TOWN OF VAIL

REQUEST FOR PROPOSAL

To Provide

Contract Services

For

TOWN OF VAIL
Parking Access and Revenue Controls System
Various Parking Facilities

OCTOBER 15, 2021

Town of Vail
Department of Public Works and Transportation
Vail, Colorado

REQUEST FOR PROPOSALS
by:
TOWN OF VAIL
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
October 15, 2021

ADVERTISEMENT AND NOTICE OF INVITATION

REQUESTS FOR PROPOSAL AVAILABLE:
Request for Proposal, including response submittal requirements for:

TOWN OF VAIL
Parking Access and Revenue Controls System
Various Parking Facilities

Will be available for download online at the following web address: www.vailgov.com. All proposers who download the RFP must register with Greg Hall at ghalll@vailgov.com to be added to the proposer's list and receive future updates. Failure to do so may result in disqualification. All questions shall be directed to Greg Hall at the above e-mail address.

RESPONSE INFORMATION:
Proposals are due by **2:00 PM** (MST) …..…… **NOVEMBER 15, 2021**
Delivered and or e-mailed to:

Town of Vail
Department of Public Works
1309 Elkhorn Drive
Vail, Colorado 81657
Attn: Greg Hall
ghall@vailgov.com

Pre-Proposal Vendor Meeting ATTENDANCE REQUIRED…….November 1, 2021 – 1:00PM (MST)
RFP questions and clarifications deadline is at 4:00 PM (MST)…..…..…..November 5, 2021
Response to questions and clarifications by 5:00 PM (MST)……..November 9, 2021
RFP due by 2:00 PM (MST)……November 15, 2021
Proposal Questions and Clarification Response period……...November 16 – 22, 2021
Final Interviews ……...November 29 – December 14, 2021
Contract Award (Anticipated)..……December 22, 2021
Equipment Order (Anticipated)..……...January 2, 2022
Equipment Installation – Phase 1 (Anticipated)……...April 25, 2022
Installation Completion & Training – Phase 1 (Anticipated)……...May 11, 2022
Equipment Installation – Phase 2 (Anticipated)……...May 11, 2021
Installation Completion & Training – Phase 2 (Anticipated)……...May 27, 2022

General Project Description

The Town of Vail, Colorado, is seeking proposals from qualified vendors to provide contract services for removal and replacement of the Town's Parking Access and Revenue Control System (PARCS) for the various parking facilities the Town operates. A responding qualified vendor shall have expertise in all phases of the work associated with the design, installation, coordination, set up training and on-going support of the system.

TOWN OF VAIL

Invitation for:
Request for Proposal
To Provide Contract Services
For

TOWN OF VAIL
Parking Access and Revenue Controls System
Various Parking Facilities
October 15, 2021

General Scope of Work

The Town of Vail, Colorado, is seeking proposals from qualified vendors to provide contract services for Parking Access and Revenue Controls System at Various Parking Facilities.

This is a request for proposals to replace existing parking equipment at the following locations at a minimum:

- Vail Village Parking Garage
- Lionshead Parking Garage
- Red Sandstone Parking Garage
- Ford Park Lot
- Vail Soccer Field Lot

The expansion of parking control and monitoring into other locations may be desired in the future. All facilities are tied together via a town network. The new parking system will be used to manage a variety of parking charges, policies, and parking credentials, providing real-time information to users and staff as well as promoting parking and mobility information through a variety of mediums and platforms. The system will also provide a rich and robust reporting, financial security, and records system customized to the Town's needs. A responding qualified vendor shall have expertise in all phases of the work associated with Parking Access and Revenue Controls System.

BACKGROUND

The Town of Vail parking structures' equipment currently varies from 5 - 7 years old. The town desires a more modern and efficient guest experience with regard to entering and exiting the parking garages that exceeds users' expectations when interacting with parking and provides mobility choices from real-time information provided through a variety of medium platforms of parking availability, pricing, and choice.

The town's parking garages experience extremely high transactions volumes, especially during peak entry and exiting periods. A typical holiday period or weekend will see an average of 1,800 transactions per day at the Lionshead Garage, and 3,000 per day at the Vail Village Garage with up to 30% of those transactions occurring within the peak afternoon exiting period. Peak times around Christmas and New Years can bring in over 2,500 transactions per day at the Lionshead Garage and over 3,300 transactions per day at the Vail Village structure. Over the course of a five (5) month winter season, both structures combine to see an average of 650,000 transactions, using a varied rate structures and multiple pass systems. Over the seven (7) summer months, the combined facilities see an additional 700,000 transactions using tickets to monitor activity and charging currently only for overnight use. The town staff has technicians both in IT and Parking operations, which would be performing the majority of ongoing maintenance and repairs to the system and operations.

PROPOSALS SHALL INCLUDE

- Removal of old equipment and installation of new equipment
- Training of town staff to property operate and maintain new equipment
- Provide a turnkey system of hardware and software to fully support the Town's parking operation
- Provide all hardware and software at Vail Municipal Building to manager and support all current and future types of advance sale pass/permits.
- Provide all necessary equipment and operating system to accommodate various user groups and include multiple types of parking passes and pricing structures by day, week, or season. Provide software and hardware to manage intended credentialed parker system that requires maintain a valid credit card on file and charges a discounted accrued rate for parking to the card on file.
- The system will provide fast, easy, and secure transmission of credit card information to the towns chosen credit card processor/ bank, compliant with all PCI-DSS standards. Bidders will provide a list of all integrated CC processors for the proposed system.
- The system will include the capability to reconcile transaction logs to cash and credit card payments including appropriate audit trail. Reporting of statistical information including type of

transaction by time of day and location. Ability to provide extensive data mining of operation characteristics.

- Permit credential and transient ticket stock sufficient to start the 2022 - 2023 ski season. Bidders will provide credential pricing for individual and bulk credential purchases with any discounts for bulk purchases clearly indicated.
- The system will include a mobile payment feature/integration allowing customers to utilize their mobile devices to make payment for parking.
- The Town requires the vendor to provide a two-year comprehensive warranty for the period beginning 30-days after successful completion of installation and training, and project completion sign off by Town.
- Demonstrate the vendor's ability to respond to maintenance needs, in Vail, year-round, in a timely manner both throughout the warranty period and the anticipated life of the equipment and operating system.
- Provide documentation regarding the history of the proposed hardware and software, including the operating system version, planned future releases, routine updates (including past schedules of updates and patches and any costs associated), and the anticipated life expectancy of the proposed system.
- Submit separate pricing proposal using include equipment pricing sheet.
- The successful proposer will coordinate with the Town on all infrastructure necessary for system installation, site improvements, adequate system testing, and staff training within in the timeframe provided. This project does not allow for any extension of time.
- The system will have the ability to interface seamlessly, using multiple ways to interact over the traditional means, either internal or through third party vendors, to provide enhanced services to users in areas of mobility and parking.
- The system will address new innovations regarding integrating trends in the areas such as Mobility as a Service, multiple Transit agency fares, dynamic pricing, or other mobility service providers, etc.

CURRENT INVENTORY OF EQUIPMENT FOR ALL FACILITIES

CURRENT PARCS EQUIPMENT LIST
TOWN OF VAIL, CO - **SYSTEM SUMMARY**

Lane / Device Location #	1 Lionshead Garage	2 Red Sandstone Garage	3 Vail Village Garage	4 Ford Park Lot	5 Athletic Fields Lot	5 Finance	Totals
Parking Gate w/ gate arms	8	8	9	2	2		**29**
Magnetic Loops w/ detectors	16	16	18	4	4		**58**
Intercoms	8	8	9	2	2		**29**
Ticket Dispenser / Entry Device	4	4	5	1	1		**15**
Exit Verifier w/ Credit Card	4	4	4	1	1		**14**
Proximity Card	8	8	9	2	2		**29**
Fee Computer w/ printer and Fee Display	2		3				**5**
Pay on Foot Station - Cash & Credit	1		1				**2**
Facility Management Computer	1	1	1	1	1	1	**6**
Facility Management Software	1	1	1	1	1	1	**6**

The Town of Vail has prepared a base package response and have requested options to be priced which may or may not be part of the overall selection and eventual award and implementation.

Base Package includes replacement and/or installation of:

Device Name	Amount (#) of Devices
Parking Gates	29
Magnetic Loops	58
Ticket Dispensers	15
Exit Verifiers	14
High Volume Pay on Foot Payment station accepting cash and credit cards (Lionshead and Vail Village)	2
Low Volume Pay on Foot Payment station accepting cash and credit cards (Red Sandstone)	1
Credit Card Only Pay on Foot Payment stations accepting credit cards (Lionshead and Vail Village)	2
Proximity Card Readers	29
Intercoms	34
Fee Computers with Fee Display and Printer (2 each at Lionshead and Vail Village)	4
Location Full Signs (Red Sandstone and Surface locations)	6

Proximity Cards	10,000
Facility Management Computers	2
Validation Ticket writer	2

In addition to any other specific hardware and/or software not specifically noted, but necessary for the functioning of the Bidder's proposed system. In addition to replacement of the existing parking equipment, the Town will require each proposal to include pricing for the following add alternate optional system components and/or features. The Town may select any number of the expansion proposals separately from the basic equipment listed above.

Optional Packages will include:

Device Name	Amount (#) of Devices
Credit Card Readers for Ticket Dispensers	15
AVI Readers/Antennae	29
Low Volume Pay on Foot Payment station accepting cash and credit cards (Lionshead and Vail Village)	2
Credit Card Only Pay on Foot Payment stations accepting credit cards (Surface Locations)	2
AVI Hangtags with Custom Graphics	10,000

Work Schedule and Milestones

November 1, 2021 – TIME 1:00 pm

There will be a mandatory site visit of facilities by interested vendors. No RFP'S will be accepted by a vendor that fails to attend this meeting.

November 15, 2021 - 12:00 pm

All sealed proposals shall be hand delivered and or e-mailed to:

Town of Vail
Department of Public Works
1309 Elkhorn Drive
Vail, Colorado 81657
Attn: Greg Hall
ghall@vailgov.com

Late submissions will not be accepted.

November 16 to November 29, 2021

Each proposal will be reviewed by Town staff and consultant team The review team will include I.T., Finance and Parking Operations, WGI.. A proposal list of additional questions will be generated and proposers will provide clarifications responses to the review team.

November 29 to December 14, 2021

Final Interviews

December 22, 2021

Vendor selection announced and contract developed and signed

April 22, 2022

Phase 1 equipment installation to begin at Lionshead and Vail Village Garages

May 11, 2022

Phase 1 equipment installation completion. Phase 1 Testing and Training at Lionshead and Vail Village Garages.

May 12, 2022

Phase 2 equipment installation to begin at Red Sandstone Garage and Surface Locations

May 27, 2022

Phase 2 equipment installation completion. Phase 2 Testing and Training at Red Sandstone Garage and Surface Locations.

May 27, 2022

Punch list work completed and system responsibility accepted by the Town.

July 1, 2022

Parking pass sales will begin

Submittal Requirements

A. Proposal submittals shall include one (1) signed electronic pdf copy which contain:

1. Cover sheet: The cover sheet shall list the name of the Vendor(s) with names, email addresses and phone numbers of persons who may be contacted to answer questions. Also, the cover sheet shall state who prepared the submittal and how that person(s) can be reached.

2. Qualifications: The Vendor qualification information shall include:

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

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

   e. Work load and availability to complete this project on time.

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

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

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

4. Cost Proposal: Provide an itemized and total estimated cost for each Option on the included Bidder Pricing Sheet that meets the intent of the project goals and schematic design. Proposal costs shall be broken down by necessary tasks. Provide additional estimated cost proposal(s) for any available alternates or options that the vender may deem suitable to provide cost effectiveness for these temporary modular that meet the program goals.

5. Schedule: Provide a specific timetable for each step identified in the scope.

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

The Town of Vail may choose to short-list vendors for interviews using the following criteria for final selection: Qualifications, Experience, Ability to meet milestones and schedule, Cost, and overall best proposal meeting the needs of the Town.

Submittal of Proposals

Address all submittals (1 electronic pdf) to the attention of:
Greg Hall
Department of Public Works and Transportation
1309 Elkhorn Drive
Vail, CO 81657
Phone: (970) 479-2160
Fax: (970) 479-2166
Email: ghall@vailgov.com

The deadline for submittals is 2:00 pm November 15, 2021

General Conditions

Limitations and Award
This RFP does not commit the Town of Vail to award or contract, nor to pay any costs incurred, in the preparation and submission of proposals in anticipation of a contract. The Town of Vail reserves the right to reject all or any submittal received as a result of this request, to negotiate with all qualified sources, or to cancel all or part of the RFP. After a priority listing of the final firms is established, the Town of Vail will negotiate a contract with the first priority firm. If negotiations cannot be successfully completed with the first priority firm, negotiations will be formally terminated and will be initiated with the second most qualified firm and, likewise, with the remaining firms.

Selection
Initial evaluation will be based upon the qualifications of the applicant, as well as the cost proposal. The Town of Vail reserves the right to not interview, and to make final consultant selection based upon the qualification statements.

Equal Employment Opportunity
The selected consultant team will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin.

Contract Phasing
Proposed tasks within this RFP may be eliminated or expanded by the Town of Vail at any time due to the progression and sequencing of the scope of work.

Prohibition Against Employing Illegal Aliens. Pursuant to Section 8-17.5-101, C.R.S., *et. seq*., Contractor warrants, represents, acknowledges, and agrees that:

1. Contractor does not knowingly employ or contract with an illegal alien;
2. Contractor shall not enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien;
3. Contractor has verified or attempted to verify through participation in the basic pilot employment verification program created in Public Law 208, 104th Congress, as amended, and expanded in Public Law 156, 108th Congress, as amended, administered

by the United States Department of Homeland Security (the "Basic Pilot Program") that Contractor does not employ any illegal aliens. If Contractor is not accepted into the Basic Pilot Program prior to entering into this Agreement, Contractor shall forthwith apply to participate in the Basic Pilot Program and shall submit to the Town written verification of such application within five (5) days of the date of this Agreement. Contractor shall continue to apply to participate in the Basic Pilot Program, and shall verify such application to the Town in writing, every three (3) months until Contractor is accepted or this Agreement is completed, whichever occurs first. This subparagraph 3 shall be null and void if the Basic Pilot Program is discontinued;

4. Contractor shall not use the Basic Pilot Program procedures to undertake preemployment screening of job applicants while this Agreement is being performed;
5. If Contractor obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with an illegal alien, Contractor shall notify such subcontractor and the Town within three (3) days that Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien, and shall terminate the subcontract with the subcontractor if within three (3) days of receiving the notice required pursuant to this subsection the subcontractor does not cease employing or contracting with the illegal alien, except that Contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien;
6. Contractor shall comply with any reasonable request by the Colorado Department of Labor and Employment (the "Department") made in the course of an investigation that the Department undertakes or is undertaking pursuant to the authority established in subsection 8-17.5-102 (5), C.R.S; and
7. If Contractor violates any provision of this Agreement pertaining to the duties imposed by subsection 8-17.5-102, C.R.S. the Town may terminate this Agreement and Contractor shall be liable for actual and consequential damages to the Town arising out of said violation.

Insurance

A. The Contractor shall obtain and maintain in force for the term of this Agreement the following insurance coverage's. Certificates of insurance evidencing such coverages shall be furnished to the Town at the time of signing this Agreement. Prior to cancellation of, or material change in, any requisite policy, thirty (30) days written notice shall be given to the Town through its risk manager. All automobile liability and general liability policies shall include the Town and the Colorado Department of Transportation as an additional named insured by policy endorsement.

1. Automobile Liability (including owned, non-owned, and hired) in an amount not less than one million dollars ($1,000,000) per individual and not less than one million dollars ($1,000,000) per occurrence.
2. Worker's compensation and employer liability in accordance with the Worker's Compensation Act of the State of Colorado for employees doing work in Colorado in accordance with this Agreement.
3. Commercial General Liability (including personal injury) in an amount not less than five hundred thousand dollars ($500,000) per individual and not less than one million dollars ($1,000,000) per occurrence.
4. Professional Liability in an amount not less than one million dollars ($1,000,000) each occurrence and aggregate.

B. The vendor shall indemnify and hold harmless the Town, its officers, directors, shareholders, members, partners, principals, agents, attorneys, employees, and subsidiaries and the Colorado Department of Transportation against and from all liability, claims, damages, demands and cost, including attorney fees of every kind and nature and attributable to bodily injury, sickness, disease or death or to damage or destruction of property resulting from or in any manner arising out of or in connection with the project and the performance of the work under this contract.

PROSPECTIVE CONTRACTORS'S CERTIFICATE REGARDING EMPLOYEE/EMPLOYING AFFIDAVIT

NO EMPLOYEE AFFIDAVIT

[To be completed only if Contractor has no employees]

1. Check and complete one:

I, _____, am a sole proprietor doing business as _____. I do not currently employ any individuals. Should I employ any employees during the term of my Agreement with the Town of Vail (the "Town"), I certify that I will comply with the lawful presence verification requirements outlined in that Agreement.

OR

I, _____, am the sole owner/member/shareholder of _____, a _____ [specify type of entity – *i.e.*, corporation, limited liability company], that does not currently employ any individuals. Should I employ any individuals during the term of my Agreement with the Town, I certify that I will comply with the lawful presence verification requirements outlined in that Agreement.

2. Check one.

I am a United States citizen or legal permanent resident.

The Town must verify this statement by reviewing one of the following items:

- *A valid Colorado driver's license or a Colorado identification card;*
- *A United States military card or a military dependent's identification card;*
- *A United States Coast Guard Merchant Mariner card;*
- *A Native American tribal document;*
- *In the case of a resident of another state, the driver's license or state-issued identification card from the state of residence, if that state requires the applicant to prove lawful presence prior to the issuance of the identification card; or*
- *Any other documents or combination of documents listed in the Town's "Acceptable Documents for Lawful Presence Verification" chart that prove both Contractor's citizenship/lawful presence and identity.*

OR

I am otherwise lawfully present in the United States pursuant to federal law.

Contractor must verify this statement through the federal Systematic Alien Verification of Entitlement ("SAVE") program and provide such verification to the Town.

_____ _____

Signature Date

DEPARTMENT PROGRAM AFFIDAVIT

[To be completed only if Contractor participates in the

Department of Labor Lawful Presence Verification Program]

I, _____, as a public contractor under contract with the Town of Vail (the "Town"), hereby affirm that:

1. I have examined or will examine the legal work status of all employees who are newly hired for employment to perform work under this public contract for services ("Agreement") with the Town within 20 days after such hiring date;

2. I have retained or will retain file copies of all documents required by 8 U.S.C. § 1324a, which verify the employment eligibility and identity of newly hired employees who perform work under this Agreement; and

3. I have not and will not alter or falsify the identification documents for my newly hired employees who perform work under this Agreement.

_____ _____

Signature Date

STATE OF COLORADO)

) ss.

COUNTY OF _____)

The foregoing instrument was subscribed, sworn to and acknowledged before me this ___ day of _____, 2021, by _____ as _____ of _____.

My commission expires:

(S E A L) _____

Notary Public

SECTION 11 1200 – PARKING CONTROL EQUIPMENT

PART 1 - GENERAL

1.1 Related Documents

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 Work Included

A. The Work of this Section shall include furnishing all material, equipment, labor, and supervision to install in place a fully operating Parking Control System as specified herein, and/or indicated on the Drawings. Included will be supply, delivery, unloading, setting, anchoring control wiring installation wiring termination, and startup of all parking, revenue control, and access control equipment. Vendor will also be responsible for the removal and disposal of current parking equipment. Vendor shall provide a credit in their proposal for the salvage value of the legacy parking equipment.

1.3 Related Work

A. The Town of Vail (Town) and/or electrical Subcontractor shall furnish and install all conduit and power wiring in proper size and location to the parking control equipment and empty conduit for control wiring as required.

B. Manufacturer of the Parking Control System shall provide those responsible for related work with:

1. Installation diagrams and details for setting indoor and outdoor mounted equipment.
2. Templates for setting indoor and outdoor mounted equipment.
3. Templates and cast-in inserts to anchor freestanding equipment to curbs and bases.
4. Electrical wiring diagrams and details.
5. Electrical installation requirements.
6. Electrical power requirements.
7. Network and Data connection requirements.
8. Lane Design Drawings of intended new equipment placements

1.4 System Description

A. General

1. This parking locations are to be used by:

   a. **Transient Parkers**

      1) Transient parkers will enter the parking facility by taking a time encoded ticket from the ticket dispenser located at the entry lanes. Upon receiving the ticket, a License Plate Recognition (LPR) camera adjacent to the entry lane will scan the vehicle's rear license plate, correlating the plate with the transient ticket issued, and the gate will raise to allow entry.

      2) Transient parkers will exit the parking facility after paying applicable fees to:
         a) Cashier station located in booths at the exit lanes
         b) Automated Pay-on-Foot Machine
         c) Automated Exit Verifier Machine
         d) Mobile Payment Service/Website

   b. **Credentialed Parkers**

      1) Credentialed parkers will enter and exit the parking facility via a proximity card credential. The Town requests bidders to provide AVI system and credential pricing as an alternate.

   c. **Event Parking**

      1) Event parkers will enter the parking facility:
         a) Upon payment of a flat fee by credit card to the ticket dispenser, or by cash to an event attendant for which the device or attendant will issue an exit validation
         b) Upon scanning a previously issued barcode at the ticket dispenser at the entry lane
         c) Upon taking an encoded ticket from the ticket dispenser

      2) Event parkers will exit the facility:
         a) In a free exit mode with the barrier gates in an open or automated open position
         b) Upon scanning of a prepaid ticket at the exit verifier
         c) Upon paying a flat fee to the pay-on-foot payment machine, exit verifier, or exit lane cashier

2. **The parking equipment shall be on-line with a parking Facility Management System (FMS) control computer or cloud-based service.**

3. **The parking control equipment shall include an intercom system providing two-way voice communications to the designated Parking / Security staff. Intercom locations will be programmable to inform call recipients of the originating location of intercom calls.**

4. **The parking control equipment shall comply with all applicable standards of the Americans with Disabilities Act (ADA).**

B. Entry and Exit Lane Locations

1. Entry Lanes
   a. **Lionshead Garage**
      1) Entry Lane 1 – Upper Level
      2) Entry Lane 2 – Upper Level
      3) Entry Lane 3 – Upper Level
      4) Entry Lane 4 – Lower Level
   b. **Red Sandstone Garage**
      1) Entry Lane 1 – Level 1
      2) Entry Lane 2 – Level 2
      3) Entry Lane 3 – Level 3
      4) Entry Lane 4 – Level 4
   c. **Vail Village Garage**
      1) Entry Lane 1 – Upper Level
      2) Entry Lane 2 – Upper Level
      3) Entry Lane 3 – Lower Level
      4) Entry Lane 4 – Lower Level
      5) Entry Lane 5 – Lower Level
   d. **Ford Park Surface Parking Lot**
      1) Entry Lane 1
   e. **Athletic Fields Surface Parking lot**
      1) Entry Lane 1

2. Exit Lanes
   a. **Lionshead Garage**
      1) Exit Lane 1 – Upper Level
      2) Exit Lane 2 – Upper Level
      3) Exit Lane 3 – Upper Level
      4) Exit Lane 4 – Lower Level
   b. **Red Sandstone Garage**
      1) Exit Lane 1 – Level 1

2) Exit Lane 2 – Level 2

3) Exit Lane 3 – Level 3

4) Exit Lane 4 – Level 4

c. **Vail Village Garage**

1) Exit Lane 1 – Upper Level

2) Exit Lane 2 – Lower Level

3) Exit Lane 3 – Lower Level

4) Exit Lane 4 – Lower Level

d. **Ford Park Surface Parking Lot**

1) Exit Lane 1

e. **Athletic Fields Surface Parking lot**

1) Exit Lane 1

3. Lane Operational Descriptions

a. Dedicated Entry Lanes

1) During regular operating hours, the presence of the vehicle over the detector loop adjacent to the ticket dispenser shall activate the push button on the ticket dispenser. Upon depressing the push button the ticket dispenser will issue a date and time stamped ticket. An audible signal shall sound until the patron has removed the ticket from the chute. The gate shall open automatically with removal of the ticket from the ticket dispenser. Upon receiving the ticket, a License Plate Recognition (LPR) camera adjacent to the entry lane will scan the vehicle's front and/or rear license plate, correlating the plate with the transient ticket issued, and the gate will raise to allow entry.

2) The presentation of a valid credential shall automatically prevent the ticket dispenser from issuing a ticket. The entrance lane gate shall automatically open.

3) The entrance lane gate shall close automatically after the vehicle has passed over the closing detector loop.

4) The access control system shall only accept properly coded credentials meeting current anti-pass-back criteria. If the passes all validity and anti-pass-back checks the gate shall open. If the fails validity or anti-pass-back checks the central controller shall record an "invalid attempt" event indicating the device location, user I.D. number, and type of invalid access (English text), and the gate shall open (soft anti-pass-back) or remain closed (hard anti-pass-back) at the Owner's programmable option.

b. Dedicated Exit Lanes

1) Cashiered Exit Lanes – During regular garage operating hours the transient parker shall drive to the cashier booth. The presence of a vehicle over a vehicle detector loop adjacent to the cashier's booth shall send a signal to allow for one operation of the fee computer. The entrance time on the ticket shall be entered into the fee computer via bar code reader, and the parking fee shall be computed automatically based on programmable rate tables. The "out" time, date, and fee shall be logged with the ticket number in the system, and the fee displayed on the fee indicator and patron display. The transient parker shall then give the cashier cash or a credit card to pay the parking fee. The amount of money tendered shall be entered into the fee computer and the amount of change shall be automatically calculated and displayed on the fee computer display and the patron fee display. The exit lane gate shall automatically open upon completion of the transaction or closing of the cash drawer.

2) Automated Exit Lanes – For Unstaffed exit lanes, and/or during times when the cashier booth is not staffed, the transient parker shall drive to the exit lane. The presence of a vehicle over a vehicle detector loop adjacent to the pay-in-lane device shall send a signal to allow for one operation of the device. The transient parker shall scan the ticket at the device, the entrance time on the ticket shall be entered into the device via bar code scanner, and the parking fee shall be computed automatically based on programmable rate tables. The exit time, date, and fee shall be logged with the ticket number in the system, and the fee displayed on the fee indicator and patron display. The transient parker shall then insert a credit card to pay the parking fee. The amount of money tendered shall be displayed. The exit lane gate shall automatically open upon completion of the transaction.

3) Pay-on-Foot Payment Stations – Transient parkers shall pay parking fees at an automated payment station before returning to their parked vehicle. Upon payment of the fee, the parkers shall have the option to print a receipt. The ticket shall be logged as paid in the system along with the time of payment. Parkers shall then have a programmable grace time period to exit the parking facility. Parkers will return to their vehicle and drive to the exit lane. To exit the facility, the parker shall approach the exit lane activating the LPR camera to capture, log, and correlate the license plate with the transient ticket, or if the LPR is unable to capture the license plate, customers may scan their ticket at the exit verifier. If the exit grace period has not been exceeded, the barrier gate shall raise and the parker is free to exit. If the exit grace period has been exceeded or the fee has not been paid, the exit verifier shall prompt the parker to insert a credit card for payment of the fee. If the parker does not have a valid credit card, the parker shall be required to return to the payment station or communicate with parking management staff via an intercom system. The barrier gate shall rise following the successful completion of the transaction. The circuitry shall be such that the exit cycle of a vehicle shall be completed before the system will accept another vehicle through the same lane.

4) The credentialed parking patron shall drive to the exit lane. The presentation of a valid credential shall prevent the exit verifier and/or the fee computer from processing a transaction. The exit lane gate shall automatically open by

the presentation of a valid credential. The exit lane shall close automatically after the vehicle has passed over the closing detector loop.

5) During special event parking situations, the exit lane gates may be set to automatically open for exiting vehicles. Patrons paying upon entry shall "free flow" through exit lanes without stopping in the lane or alternately shall present their prepaid entry ticket to the cashier or exit verifier for validation and to raise the gate.

c. Validations

1) Validations for parking discounts may be offered by merchants, organizations, departments, etc. to their customers and visitors using the parking facility(s). Validations will provide parkers discounts in dollar amounts, time, or completely complimentary. The PARCS system shall utilize an internet-based validation system.

C. Facility Management System (FMS)

1. The FMS shall be an on-line computer system of hardware and software, or an internet-based software system providing information to manage the parking facility. All lane equipment shall be connected to and communicate with the FMS. The primary functions of the FMS shall include:
   a. Revenue Control
   b. Access Control
   c. Lane Count Control and Occupancy Monitoring
   d. Equipment Status and Control

1.5 Quality Control

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

B. Installer shall have previously worked successfully with the equipment Manufacturer, and prior to being awarded a contract shall submit with bid documents the reference names, locations, contacts, and telephone numbers for the two (2) most recently installed, similar, completed projects. The list shall include any difference between material furnished for the referenced projects and materials to be furnished for this project. The Town prefers references that reflect support of operations similar to the Town in climate, number of locations/lanes, and parking volumes.

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

D. Installer shall provide repair and maintenance service and have an equipment service center located in sufficient geographic proximity to provide on-site service within twelve (12) hours of problem notification, and/or as stipulated by the warranty requirements. Additionally, installer

shall provide remote phone or internet-based support of the system. Support and service shall be available 7-days per week/365-days per year.

1.6 Submittals

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

B. Upon request submit for review and approval the names, locations, contacts, and telephone numbers for the two (2) most recently installed completed projects. Reference projects shall be similar operations in size, scope, climate, and capacity.

C. Submit documentation pertaining to the history of hardware and software development for the proposed system and 5-year horizon view of intended future improvements, integrations, and/or developments for the system.

D. Submit documentation of certified compliance with the most current Payment Card Industry Data Security Standards (PCI-DSS).

E. Submit documentation of all available credit card payment processors integrated with the proposed system.

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

G. Provide the Owner with two final copies (digital and printed) of each of the following:

1. Maintenance Manual
2. Operating Manual
3. Equipment electrical circuitry diagram
4. As built equipment wiring diagram

H. Provide Owner with eight (8) sets of master keys for the equipment. The keys shall be commercially replicable. Keys shall be unique to this installation/location/Owner; they shall not fit any other equipment. The same key shall be capable of opening all system components, with the exception of currency cannisters/vaults. Devices and components storing currency shall be keyed separately. Each equipment type shall be master keyed including but not limited to:

1. Cabinets for gates
2. Card readers
3. Ticket dispensers
4. Exit Verifiers
5. Pay-on-Foot Payment Stations
6. LPR Cameras
7. Paper Currency Cannisters/Vaults

1.7 Transportation and Handling

A. Deliver equipment to the Town at a predetermined location, packaged to prevent damage, and marked for easy identification, no less than three (3) weeks prior to installation.

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

1.8 Operating Conditions

A. Equipment shall be designed, fabricated, and installed to operate effectively under the climate and exposure conditions for the recorded weather extremes for the equipment location, Vail Colorado. Supplier/installer shall include all necessary components (i.e. heaters, equipment covers, enclosures, awnings, etc.) for the proposed equipment to function in an ambient temperature range of -30-degrees to +120-degrees Fahrenheit, with large volumes of rain, snow and dust.

B. The equipment supplier / installer shall review the plans showing the equipment locations before bidding and assess the suitability of the equipment with the locations. The contractor shall notify the Town in writing of any locational compatibility issues or modifications necessary.

C. The equipment supplier / installer shall inspect the equipment locations in person prior to the end of January, 2022. The contractor shall notify the Town in writing of any locational compatibility issues and provide drawings of any modifications needed. Starting the installation of equipment shall constitute acceptance of the conditions at the equipment locations and suitability of the equipment for the locations.

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

1. Include in the bid amount the cost to provide and install voltage stabilization modules or devices to protect each component from normal voltage variations at the site.
2. Advise the Town in writing at the time of the proposal submission of any special electrical power, uninterruptible power supplies, and grounding requirements.
3. Advise the Town in writing at the time of the proposal submission of network/data connection requirements.

1.9 Warranty

A. Provide Manufacturers Warranty

1. Warranty shall be for two (2) years covering all labor, computer hardware and software, lane equipment, system components, and furnished equipment.

2. Warranty shall commence when equipment is 100 percent operational and acceptable to the Owner, as approved in writing by the Owner and Engineer.

3. Maintain equipment to be completely operational during the warranty period such that, if defective, equipment shall be serviced on-site within twenty-four (24) hours – seven (7) days a week, following notification by the Owner.

4. Warranty shall include preventative maintenance cleaning, testing, and minor repair no less than twice per year.

5. Warranty shall include software updates and maintenance services.

6. Warranty shall cover all equipment furnished under this specification section – both manufacture and installation, excluding misuse or vandalism.

PART 2 - PRODUCTS

2.1 General

A. All equipment colors shall be standard Manufacturer colors except where specifically noted. The Town wishes to review and potentially customize any graphic overlays or messaging applied to the exterior of the parking equipment.

B. All parking control equipment must be compatible with the existing electrical system and/or clearly indicate any required improvements or changes required for the proposed system to function successfully.

C. All equipment, hardware and software, including the FMS, that accept credit cards shall comply with the most current Payment Card Industry and Data Security Standards (PCI-DSS). Vendor shall provide a list of all merchant processors compatible with the proposed system, detailing estimated costs and processing features. Vendor shall also provide a detailed description of how credit cards are processed and settled through the proposed system.

2.2 Equipment List

A. The following equipment list consists of basic system components. Provide auxiliary items required for the proper functioning of the system, whether mentioned or not, including but not limited to, heaters, coolers, wiring, transformers, relays, stands, housings, pedestals, etc. It is the SOLE RESPONSIBILITY of the Parking Control Equipment (Sub) Contractor to provide every component necessary for a complete functioning system.

B. Locate equipment as indicated on the Drawings. Equipment List

1. Provide Parking Control Equipment for each lane as indicated:

PARCS EQUIPMENT LIST
TOWN OF VAIL - **LIONSHEAD GARAGE**

Lane / Device Location #	1 Entrance Lane - 1 (Upper)	2 Entrance Lane - 2 (Upper)	3 Entrance Lane - 3 (Upper)	4 Entrance Lane - 4 (Lower)	5 Exit Lane - 1 (Upper) w/booth	6 Exit Lane - 2 (Upper) w/booth	7 Exit Lane - 3 (Upper)	8 Exit Lane - 4 (Lower)	1 Pay-on-Foot Station (Level 1)	2 Pay-on-Foot Station (Transit Center)	3 Pay-on-Foot Station (Location TBD)	4 Pay-on-Foot Station (Location TBD)	Totals	Notes
Parking Gate w/ gate arms	1	1	1	1	1	1	1	1					8	
Magnetic Loops w/ detectors	2	2	2	2	2	2	2	2					16	
Intercoms	1	1	1	1	1	1	1	1	1	1	1	1	12	1-Add Alternate
Ticket Dispenser / Entry Device	1	1	1	1									4	
Ticket Dispenser Credit Card Reader	1	1	1	1									4	4-Add Alternate
Exit Verifier w/ Credit Card					1	1	1	1					4	
Proximity Card/Bluetooth Reader	1	1	1	1	1	1	1	1					8	
Automatic Vehicle Identification (AVI) Reader	1	1	1	1	1	1	1	1					8	8-Add Alternate
License Plate Recognition (LPR) Camera	1	1	1	1	1	1	1	1					8	
Fee Computer w/ printer and Fee Display					1	1							2	
Pay on Foot Station - Cash & Credit - High Volume									1				1	
Pay on Foot Station - Cash & Credit - Low Volume												1	1	1-Add Alternate
Pay on Foot Station - Credit Card Only										1	1		2	1-Add Alternate
BASE BID	√	√	√	√	√	√	√	√	√	√				
ADD ALTERNATE											√	√		

PARCS EQUIPMENT LIST
TOWN OF VAIL - **RED SANDSTONE GARAGE**

Lane / Device Location #	1 Entry Lane - 1 (Level 1)	2 Entry Lane - 2 (Level 2)	3 Entry Lane - 3 (Level 3)	4 Entry Lane - 4 (Level 4)	5 Exit Lane - 1 (Level 1)	6 Exit Lane - 2 (Level 2)	7 Exit Lane - 3 (Level 3)	8 Exit Lane - 4 (Level 4)	1 Pedestrian Bridge	Totals	Notes
Parking Gate w/ gate arms	1	1	1	1	1	1	1	1		8	
Magnetic Loops w/ detectors	2	2	2	2	2	2	2	2		16	
Intercoms	1	1	1	1	1	1	1	1	1	9	
Ticket Dispenser / Entry Device	1	1	1	1						4	
Ticket Dispenser Credit Card Reader	1	1	1	1						4	4-Add Alternate
Exit Verifier / Exit Device w/ Credit Card					1	1	1	1		4	
Proximity Card/Bluetooth Reader	1	1	1	1	1	1	1	1		8	
Automatic Vehicle Identification (AVI) Reader	1	1	1	1	1	1	1	1		8	8-Add Alternate
License Plate Recognition (LPR) Camera	1	1	1	1	1	1	1	1		8	
Full Sign / Occupancy Count	1	1	1	1						4	
Pay on Foot Station - Cash & Credit - Low Volume									1	1	
BASE BID	√	√	√	√	√	√	√	√	√		
ADD ALTERNATE											

PARCS EQUIPMENT LIST
TOWN OF VAIL - **VAIL VILLAGE GARAGE**

Lane / Device Location #	Entry Lane - 1 (Upper) 1	Entry Lane - 2 (Upper) 2	Entry Lane - 3 (Lower) 3	Entry Lane - 4 (Lower) 4	Entry Lane - 5 (Lower) 5	Exit Lane - 1 (Upper) 6	Exit Lane - 2 (Lower) w/booth 7	Exit Lane - 3 (Lower) w/booth 8	Exit Lane - 4 (Lower) 9	Upper Level - Elevator Lobby 1	Pay-on-Foot Station (Location TBD) 2	Office/Computer Room 3	Finance 4	Totals	Notes
Parking Gate w/ gate arms	1	1	1	1	1	1	1	1	1					9	
Magnetic Loops w/ detectors	2	2	2	2	2	2	2	2	2					18	
Intercoms	1	1	1	1	1	1	1	1	1	1	1			11	
Ticket Dispenser / Entry Device	1	1	1	1	1									5	
Ticket Dispenser Credit Card Reader	1	1	1	1	1									5	5-Add Alternate
Exit Verifier / Exit Device w/ Credit Card						1	1	1	1					4	
Proximity Card/Bluetooth Reader	1	1	1	1	1	1	1	1	1					9	
Automatic Vehicle Identification (AVI) Reader	1	1	1	1	1	1	1	1	1					9	9-Add Alternate
License Plate Recognition (LPR) Camera	1	1	1	1	1	1	1	1	1					9	
Fee Computer w/ printer and Fee Display							1	1						2	
Pay on Foot Station - Cash & Credit - High Volume										1				1	
Pay on Foot Station - Cash & Credit - Low Volume											1			1	1-Add Alternate
Pay on Foot Station - Credit Card Only											2			2	1-Add Alternate
Facility Management Computer												1	1	2	
Facility Management Software													1	1	
Validation Ticket Writer												1	1	2	
Proximity Card Credentials (10,000)													1	1	
BASE BID	√	√	√	√	√	√	√	√	√	√	√	√	√		
ADD ALTERNATE											√				

PARCS EQUIPMENT LIST
TOWN OF VAIL - **SURFACE PARKING LOCATIONS**

Lane / Device Location #	Entry Lane - 1 (Ford Park) 1	Exit Lane - 1 (Ford Park) 2	Entry Lane - 1 (Soccer Fields) 3	Exit Lane - 1 (Soccer Fields) 4	Bus Endosure (Ford Park) 5	Service Building (Soccer Fields) 6	Totals	Notes
Parking Gate w/ gate arms	1	1	1	1			4	
Magnetic Loops w/ detectors	2	2	2	2			8	
Intercoms	1	1	1	1	1	1	6	2-Add Alternate
Ticket Dispenser / Entry Device	1		1				2	
Ticket Dispenser Credit Card Reader	1		1				2	2-Add Alternate
Exit Verifier w/ Credit Card		1		1			2	
Proximity Card/Bluetooth Reader	1	1	1	1			4	
Automatic Vehicle Identification (AVI) Reader	1	1	1	1			4	
License Plate Recognition (LPR) Camera	1	1	1	1			4	
Full Sign / Occupancy Count	1		1				2	
Pay on Foot Station - Credit Card ONLY					1	1	2	2-Add Alternate
BASE BID	√	√	√	√				
ADD ALTERNATE					√	√		

PARCS EQUIPMENT LIST
TOWN OF VAIL, CO - **SYSTEM SUMMARY**

Lane / Device Location #	1 Lionshead Garage	2 Red Sandstone Garage	3 Vail Village Garage	4 Surface Parking Locations	5 Finance	Totals	Notes
Parking Gate w/ gate arms	8	8	9	4		**29**	
Magnetic Loops w/ detectors	16	16	18	8		**58**	
Intercoms	12	9	11	6		**38**	
Ticket Dispenser / Entry Device	4	4	5	2		**15**	
Ticket Dispenser Credit Card Reader	4	4	5	2		**15**	15-Add Alternate
Exit Verifier w/ Credit Card	4	4	4	2		**14**	
Proximity Card/Bluetooth Reader	8	8	9	4		**29**	
Automatic Vehicle Identification (AVI) Reader	8	8	9	4		**29**	29-Add Alternate
License Plate Recognition (LPR) Camera	8	8	9	4		**29**	
Fee Computer w/ printer and Fee Display	2		2			**4**	
Full Sign / Occupancy Count		4		2		**6**	
Pay on Foot Station - Cash & Credit - High Volume	1		1			**2**	
Pay on Foot Station - Cash & Credit - Low Volume	1	1	1			**3**	2-Add Alternate
Pay on Foot Station - Credit Card Only	2		2	2		**6**	4-Add Alternate
Facility Management Computer			1		1	**2**	
Facility Management Software					1	**1**	
Validation Ticket Writer			1		1	**2**	
Proximity Card Credentials (10,000)					1	**1**	
BASE BID	√	√	√	√	√		
ADD ALTERNATE							

Notes:
(1) Equipment manufacturer shall determine quantity, location, and dimension of detector loops. All existing loops are to be replaced.

2. Office Equipment
   a. Installer shall provide computers with monitors meeting the requirements for properly running the provided Facility Management System software at the specified locations.
   b. Installer shall provide a printer capable of printing parking validations for the proposed system.

2.3 Facility Management System (FMS)

A. The facility management system shall be an on-line system of computer hardware and software providing information and control to manage the parking facility. The system shall be designed and configured specifically for parking facility management. All lane and automated payment station equipment shall be connected to the FMS.

1. The FMS software shall be based upon a Windows operating system and be designed to take advantage of future operating system enhancements.

2. The FMS software may be hosted in a remote location via the internet. However, the access and revenue control functions of the PARCS lane equipment shall remain fully functional if communications with the hosted software is disabled. Data generated on-

site during the communication failure shall be retained on-site and automatically uploaded when normal communications are restored. The primary functions of the FMS shall include the following related subsystems:

a. Revenue Control
b. Access Control
c. Lane Count Control and Occupancy Monitoring
d. Equipment Status and Control
e. Lane and Occupancy Sign Control and Communication

3. Data generated by the FMS software shall be exportable to other Windows based applications in Comma Separated Values (CSV) format.

4. The FMS software shall be hierarchy password-protected to prevent unauthorized access to critical features and functions.

5. The FMS shall interface between the on-line devices and the control computer, to provide a complete operating system.

6. FMS shall include remote access and management features.

7. The FMS shall output the following information to an event log:

a. Alarm Conditions
b. Lane Control Functions
c. Hourly Count Status of all Counters

B. **Revenue Control** subsystem of the FMS shall provide a complete, auditable accounting of all activities generated by the system revenue control devices. The FMS software shall generate and maintain database information of each transaction generated by the revenue collection devices. Revenue Control subsystem shall utilize and share data generated by the other subsystems of the FMS including, but not limited to, the non-resettable counter requirements.

1. The following standard revenue control reports shall be provided by the FMS. The generation of individual reports shall be owner selectable to be automatically triggered by a defined event, at regularly scheduled intervals, or on demand. FMS shall include customizable reports, and the ability to report by individual facility, multiple facilities, or the entire system.

a. Daily/Weekly/Monthly Event Log
b. Cashier Shift Report
c. Daily/Weekly/Monthly Lane Activity Report
d. Daily/Weekly/Monthly Pay Station Activity Report
e. Daily/Weekly/Monthly Non-Revenue & Void Transactions Report
f. Daily/Weekly/Monthly Cashier Analysis
g. Daily/Weekly/Monthly Peak Occupancy Report
h. Daily/Weekly/Monthly Lane Volume Report
i. Daily/Weekly/Monthly Lane Load Factor Report
j. Daily/Weekly/Monthly Lot Duration
k. Daily/Weekly/Monthly Ticket Validation Report
l. Daily/Weekly/Monthly Ticket Analysis Report
m. Detailed Transactions Report
n. Daily/Weekly/Monthly Credit Card Lane Summary Report

o. Daily/Weekly/Monthly Credit Card Pay Station Summary Report
p. Cashier Shift Credit Card Detail Report
q. Current listing of tickets/vehicles in the facility

C. **Access Control** subsystem of the FMS shall use Credential Reading Devices (CRD) located at the entrance and exit lanes. The CRD types include:

1. On-line CRDs. System shall utilize **Proximity Card readers; Automatic Vehicle Identification (AVI) antennae (add alternate).**

2. Subsystem shall be capable of managing up to 20,000 users with varying fee structures and access rights.

3. Individual credential prices, with discounts for bulk purchases shall be provided in base bid. There are currently almost 11,000 credentials distributed, with almost 7,000 active users that renew their permits/passes annually.

4. Access Control Capabilities

a. The access control sub-system shall be an on-line system. If the FMS is not functional, the CRDs shall function off-line. Credential validity checks shall be made, but not anti-pass-back checks when the FMS is down.
b. Subsystem shall be able to add credentials to memory with the ability to define where and when the credential holder may use the credential. On a gate-by-gate basis, valid access times and dates shall be definable.
c. Subsystem shall be able to delete credentials from memory as well as modify access control privileges of individual credentials.
d. Subsystem shall be able to select controlled areas that are to operate in a hard, soft, or timed anti-pass-back (APB) mode and select whether contact closure (e.g. gate up) is required to change anti-pass-back status. APB shall include resynch commands which reset the sequence control to a neutral state. The anti-pass-back status shall be restored within the access control system when the credential is next used in either entrance or exit reader. SOFT APB (software lists the illegal use but barrier gate still opens) and HARD APB (software lists the illegal use and barrier gate does not open) shall be selectively programmable.
e. All subsystem activity messages to the operator shall be printed in plain language English text including credential holder name.
f. The access control subsystem shall be capable of automatically reading the credential and sending the credential number to the access controller to verify current status. Reading rejects shall not exceed one half of one percent (0.5%) of proximity card and AVI credential presentations.
g. For use in a combined contract/transient entrance lane, actuation of the credential reader shall lock out the transient ticket dispenser until after the vehicle has passed through the gate.
h. For use in a combined contract/transient exit lane, actuation of the credential reader shall lock out the fee computer, exit verifier, or pay-in-lane machine until after the vehicle has passed through the gate.
i. CRD and location shall be such that the card reader shall be within easy reach of seated driver.
j. Some subgroups of credentialed users are to be charged accrued fees for each use of parking, as defined by a customizable rate structure/fee table. Subsystem shall require defined subgroups of credentialed users to maintain a valid credit card

to be charged each time parking is used by the credential. If an invalid or declined credit card is stored, the credential shall not allow access.

k. Proximity Card readers shall be included and mounted to entry lane ticket dispensers and exit lane verifiers.

l. Approved product suppliers for Proximity Card readers are:

1) Proximity Card Readers, HID Global, Austin, TX.
2) Proximity Card Readers, Applied Wireless IDentification Group, Inc. (AWID), Morgan Hill, CA

m. Approved product suppliers For AVI systems:

1) Tagmaster North America, Tacoma, WA
2) Transcore Corp., Dallas, TX

5. The following standard access control reports shall be provided by the FMS. The generation of individual reports shall be owner selectable to be automatically triggered by a defined event, at regularly scheduled intervals, or on demand. FMS shall include customizable reports, and the ability to report by individual facility, multiple facilities, or the entire system.

a. Current active credentials by location
b. Deleted credentials within a specified timeframe
c. Active credentials by group
d. Daily/Weekly/Monthly entry and/or exits by lane or location(s) within a specified timeframe by credential or group
e. Pass-back violations within a specified timeframe
f. Pass-back violations attempted by location
g. Pass-back violations attempted within a specified timeframe
h. Listings of credentials “in” the facility within a specified timeframe
i. Total revenue per credential within a specified timeframe
j. System and/or location occupancy by specified timeframe

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

1. The count system shall communicate individual location availabilities to the Town’s designated systems for broadcast to roadway parking availability signs, the Town’s website showing parking availability, and/or another designated Town system.

2. The Count Subsystem shall provide the following output signals:

a. Entrance Lanes
1) Full Sign On/Off
2) Gate Vend (Manual Open)
3) Gate Override (Continuous Up)
4) Gate Reset (Gate Down)
5) Lane Closed (Dispenser On/Off/"Closed")

b. Exit Lanes
1) Gate Vend (Manual Open)
2) Gate Override (Continuous Up)

3) Gate Reset (Gate Down)
4) Lane Closed ("Closed" Signs from Section 10 1400, Signage)

3. The count subsystem shall maintain and provide the following counts:

a. Transient Differential Count (with credential holdback) Note: Turns on Facility Full Signs
b. Facility Total Differential Count – Facility Full
c. Credentialed User Differential Count by group and lane (Credentialed Access)
d. Transient Entrance and Exit Count Non-resettable (by lane)
e. Credentialed User Entrance and Exit Count Non-resettable (by lane)
f. Total Vehicle Entrance and Exit Count Non-resettable (by lane)
g. Number of Vehicle through Entrance or Exit with Gate Locked in the Up Position, Non-resettable (by lane)
h. Event Mode Entrance Total Count by Lane

4. The count subsystem shall continually display total counts for transient, credentialed users, and total lane from each entry and exit lane, as well as each location.

5. The count subsystem shall continually display differential counts of transient, credentialed users and total facility and control the lock-out of the Ticket Dispensers by lane and lighting of Full signs.

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

1. The status and control subsystem shall monitor the following input signals:

a. Entrance Lanes
1) Transient Gate Vend (Ticket Pull)
2) Credentialed Access Gate Vend
3) Gate Up (Auxiliary Switch)
4) Loop Failures
5) Low Ticket Alert
6) Ticket Out Alert
7) Gate Manual Open
8) License Plate Reads

b. Exit Lanes
1) Credentialed Access Gate Vend
2) Transient Parking Device Vend
3) Gate Up (Auxiliary Switch)
4) Loop Failures
5) Gate Manual Open
6) License Plate Reads

2. The status and control subsystem shall provide the following displays and miscellaneous functions on FMS CRT screen:
a. Current Time
b. Count System Status
c. Entrance and Exit Lane Status – Open or Closed

3. The status and control subsystem shall monitor each entry and exit lane for proper operation of equipment. The subsystem shall provide an audio alarm and display location information for events such as:
   a. Ticket Jam in Ticket Dispenser
   b. Entry Gate Stuck
   c. Detector Fail
   d. Exit Gate Stuck
   e. Low Ticket Level
   f. Lane Open/Closed
   g. License Plate Read Errors
   h. Transient Full Count by location
   i. Facility Full count by location

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

5. Provide a manual keyed switch at each lane to manually override the FMS for control of the “FULL” sign and the illuminated signs.

2.4 Fee Computer

A. Fee computer shall compute parking fees upon scanning of a bar-code printed ticket. The fee computer shall be on-line with the FMS. If the FMS is not functional, the fee computer shall function off-line and the transaction data shall be stored in a memory buffer. The buffer shall be able to store a minimum of 5,000 transactions. The buffer data shall be transferred to the FMS as soon as it is functional.

B. Provide power supply, printer, cash drawer, and 2 spare cash drawer tray(s) for complete operating system.

C. Fee Computer shall have:

1. Up to 72 password protected attendant logins to assure individual accountability of each cashier and prevent transactions by unauthorized persons.

2. Attendant register banks to provide individual audit data for up to 24 attendants per day without clearing totals. Each attendant's report shall include: attendant number, date, time, gross cash, net cash, monthly transactions and number of vends, each with description in English text category headers.

3. Capability for receipts to be issued on demand with the following information: facility name, date, time in, time out, amount, transaction number, attendant I.D. number, and rate selected.

4. Multiple individual rate structures; all field programmable each with day rate, night rate, 24 hour maximum, free periods, and individual day and weekend rates.

5. Provide a programmable lost ticket transaction function that integrates with the LPR system to automatically query vehicle license plates to define exact entry times for lost tickets.

6. Ability to accommodate 1-12 AM/PM time or 24-hour time field programmable by owner.

7. Provide a minimum of seven (7) fixed dollar amount keys.

D. Provide a minimum of 50 programmable validation accounts.

E. The fee structure shall be initially set up by the parking control equipment supplier to the Owners requirements. The fee structure shall be locally programmable to facilitate continuing changes by the owner.

F. The fee computer shall control the remote fee display.

G. General totals print-out shall be accessible only with management "command codes" includes date, time, gross non-resettable cash total, gross cash, net cash, monthly transaction count, electrical restarts, no sale count and number of vends each with descriptive English text category headers. It shall include a breakdown by rate structure of gross and net cash transactions.

H. An internal transaction journal shall log and record each transaction.

2.5 Fee Display

A. The LED Remote Fee Display shall be used to indicate the fee from the Fee Computer to exiting motorists. The display shall be LED and indicate time, amount of fee and change. The enclosure shall be a NEMA Type III weather resistant or equivalent. It shall be located within the cashier booth so as not to interfere with the booth door. The control input shall be a low voltage DC signal input from the fee computer and with an internal power supply with a built-in logic conversion. The indicated fee characters shall be 2 inches minimum in height and shall be easily visible under direct sunlight or artificial light. The fee display shall be protected with an impact proof window. The indicator cabinet shall be constructed for easy installation and access of the display unit. It shall be supplied with a control cable and line voltage power cord of the correct size and length such that all electrical connections can be accommodated within existing conduit.

2.6 Gates

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

B. Supplier shall propose gate arm types appropriate to the constraints for each lane. The barrier arm shall be a break-away design that can be easily and inexpensively remounted when broken away. The height of the gate arm or the extended portion of folding arms shall be approximately 36 inches from drive level in DOWN position. Provide folding gate arms in areas with limited headroom. Gate arms in lanes providing ingress or egress for ADA Van Accessible spaces shall have a minimum headroom of 8’-2”

C. The gate arm shall have a down-strike safety feature. Should any object be struck by the gate arm during its descent, the arm shall immediately reverse and return to the UP position without

damage, and remain up from 2 to 60 seconds, until automatically reset by variable control. The sensory function shall be initiated by sensing the internal mechanical action. The external mounting of tubes, wiring, and electrical devices on the gate arm shall not be acceptable.

2.7 Ticket Dispenser

A. The ticket dispensers shall be installed at the locations as indicated, and in accordance with the Manufacturer's recommendations. The unit shall have a minimum capacity of 4,000 tickets. The dispenser shall be capable of operating independent of the remainder of the system with a supply of power only. The vend of a ticket shall be controlled by push button. It shall dispense only one ticket per vehicle and shall not dispense without a vehicle over the detector loop. Careful consideration should be given to local weather conditions when proposing ticket paper types.

B. Ticket dispensers shall be equipped with intercom stations.

C. Ticket dispensers shall be equipped with proximity card readers

D. Ticket dispensers shall be equipped with exterior QR/bar-code scanners and issue tickets.

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

F. The ticket dispensers shall be equipped with a low ticket indicator

G. The ticket dispensers shall be equipped with a backlit LCD programmable/customizable display.

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

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

J. The ticket dispenser shall automatically encode entry date, entry time, entry lane, and serial number on each ticket in a QR/bar-code format. Further, the above information shall be printed on each ticket in English text.

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

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

M. The ticket dispenser shall be equipped with a credit card terminal. The credit card terminal shall be chip/EMV enabled with point-to-point encryption (P2Pe) and include a contactless reader.

2.8 Embedded Loops and Vehicle Detectors

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

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

C. Provide new magnetic loops for LPR cameras, as needed.

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

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

2.9 Pay-on-Foot Machine

A. Automatic pay-on-foot station shall be installed in as indicated

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

C. The pay-on-foot station shall accept credit cards for payment. If the system goes off-line card transactions shall be batched and processed when the system connection is restored. The pay-on-foot station shall be equipped with a credit card terminal. The credit card terminal shall be chip/EMV enabled with point-to-point encryption (P2Pe) and include a contactless reader.

D. Where indicated the pay station shall accept; $1, $5, $10, $20, $50, and $100 bills, or credit cards for payment and shall count down the amount owed until the total is paid. The pay station shall have the capability of providing the patron with appropriate change in paper currency. The change shall be dispensed in the largest denomination of bills available. The bill dispenser shall have the capability of dispensing $1, $5, $10, and $20 bills as change. The unit shall include all necessary mechanisms to recycle bills used for payment to be re-used as change, while storing excess and larger bills not used for change in a secure and separately keyed bill vault within the device. Receipt issuance shall be programmable, with receipts issued automatically or upon request by the parking patron.

E. The pay-on-foot station shall have a "write" mechanism to encode the scanned ticket with the date, time, grace-period, and the amount charged at the time of payment.

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

G. The pay on foot machine shall be equipped with a backlit LCD programmable/customizable display.

H. Automated Pay Station shall be equipped with intercom stations providing two-way communication with the Parking Staff.

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

2.10 Exit Lane Verifier

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

B. If the proper fee has not been paid, the exit verifier shall prompt the patron to present a credit card for payment of the fee. Following payment via the credit card, the card shall be returned to the patron and the exiting sequence shall be as above. The customer will have the option of printing a receipt after any credit card transaction.

C. If the allowed exit grace time has been exceeded for payments made at the pay on foot or through mobile payment, the exit verifier shall prompt the patron to present a credit card for payment of the additional accrued fee. The exiting transaction sequence shall then be as above. The customer will have the option of printing a receipt after any credit card transaction.

D. If the parking ticket has been validated for free exit the exit verifier shall decode the validation and signal the barrier gate to open. If the ticket has been validated for discounted parking, and the balance has not been paid at the automated pay-on-foot station, the exit verifier shall prompt the patron to present a credit card for payment of the remaining balance. The exiting sequence shall then proceed as above. The customer will have the option of printing a receipt after any credit card transaction.

E. The exit verifier shall communicate with the FMS for remote programming and monitoring of activities.

F. The exit verifiers shall be equipped with a backlit LCD programmable/customizable display.

G. Exit Verifiers shall be equipped with a two-way intercom for communication with the parking staff.

H. The exit verifier shall be equipped with a credit card terminal. The credit card terminal shall be chip/EMV enabled with point-to-point encryption (P2Pe) and include a contactless reader.

2.11 License Plate Recognition (LPR) Cameras

A. The primary credential for all facilities will be License Plate Recognition (LPR) cameras. The equipment shall consist of state-of-the-art cameras that can be installed and operated in both standalone mode and as part of the FMS to provide vehicles hands-free access to a gated parking facility. Front and/or rear license plate scans are desired in each lane. **LPR Camera read rejects shall not exceed ten percent (10%) of license plate credential presentations.**

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

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

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

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

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

G. The LPR camera shall successfully scan ninety percent (90%) of visible license plates presented. Bidders are encouraged to recommend the appropriate placement and amount of cameras necessary (i.e., front or rear plate facing) for each lane to achieve this percentage.

2.12 Full Signs

A. Provide a ticket dispenser-mounted exterior exposure "FULL" indicator sign at entrance lanes as indicated on the Drawings. The "FULL" sign shall be controlled by the FMS. The letter shall have a four-inch minimum height, and shall be visible in bright sunlight. Also, the FMS shall activate the "FULL" indicator signs.

2.13 Intercom System

A. Intercom shall be mounted on in-lane device housings and at Pay on Foot Payment Station locations and shall include "Press for Assistance" engraved signs and push button operation.

B. Intercoms shall have the capability to allow call recipients to be able to remotely open gates

C. Intercoms shall have programmable locations to notify call recipients of the originating location of intercom calls.

D. Intercoms shall connect to Voice over IP (VoIP) phone system

PART 3 - EXECUTION

3.1 Inspection

A. Prior to bidding, inspect all locations to verify any required improvements for the proposed system to function as proposed.

B. Inspect setting surfaces, power wiring and conduit installation for booths and equipment and report immediately in writing to the Town prior to February 2022, any conditions of Related Work which are unsuitable for proper execution of this Work.

C. Upon selection, the awarded vendor should plan a visit to the Town to review and coordinate with the Town regarding any Town-provided improvements required for the proposed system.

3.2 Installation

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

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

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

3.3 Adjustment and System Start-Up

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

B. Test the operation of all in lane devices:
1. Magnetic Loops and Detectors
2. Ticket Dispensers
3. Proximity Card readers
4. Blue Tooth Readers
5. LPR Cameras
6. Exit verifiers
7. Intercoms
8. Gates

C. Test the operation of all Pay on Foot Payment Stations.

D. Test all rate structures and credential types

E. Demonstrate the satisfactory electrical and functional performance of the entire parking control system by the following operations:
1. Ticket issuance and fee calculation by fee computer terminal. Verify all rate structures are calculating correctly.
2. The successful use of varying credentials to enter and exit all the facilities with all information recorded.
3. The successful transfer of credential access data from the on-line equipment to the FMS access controller.
4. The generation of proper end of shift and daily audit and utilization reports.
5. The proper operation of the count control system, including credential holdback counting feature.
6. The proper operation of parking control equipment, parking availability signs/connections, and "FULL" signs during simulated facility "FULL" conditions.
7. The proper operation of parking control equipment to control illuminated signage.
8. The proper location programming and operation of the intercoms.
9. Demonstrate and test the programmable displays included on devices
10. Proper operation of the manual gate opening switches.
11. Proper operation of the different fee structures and rate tables.
12. Proper operation of the remote management system tools and functions.
13. Provide 80 combined hours of classroom and onsite instructions to Owner's personnel. Instructions shall include but not be limited to, programming of credentials, use of fee computer, use and operations of count system and differential counter, use and operation of ticket dispenser and gates, method of controlling and collecting revenue, auditing tickets, installation of parts/components, system maintenance and troubleshooting, and other features included with the system as specified. Coordinate schedule with Owner.

14. The parking and revenue control systems will be considered acceptable after being 100 percent operational at all sites and after having performed satisfactorily for fourteen (14) continuous business days with no down time.

END OF SECTION 11 1200