the number is associated with a valid Frequent Parker Account, and the LPN is associated with the AVI transponder number. The credit card on account is charged the appropriate parking fee due and the gate arm is raised.

3. Transaction specific procedures are required in addition to or in place of those listed above. The transaction specific exit procedures and procedures for abnormal or unique events are detailed below.

4. Express Exit – Ticketed transaction with Invalid Credit Card Presented for Payment

a. After fee is displayed, an invalid credit card is inserted or presented and the display shows the message “Processing, Please Wait”.

b. Once authorization is declined, the credit card, if inserted, is returned through the ticket slot and the display reads, and an audible voice sounds, “Your Card Was Not Accepted, Please Try a Different Credit Card or Press the Intercom for Assistance”.

c. After the invalid credit card is removed, if inserted, the ticket remains in the Express Exit Station and the display alternates between displaying the fee and the message “Insert or Present Credit Card for Payment”

d. Once the patron presents a valid credit card for payment, the transaction continues as a normal exit transaction.

e. If the patron does not have a valid credit card, they must push the intercom for assistance.

5. Express Exit - Exit Within Grace

a. After positive verification of the LPR data, a zero dollar fee is displayed and the barrier gate rises. The display reads, and an audible voice sounds; “Thank you from the staff at Oakland Airport Parking”.

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b. Once the gate rises, the transaction continues as a normal exit transaction.

6. Express Exit - Lost Ticket Transaction

a. The patron pushes the intercom button and is connected to a supervisor. After the patron informs the supervisor that they have lost their ticket, the supervisor is able to use a workstation to verify the patron’s entry information based on the LPR data. From the workstation, the supervisor selects “lost ticket” which automatically transmits the entry information to the Express Exit Station.
b. The correct fee is calculated and displayed.
c. The display reads, and an audible voice sounds, “Please Insert or Present Credit Card for Payment”.
d. After payment is received, the Express Exit Station generates an exception ticket for a lost ticket and retains the exception ticket.
e. The station prints a receipt, if selected, and the transaction continues as a normal exit transaction.

7. Express Exit - Unreadable Ticket Transaction

a. Ticket is inserted into the ticket slot. The ticket cannot be read by the Express Exit Station and is returned through the ticket slot. The display reads, and an audible voice sounds, “Ticket Unreadable, Please Press Intercom Button for Assistance”.
b. The patron pushes the intercom button and is connected to a supervisor. After the patron informs the supervisor that their ticket is unreadable, the supervisor is able to use a workstation to verify the patron’s entry information based on the LPR data. From the workstation, the supervisor selects “unreadable ticket” which automatically transmits the entry information to the Express Exit Station. The correct fee is calculated and displayed. The display reads, and an audible voice sounds, “Please Insert or Present Credit Card for Payment”.
c. After payment is received, the Express Exit Station generates an exception ticket for an unreadable ticket and retains the exception ticket.
d. The station prints a receipt, if selected, and the transaction continues as a normal exit transaction.

8. Express Exit - Attempt to Exit with Swapped Ticket

a. Swapped Ticket is inserted into the ticket slot, and the LPR system verifies that the ticket information does not match the LPR entry information. The entry and exit images are sent to an IRW. While LPR verification is taking place, the message “Processing, Please Wait” is displayed. The image reviewer
selects the correct entry image and the fee is automatically calculated based on the LPR data.

b. The transaction is automatically logged in the system as a swapped ticket and the swapped ticket is retained.

c. Correct fee is displayed and the transaction continues as a normal transaction.

9. Express Exit - Attempt to Exit with Stolen Ticket

a. Stolen Ticket is inserted into the ticket slot, the ticket is identified as a Stolen Ticket, appropriate alarm generated by the system, and the message “Ticket Invalid, Please Press Intercom Button for Assistance” is displayed.

b. The patron presses the intercom button and the supervisor verifies (via the stolen ticket alarm) that the transaction is a stolen ticket.

c. The supervisor is able to use a workstation to verify the patron’s entry information based on the LPR data. From the workstation, the supervisor selects “lost ticket” which automatically transmits the entry information to the Express Exit Station. The correct fee is calculated and displayed and the Stolen Ticket is retained by the Express Exit Station.

d. After fee is displayed, the transaction continues as a normal transaction.

10. Express Exit - Exit with Validation – ticket only

a. After fee is displayed, a validation ticket is inserted into the ticket slot or the patron’s re-encoded parking ticket is inserted into the ticket slot and the discount is applied to the parking fee due based on type of validation (either dollar value or time value).

b. The display updates to show the reduced fee due.

c. If the entire fee due is validated, then the barrier gate rises and the transaction continues as a normal exit transaction.

d. If the validation does not satisfy the entire parking fee, the patron must present a credit card to complete payment and the transaction continues as a normal exit transaction.

11. Express Exit – Discounted Exit with Bar Code or QR Code (cell phone or hard copy) – ticket only

a. After fee is displayed, a bar coded ticket or cell phone bar code is presented to the bar code or QR Code reader and the discount is applied to the parking fee due based on type of validation (either dollar value or time value).

b. The display updates to show the reduced fee due.

c. If the entire fee due is validated, then the barrier gate rises and the transaction continues as a normal exit transaction.
d. If the validation does not satisfy the entire parking fee, the patron must present a credit card to complete payment and the transaction continues as a normal exit transaction.

12. Express Exit – Exit with Validation – Credit Card in/Credit Card out
   a. Present coupon (paper or electronic) to bar code reader located on exit station
   b. Present credit card to credit card reader
   c. Correct fee is displayed and the transaction continues as a normal transaction.

13. Express Exit – Payment by Cell phone – Paper Ticket or Credit Card in/Credit Card out
   a. After fee is displayed, a cell phone bar code is presented to the bar code reader and the discount is applied to the parking fee due based on type of validation (either dollar value or time value).
   b. Correct fee is displayed and the transaction continues as a normal transaction.
   c. Payment for fee is recovered through the 3rd party provider.

C. Cashiered Exit Lane Procedures

1. All transactions processed at a Cashiered Exit Lane in unmanned mode shall follow the same procedures as those for transactions at an Express Exit Station described above.

2. The cashier drawer shall only open for those transactions that require cashier intervention (i.e. cash transactions). Cashier drawers shall incorporate a slot for the insertion of checks without the cashier drawer required to be opened for the transaction. For those transactions that do not require cashier intervention (i.e. credit card transaction, check, grace ticket, full validation transaction, etc.) the cashier drawer shall remain closed.

3. Normal transactions at a Cashiered Exit with a cashier present shall follow the procedures described below.
   a. As the vehicle approaches the Cashiered Exit Lane, the patron shall see the dynamic signage with the appropriate message and/or graphics displayed. Exact messages to be displayed shall be determined by the Port during installation.
   b. When the arming loops are not activated, the screen shall display the Oakland International Airport logo, date, and time for a period not to exceed ten (10) minutes. After ten minutes, the screen will blank until a vehicle trips the arming loop.
c. Vehicle crosses over the LPR trigger loop, the LPR system captures the LPN.
d. After activating the arming loops, the display alternates between “Insert Ticket” and “Or Insert/Present Credit Card Used at Entry”.
e. When the appropriate entry credential is presented, the LPR verification takes place and the message “Processing, Please Wait” is displayed on the patron fee display and the message “Verifying License Plate” is displayed on the cashier terminal. Once positive verification of LPR data occurs, the patron fee display and cashier terminal displays the fee due.
f. After the parking fee is satisfied the receipt is printed through the cashier terminal receipt printer, if requested, patron receives their receipt, and the barrier gate rises.
g. When the vehicle crosses the closing loop, the barrier gate closes and the station resets for the next transaction.
h. The barrier gate's mechanical counter increments by a count of one.
i. The LPN is moved from the active LPR inventory to inactive LPR inventory, the ticket is moved from active ticket inventory to inactive ticket inventory, and the PSCS increases the number of available spaces by a count of one for the appropriate facility.

4. Transaction specific procedures are required in addition to or in place of those listed above. The transaction specific exit procedures are detailed below.

5. Cashiered Exit with a Ticket – Credit Card Payment
   a. The patron inserts or presents their parking ticket to the transaction panel.
   b. Once the parking fee has been calculated and displayed on the patron fee display, the patron shall insert the credit card into the ticket reader/validator located on the Transaction Panel or at the EMV reader.
   c. Once authorization is obtained the card, if inserted, is returned through the ticket slot.
   d. After the card is removed, the Cashier Station receipt printer prints the patron receipt.
   e. After the receipt has been removed by the cashier, the barrier gate rises and the transaction continues as a normal exit transaction.

6. Cashiered Exit with a Ticket – Cash Payment

   After the parking fee is displayed, the following procedures apply:
a. For cash transactions, the cashier enters the amount tendered into the cashier terminal and then presses the Cash button on the cashier terminal. The cash drawer opens and the change due to the patron is displayed on the patron fee display and the cashier terminal.

b. If selected, the receipt is printed on the cashier terminal and the cashier gives the receipt to the patron and closes the cash drawer.

c. After the cash drawer is closed, the barrier gate rises and the transaction continues as a normal exit transaction.

7. Cashiered Exit with a Credit Card (Credit Card Out)

a. The patron inserts or presents their credit card used at entry to the transaction panel and the LPR system verifies the LPR information. While LPR verification is taking place, the message “Verifying License Plate” is displayed on the cashier terminal. Once LPR data is matched, the correct fee is displayed on the patron fee display and the cashier terminal.

b. Once authorization is obtained the card, if inserted, is returned through the transaction panel ticket slot to the patron. A message is displayed that the payment was successfully processed. If the patron used an EMV card, the card is presented to the reader and, upon approval, a message is displayed that the payment was successfully processed.

c. After the card is removed, the Cashier Terminal receipt printer prints the patron receipt and the barrier gate arm rises to the open position.

8. Invalid Credit Card Presented for Payment

a. After the parking fee is displayed, an invalid credit card is inserted or presented to the transaction panel and the display shows the fee due and the message “Processing, Please Wait”.

b. Once authorization is declined, the credit card, if inserted, is returned to the patron and the message “Card Not Accepted, Please Try a Different Credit Card” is displayed along with the fee due.

c. Once the patron presents a valid credit card for payment to the transaction panel, the transaction continues as a normal exit transaction.

9. Exit Within Grace

a. Once LPR data is matched, a zero dollar fee is displayed on the patron fee display and the cashier terminal.

b. A message is displayed on the cashier terminal to inform the patron that the ticket is a grace ticket and a button appears to confirm the transaction.
10. Lost Ticket Transaction
   a. The patron informs the cashier that they have lost their ticket and the cashier presses a lost ticket button on the cashier terminal and the information is transmitted to a Supervisor's workstation in the parking office. The Supervisor searches the LPR database for the entry information based upon the vehicle in lane license plate number. The correct fee is calculated and displayed on the transaction panel and Cashier Terminal and the transaction continues as a normal exit transaction.
   b. An exception ticket is generated for the lost ticket and retained for audit purposes.

11. Unreadable Ticket Transaction
   a. Ticket is inserted into the ticket reader/validator by the patron, the ticket cannot be read and is returned through the ticket slot. The message “Ticket Unreadable” is displayed on the transaction panel.
   b. Cashier presses an unreadable ticket button on the cashier terminal. The cashier is prompted to manually enter the unique identification number from the entry ticket.
   c. After the entry information is manually entered the patron's entry information is verified based on the LPR data. While LPR verification is taking place, the message “Processing, Please Wait” is displayed on the cashier display. The correct fee is calculated and displayed on the patron fee display and Cashier Terminal and the transaction continues as a normal exit transaction.
   d. An exception ticket is generated for the unreadable ticket and retained along with the original unreadable ticket for audit purposes.

12. Attempt to Exit with Swapped Ticket
   a. Swapped Ticket is inserted by the patron into the transaction panel's ticket reader/validator, the LPR system verifies that the ticket information does not match the LPR entry information.
   b. The entry and exit images are sent to an IRW.
   c. While LPR verification is taking place, the message “Processing, Please Wait” is displayed on the cashier's display. The supervisor selects the correct entry image and the fee is calculated based on the LPR data.
d. The transaction is automatically logged in the system as a swapped ticket and the swapped ticket is retained by the Cashier Station.

e. Correct fee is displayed on the transaction panel patron fee display and the cashier terminal.

f. After payment is received the transaction continues as a normal exit transaction.

13. Attempt to Exit with Stolen Ticket

a. Stolen Ticket is inserted into the ticket reader/validator slot by the patron, the ticket is identified as a stolen ticket, appropriate alarm is generated by the system, and the message “Invalid Ticket” is displayed on the cashier terminal.

b. Cashier presses an invalid ticket button on the cashier terminal. A supervisor verifies (via the stolen ticket alarm) that the transaction is a stolen ticket.

c. The supervisor is able to use a workstation to verify the patron’s entry information based on the LPR data. From the iRW, the supervisor selects “lost ticket” which automatically transmits the entry information to the Cashier Station. The correct fee is calculated and displayed.

d. An exception ticket is generated and is retained along with the stolen ticket for audit purposes.

e. After payment is received the transaction continues as a normal exit transaction.

14. Exit with a Validation

a. After fee is displayed, a validation is inserted into the ticket reader/validator slot by the patron or patron waves a paper or electronic bar code or QR code into the scanner; and the discount is applied to the parking fee due based on type of validation, either dollar value or time value.

b. The display updates to show the reduced fee due.

c. If the entire fee due is validated, then the barrier gate rises and the transaction continues as a normal transaction.

d. If the validation does not satisfy the entire parking fee, the patron must present an acceptable form of payment and the transaction continues as a normal exit transaction.

15. Proximity Card Exit: Employee Parking Lot

a. The driver shall present their card at the exit reader and the reader shall emit an audible “beep” to confirm that the card is read and a green light shall blink on and then off.

b. After the proximity card is verified, the barrier gate shall rise to the open position, allowing the vehicle to exit the facility.
c. Once the vehicle pulls forward, the exit barrier gate’s closing detector device shall then detect the presence of the vehicle. Upon clearing the barrier gate’s closing detector, the barrier gate arm shall lower to the closed position and reset the lane for a subsequent transaction.

d. The barrier gate’s mechanical counter shall increment by a count of one.

e. The exit event shall be validated and the associated data with the exit event shall be stored.

f. The PSCS shall decrease the occupancy count of the facility by a count of one.

g. If the proximity card is being used by a patron as a loyalty program payment card then payment would be applied to the credit card number associated with that card. (Same applies to an AVI exit transaction associated with a FasTrak transponder)

16. In the event that the proximity card does not work at the exit, the driver shall press the intercom button for assistance.

3) EQUIPMENT AND SUBSYSTEM PERFORMANCE STANDARDS

A. The system shall perform the following calculations with accuracy as defined within this section:

1. parking fees
2. transaction counts
3. revenue processing
4. reporting

B. The system shall calculate parking fees based upon different parking areas, time/day of entry, applicable taxes, lengths of stay, time increments and rate structures

C. LPR Subsystem performance

1. At each public entry and exit lane the LPR Subsystem shall acquire an image of a vehicle’s entire license plate at a 99 percent (99%) rate for all non-exception vehicles as defined within this section. The intent of the 99% capture rate is to have a visual record of 99% of all non-exception license plates entering the facility.

2. At each public entry and exit lane the LPR Subsystem shall achieve an N Factor rating of 90% meaning specifically that the LPR Subsystem shall read all license plate characters, exclusive of stacked characters, correctly 90 percent (90%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem shall 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 LPN “ABC123” exactly.) Additional characters added before or after the license plate characters shall count against the read rate. (i.e., “1ABC123” would not constitute an N read.).

3. At each public entry and exit lane the LPR Subsystem shall achieve an N-2 Factor rating of 98% meaning specifically that the LPR Subsystem shall read all but two LPN characters, exclusive of stacked characters, correctly 98 percent (98%) of the time for all non-exception vehicles as defined within this section. Missing, misread, or additional characters as determined by the LPR Subsystem shall 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-2 read, the system must return the LPN “C123”, “ABC1”, “CCC123”, “ABRR23”, “1ABC1231”, etc. Additional characters added before or after the license plate characters shall count against the read rate.

4. Exception vehicles shall not count against the accuracy of the LPR Subsystem. For the purposes of the LPR performance requirements an exception vehicle is defined as:

   g. Any vehicle whose license plate is obstructed, obscured, or encroached upon by a foreign object (having a foreign object within .375 inches (⅜”) of any LPN character).
   h. Oversized vehicles that have a total distance between the center of the drivers’ side window and the end of the rear bumper greater than 14 feet.
   i. 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.
   j. Vehicles with no license plate
   k. Vehicles with temporary cardboard (non-reflective) “Dealer Plates.”
   l. Motorcycles

5. Ambient lighting conditions shall have no effect on the accuracy of the LPR system regardless of the time of the day and night. The Contractor shall provide any necessary shading or lighting elements required to mitigate the effect of the ambient lighting conditions on the LPR system performance.

6. The Contractor shall provide a means, subject to approval by the Port, to remotely score the LPR Subsystem to ensure it meets the performance requirements. The Contractor shall assist the Port in transferring images from each lane to a storage format such as CD-ROM, DVD, or uploaded to an FTP site that can then be viewed and scored on a standalone PC by the Port or Architect/Engineer. Port shall be able to select any images stored on the LPR database for
scoring purposes. The Contractor shall provide all software needed to test the LPR Subsystem’s performance. The software shall be downloadable to a standalone PC used for testing.

7. In addition to the LPR camera, the PARCS shall include an overview camera to capture and store an image the rear of the vehicle. This image shall also be associated with and become a part of the transaction.

D. Parking Space Count System performance

1. The PSCS shall operate in real-time with the PARCS. The count signals shall be received within one second from the event. The number of vehicles parking in a facility recorded by the PSCS and the PARCS shall be the same. The Contractor shall assure the Port that the occupancy levels do not “drift” or “balloon” from having the same count number among the LPR, LPI, PARCS, and the PSCS for valid counts.

2. The workstation’s display and dynamic signage displays shall be updated by the PSCS every ten seconds. This frequency shall be user configurable.

3. During acceptance testing, each detection zone shall count valid vehicle movements with 100% accuracy over the testing period. The minimum number of vehicle counts to establish passing test criteria during a single lane test shall be 250 vehicle movements.

4. The entire PSCS, including the available spaces displayed to the patrons on PSCS signage, shall maintain 98% accuracy over a 24 hour period for each facility as a whole regardless of traffic volume. The accuracy shall be calculated by taking the difference between a real-time physical inventory and the occupancy reported by the PSCS and dividing it by the capacity for the facility. The 2% allowable error is inclusive of all invalid counts, improper lane delineation, and human error associated with manual counts.

E. Processing Times

1. The PARCS shall achieve the allowable processing times listed below:
   
   a. Report generation for data less than twelve (12) months old: less than fifteen (15) seconds
   b. Report generation for data twelve (12) months or older: less than thirty (30) seconds
   c. Credit card authorizations sent and returned: less than four (4) seconds, The Contractor shall provide the Port with the speed of connection that is required to allow credit card authorizations to be sent and returned within four seconds or less, even at
peak times and accounting for 150% increase in transactions. The Port shall coordinate with the Contractor to increase the available bandwidth as necessary.

d. At vehicle entry, the total elapsed time from the point a vehicle triggers the picture capture zone to the point where the LPR Subsystem submits a valid LPN into the database shall not exceed two (2) seconds for any single event.

e. At vehicle exit, the total elapsed time from the point a vehicle triggers the picture capture zone to the point where the LPR Subsystem communicates a successful or unsuccessful correlation message to the exit lane shall not exceed two (2) seconds for any single event.

4) SOURCE QUALITY CONTROL

A. Internal Contractor Tests

1. All equipment shall have successfully passed formal manufacturing tests and quality assurance inspections to validate compliance with the Contract prior to the start of the FAT. Records for formal internal Contractor testing and inspection for performance, materials quality and/or workmanship shall be maintained by the Contractor and made available if so requested by the Port prior to the start of any acceptance test.

2. Contractor shall 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.

B. Factory Acceptance Test

1. A FAT shall be conducted to verify the functional performance of all systems, subsystems, and components of the PARCS to ensure adherence to these Functional Specifications, prior to installing any equipment at the Port.

2. To verify that all the functionalities described within these Functional Specifications are achieved, the Contractor shall demonstrate the performance of the PARCS at a location mutually agreed upon by the Port and the Contractor. Generally, the FAT takes place at the Contractor’s manufacturing facility or central distribution center. As part of the FAT, the Contractor shall configure a lane of each type with all applicable components, or standalone device if the particular device is not part of an entry/exit lane (e.g. server, workstations, etc.), to simulate the configuration as installed at the Port. The Contractor shall provide all ancillary items necessary to complete the FAT including setting up a credit card test bed for testing purposes; supply credit cards of all types for testing; provide all ticket and ticketless media.
needed for each transaction type; and provide all keys to access
equipment housings.

3. All systems, subsystems, and components of the PARCS shall
successfully complete a FAT prior to the shipment of any equipment to
the project site. The Port will provide written acceptance of the FAT.
Contractor shall not ship any equipment, subsystem, or component
prior to receipt of written acceptance of the FAT by the Port’s
representative.

4. No equipment that has failed the FAT shall be installed at the Port.

5. Deviations shall be defined as the following:

   a. Level A deviations – Minor deviations that can be corrected by
      the Vendor without affecting testing.
   b. Level B deviations – More severe deviations that must be
      corrected prior to the conclusion of the current test procedures.
   c. Level C deviations – All testing must stop and the current test
      restarted after the correction of the identified deviation.

6. The FAT shall be considered successfully completed when all
systems, subsystems, and components have passed their respective
test procedures and all test documents have been signed by the Port
and the Contractor. Minor deviations shall not be considered grounds
for failure of the FAT. Major deviations found during the FAT shall
result in the retest of the respective equipment, software, or subsystem
before the FAT is considered successfully complete.

7. The Contractor shall provide the Port a plan for the FAT in accordance
with the submittal guidelines. Test procedures shall be provided for
each lane type or device type and test procedures shall include:

   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. unpaid
tickets, exceptions tickets, credit cards, transponders,
equipment keys, etc.);
   d. checklist for the components of each lane or device;
   e. signature page for all FAT participants’ signatures;
   f. step by step instructions for testing each functionality;
   g. tests for verifying reports;
   h. area within each test section to denote “pass” or “fail”; and
   i. section for listing and describing test deviations.

8. The FAT shall be observed by up to five (5) Port representatives. All
necessary arrangements associated with Port representatives
attending the FAT shall be accomplished by the Contractor including
the cost of travel, meals, lodging, and local transportation.
9. Contractor shall design and construct a device for testing the LPR system. This device should be a cart on four wheels with hooks for attaching license plates at an appropriate height (simulating a passenger vehicle) for LPR camera detection. The cart shall be lightweight but have adequate metal to activate an inductive loop thereby simulating a passenger vehicle driving over an inductive loop in the lanes. The cart shall have a handle for ease of manual manipulation by the person testing the lanes.
EXECUTION

3.01 EXAMINATION

A. Site Verification of Conditions: The Contractor shall verify all existing conditions in the field prior to implementation. In the event that conditions in the field are different from the existing conditions described and shown in the Contract, the Contractor shall notify the Port in writing of the exact differences, and shall inform the Port in writing of any implications the differences have on the project.

3.02 INSTALLATION

A. During implementation and the warranty period, the Port shall attempt to make available to the Contractor an area to serve as an office/work area for the technicians that shall support the system. It is the responsibility of the on-site technicians to keep the office/work area clean and free of all hazards.

B. Contractor shall follow the appropriate Port security procedures to obtain security badges for all personnel who perform regular work at the Port. Contractor shall be responsible for all fees associated with the badging process. Contractor shall be responsible to maintain badge validity in accordance to the rules and regulations of the Port’s badging office.

C. During implementation and testing, on-line, real-time communication between the PARCS servers and the Contractor’s software support team for supporting and configuring the system is required. This communication shall be via a Port-provided VPN connection and shall be required to go through the firewall to get onto the Port’s network and thence to the PARCS Servers. Contractor shall go through the Port’s IT Department’s clearance process in order to gain VPN access.

D. Any patches, upgrades, updates, or modifications to the software during the installation period shall require appropriate documentation and approval before the modification is made. Contractor shall propose a change control system for review and approval by Port prior to implementation.

E. Equipment Installation

1. The Contractor shall verify that the installation location is prepared and ready to have the installation completed. The Contractor shall notify, in writing, the Port if the Contractor finds that the installation location is not prepared for installation due to unfinished work outside of the Contractor’s scope of work. The written notification shall provide detail of the elements that are in need of modification in order to prepare the location for equipment installation.

2. Exit Lane Dynamic Displays

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a. For the public exit lanes at the common exit plaza, the Contractor shall mount the appropriate signs on the canopy support structure, centered over the drive aisle.

b. The Contractor shall coordinate all mounting requirements with the sign manufacturer. Any structural modifications, mounting structures, and conduit and cable runs not already in place shall be provided by the Contractor in order to provide fully functioning dynamic displays in each public exit lane.

F. Disposal of Existing Equipment

1. The Contractor shall be responsible for removal of all existing equipment with no interference to ongoing revenue activity that is replaced under this project. Contractor shall disassemble, uninstall and transport removed equipment to an off Port location. Contractor shall be responsible for repairing any damages that occur to existing components during the removal and transport processes. The Port will identify any device, equipment, or component that the Port may wish to keep. Contractor shall deliver this equipment to a location identified by the Port.

G. Phasing and Transition Plan

1. Contractor shall develop and submit a detailed phasing and transition plan describing how the Contractor plans to close existing lanes of operation, install new equipment, and open the lanes with the new system. This phasing and transition plan shall show how the Port will process tickets that were produced with the existing system, on the new system. This plan will detail the number and location of lanes that will be operational with the new system during the “go-live” activity and when the additional lanes will be activated to process transactions with the new system.

3.03 FIELD QUALITY CONTROL

A. Lane Acceptance Tests

1. LATs shall be conducted by the Contractor as a demonstration to the Port or its representatives that the installed equipment complies with the Contract, the Contractor’s shop drawings, and to other documentation, such as user manuals.

2. After successful completion of the FAT the equipment, software, and subsystems may be installed at the Port, based on a Port-approved schedule. When a lane installation has been completed, the Contractor shall conduct its internal testing of the installed equipment. Internal testing shall follow the identical LAT test procedures that shall be used during LATs observed by the Port.
3. Upon successful completion of the Contractor’s test, the Contractor, and the Port shall perform the LAT to verify performance. The LAT shall only be observed by the Port after a fully completed and signed test script verifying successful completion of the Contractor's internal testing is submitted. Signed internal test scripts shall be submitted at least five business days prior to the scheduled test with the Port.

4. LATs shall be conducted at the Port for each entry lane, exit lane, and PARCSC. The Contractor shall not activate any entry/exit lane for service until its LAT has been successfully completed, and the Port has notified the Contractor that it is ready to put the equipment in operation.

5. The Contractor shall provide test procedure documents for LATs in accordance to the submittal guidelines. LAT Test Procedures Documents shall be provided for each lane type or device type 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. unpaid tickets, exceptions tickets, credit cards, transponders, equipment keys, etc.);
   d. checklist for the components of each lane or device;
   e. signature page for all LAT participants’ signatures;
   f. step by step instructions for testing each functionality;
   g. tests for patrimon processing procedures;
   h. tests to ensure that the proper rate structures are being used;
   i. tests for verifying the reporting requirements;
   j. area within each test section to denote “pass” or “fail”; and
   k. section for listing and describing test deviations.

6. The Contractor shall provide all ancillary items necessary to complete the LATs for testing purposes; supply credit cards of all types for testing; provide all ticket and ticketless media needed for each transaction type; and provide all keys to access equipment housings. In addition, the Contractor shall make available 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 Port 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. The Contractor shall agree to credit the Port from its total contract value for any travel and/or labor costs incurred by the Port as a result of retesting a failed lane.
B. Site Acceptance Tests

1. The Site Acceptance Tests shall test each parking facility’s equipment installation as a system, e.g., all entry lanes, exit lanes, communication to the workstations, PARCSC, and Servers. The Site Acceptance Test is a pass/fail test that relies upon the operation and status of equipment and system reports of an individual facility. The Port and the Contractor shall collectively select an “initial start-up date” for each Site Acceptance Test. Site Acceptance Tests shall run for seven consecutive days beginning at the initial start-up date and continuing for seven consecutive 24-hour periods with no major deviations. Site Acceptance Tests shall be performed for each individual facility only after all LATs in a parking facility have been successfully completed.

2. During a Site Acceptance Test only routine maintenance procedures, as defined by the preventative maintenance manual and according to industry standards, shall be permitted. All other maintenance procedures shall be approved in writing by the Port before they are performed; otherwise, they shall constitute a failure of the Site Acceptance Test and a mandatory restart.

3. The Port reserves the right to be present for all maintenance services during the Site Acceptance Tests.

4. The Contractor shall submit a Site Acceptance Test Procedures Document in accordance with the submittal requirements. Site Acceptance Test Procedures Documents are intended to outline procedures for monitoring the overall performance of the PARCS and shall not include test procedures for individual lanes or components. The Site Acceptance Test Procedures Document shall include:
   a. narrative describing the general procedures to be followed;
   b. methodology for calculation of downtime for the various PARCS components; and
   c. electronic tracking document to be used during the Site Acceptance Test period for documenting failures and downtime.

5. The performance criteria for successful completion of the Site Acceptance Test shall include:
   a. All subsystems listed below shall be operationally available 100% of the time during the seven day test period:
      (1) Application Server
      (2) Data Server
      (3) Credit card authorization system
      (4) Data communication system
      (5) PARCS Workstations
(6) Entry Lane
(7) Exit Lane
(8) PSCS
(9) LPR System
(10) LPI System
(11) AVI System
(12) Internal cameras
(13) Signs
(14) Barcode readers
(15) Proximity Card Access System
(16) Intercom System

b. If any single component fails the seven day test shall halt and start over upon the replacement or correction of the problem.

6. In addition to the comprehensive reports generated during the Site Acceptance Tests, the Contractor shall provide to the Port a one page summary report that clearly provides the overall percentage of system downtime, causes of that down time, and any incidental cost incurred during each test.

7. The Contractor shall provide to the Port a corrective action report that provides a detailed description of each failure that occurs during each Site Acceptance Test. 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 Site Acceptance Test.

8. All reports shall be 100% accurate and be reconcilable against each other for the seven day testing period otherwise the test shall be deemed a failure, problems shall be corrected, and the test shall be restarted from the beginning.

C. Operational Demonstration Test

1. The ODT shall be comprised of all equipment, systems, and subsystems performing under actual conditions, e.g., patron use, normal activity recording, and reporting procedures. This ODT shall demonstrate, over a period of thirty (30) consecutive calendar days, the successful performance of all aspects of the PARCS.

2. During the ODT only routine maintenance procedures, as defined by the preventative maintenance manual and according to industry standards, shall be permitted. All other maintenance procedures shall be approved in writing by the Port before they are performed; otherwise, they shall constitute a failure of the ODT and a mandatory restart.
3. The Port 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. Application Servers
   b. Data Servers
   c. Credit card authorization system
   d. Data communication system
   e. PARCS Workstations
   f. Entry Lane
   g. Exit Lane
   h. PSCS
   i. LPR System
   j. LPI System
   k. AVI System
   l. Barcode readers
   m. Signs
   n. Proximity Card Access System
   o. Intercom System

5. The ODT shall begin after all facilities have successfully completed their respective Site Acceptance Tests on a date mutually selected and agreed to in writing by the Port and the Contractor at a time designated by the Port. The ODT monitors system performance of the entire system operating as a single unit. The Contractor shall submit an ODT Test Procedures Document in accordance with the submittal requirements. ODT Test Procedures Documents are intended to outline procedures for monitoring the overall performance of the PARCS and shall not include test procedures for individual lanes or components. The ODT Test Procedures Document shall include:
   a. narrative describing the general procedures to be followed;
   b. methodology for calculation of downtime for the various PARCS components; and
   c. electronic tracking document to be used during the ODT period for documenting failures and downtime.

6. The ODT shall continue for thirty (30) consecutive twenty-four (24) hour periods during which all the performance criteria, stated below, shall have been met. If during the thirty (30) day period the system fails to meet any one of the following specified performance criteria, the test shall begin anew on a day agreed upon by the Port and the Contractor. The Contractor shall agree to credit the Port from its total contract value for any travel and/or labor costs incurred by the Port 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 thirty (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 thirty (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 (e.g., cashier station, exit station, barrier gate, entry station, etc.) shall fail more than three times during the thirty (30) day test period for the same reason. Upon the fourth failure all components of that type shall be replaced to correct the common deficiency, and the test shall be restarted from the beginning.

8. In addition to the comprehensive reports generated during the ODT, the Contractor shall provide to the Port a one page summary report that clearly provides the overall percentage of system downtime and causes of that down time.

9. The Contractor shall provide to the Port a corrective action report that provides 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. All reports shall be one hundred (100%) percent accurate and can be reconciled against one another over the thirty (30) day testing period, otherwise the test shall be deemed a failure, problems shall be corrected and the test restarted.

11. A subsystem shall be considered unavailable as long as any major component of the subsystem is not functioning. As an example, the major components of an entry lane include but are not limited to:

a. Lane Open/Closed Signs
b. Vehicle detector devices
c. Intercom
d. Barrier gate
e. Entry Station
f. PARCSC devices – sensors and signs
g. AVI reader
h. Proximity Card Reader
i. LPR Camera
j. Data communication
k. Power supply

12. An inoperative subsystem shall not be deemed unavailable if it has become inoperative because of:
   a. outage of line power beyond required duration of UPS power backup;
   b. malicious damage or vandalism to a component(s) by employees, patrons or others;
   c. routine parking operational issues such as excessive ticket jams defined as one lane experiencing more than 10% more ticket jams than any other lanes during any 24-hour period;
   d. network connectivity issues beyond the PARCS;
   e. PARCS failures due to Port provided equipment issues and/or failures;
   f. failures caused by a 3rd party; or
   g. Act of God.

13. Should a failure occur in the system that is caused by normal hardware failure, it shall be repaired and the test resumed with downtime accrued. Where the failure causes inadequate test data to be collected or a loss of test data, then the test shall be restarted from a point where it can be successfully completed with data to verify compliance with the Contract and the test procedures document.

14. 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 revenue 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.

15. Where corrective action impacts delivered documentation, the documentation shall be corrected prior to final acceptance. Only after Contractor has repaired flaw and Port accepts corrective action and the flaw report can the test be restarted.

16. Upon formal written approval of the corrective action report by the Port, 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.

17. 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 entry/exit lanes and parking time works properly according to the Contract,
b. the functionality of parking fee calculations and correct collection works according to the Contract;
c. no personnel, vehicle or driver safety issues exist;
d. transnational archiving operates in accordance with the Contract;
e. failure does not cause loss or contamination of transnational data; and
f. all reports balance and are 100% accurate.

18. Where the above criteria are not met, the test shall be stopped and corrective action taken and verified prior to testing restart.

19. 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 transnational 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 system operation or on the integrity of transnational data.

D. Punch List

1. Starting with the first week after completing the FAT through final system acceptance, the Contractor shall submit a document on a weekly basis showing the status of all outstanding system issues, regardless of severity, including the plan for resolution and estimated completion date.

E. Final System Acceptance

1. Final System Acceptance will be submitted by the Port, in writing to the Contractor, upon successful completion of the FAT, all LATs, all Site Acceptance Tests, the ODT, upon verification by the Port of complete resolution of all outstanding items on the punch list, and independent validation that the installed system is PCI-DSS compliant.

3.04 INSTRUCTION AND TRAINING

A. By means of instructional classes augmented by individual instruction as necessary, the Contractor shall fully instruct the Port’s designated staff in the operation, adjustment, and maintenance of all products, equipment, and systems. Should the PARCS implementation be completed in phases, instructing Port personnel shall also be phased to correspond with deployment of the various PARCS components.
B. Scheduling of instruction classes shall be coordinated by the Contractor and Port personnel to avoid conflicts and peak-period personnel demands. The Contractor shall submit a proposed instruction schedule at a joint meeting conducted prior to equipment installation. The Port shall tentatively approve or suggest changes to the training schedule at that time. Forty-five (45) calendar days prior to each instruction session, the Contractor shall submit an outline of the instruction material and 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 Port personnel to have hands-on experience with the PARCS.

C. Training shall occur in two phases:
1. Initial training no later than ten (10) calendar days prior to scheduled “go-Live” date, and
2. Refresher training within one month after “go-live” date

D. The training groups, the approximate number of staff to be instructed in each group, and the number of classes for each group are as follows:

1. Cashiers
   a. There will be approximately twenty (20) cashiers who shall be trained in the general operation of PARCS and LPR equipment, with each cashier participating in two sessions. The first series of classes shall be conducted in the two weeks immediately before installation and activation of the new PARCS and shall consist of general system introduction and basic knowledge necessary to operate the system. The second session shall be conducted shortly after each cashier has had experience with the PARCS and LPR Subsystem in an operational mode.
   b. The length of each instruction class shall be defined in the Contractor’s curriculum as approved by the Port. Each block of instruction shall be provided at approximately five different time periods including all shifts (day, swing, and graveyard) with the same block of instruction in each to ensure all staff can participate without undue loss of staffing for normal operations.
   c. Initially, all cashiers shall be instructed by the same personnel and with the same processes.
   d. A cashier’s instruction terminal shall be provided to the Port. This terminal shall be used during the instruction classes and left with the Port for the instructing of future cashier staff.

2. Supervisors:
   a. There will be approximately ten (10) supervisory personnel who shall be instructed in the operation of all components of the PARCS, with each Supervisor participating in two sessions. The first series of classes shall be conducted in the two weeks immediately before installation and activation of the new
PARCS equipment and shall consist of a detailed system introduction and detailed knowledge necessary to operate the systems. The second session shall be conducted shortly after each Supervisor has had experience with the new systems in an operational mode and shall include training on conducting minor repairs to field devices, up to but excluding board level repairs.

b. The length of each instruction class shall be defined in the Contractor’s curriculum as approved by the Port. Each instruction block shall be provided in a minimum of two classes one which will be held during the day and the second class to be held in the evening, each covering the same material, and scheduled to ensure all personnel can attend one of the classes without undue disruption of normal work schedules.

c. The instruction shall emphasize both hardware and software.

d. Initially, all supervisory personnel shall be instructed by the same personnel and processes.

3. Image Reviewers:

a. There will be approximately ten (10) image reviewers who shall be instructed in the usage of image review software as part of the LPR Subsystem, with each reviewer participating in two sessions. The first series of classes shall be conducted in the two weeks immediately before installation and activation of the new PARCS and shall consist of a general introduction to the image review software and basic knowledge necessary to use the software to review license plate images. The second session shall be conducted shortly after each Image Reviewer has had experience with the image review software in an operational mode.

b. The length of each instruction class shall be defined in the Contractor’s curriculum as approved by the Port. Each instruction block shall be provided in a minimum of two classes, each covering the same material, and scheduled to ensure all personnel can attend one of the classes without undue disruption of normal work schedules.

4. System Administrators:

a. There will be approximately five (5) system administrators who shall be instructed in system administration, operations of all components, functions, and software.

b. The length of each instruction class shall be defined in the Contractor’s curriculum as approved by the Port. Each instruction block shall be provided in a minimum of two classes one which will be held during the day and the second class to be held in the evening, each covering the same material, and
scheduled to ensure all personnel can attend one of the classes without undue disruption of normal work schedules.

5. Office staff/Accounting:
   a. There will be approximately ten (10) accountants, auditors and managers who shall be instructed in system operations, administration, and software features. Instruction of the office staff/accounting/audit personnel shall commence in the two weeks immediately before activation of the new PARCS and all its elements.
   b. The length of each instruction class shall be defined in the Contractor’s curriculum as approved by the Port. Each instruction block shall be provided in a minimum of two classes, each covering the same material, and scheduled to ensure all personnel can attend one of the classes without undue disruption of normal work schedules.

6. Maintenance Staff:
   a. There will be approximately three (3) maintenance staff who shall be instructed in the maintenance of the PARCS.
   b. The length of each instruction class shall be defined in the Contractor’s curriculum as approved by the Port. Each instruction block shall be provided in a minimum of two classes, each covering the same material, and scheduled to ensure all personnel can attend one of the classes without undue disruption of normal work schedules.
   c. Maintenance staff shall be trained as factory certified maintenance technicians and shall be awarded certification upon successful completion of maintenance training.

E. All instruction courses shall consist of classroom instruction and actual “hands-on” experience. Classes shall be set up in a room designated by the Port. The Contractor shall provide one instructor for the duration of each program. The instructor shall speak fluent English in a clear and precise manner.

F. Class content shall be coordinated and developed with the Port so that procedures for all transaction types are included. The class material shall include schematics, as well as an overview and descriptions of the equipment. The Port reserves the right to videotape all training sessions for future instruction purposes or Contractor shall supply video demos if available.

G. The Contractor shall provide all documentation required for instructing Port personnel. Documentation shall be provided for each student in the form of workbooks, lecture notes/overheads, and manuals for student markup. The Contractor-supplied instruction documentation shall be sufficiently detailed so that the user can in most cases resolve issues. The Port retains the right to
copy and print training materials as frequently as required for ongoing internal use only.

H. An instructional notebook or user’s manual shall accompany every instruction course. The Contractor shall submit a hardcopy of the user’s manual per the submittal guidelines. The Contractor shall supply twenty (20) bound, hardcopies of each user manual type: cashier, supervisory, image reviewer, system administrator, technician, audit and accounting, etc. In addition, all manuals (instruction and maintenance) shall be submitted in electronic format (.PDF) on a CD-ROM or DVD. Two copies of CD-ROM/DVDs shall be supplied. The user’s manuals shall be written in common English with appropriate photos, diagrams, and schematics to supplement the text.

I. At the completion of instruction courses, all Port staff that completes the course shall receive a Certificate of Successful Completion.

3.05 EQUIPMENT PROTECTION

A. All equipment components shall be protected from damage by vehicular movements by protective bollards or other barriers as recommended by the Contractor.

   i. Each island-mounted device shall be protected by one or more bollards.

   ii. If existing equipment protection cannot be retained, Contractor shall supply and install new protection as necessary.

3.06 EQUIPMENT LOCATIONS

A. The Intercom system, printers, LPR review workstations, etc., shall reside in the Parking Management Office adjacent to the Consolidated Exit Plaza.

B. The PARCS Servers, if located on site, shall be installed in one or more Port terminal data centers as directed by the Port.

C. The Port shall determine the location of the Validation Stations after Contract Award.
Attachment 13
(Port of Oakland New Systems IT Standards \ Requirements)

Parking Access and Revenue Control Systems
A. IT Standards for New Applications

General Policies Review
- Information Technology (IT) must approve all Software and Hardware.
- Vendors are not authorized to install software or hardware under any circumstances without approval of IT.

Software

General
- All new software must be 32BIT or 64BIT. 16BIT applications WILL NOT be allowed in the production environment.
- All applications must be multi-threaded.
- Any software requiring Administrator rights will be rejected. Exceptions must be justified, e.g. Administrator rights needed for Installation only.
- All new software must be at a minimum compatible with Windows 2008. Vendors must provide a letter certifying that the product is either certified for Windows 2008 or greater or is compliant with Microsoft’s standards.
- Dongles (hardware licensing keys) are not approved for usage within the environment. Vendors need to supply a soft key that does not adversely impact the handling of the equipment.
- Modems are not approved for usage within the environment. Vendors need to provide an alternative method for connecting through the Internet.
- Hard-Coded IP addresses are not allowed. The application should depend on DNS name resolution and have provision for using FQDN (fully qualified domain names).
- Software cannot require an auto-download of components or updates.
- Software requiring data connectivity must be able to interface with our enterprise solution for data connectivity. In the event the database is not one of the standard approved ones (see Section 4: Databases for additional information.) the vendor must supply the connectivity dependency, along with full support.
- Beta and evaluation software may not be installed on production systems.

Server Applications

Applications fall under multiple types of servers based upon the server requirements, which can include one or more of the following:

- File Server (database)
- Application Server
- Terminal Server
- Web Server

General
- All applications will be 100% VMware vSphere compatible.
New Systems IT Standards \ Requirements

- All applications must be able to run on Windows 7 64 bit, windows Server 2012, or Windows Server 2008 R2 with the capability to migrate to Microsoft Windows Server 2012.
- Applications must be 32 BIT or 64BIT. 16BIT applications WILL NOT be allowed in the production environment.
- All continuously running applications must run as a service in the background. No application will be allowed on a production server if it requires a user to be logged on in order to run.
- For no reason should any Application data reside on the system drive. If in question contact IT for clarification of where your data should be located. If any non-approved data resides on any C: drive, it may be deleted without notice.
- Under no circumstances, shall any changes be made to any server running MS Windows, without prior approval by IT and an approved Change Control on a production server. Furthermore, NO hardware is to be reconfigured, replaced, or otherwise touched by anyone other than a member of IT or a pre-approved, qualified “CE”.
- All network based applications and servers must be able to use IPv4 addressing for network communication.

Database Technology

- Data must be stored within the approved database, which is MS SQL Server Version 2008 or greater, but preferably MS SQL Server version 2012.
- All database services must run as a domain service account supplied by IT.
- File System based data stores like MS Access, COBOL data files, or any other proprietary data file format that does not use a Server/Engine for database connectivity must be reviewed and approved by IT prior to piloting or rollout.

Databases

If data is to be stored within any database other than PORT approved databases, the following is required from the vendor:

- All licensing for database and drivers for connectivity.
- A clearly documented strategy for automated/unattended daily backups and a restore strategy should be provided by the vendor.
- Support 24x7, including Backup and Restore of data.
- IT must review and approve usage of database.

If data is to be stored within an MS SQL database, the following standards must be met:

- Applications that access the database must be located at PORT.
- It is understood the PORT SQL DBA Team installs SQL Server using the typical installation with typical sort order and character set.
- During installation a temporary System Administrator user id will be created for application installation. This will allow all objects to be created with the owner ‘dbo’.
New Systems IT Standards \ Requirements

- Applications are not allowed use of the SA login nor are they allowed the use of the “System Administrator” server role after installation.
- Database ownership must be ‘sa’ and no user is allowed to be in the ‘db_owner’ role. All attempts will be made to remove dbo from the application.
- Databases must be in “Full” or “Bulk-logged” recovery mode to ensure point-in-time recovery.
- All database objects must be owned by ‘dbo’.
- Applications must have ability to reside on a separate server from the database.
- Applications must have an acceptable Purge Plan documented in writing.
- No application will use SQL Authentication except if application is connecting using an application user ID for all DSNs from all computers or web server. This exception must be documented in writing and be approved by the PORT SQL DBA.
- All applications must agree to have a new version upgrade 12 months after a major version release and 6 months after a Service Pack.
- All changes to the database schema must go through the DBA in the form of scripts or be part of an upgrade process. No ad-hoc schema changes.
- All application team must provide the DBA a schema view of the database with indexes for review; this should be documented in writing.

Testing and Certification

In order for any application to be put on a production App Server, the application must go through a Testing Phase and a Certification phase.

Testing Phase

The Testing phase will consist of loading the application on a test machine. Application functionality, network response time, and connection reliability along with many other factors will be tested during this phase. Applications will be tested for an agreed amount of time in the test environment. A determination will be made at the end of the agreed time on whether the team will go forward with the project. If the testing is successful, the application team will submit a request for space in the Certification environment.

Certification Phase

The Certification phase will consist of loading the application on a Certification machine. The application will be tested using simulated load software. Once the application was been successfully tested for 72 hours, it will be certified to go into production. Applications that do not get certified will not go to production.

Terminal Server

Introduction

With the release of Windows 2000, Microsoft has integrated Terminal Services within its OS. This allows users to open a remote desktop session via RDP into any machine running Windows 2000 or higher. By default, W2K is installed in Remote Administration
New Systems IT Standards \ Requirements

Mode which allows only 2 Admin users on at one time. However, a box could be made into an “Application Server” which allows any domain-authenticated user to establish sessions to that terminal server. This document will be referring to Windows 20XX servers built as an Application Server.

Requirements

The application must meet the following requirements before being put on a production Application Server.

- All applications must go through a Testing Phase and a Certification phase.
- As stated in section 5.2, these steps must be performed to provide the utmost stability. Therefore, if an application does not go through testing and certification, it will not be allowed into production.
- The application must run under Windows 7 64 bit, Windows Server 2012, or Windows Server 2008 R2.
- Terminal Services cannot pass the IP of individual clients to an application.
- Multi-user applications that require each user to have a unique IP address do not work properly with Terminal Services.
- Applications that subvert, lock, or monopolize resources will not be hosted. This is in order to provide a stable production environment for everyone.
- Terminal Services will not be used to get around Workstation Lockdown.
- Workstation Solutions will be your contact for any applications that can/will be put on a workstation.
- Terminal Services will not be used for multimedia applications (i.e. require streaming video, sound, etc).

Note: Terminal Services Client is installed on client workstations running applications on a Terminal Server.

Security Policies & Architecture

Any violation of the Port of Oakland Security Policies can result in disciplinary action, up to and including termination of employment for an employee or expulsion from all Port sites for a vendor.

- Any communications between non-Port and Port networks must be reviewed and approved by IT prior to piloting or rollout. (i.e. Connection thru Internet, External vendor support)
- Any equipment that will connect to PORT networks that will be accessible to non-PORT personnel must be reviewed and approved by IT prior to piloting or rollout.
- Any systems attaching to the PORT network that will be using the wireless network as the connection must be reviewed and approved by IT prior to piloting or rollout.
- No Port data will be exported and copied externally without the approval of IT.
New Systems IT Standards \ Requirements

- Active directory security will be utilized for all applications. Exception must be approved by IT.
- When credit card numbers are utilized in an application the application must be PCI compliant.
- Where applicable (law enforcement) security must be CJIS compliant.

Firewall Access
Requirements for Firewall Access must be reviewed and approved by IT. Upon approval, required accounts must be created and setup.

VPN for Vendors
Requirements for VPN access by vendors must be reviewed and approved by IT.

Access to Internet Site
Requirements for Internet access must be reviewed and approved by IT.

Security
For any security questions please send a Request for Information.

Hardware

Image Capture Hardware
All image capture devices and peripherals (document scanners, multi-function document scanners, digital cameras, etc.) must be approved by the IT department.

All drivers for all image capture devices and peripherals must comply with Windows system directory standards, e.g., the drivers must not write to any file in the windows system directories.

Image/Document Storage Devices
All image/document storage devices/peripherals must be approved by IT.

Procedures for Upgrades to Existing Software
1. Provide 4 weeks’ notice of intent to upgrade.
2. Provide complete documentation of functionality of upgrade.
3. Provide installation and upgrade instructions.
4. Supply media, which contains the upgrade.
5. PORT will install upgrades as noted in Section 5.2.
6. Once certified PORT will install upgrade on the Production server.
1. Pathways

1.1 Conduits
- All conduit work must be approved by Facilities prior to installation.
- Power lines shall not run in communications conduits.
- EMT, IMC and Rigid metallic conduit shall be reamed and have a bushing installed.
- The maximum number of cables that can be installed with two 90-degree bends is 40 percent of perfect fill.
- Conduit fill shall be reduced by 15 percent for each additional 90-degree bend, not to exceed 360 degrees of bend.
- Conduits shall not run more than 150 feet or have more than two 90 degree bends without pull-boxes.
- Each conduit shall have a pullstring inserted and tied off at each end.
- One 4 inch conduit entering the IT IDF room and one 4 inch conduit leaving the IT IDF room shall have three, 1-1/4", orange-colored, innerducts or four 1-inch orange-colored innerducts installed with pullstrings in each.
- All conduit bends shall be long sweeping bends.
- The inside bend radius for conduits sized 2 inches or less shall be a minimum of 6x the internal diameter of the conduit.
- The inside bend radius of conduits sized greater than 2 inches shall be a minimum of 10x the internal diameter of the conduit.
- All conduits shall be labeled on both origin and destination ends. (See Port IT Network Labelling Standards)

1.2 Conduits – Buried
- Physical clearances
  - Minimum of 3 inches when near power, light, and other conduits.
  - Minimum of 6 inches when crossing oil, gas, water, and other pipes.
  - Minimum of 12 inches when running parallel to oil, gas, water, and other pipes.
  - Minimum of 12 inches when below the top of railroad rails.
- Burial depths
  - Consult NEC article 300-5
- Warning Tapes
  - Orange colored, detectable, plastic warning tapes shall be install to prevent accidental dig-ups.

1.3 Cabletrays
- Cabletrays shall be a standard twelve inches wide and mounted at least 8 feet above finished floor.
- Cabletrays shall be supported to carry the rated weight.
- Cabletrays parts shall be bonded to a number 6 AWG copper conductor and connected to the grounding busbar.
Port IT Conduit and Cable Standards

- Exterior cable tray shall be enclosed and shall be factory perforated for ventilation and drainage.

1.4 Innerducts
- Innerduct shall be installed in all conduit systems where fiber optic cable is placed.
- For new multiple conduit installations, three 1-1/4” innerducts or four 1” innerducts shall be pulled and shall include pull strings.
- Innerducts shall be labeled every 150 feet. Label shall include source and destination.

1.5 Power Poles
- Dual channel, vertical, power poles may be used to feed modular furniture that is not adjacent to a wall outlet.
- Power poles shall be fed with 3/4 inch EMT conduit.
- Power and communications shall be routed in separate channels.

1.6 Direct Burial
- Direct burial shall not be used as a cable installation method on the PORT campus.

1.7 Surface-mount
- Surface-mount raceways shall be used only if there is no other alternative pathway for cables. Prior approval by PORT IT is required.

1.8 Raised Floors
- Cables shall not lay on the floor. Cables shall be installed in a cable tray suspended above the floor.

1.9 Pull Boxes
- Sized according to the NEC, unless specific sizes are specified.
- Conduits shall not run more than 150 feet or have more than two 90 degree bends without pull boxes.
- Conduit entry points shall be placed at opposite ends of the pull box if possible.

1.10 Maintenance Holes
- Shall have an H-20 or higher rating for deliberate heavy vehicular traffic for non-airfield installations.
- Airfield installations shall have an aircraft rating.
- Maintenance holes shall be sized a minimum 4 feet long x 2 feet wide x 4 feet deep (4’ x 2’ x 4’) to allow the coiling of 50’ of extra fiber optic cable.

1.11 Ductbanks
- If rigid nonmetallic PVC is used, all conduits shall be schedule 40 or 80, and all bends shall be schedule 80.
- Ductbank installation shall meet state general order #128 codes.
- Conduits shall be encased in concrete and shall have an orange electronic marker strip for future location purposes.
1.12 Manholes
- Manholes shall be tested for explosive and oxygen-displacing gases, prior to entry.
- Manholes shall be exhausted and ventilated as required.
- Manholes having abnormal gas levels shall be reported to the IT Manager for record-keeping.
- New manhole dimensions shall not be less than 12 feet long x 6 feet wide x 10 feet high. (12’ x 6’ x 10”)
- Distances between manholes shall not exceed 400 feet, 500 feet is allowed in special cases (Consult PORT IT).
- Bend radii of conduit entering manholes shall be 9 feet minimum.
- New manholes shall have cable rack supports, cable hangars, and a metal ladder secured to the structure.
- Manhole covers shall be numbered by welding the numbers on top of the manhole cover.
- Manhole numbers shall also be painted on the inside collar of the manhole.

1.13 Aerial Pathways
- Poles shall not be set except for temporary projects and only then with approval from the PORT Project Manager.
- Communications cable shall be mounted 40 inches below any power lines and 15.5 feet above streets and driveways.
- Aerial cable spans shall not exceed 98 feet to the building.
- Aerial cable entrances shall be limited to 100 pairs.

1.14 Firestopping
- All penetrations made through fire-rated structures by conduits, cables, innerducts, cable trays, and duct banks shall be sealed with approved firestopping materials.
- Firestopping materials shall be sufficient to restore the fire-rating of the penetrated structure.
- Putty-type firestopping material is preferred for ease of firestop reentry.

1.15 Core Drilling
- Core drilling concrete floors may be permitted with approval from PORT Engineering provided that structural integrity is not compromised.
- The concrete shall be X-rayed prior to drilling, and that X-ray given to the Project Manager along with a request for core drilling.
- The concrete slurry from the drilling operation shall not be allowed to stain anything either above or below it. Provisions shall be made to protect the environment and contain the slurry.
- All spillage shall be cleaned up.
- The core-drilled opening shall be properly firestopped.

2. Pathway Installation Methods
2.1 Copper
Port IT Conduit and Cable Standards

- In ceilings, copper cables shall never be pulled directly over suspended ceiling tiles or fluorescent light fixtures.
- Hook and loop cable ties may be used to secure copper cables.
- Adhesive-mounts, one inch square, can be used on metallic surfaces to secure cable ties. e.g., equipment cabinets and racks.
- Screw-mounts, one inch square, can be used on backboards provided that they are secured with flat-head mounting screws.

2.2 Coaxial
- Similar to copper.

2.3 Fiber
   A. Pulling
      - Fiber pulling tension shall be limited with either break-away swivels or the use of a slip-clutch capstan rated at the manufacturer’s recommendation.
   B. Supporting
      - Hook and Loop ties shall be used to secure fiber optic cables.
      - Cable ties shall not be used.
   C. Splicing
      - All splices shall be fusion splices. Mechanical splices are not permitted.
      - Splices shall be protected in approved splice cases.
      - Underground splices shall be enclosed in a waterproof splice case.
   D. Connectorizing
      - Connectors shall not be installed and polished in the field.
      - Only pre-ultra PC-polished (for singlemode) and regular polish (for multimode) pigtails shall be fusion spliced to the cable.

2.4 Microwave
- To be determined, Consult PORT Project Manager and PORT Information Technology and Telecommunications for details.

2.5 Wireless
- To be determined, Consult PORT Project Manager and PORT Information Technology and Telecommunications for details.

2.6 Rooftops
   - Rooftop Junction Box: One junction box for each Vertical Cable Riser with two 4” conduits for each junction box shall be provided on the building rooftop. Each IT junction box shall be connected to the closest IT room via two 4” conduits.

2.7 Antennas
   - Antenna Support: Install antennas using existing roof antenna mounting facilities. Contact PORT Information Technology and Telecommunications for details.
Port IT Conduit and Cable Standards

- Antenna transmission lines should follow the manufacturer’s specifications on minimum bending radius, connector installation, and support requirements; wrap-lock or other smaller support equipment are not permitted.

3. Equipment

3.1 Copper

A. Backbone Cables
   - Voice
     Sufficient pairs of 22 AWG, 100 ohm, UTP, OSP, CAT3 UTP shall be installed, from MDF to all other IT IDF rooms, to cover current and future needs of telephone wires and data circuits for the area served by that particular IT room. Sufficient telephone wire-pairs from IT service provider shall also be brought into MPOE of the building to cover current and future needs of telephone wires and data circuits for the building.

   - Data
     Data Cables: Sufficient quantity of 24 AWG, 100 ohm, UTP, 25 pair CAT5e shall be installed from the MDF to all other IT IDF rooms in the building. All Category-5e cables shall be terminated on 110 blocks installed on a wall of the IT room with fire rated plywood.

B. Horizontal Cables
   - Cat-6 UTP: Sufficient quantity of 24 AWG, 100 ohm, UTP Category-6, 4-pair UTP shall be installed as an universal structured cable for the structured cable plant at each building. These Cat-6 cables shall be used as a universal cable for all IT needs, including telephone, data, fax, video, audio, etc. Cat-6, 4-pair, UTP cables shall be installed at all conceivable required Locations and for future expansion needs. Each location shall be installed with a minimum of two, Cat-6, UTP cables. Termination of the Cat-6 UTP cables shall be on CAT6 RJ45 jacks on a six-slot single-gang faceplate. All terminations of Cat-6 UTP cables shall conform to EIA/TIA-568B standard.

C. Cross Connect Jumpers
   - 24 AWG, 100 ohm, UTP, CAT6.

D. Data Cables
   - All Cat-6 Data UTP cables shall be terminated on a patch panel inside the equipment rack. All data UTP cable termination shall conform to EIA/TIA-568B standards. Wire-minders shall also be installed for cable management.

E. Control/Low Voltage Cable
   - Follow manufacturer’s recommendation.
Port IT Conduit and Cable Standards

F. Speaker Cable
   - 14 AWG, unshielded, twisted pair.

Equipment Cabinets
   Provide standard 19 inch, 7 foot high

3.2 Coaxial

A. Cable TV (CATV)
   - The cable used depends upon the length of the run.

B. Closed Circuit TV (CCTV)
   - The cable used depends upon the length of the run.

Video CCTV runs greater than 1500 feet must use fiber optic cables.

3.3 Fiber Optic

A. Backbone/Backbone Cables
   - Fibers Optic cables that are run underground shall have fifty feet of cable coiled up in every other manhole along the run. These cables shall be dressed neatly and secured to the inside walls of the manhole.
   - Fibers Optic cables that are run underground shall have three labels attached. One label shall be attached on the spare coiled-up fiber or in the center between the entrance and exit of the manhole. One label shall be attached within twelve inches of the entrance and one label within twelve inches of the exit of the conduits in the manhole. (See PORT IT for Labels)
   - For cables installed within buildings, a minimum of one 24-strand, SM, 8.3/125μm, fiber optic cable shall be installed inside inner-duct from the MDF to all other IT IDF rooms in the building. All fiber optic cables shall be terminated in fiber patch panel enclosures installed inside a standard 19"W 7'H equipment rack.

B. Horizontal Cables
   - 6-strand SM fiber optic cable shall be provided to all conceivable required locations for high-speed IT devices. Terminations of all fiber optic cables shall conform to EIA/TIA-568ST standard.

C. Patch Panels – Wall mount
   - All fibers shall be terminated with standard ST connectors in fiber patch panels. Terminations of all fiber optic cables shall conform to EIA/TIA-568ST standard.

D. Patch Panels – Rack mount
- In equipment racks in PORT MDF/IDF rooms, use:
  - 72 port patch panels – match existing.
  - Lockable front covers are required.

E. Fiber Optic Adapters

- Fiber optic adapters shall be color coded to differentiate between singlemode and multimode fibers. Adapters for singlemode and beige-colored adapters for multimode are the accepted standard.

F. Fiber Optic Pigtails

- Pre-polished connectorized pigtails are fusion spliced to the cable. Connectors shall not be installed and polished in the field.
- Singlemode – Siecor cable (or equal), 6 foot (2 meter) length, ultra PC polish, Siecor “ST” connector, fusion spliced, heat shrink protected on the splice.
- Multimode - Siecor cable (or equal), 6 foot (2 meter) length, regular polish, Siecor “ST” connector, fusion spliced, heat shrink protected on the splice.

G. Fusion-splice Protection Sleeves

- Any reliable protector is acceptable. Heat shrink sleeves are preferred.

H. Fiber Optic Jumpers

- For single fiber circuits, use single strand jumpers. For duplex fiber circuits, use zipcord jumpers.

I. Innerduct

- Plenum installations.
  - Any plenum-rated innerduct that has the plenum rating visibly stamped on the outside of the innerduct.
- Riser installations.
  - Any plenum-rated or riser-rated innerduct that has the rating visibly stamped on the outside of the innerduct.
  - If the riser transitions to a plenum, then the innerduct shall be plenum-rated.
- EMT, IMC or rigid conduit installations.
  - Any ribbed PVC innerduct in straight underground installations where the bending radius allows.
  - Any corrugated PVC innerduct.

J. Keys, Locks, and Anti-tamper Tools

- All keys and anti-tamper tools for the patch panels shall be given to PORT IT, and shall be keyed alike.
Horizontal Labeling Standards in Accordance with the Proposed EIA / TIA-606-A

Introduction

The new labeling standard as presented in the EIA/TIA-606-A addresses the need for an independent and scalable labeling standard in the administration of telecommunications cabling infrastructure. In order to standardize and administer the totality of infrastructure here at the Port of Oakland it is necessary to have a complete standard for labeling so that technicians do not need to reinterpret the labeling as they move from one building to the next. Contractors need a concrete labeling scheme furnished to them so that they can make their products as useful as possible to us.

According to the 606-A standard, what we are presently concerned with would be considered a class 3 labeling standard. We have multiple buildings and outside pathways that must be documented. All identifiers are independent and scalable. All labels read from the general to the specific from left to right.

It should be noted, that by horizontal cabling we are referring to any piece of the cable plant that feeds directly from a Telecommunications Room out to a users outlet or work area. This includes cable that feeds out to a consolidation point in the work area.

Particulars of the Standard

Every component of the telecommunications infrastructure is to be labeled in an independent manner. The most critical point of a standard built around the 606A is that horizontal labeling is based on a point of origination. Each horizontal cable is labeled on both ends with an identifier that locates it’s termination point in the appropriate Telecommunications Room.

<table>
<thead>
<tr>
<th>Label Target</th>
<th>Example</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>103</td>
<td>Port of Oakland building number</td>
</tr>
<tr>
<td>Telecommunications Room</td>
<td>1119</td>
<td>1st digit signifies floor (1st Floor Room)</td>
</tr>
<tr>
<td>Telecommunications Room</td>
<td>2092</td>
<td>1st digit signifies floor (2nd Floor Room)</td>
</tr>
<tr>
<td>Port Number</td>
<td>15</td>
<td>Designates port number 15</td>
</tr>
<tr>
<td>Communication Panel</td>
<td>A</td>
<td>Designates Panel A in Telco Rack</td>
</tr>
<tr>
<td>Fiber Panel</td>
<td>FPL1</td>
<td>Designates the first Fiber Panel in a Telecommunications Room</td>
</tr>
</tbody>
</table>
Reading a Name

These individual identifiers can be combined to create an overall and accurate picture of a cabling plant. Each individual piece of hardware will require a minimum amount of labeling that can be combined in the documentation to specify a particular piece of hardware. A name is constructed combining the pertinent labels from the appropriate infrastructure elements. For purposes of saving cable tests, the full name should include building number, Telco Room number, rack number, patch panel letter and port number.

For non-UTP horizontal terminations, more description is necessary and the format below will be followed.
Examples

Horizontal examples:

**102-2092-1A45**
UTP cable originates in Building 102, Telecommunications Room 2092.
UTP cable originates in Rack #1, Patch Panel A, Port 45.

**103-1119-WA37**
UTP cable originates in Building 103, Telecommunications Room 1119
UTP cable originates in wall mounted Patch Panel A, Port 37.

**103-1067-4A37**
UTP cable originates in Building 103, Telecommunications Room 1067
UTP cable originates in the Rack #4, Patch Panel A, Port 37

Non-UTP in horizontal installation examples:

**0047-1A-2FPL1.1**
Fiber Panel is located in Building 47, Telecommunications Room 1A
This is the first fiber port in Rack #2, Fiber Panel #1

**0155-1A-WXPL1.1**
Coaxial Panel is located in Building 155, Telecommunications Room 1A
This is the first coaxial port in wall mounted coaxial panel 1, Port #1
The Standard in Implementation

Having a new labeling standard does not help anyone without a plan to implement that scheme. Implementing a new labeling scheme for as large a body is this is going to be a long multi-step process. The first and most important step of which is to make sure that any new installations are labeled in accordance with the new scheme. New installations should follow the scheme as laid out above.

How to Label:

**Buildings**
For purposes of identifying buildings see the appropriate section of the Backbone Cable Labeling Standard.

**A Telecommunications Room**
For purposes of identifying Telecommunications Rooms see the appropriate section of the Backbone Cable Labeling Standard.

**A Telecommunications Rack**
For purposes of identifying Telecommunications Racks see the appropriate section of the Backbone Cable Labeling Standard.

**Patch Panels and Termination Blocks**

**Data Use**

1. Termination Blocks or Patch Panels shall be labeled with an alphabetical identifier. This identifier for a rack mounted panel should begin with the letter A and continue on through the alphabet as more patch panels are added to that particular rack or wall space.

2. Labeling of panels or punch blocks with letters will begin again with A as more blocks are added in a different termination zone. For example, labeling of panels should begin again with the letter A for each new rack and the labeling of panels on the wall should begin with A.

3. Individual ports on the panel should be numbered in ascending order. If not printed on the panel by the manufacturer, the installer is responsible for making sure that each port is labeled with its own number.

**Conduit and Innerducting**

For purposes of identifying innerduct and conduit see the appropriate section of the Backbone Cable Labeling Standard.

**Horizontal Cable and Outlet Boxes (See figure 1)**

1. Each end of the horizontal cable should be labeled on the outside jacket of the cable within 12 inches of the termination points. Horizontal cables need no building identifier placed on the cable itself. This label will follow the conventions outlined above with a typical label being 1A-1A03.

2. Outlet boxes shall be labeled on the appropriate area with the name of the cable without the building designator. For example, the outlet connection for 0047-1A-1B05, should be labeled 1A-1B05.
Conclusion

This document covers the most common labeling needs for the installation of horizontal cable and conduits across the Port of Oakland. There are a number of more specific situations covered in the EIA/TIA 606A labeling standard. If you have any questions concerning these standards and their interpretation in reference to the Port of Oakland contact the Aviation IT Manager.

Figure 1
References

http://net-services.ufl.edu/infrastructure/labelstandardhorizontal.htm
http://net-services.ufl.edu/infrastructure/labelstandardfiber.htm
