

STATE OF TEXAS     §  
                                  §  
COUNTY OF BEXAR   §

**FUNDING AGREEMENT FOR THE  
OUTBOUND BAGGAGE HANDLING SYSTEM  
LOWER LEVEL CONTROLS**

This **FUNDING AGREEMENT FOR THE SAN ANTONIO INTERNATIONAL AIRPORT = OUTBOUND BAGGAGE HANDLING SYSTEM LOWER LEVEL CONTROLS** (“Agreement”) is hereby made and entered into by and between the City of San Antonio, a Texas Municipal Corporation (“City”), San Antonio Airline Consortium (“SAAC”), an aviation consortium. City and SAAC are referred to herein as “Parties” collectively and as a “Party” individually.

**WHEREAS**, in September 2020 City and the signatory airlines operating at San Antonio International Airport (“SAT”) entered into an Airline Operating Agreement and Terminal Building Lease, authorized by Ordinance No. 2020-09-03-0604, allowing the airlines to form the SAAC, to manage various operations conducted at SAT; and

**WHEREAS**, attached to that Agreement as Exhibit H were Minimum Operating Standards for the SAAC; and

**WHEREAS**, Section 1.1 of those Minimum Operating Standards allows SAAC to “Finance, design, procure, acquire, or construct mutually agreed upon capital improvements on behalf of Airline, other nonmember Airlines, and the City”; and

**WHEREAS**, Section 5.6 of those Minimum Operating Standards stipulates that the City, upon approval and acceptance of proposed capital improvement projects, shall reimburse SAAC for costs associated with fulfillment and completion of those projects; and

**WHEREAS**, the Parties desire to modernize the SAT Outbound Baggage Handling System (BHS) Lower Level Controls as further described in the attached and incorporated **Exhibit A and Exhibit B**; and

**WHEREAS**, the Outbound BHS Lower Level Control upgrade will serve 24/7 the outbound baggage handling of operations of the San Antonio International Airport; and

**WHEREAS**, the SAT BHS Lower Level Control upgrade will address performance issues by modernizing the existing system to allow the San Antonio International Airport to meeting performance demands; and

**WHEREAS**, SAAC will take all actions necessary to design and build out the BHS Controls Replacement at the Project Facility (as defined below) in accordance with the terms and conditions of this Agreement (collectively, the “Project”); and

**WHEREAS**, SAAC will provide and be responsible for all equipment, personnel, and related services necessary to complete the Project and will exercise its best judgment in the completion of the Project; and

**WHEREAS**, subject to the terms of this Agreement, SAAC shall complete the Project by November 30, 2025 and;

**WHEREAS**, the City is owner of the proposed location of the Project located at 9800 Airport Blvd, San Antonio, Texas 78216 (the “Project Facility”); and

**NOW THEREFORE**, in consideration of the mutual promises and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and confessed including the Recitals set forth above, the Parties agree as follows:

## **I. AGREEMENT**

### **1. Term**

1.1. This Agreement begins upon the date the last Party signs this Agreement and ends upon completion of all obligations described in **Exhibits A and B** hereto (the “Term”), unless terminated earlier in accordance with the provisions of this Agreement.

### **2. Performance by City**

2.1. City shall contribute **TWENTY-ONE MILLION FOUR HUNDRED SEVENTY-NINE THOUSAND AND THIRTY-FIVE DOLLARS AND NO/100 (\$21,479,035.00)**(“City Funds”) towards the Project.

2.2. City Funds shall be paid by City to SAAC for the Project in an amount not to exceed **TWENTY-ONE MILLION FOUR HUNDRED SEVENTY-NINE THOUSAND AND THIRTY-FIVE DOLLARS AND NO/100 (\$21,479,035.00)** (“Project Funding”).

2.3. 2.3 Project Funding will be paid in the form of reimbursements paid to SAAC for the Allowable Expenditures set forth in **Article 7** below in an amount not to exceed **\$21,479,035.00** upon submission of invoices to City.

2.4. The Parties acknowledge and agree that: (i) this Agreement does not obligate City's General Fund monies or any other monies or credits of City unless budgeted and appropriated by City, provided, however, SAAC is not obligated to proceed with construction of the Project unless and until City has confirmed in writing that the Project Funding has been budgeted and appropriated by City.

### **3. Performance by SAAC**

3.1. Subject to the appropriation of the Project Funding by City as set out in Section 2.2 above, and subject to the terms and conditions of this Agreement, SAAC hereby accepts full responsibility for the performance of all services and activities required to design, build out, and

complete the Project by **30 November 2025**.

3.2. SAAC shall use the Project Funding only for work directly related to the Project. City shall not be obligated nor liable to any party other than SAAC for payment of any monies or the provision of any goods or services pursuant to this Agreement.

3.3. SAAC shall provide to City its plans and specifications for the Project (“Plans”) and such Plans shall be subject to the review and approval of City. After approval by City, the Plans shall be attached and incorporated into this Agreement as Exhibit B and SAAC shall not make any substantial changes to the Plans without the prior written approval of City. The approval authority given in this Section does not relieve the Parties of the burden of obtaining all other necessary governmental approvals. Approval of the Plans by City does not release SAAC of the responsibility for the correction of SAAC’s mistakes, defects, errors, or omissions contained in the Plans, including any mistakes, defects, errors or omissions which may be the result of circumstances unforeseen at the time the Plans were developed or approved. City shall have authority to inspect the Project throughout the Term of this Agreement to ensure compliance with the Plans.

#### **4. Compliance with Local, State, and Federal Laws**

4.1. SAAC warrants and represents that (i) the Project will be constructed in compliance with all federal, state, and local laws and regulations; and (ii) it will ensure such compliance by all contractors and subcontractors who work on the Project. To the extent applicable, Grantee agrees to abide by Chapters 252, and 271 of the Texas Local Government Code, and Chapters 2254 and 2267 of the Texas Government Code or other open competitive contracting processes which are advertised to the public in a legal and appropriate manner, as well as the required Federal Contract Provisions shown in **Exhibit D**, attached hereto.

4.2. If applicable, the Plans shall conform to Americans with Disabilities Act requirements and must be approved by the Texas Department of Licensing and Regulation before construction may begin.

4.3. As a Party to this contract, SAAC understands and agrees to comply with the Non-Discrimination Policy of the City of San Antonio contained in Chapter 2, Article X of the City Code and further, shall not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, veteran status, age, or disability, unless exempted by state or federal law, or as otherwise established herein.

#### **5. Authority**

5.1. Each Party represents, warrants, assures and guaranties it possesses the legal authority, pursuant to any proper, appropriate and official motion, resolution or action passed or taken, to enter into this Agreement and to perform the responsibilities herein required.

5.2. Unless written notification by SAAC to the contrary is received and approved by City, Patrick Bowes, San Antonio Airlines Consortium Chairman, is the authorized representative responsible for the management of this Agreement on the part of SAAC.

5.3. City's Aviation Director or his/her designee is responsible for the administration of this Agreement on behalf of City.

5.4. The signer of the Agreement for SAAC represents, warrants, assures and guarantees that he or she has full legal authority to execute this Agreement on behalf of SAAC and to bind SAAC to all terms, performances and provisions herein contained.

## 6. Notice

6.1. For purposes of this Agreement, all official communications and notices among the Parties shall be deemed sufficient if in writing and mailed, registered or certified mail, postage prepaid, to the addresses set forth below:

If to City:           City of San Antonio  
Aviation Department Attn:  
Jesus H. Saenz, Jr., IAP, Director of Airports  
9800 Airport Blvd.  
San Antonio, Texas 78216

If to SAAC:           San Antonio Airline Consortium  
Mike Cox, Regional Manager  
San Antonio International Airport  
9800 Airport Blvd.  
San Antonio, Texas 78216

6.2. Notice of change of address by any Party must be made in writing and mailed to the other Party's last known addresses within five (5) business days of such change.

## 7. Receipt, Disbursement, and Account of Funds

7.1. City shall reimburse SAACE for all eligible expenses incurred hereunder without markup. Notwithstanding any other provisions of this Agreement, the total of all payments and other obligations made or incurred by City hereunder shall not exceed the sum of **21,479.035.00**.

7.2. City shall not be obligated or liable under this Agreement to any party other than SAAC for payment of any monies or provisions of any goods or services.

7.3. SAAC agrees to maintain readily identifiable records that shall provide accurate, current, separate, and complete disclosure of the status of any funds received pursuant to this Agreement. SAAC further agrees:

- That maintenance of said records shall be in compliance with all terms, provisions, and requirements of the Agreement and with all generally accepted accounting practices; and
- That SAAC's record systems shall contain sufficient documentation to

provide, in detail, full support and justification for each expenditure.

7.4. SAAC agrees to retain all books, records documents, reports, written accounting polices and procedures and all other relevant materials (hereinafter “records”) pertaining to activities pertinent to this Agreement, including a detailed accounting of the expenditures of amounts received from the City hereunder, for so long as the Project remains active, but not less for than for (4) years from the completion of the Project

7.5. City shall reimburse SAAC on a monthly basis upon receipt and approval of the invoice through the City’s Project Reporting Information Management Exchange Link (COSA PRIME*link*) within thirty (30) days after receipt of the approved invoice.

7.6. All request for reimbursement shall be submitted through COSA PRIME*link*. SAAC shall sign a Business Level agreement and ensure that all of its employees or representatives utilizing PRIME*link* sign and comply with an Individual User Agreement. Such requests for reimbursement shall be completed on PRIME*link* and/or utilizing forms and instructions approved by the Aviation Department. Prior to the initial request for reimbursement, SAAC must submit a schedule of Values for payment to be approved by the Aviation Department, which approval shall not be unreasonably withheld, conditioned, or delayed. Any changes to the schedule of values once approved shall be processed an approved as task orders through the portal.

7.7. Prior to reimbursement, City shall have the right to inspect work completed to ensure conformance with the approved Plans. Invoices should include all supporting documentation that cost have been incurred, as required by the City.

7.8. City agrees to provide SAAC written notice regarding any expenditure for which SAAC has requested reimbursement under this Agreement which the City reasonably determines to be outside the permissible parameters of this Agreement. Said notice shall provide SAAC thirty (30) days from receipt of said notice to cure the deficiency of refund to the City any sum of money paid by City to SAAC determined to:

- Have not been spent by SAAC strictly in accordance with the terms of this Agreement; or
- Not be supported by adequate documentation to fully justify the expenditure.

7.9. Upon termination of this Agreement, should any expense or charge be subsequently disallowed or disapproved using the same criteria as set out on in this Section 7 as a result of any auditing or monitoring by City, SAAC shall refund such amount to City within thirty (30) working days of City’s written request wherein the amount disallowed or disapproved shall be specified.

7.10. SAAC shall have a right to challenge the determination of the City by written notice delivered within the aforesaid 30-day period. Before invoking mediation or any other alternative dispute process, the Parties to this Agreement agree that they first shall try to resolve any dispute arising out of or related to this Agreement through discussions directly between those senior management representatives within their respective organizations who have overall managerial responsibility for similar projects. Both City and SAAC agree that this step shall be a condition

precedent to use of any other alternative dispute resolution process. If the Parties' senior management representatives cannot resolve the dispute within thirty (30) calendar days after a Party delivers a written notice of such dispute to the other, then the Parties shall proceed with the alternative dispute resolution process. All negotiations pursuant to this Article 7 are confidential and shall be treated as compromise and settlement negotiations for purposes of applicable rules of evidence. In the event the Parties cannot reach a resolution of a claim or dispute, as a condition preceding to filing a lawsuit, either Party shall request mediation of the dispute with the following requirements:

- a.** Request for mediation shall be in writing, and shall request that the mediation commence not less than thirty (30) or more than ninety (90) calendar days following the date of the request, except upon agreement of both Parties.
- b.** In the event City and SAAC are unable to agree to a date for the mediation or to the identity of the mediator(s) within thirty (30) calendar days following the date of the request for mediation, all conditions precedent in this Article 7 shall be deemed to have occurred.
- c.** The Parties shall share the mediator's fee and any mediation filing fees equally. Venue for any mediation or lawsuit arising under this Agreement shall be in Bexar County, Texas. Any agreement reached in mediation shall be enforceable as a settlement agreement in any court having jurisdiction thereof. No provision of this Agreement shall waive any immunity or defense. No provision of this Contract is consent to a suit.

## **8. Allowable Expenditures**

8.1. Upon preparation of a construction plan and budget by SAAC, SAAC shall submit said budget to City for approval of any costs to be paid from funds received hereunder. Costs Shall be considered allowable only if so approved in SAAC;s construction budget, or otherwise approved in advance by City in Writing, and incurred directly and specifically in the performance of an in compliance with this agreement and with all applicable city, state and federal laws, regulations and ordinances affection SAAC's operation hereunder. Notwithstanding the foregoing, City may consider for reimbursement costs clearly otherwise reimbursable that were not submitted for prior approval. All funds paid by City shall be for permanent public improvements. Only the following categories of costs shall be considered as allowable:

- a.** Construction Contract and change orders
- b.** Construction contingencies
- c.** Design Contract and Amendment
- d.** Travel and travel-related expenses

Expenditures of the funds provide under this Agreement shall only allowed if incurred directly and specifically in the performance of and in compliance with the terms of this Agreement and all applicable city, state and federal laws, regulations and/or ordinances.

8.2. The following shall not be considered allowable costs under this Agreement:

- a. Personnel costs, salaries or wages paid directly by SAAC or an affiliated organization of SAAC
- b. Costs or fees for consultant and/or professional services, except for those directly related to the Project (including but not limited to costs and fees of the Architect)
- c. Costs or fees associated with attendance of SAAC at meetings, seminars or conferences
- d. Costs of fees associated with regular maintenance of SAAC facilities and operation of SAAC
- e. Equipment and furnishings, except of items of capital nature which are being provided by SAAC's general contractor and shown on the approved Plans and specifically approved by City.

8.3. Written request for prior approval shall be SAAC's responsibility and shall be made thirty (30) days from date necessary for receipt thereof to permit a thorough review by City. Procurements and/or purchases which me be approved pursuant to the terms of the Agreement shall be conducted entirely in accordance with all applicable terms, provisions and requirements hereof.

## **9. Accessibility of Records**

9.1. At any time during normal business hours and as often as City may deem necessary, upon three (3) days written notice, SAAC shall make all of its records pertaining to this Agreement available to City and any of their authorized representatives, and shall permit City and any of their authorized representatives to audit, examine, and make excerpts and/or copies of same.

9.2. SAAC agrees and represents that it shall cooperate with City, at no charge to City, to satisfy, to the extent required by law, any and all requests for information received by City under the Texas Public Information Act or related laws pertaining to this Agreement.

## **10. Insurance**

10.1. Prior to the commencement of any work under this Agreement, SAAC shall furnish copies of all required endorsements and completed Certificate(s) of Insurance to City's Aviation Department, which shall be clearly labeled "Lower Level Baggage Handling System – Lower Level Controls Replacement Project" in the Description of Operations block of the Certificate. The Certificate(s) shall be completed by an agent and signed by a person authorized by that insurer to bind coverage on its behalf. City shall not accept a Memorandum of Insurance or Binder as proof of insurance. The Certificate(s) must have the agent's signature and phone number, and be mailed, with copies of all applicable endorsements, directly from the insurer's authorized representative to City. City shall have no duty to pay or perform under this Agreement

until such certificate and endorsements have been received and approved by City’s Aviation Department. No officer or employee, other than City’s Risk Manager, shall have authority to waive this requirement.

10.2. City reserves the right to review the insurance requirements of this Article during the effective period of this Agreement and any extension or renewal hereof and to modify insurance coverages and their limits when deemed necessary and prudent by City’s Risk Manager based upon changes in statutory law, court decisions, or circumstances surrounding this Agreement. In no instance shall City allow modification whereby City may incur increased risk.

10.3. SAAC’s financial integrity is of interest to City; therefore, subject to SAAC’s right to maintain reasonable deductibles in such amounts as are approved by City, SAAC shall obtain and maintain in full force and effect for the duration of this Agreement, and any extension hereof, at SAAC’s sole expense, insurance coverage written on an occurrence basis, unless otherwise indicated, by companies authorized to do business in the State of Texas and with an A.M. Best’s rating of no less than A- (VII), in the following types and for an amount not less than the amount listed below:

<u>TYPE</u>	<u>AMOUNTS</u>
1. Workers' Compensation	Statutory
2. Employers' Liability	\$1,000,000/\$1,000,000/\$1,000,000
3. Broad form Commercial General Liability Insurance to include coverage for the following: a. Premises/Operations b. Independent Contractors c. Products/Completed Operations d. Personal/Advertising Injury e. Contractual Liability  f. Damage to property rented by SAAC	For <u>Bodily Injury</u> and <u>Property Damage</u> of \$1,000,000 per occurrence; \$2,000,000 General Aggregate, or its equivalent in Umbrella or Excess Liability Coverage  f. \$100,000
4. Business Automobile Liability a. Owned/leased vehicles b. Non-owned vehicles c. Hired Vehicles	Combined <u>Single Limit</u> for <u>Bodily Injury</u> and <u>Property Damage</u> of \$1,000,000 per occurrence
5. Builder’s Risk (if applicable)	All Risk Policy written on an occurrence basis for 100% replacement cost during construction phase of any new or existing structure.



6. Property Insurance:	For physical damage to the property of Lessee including improvements and betterment to the Leased Premises.  Coverage for replacement value with a minimum co-insurance factor of eighty percent (80%) of the cost of the Contractor's property
7. Professional Liability (Claims-made Coverage)	\$1,000,000 per claim damages by reason of any act, malpractice, error, or omission in the professional service.
8. Explosion, Collapse, Underground Property Hazard Liability	\$2,000,000 per claim

10.4. SAAC agrees to require, by written contract, that all subcontractors providing goods or services hereunder obtain the same insurance coverages required of SAAC herein, and provide a certificate of insurance and endorsement that names the SAAC and City as additional insureds. SAAC shall provide City with said certificate and endorsement prior to the commencement of any work by the subcontractor. This provision may be modified by City's Risk Manager, without subsequent City Council approval, when deemed necessary and prudent, based upon changes in statutory law, court decisions, or circumstances surrounding this agreement. Such modification may be enacted by letter signed by City's Risk Manager, which shall become a part of this Agreement for all purposes.

10.5. As they apply to the limits required by City, City shall be entitled, upon request and without expense, to receive copies of the policies, declaration page, and all endorsements thereto and may require the deletion, revision, or modification of particular policy terms, conditions, limitations, or exclusions (except where policy provisions are established by law or regulation binding upon either of the Parties hereto or the underwriter of any such policies). SAAC shall be required to comply with any such requests and shall submit a copy of the replacement certificate of insurance to City at the address provided below within 10 days of the requested change. SAAC shall pay any costs incurred resulting from said changes.

City of San Antonio  
Attn: Aviation Department  
Contract Services Division  
P.O. Box 839966  
San Antonio, Texas 78283-3966

10.6. SAAC agrees that with respect to the above required insurance, all insurance policies are to contain or be endorsed to contain the following provisions:

- Name City, their respective officers, officials, trustees, employees, volunteers, and elected representatives as additional insureds by endorsement, as respects operations and activities of, or on behalf of, the named insured performed under contract with City, with the exception of the workers' compensation and professional liability policies.

- Provide for an endorsement that the “other insurance” clause shall not apply to City where City are additional insureds shown on the policy.
- Workers’ compensation, employers’ liability, general liability and automobile liability policies shall provide a waiver of subrogation in favor of City.
- Provide advance written notice directly to City of any suspension, cancellation, non-renewal or material change in coverage, and not less than ten (10) calendar days advance notice for nonpayment of premium.

10.7. Within five (5) calendar days of a suspension, cancellation or non-renewal of coverage, SAAC shall provide a replacement Certificate of Insurance and applicable endorsements to City. City shall have the option to suspend SAAC’s performance should there be a lapse in coverage at any time during this Agreement. Failure to provide and to maintain the required insurance shall constitute a material breach of this Agreement.

10.8. In addition to any other remedies City may have upon SAAC’s failure to provide and maintain any insurance or policy endorsements to the extent and within the time herein required, City shall have the right to order SAAC to stop work hereunder, and/or withhold any payment(s) which become due to SAAC hereunder until SAAC demonstrates compliance with the requirements hereof.

10.9. Nothing herein contained shall be construed as limiting in any way the extent to which SAAC may be held responsible for payments of damages to persons or property resulting from SAAC’s or its subcontractors’ performance of the work covered under this Agreement.

10.10. It is agreed that SAAC’s insurance shall be deemed primary and non-contributory with respect to any insurance or self-insurance carried by City for liability arising out of operations under this Agreement.

10.11. It is understood and agreed that the insurance required is in addition to and separate from any other obligation contained in this Agreement and that no claim or action by or on behalf of City shall be limited to insurance coverage provided.

10.12. SAAC and any Subcontractors are responsible for all damage to their own equipment and/or property.

10.13. With respect to insurance proceeds under any policy required under this Article 9 payable to City: (i) if such proceeds are paid to SAAC, SAAC shall, within five (5) days of receipt thereof, pay City one hundred percent (100%) of the total amount of such proceeds; and (ii) if such proceeds are paid to City directly, City shall be entitled to one hundred percent (100%) of such proceeds.

## **11. Changes and Amendments**

11.1. Except when the terms of this Agreement expressly provide otherwise, any alterations, additions, or deletions to the terms hereof shall only be by amendment in writing

executed by the Parties. The City's Aviation Department Director may execute amendments to the Agreement without further City Council approval.

11.2. It is understood and agreed by the Parties hereto that changes in local, state, and federal rules, regulations, or laws applicable hereto may occur during the term of this Agreement and that any such changes shall be automatically incorporated into this Agreement without written amendment hereto, and shall become a part hereof as of the effective date of the rule, regulation, or law.

## **12. Assignments**

12.1. SAAC may not sell, assign, pledge, transfer, or otherwise convey this Agreement, any interest in and to same, or any claim arising thereunder, without the prior written consent of City's Aviation Department Director. Any attempt at transfer, pledge, or other assign without said written approval shall be void ab initio and shall confer no rights upon any third person.

## **13. Conflicts of Interest**

13.1. SAAC covenants that neither it nor any member of its governing body or of its staff presently has any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. SAAC further covenants that in the performance of this Agreement, no persons having such interest shall be employed or appointed as a member of its governing body or of its staff.

13.2. SAAC further covenants that no member of its governing body or of its staff shall possess any interest in, or use their position for, a purpose that is or gives the appearance of being motivated by desire for private gain for themselves or others, particularly those with which they have family, business, or other ties.

13.3. No member of City's governing body or of its staff who exercises any function or responsibility in the review or approval of the undertaking or carrying out of this Agreement shall:

- (A) Participate in any decision relating to this Agreement which may affect his or her personal interest or the interest of any corporation, partnership, or association in which he or she has a direct or indirect interest; or
- (B) Have any direct or indirect interest in this Agreement or the proceeds thereof.

13.4. None of the activities performed hereunder shall involve, and no portion of the funds received hereunder shall be used, either directly or indirectly, for any political activity including, but not limited to, an activity to further the election or defeat of any candidate for public office or for any activity undertaken to influence the passage, defeat or final content of local, state or federal legislation.

## **14. Default**

14.1. Upon default by SAAC in the performance of its obligations hereunder, City shall give SAAC notice of the same, and SAAC shall have thirty (30) calendar days following receipt

of written notice of default from City (or such reasonably longer time as may be necessary provided SAAC commences the cure within thirty (30) calendar days and continuously and diligently pursues the cure to completion) to cure such default. If SAAC fails to timely cure such default, City may pursue all remedies available in law or at equity and/or other rights City may have in this Agreement; provided that it is expressly agreed that no Party to this Agreement shall have the right to seek consequential or punitive damages against any other Party for any default under this Agreement.

### **15. Severability of Provisions**

15.1. If any clause or provision of this Agreement is held invalid, illegal, or unenforceable under present or future federal, state, or local laws including, but not limited to, the City Charter, City Code, or ordinances of City, then and in that event it is the intention of the Parties hereto such invalidity, illegality, or unenforceability shall not affect any other clause or provision hereof and the remainder of this Agreement shall be construed as if such invalid, illegal, or unenforceable clause or provision was never contained herein; it also is the intention of the Parties hereto, in lieu of each clause or provision of this Agreement that is determined to be invalid, illegal, or unenforceable, there be added as a part of the Agreement a clause or provision as similar in terms to such invalid, illegal, or unenforceable clause or provision as may be possible, legal, valid, and enforceable.

### **16. Non-Waiver of Performance**

16.1. No waiver by any Party of a breach of any of the terms, conditions, covenants, or guarantees of this Agreement shall be construed or held to be a waiver of any succeeding or preceding breach of the same or any other term, condition, covenant, or guarantee herein contained. Further, any failure of any Party to insist in any one or more cases upon the strict performance of any of the covenants of this Agreement, or to exercise any option herein contained, shall in no event be construed as a waiver or relinquishment for the future of such covenant or option. In fact, no waiver, change, modification, or discharge by any Party hereto of any provision of this Agreement shall be deemed to have been made or shall be effective unless expressed in writing and signed by the Party to be charged.

16.2. No act or omission of a Party shall in any manner impair or prejudice any right, power, privilege, or remedy available to a Party hereunder or by law or in equity, such rights, powers, privileges, or remedies to be always specifically preserved hereby.

16.3. No representative or agent of City may waive the effect of the provisions of this Section without formal action from the San Antonio City Council, as applicable.

### **17. Force Majeure**

17.1. Performance of obligations under this Agreement by the Parties shall be subject to extension, due to delay by reason of events of force majeure. For purposes of this Agreement, force majeure shall include damage or destruction by fire or other casualty, condemnation, strike, lockout, civil disorder, epidemic or pandemic, war, unusually adverse weather or flooding, or other causes beyond the Parties' reasonable control, including, but not limited to, any court or

judgment resulting from any litigation affecting the Project or this Agreement.

### **18. Entire Agreement**

18.1. This Agreement constitutes the final and entire agreement between the Parties hereto relating to the Project. No other agreements, oral or otherwise, regarding the Project shall be deemed to exist or to bind the Parties.

### **19. Parties Bound**

19.1. This Agreement shall be binding on and inure to the benefit of the Parties hereto and their respective legal representatives, successors, and assigns, except as otherwise expressly provided herein.

### **20. Relationship of Parties**

20.1. Nothing contained herein shall be deemed or construed by the Parties hereto, or by any third party, as creating the relationship of principal and agent, partners, joint ventures, or any other similar such relationship between the Parties hereto.

### **21. Texas Law to Apply and Venue**

21.1. This Agreement shall be construed under and in accordance with the laws of the State of Texas and all obligations of the Parties created hereunder are performable in Bexar County, Texas, and exclusive venue shall lie in Bexar County, Texas.

### **22. Publicity**

22.1. The Parties acknowledge and agree that all public announcements, press releases or statements regarding the Project issued by any Party shall reference City as being the original participants, or similar nomenclature indicating participatory interest, and the partnership with SAAC in the Project.

### **23. Conditions to Agreement**

23.1. This Agreement and all obligations of the parties hereunder are expressly made conditioned on the mutual final agreement to the terms and conditions of the Funding Agreement attached hereto.

### **24. Indemnification**

24.1. SAAC covenants and agrees to **FULLY INDEMNIFY, DEFEND and HOLD HARMLESS, the CITY and the elected officials, employees, officers, directors, volunteers and representatives of the CITY, individually and collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death and property damage, made upon the CITY directly or indirectly arising out of, resulting from or related to SAAC' activities under**

**this Agreement, including any acts or omissions of SAAC, any agent, officer, director, representative, employee, SAAC or subcontractor of SAAC, and their respective officers, agents employees, directors and representatives while in the exercise of the rights or performance of the duties under this Agreement. The indemnity provided for in this paragraph shall not apply to any liability resulting from the negligence of CITY, its officers or employees, in instances where such negligence causes personal injury, death, or property damage. IN THE EVENT SAAC AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.**

24.2. The provisions of this INDEMNITY are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity. SAAC shall advise the CITY in writing within 24 hours of any claim or demand against the CITY or SAAC known to SAAC related to or arising out of SAAC' activities under this AGREEMENT and shall see to the investigation and defense of such claim or demand at SAAC's cost. The CITY shall have the right, at its option and at its own expense, to participate in such defense without relieving SAAC of any of its obligations under this paragraph.

*[Signatures on Next Page]*

**EXECUTED and AGREED as of the dates indicated below.**

**CITY OF SAN ANTONIO**

By: \_\_\_\_\_

Erik J. Walsh, City Manager

Date: \_\_\_\_\_

APPROVED AS TO FORM:

\_\_\_\_\_  
Assistant City Attorney

**SAN ANTONIO AIRLINE CONSORTIUM**

By: Patrick Bowes  
Patrick Bowes (Mar 16, 2023 00:22 ADT)

Patrick Bowes

Printed Name

Chair - SAAC

Title

Date: 03/16/2023

## EXHIBIT A

### SCOPE/ PROPOSAL

#### Outbound Baggage Handling System (BHS) – Lower Level Controls System Replacement Proposal

The AvAirPros Project Management Team (PMT) will serve as SAAC's representative with responsibilities to manage the Project scope, schedule, and budget. Scope shall include Business Agreement and Administration Management tasks as well as certain PM Services tasks as included in the San Antonio International Airport (SAT) Baggage Handling System (BHS) Lower-Level Controls Replacement Project Management Services Proposal dated July 12, 2022.

1. The existing Lower Level Control System employs a ControlNet/DeviceNet architecture to communicate with and control components throughout the terminal. A number of these components along with the DeviceNet communication platform itself are now obsolete meaning that replacement parts, although critical to airport operations, cannot be sourced in a reliable and cost-effective manner. Lower Level Controls (Brock Solutions Proposal).
2. Electrical Field Wiring with all materials and appurtenances required for electrical work.
3. Mechanical work to replace 19 High-Capacity Diverters HCDs with all materials and appurtenances required for mechanical work.

The scope of this project is to provide:

Project Management services inclusive of a Project approach, schedule, and budget, to replace these critical aging BHS components and replace all the above components with a new Lower Level Control System for the entire system.

1. Electrical Field Wiring with all materials and appurtenances required for electrical work.
2. Mechanical work to replace 19 High-Capacity Diverters HCDs with all materials and appurtenances required for mechanical work.
3. Replace all existing DeviceNet components with new components that communicate via
4. Ethernet/IP. When complete, all ControlNet and DeviceNet components and cabling will be removed.
5. Specific items include:
  - a. Replace five existing outbound PLCs with new, Hot Stand-by ControlLogix 1756-



L83 CPUs

- b. Replace fifty-three RCP panels with fifty-three new Remote I/O panels
- c. Update obsolete communication and IO modules in existing equipment, including VSUs, HCDs, MSPs (ticket counter drives), RSPs (Make-up Units) and L3 Interface Panels
- d. Replace existing obsolete Inbound PLCs with new PLCs and IO Racks
- e. Replace existing displays for the BITS/BRPs and EDS PanelViews
- f. Replace existing PLC logic with new Brock-standard PLC logic for all conveyors
- g. The initial deployment of the new PLCs will use the existing ControlNet/DeviceNet infrastructure.
- h. Existing DeviceNet devices will then be replaced by new Ethernet/IP devices in small groups. The Brock Team will commission these new Ethernet/IP devices in small groups, likely 3 to 5 conveyors per 8-hour overnight period. Additional, smaller-scale TSA Re-certification tests may be required at specific areas during this process.

The purpose of this replacement is to modernize the existing system.

**EXHIBIT B**

**San Antonio Airline Consortium (SAAC)**

**Outbound Baggage Handling System – Lower  
Level Controls Replacement Proposal**

Lower-Level Controls (Brock Solutions Proposal)	\$7,529,035
Electrical Allowance - Field Wiring	\$8,000,000
Mechanical Allowance - Replace 19 HCDs	\$2,500,000
Project Management Services	\$1,500,000
Project Contingency (~10%)	\$1,950,000
Total Project Budget	\$21,479,035

March 8, 2023

Mr. Patrick Bowes  
San Antonio Airline Consortium  
San Antonio International Airport  
9800 Airport Blvd.  
San Antonio, TX 78216

**RE: San Antonio International Airport (SAT)  
Baggage Handling System (BHS) Lower-Level Controls Replacement  
Project Management Services Proposal**

Mr. Bowes,

AvAirPros, Inc. (AvAirPros) would like to thank San Antonio Airline Consortium (SAAC) for the opportunity to submit this Project Management (PM) services proposal for the SAT BHS Lower-Level Controls Replacement Project (Project).

## **Understanding**

The existing SAT BHS Lower-Level Control System employs a ControlNet/DeviceNet architecture to communicate with and control components throughout the BHS. Various Lower-Level components, including the DeviceNet communication platform, are nearing or at the end of their useful life and “obsolete”, meaning that replacement parts cannot be sourced in a reliable or cost-effective manner. SAAC plans to replace all existing DeviceNet components with new components that communicate via Ethernet/IP.

SAAC has requested a PM services proposal, inclusive of a Project approach, schedule, and budget, to replace these critical aging BHS components. SAAC instructed AvAirPros to develop the Lower-Level controls replacement approach with Brock Solutions, which is referenced herein and attached to this proposal as Exhibit B. SAAC intends to use the proposals, schedule, and budget to execute a Funding Agreement with the City of San Antonio to implement the Project.

## **Project Management Team Scope of Work**

The AvAirPros Project Management Team (PMT) will serve as SAAC’s representative with responsibilities to manage the Project scope, schedule, and budget. Our scope shall include Business Agreement and Administration Management tasks as well as certain PM Services tasks as included below.

Business Agreement & Project Administration Management

- Attend meetings with SAAC, SAT, and the City of San Antonio, as required.
- Act as SAAC's Project interface with the City of San Antonio throughout the Funding Agreement development and invoice payments/reimbursement processes.
- Verify the Project meets the requirements of the Airline Operating Agreement & Terminal Building Lease in accordance with Exhibit H – Minimum Operating Standards for the San Antonio Airline Consortium.
- Assist SAAC with the development and execution of the SAAC-Brock Solutions Agreement.
- Manage Brock Solutions services agreement on behalf of SAAC.

Project Management Services

- Serve as an extension of SAAC staff, coordinating closely with the City of San Antonio, SAT, TSA, and local stakeholders throughout the Project.
- Manage SAT and SAAC approval processes.
- Hold regularly scheduled meetings, on-site and remote, with Project stakeholders to coordinate the design and construction activities.
- Participate in engineering and design review meetings with Brock Solutions at their US and Canada offices, as required.
- Schedule and coordinate reviews, approvals, and provide interface coordination between Brock Solutions and representatives of SAAC, SAT, and the TSA.
- Manage the design review process and track design comments through resolution.
- Maintain and report on Project schedule, including monthly updates to SAAC.
- Track schedule milestones and coordinate the installation, testing, and commissioning activities, serving as the primary contact between SAAC, Brock Solutions, and ELS (BHS O&M Company).
- Review recommendations for approval, requests for information, proposed changes, substitutions, or other modifications to the Project and keep SAAC advised as to the recommended appropriate action.
- Lead regular coordination meetings with SAAC, ELS, and Brock Solutions.
- Serve as the primary point of contact for SAT, SAAC, Brock Solutions, ELS, and other relevant stakeholders designated by SAAC throughout the Project.
- Participate in the Factory Acceptance Test (FAT) at Brock Solutions' office.
- Perform site visits to monitor construction progress and coordinate operational impacts with SAAC, SAT, and other impacted stakeholders.
- Oversee the installation activities, participate in testing/commissioning, and communicate the operational go live dates with SAAC.
- Coordinate on-site installation and customer testing activities with SAAC, SAT, ELS, TSA, and other relevant stakeholders.
- Record and maintain Project files including but not limited to meeting minutes, changes to scope, schedule or budget, design/construction documents, equipment information, operational training, etc.
- Review invoices and prepare monthly payment requisitions for SAAC approval and submission to SAT for payment.

- Obtain closeout documentation submittals (i.e., As-Built Drawings, PLC source code, O&M Manuals, Training Materials, etc.).
- Maintain Project documentation required by SAT and SAAC to complete the payment/reimbursement process.

### Project Schedule

Based on information provided by SAAC and the approach outlined in Exhibit B – Brock Solutions proposal dated March 8, 2023, the following 32-month schedule serves as the basis for our proposed fees:

- Controls Scope Definition – 4 Months
- Engineering & Development – 10 Months
- Implementation & Testing – 18 Months

### Project Budget

The Project Budget has been developed based on the approach outlined in the Brock Solutions proposal and schedule durations noted above. The replacement of nineteen (19) High Capacity Diverters (HCDs) has been included along with an electrical installation allowance. The approach includes approximately four months of development, which includes time to conduct Request for Proposal (RFP) processes for the electrical and mechanical work. This development period will allow SAAC, SAT, and the City of San Antonio to understand the actual installation costs as well as agree to the final Project scope.

Lower-Level Controls (Brock Solutions Proposal)	\$ 7,529,035
Electrical Allowance - Field Wiring	\$ 8,000,000
Mechanical Allowance - Replace 19 HCDs	\$ 2,500,000
<b>Construction Costs</b>	<b>\$ 18,029,035</b>
Project Management Services	\$ 1,500,000
Project Contingency (~10%)	\$ 1,950,000
<b>Total Project Budget</b>	<b>\$ 21,479,035</b>

### PMT Key Personnel

Jeff Wosman will serve as the Project Executive with overall responsibility for the AvAirPros team performance. Jeff is responsible for airport and airline clients in our Central Region, which includes SAT. Jeff will be available throughout the Project as required and is based close by in the Company's Central Region office in Dallas, Texas.

Jonathan Hill will be the Project Director and lead the overall AvAirPros team efforts related to the Project. Jonathan will be supported by a Project Manager and a Financial

Controls Manager. Jonathan is a BHS Subject Matter Expert and is familiar with the SAT BHS, as he currently is serving as a member of the PMT delivering the Upper-Level controls replacement project. Jonathan is also based in the Company’s Central Region Office in Dallas, Texas.

A Project Manager (TBD) will be added to the PMT as the Project approaches the Installation & Testing phase. This individual will be responsible for the management and oversight of Brock Solutions’ on-site installation, testing, and commissioning activities. The Project Manager will provide on-site monitoring, document control, construction reporting, and coordinate testing with the TSA.

A Financial Controls Manager (TBD) will be added to the PMT once the start date is confirmed. The Financial Controls Manager will track contacts, review and proves invoices, monitor budgets, maintain document controls, financial reporting, cost management, and submit reimbursement packages to the City of San Antonio.

**AvAirPros Professional Fees & Expenses**

Professional fees will be invoiced on a monthly time and material basis. Reimbursable expenses are limited to actual expenses incurred. Our proposed not-to-exceed fee of \$1,500,000 is based on the 32-month schedule as presented in Exhibit A – Schedule & Project Management Services Cost Breakdown, attached hereto.

The following hourly billing rate table applies to our services performed in Calendar Year 2023 (CY2023). Rates will be subjected to an annual escalation, on January 1<sup>st</sup> of each calendar year, of the greater of the U.S. Department of Labor, Consumer Price Index for all Urban Areas (CPI-U) or 3.0%.

Category	CY2023 Hourly Rate
Senior Officer	\$334
Officer	\$313
Senior Managing Director	\$292
Managing Director	\$277
Senior Director	\$258
Director	\$243
Senior Manager	\$211
Manager	\$194
Consultant	\$176
Support	\$85

\* \* \* \* \*

Thank you for the continued support and confidence. We appreciate the opportunity to continue supporting SAAC with this critical Project. Please contact us with any questions or to discuss any aspect of this proposal.

Sincerely,  
**AVAIRPROS**



Jeff Wosman  
Vice President Central Region



# San Antonio International Airport Terminal A BHS DeviceNet Replacement

# AvAirPros

Client AvAirPros  
Version 2.0  
Author R. Cherian, S. Walsh  
Reference QTL10982  
Date March 8, 2023



# San Antonio International Airport Terminal A BHS DeviceNet Replacement

## Document Information

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## Revision History

Version	Date	Author	Summary of Changes
1.0	June 22, 2022	R. Cherian, S. Walsh	Initial Release
2.0	March 8, 2023	S. Walsh	Updated section 4.7

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# 1 Executive Overview

Brock Solutions is pleased to provide AvAirPros with this proposal regarding the Terminal A Baggage Handling System DeviceNet Replacement Project at San Antonio International Airport (SAT). Our quotation is based on conversations with and site documentation provided by the AvAirPros and SAT Maintenance Teams.

Our price to complete the this project is **\$7,529,035.00** (excluding applicable taxes and bonding, and valid for 90 days). Please see section 3.1 for detailed pricing information.

Brock Solutions has the expertise and relevant project experience to successfully complete this project on time and within budget. As one of North America's largest real-time automated systems providers, Brock Solutions has designed, developed, and deployed over 4,000 automation controls systems worldwide. From design through to support our 700 professionals, structured in three business units and located in offices in Texas, North Carolina, Vancouver, and Kitchener, provide "shop floor to top floor" solutions across vertical industries.

We specialize in turnkey automation systems in both Baggage and Material Handling. Brock has 30+ years of automation engineering experience and 20+ years of baggage handling system experience. For two decades, we have improved the performance of machine-level controls, high-level software, and database systems by supplying flexible, high-speed sortation solutions that are both accurate and reliable.

With an emphasis on reducing cost and minimizing risk in the retrofit of control system components, Brock delivers engineering solutions with zero downtime. Our project experience, technical expertise, and proven methodology have created a solid foundation for successful baggage handling and security enhancement implementations in countless North American airports.

Brock Solution's SmartSuite has evolved through extensive collaboration with industry stakeholders and is a collection of modules that combine to enhance baggage handling and passenger processing practices and to streamline airport operations. With over 150 installations worldwide, our modules have improved baggage handling practices and passenger experience, reduced costs, and generated greater system integration and transparency.

## 2 Detailed Project Description

The existing SAT Terminal A BHS employs a ControlNet/DeviceNet architecture to communicate with and control components throughout the terminal. A number of these components along with the DeviceNet communication platform itself are now obsolete meaning that replacement parts, although critical to airport operations, cannot be sourced in a reliable and cost effective manner. AvAirPros, SAAC and SAT are investigating costs and strategies to replace these components with a modern, supportable controls architecture.

Brock Solutions has developed an initial strategy to update this critical system by replacing the ControlNet/DeviceNet network infrastructure with new components using a modern, Ethernet/IP architecture. Our intent is to undergo a Detailed Design phase with AvAirPros and SAT to review and refine this approach, with a goal to update and reduce costs while mitigating risk.

The following sections provide details on an approach which, based on our initial review, will minimize risk while leveraging existing electrical infrastructure to control installation costs. This approach may be modified and updated through the detailed design phase.

### 2.1 Project Strategy

Brock Solutions has a standard project methodology that has proven effective at hundreds of airport installations, world-wide. Our execution strategy for this project can be summarized as follows:

- Replace all existing DeviceNet components with new components that communicate via Ethernet/IP. When complete, all ControlNet and DeviceNet components and cabling will be removed. Specific items include:
  - Replace five existing outbound PLCs with new, Hot Stand-by ControlLogix 1756-L83 CPUs
  - Replace fifty-three RCP panels with fifty-three new Remote I/O panels
  - Update obsolete communication and IO modules in existing equipment, including VSUs, HCDs, MSPs (ticket counter drives), RSPs (Make-up Units) and L3 Interface Panels
  - Replace existing obsolete Inbound PLCs with new PLCs and IO Racks
  - Replace existing displays for the BITs/BRPs and EDS PanelViews
- Replace existing PLC logic with new Brock-standard PLC logic for all conveyors
  - The initial deployment of the new PLCs will use the existing ControlNet/DeviceNet infrastructure. TSA Re-certification testing will likely need to occur at this point
  - Existing DeviceNet devices will then be replaced by new Ethernet/IP devices in small groups. The Brock Team will commission these new Ethernet/IP devices in small groups, likely 3 to 5 conveyors per 8-hour overnight period. Additional, smaller-scale TSA Re-certification tests may be required at specific areas during this process.

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

Specific tasks for this project will include:

**Project Kick Off:** Conduct initial meetings on-site with the AvAirPros, SAT and Brock Solutions team members to set project schedule and expectations, establish roles, responsibilities and communication pathways within the overall Project Team

**Detailed Design:** Projects of this complexity will require a detailed, completed design in order to ensure a successful deployment. From a technical perspective, there are many options available to migrate away from the existing ControlNet/DeviceNet architecture. Our methodology for this project involves the development of a Detailed Design document that will explore and assess these options. Examples of some of the specific items that will be explored include:

- Alternative VFDs: Centralized VFDs vs. on-conveyor VFDs, alternative VFD suppliers
- Alternative Starters: Centralized vs. on-conveyor starters, alternative starters
- Alternative Remote I/O modules: Alternative suppliers within the Ethernet/IP architecture
- Installation Phasing Plan: Identify where airport operations can be modified (i.e. shut down ticket counters), identify potential areas or methods that can minimize installation costs

The completed Detail Design document will provide sufficient detail for our Electrical Design and Programming teams to proceed with the project, including the development of an Electrical Installation Tender.

**Electrical Design:** Based on the results of the Detailed Design, develop drawing packages for all new components, including field installation instructions.

**Electrical Installation Tender:** Working with AvAirPros and SAT, develop a detailed Electrical Installation Tender document based on the completed Electrical Design. Develop an electrical RFQ document and submit to qualified electrical installers. Review submittals and select the most qualified electrical installer.

**Updates to Project Scope:** Based on the results of the Detailed Design phase and Electrical Installation Tender, update the project scope and pricing.

**Procurement and Fabrication:** Using the completed electrical design, procure the necessary field devices and components, fabricate, inspect and ship enclosures to site based on the agreed-to installation schedule.

**Programming, 3D Emulation and Internal Testing:** Using our Brock standard PLC code, develop the necessary PLC logic to control the complete BHS using the existing ControlNet/DeviceNet architecture. In parallel, develop the necessary PLC programming and implementation plan to migrate the ControlNet/DeviceNet-based PLC logic to the new Ethernet/IP infrastructure and devices. Using Applied Materials' AutoMod emulation environment, expand on the emulation developed for Brock's recent Upper-Level Replacement project at SAT to incorporate the complete BHS. Conduct internal integrated testing to confirm system functionality.

**Factory Acceptance Test:** Using the 3D emulation and new PLCs, and following an agreed to Factory Acceptance Test Plan, conduct a Factory Acceptance Test with AvAirPros and SAT at Brock Solutions'

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

offices. The FAT will demonstrate system functionality at key areas throughout the system and confirm our Project Team are ready to deploy to site.

**On Site Deployment - DeviceNet:** New PLCs will be deployed to site in a new, stand-alone enclosure. ControlNet connections will be established between the new PLC cabinet and the existing PLC cabinet, thereby allowing the new PLCs to communicate with the existing ControlNet/DeviceNet devices. The Brock Team will conduct functional testing overnight, and as systems are ready for production, bring them on-line, one PLC at a time. The existing PLCs will remain in-place in the event problems occur with the new PLC cut-over. As this process moves through the CBIS, it is anticipated that TSA Re-certification will be required. Five eight-hour shifts of standby support will be provided as each PLC is brought on-line.

**On Site Deployment - Update to Ethernet:** With the new PLCs on-line, the Brock team will work with the selected electrical installer to complete the installation of the new RIO panels and new Ethernet/IP devices. The control system will then be migrated to the Ethernet/IP devices in small numbers, typically 3 to 5 per 8-hour overnight shift. Brock personnel will remain on-site for 8 hours during this cutover period to provide immediate technical support.

**Training:** Brock Solutions will provide three 6-hour training sessions to review the updated control system with SAT Maintenance Staff.

## 2.2 Lower-Level Controls System

The lower-level controls architecture will be based on the Allen-Bradley ControlLogix PLC. There will be five pairs of redundant 1756-L83E ControlLogix PLC processors for the system, mounted in an enclosure in the control room.

For the redundant pairs of processors, a Hot Backup solution will provide an automatic switchover between the Primary and Backup PLC in the event of a failure. Each processor will be in a dedicated rack with the rack also containing a Hot Backup (RM) module for redundancy. If something should happen to the primary controller, then the secondary controller would automatically take over.

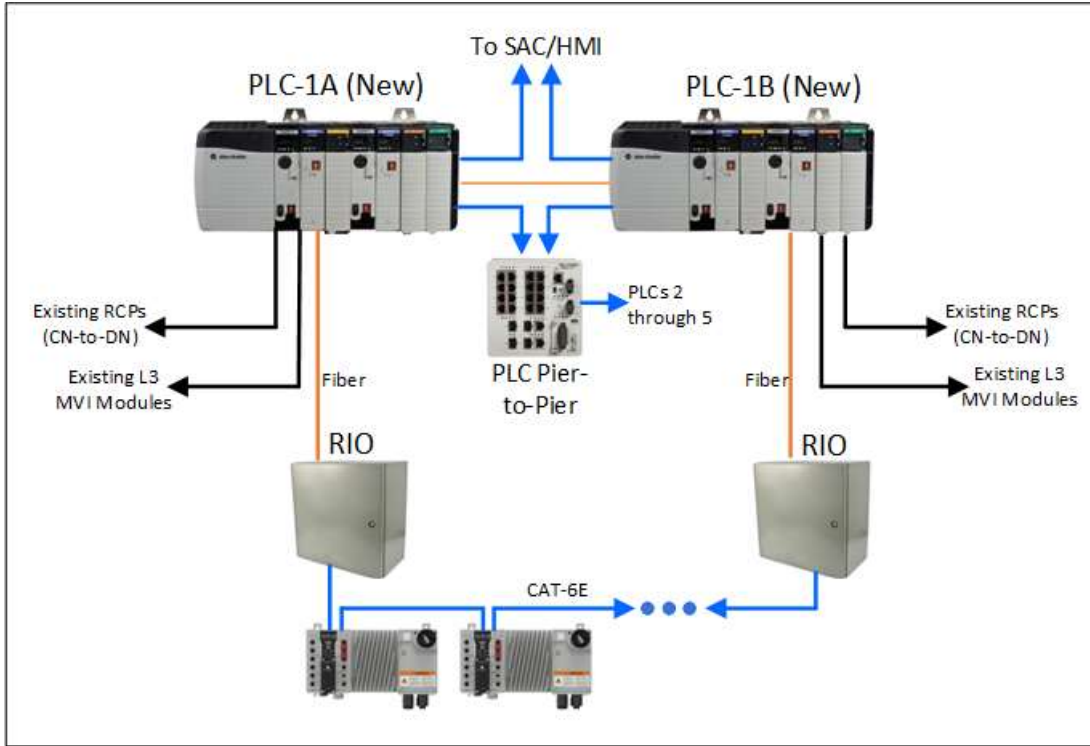
An EtherNet/IP card in each PLC rack is used for peer-to-peer communications. A second EtherNet/IP card in each processor rack will connect the ControlLogix PLCs to the remote I/O via a EtherNet/IP network in a DLR configuration. All remote I/O is provided using ControlLogix remote racks in MCPs, each containing an EtherNet/IP communication module. Ethernet modules are also used for communication to upper-level systems.

For the Inbound, each MCP will be controlled using an updated CompactLogix processor located in the panel. Each PLC will include an integrated Ethernet module for communication to the upper-level system.

### 2.2.1 System Architecture

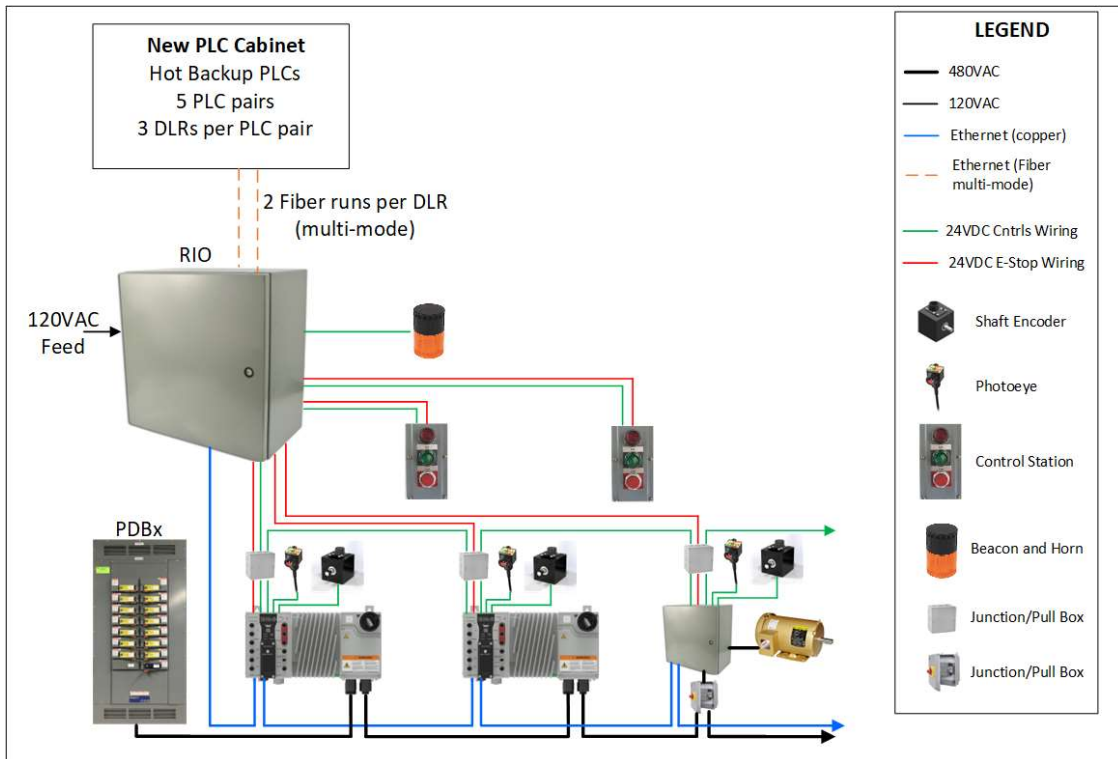
The following diagrams provide an overview of the network architecture that will be typical of each of the five new PLCs. Only one PLC is shown for illustrative purposes.

# San Antonio International Airport Terminal A BHS DeviceNet Replacement



Typical PLC Network Architecture

The diagram below provides a more detailed view of a "typical" RIO architecture, which will be repeated for each of the 53 existing RCPs.



RIO Panel - Typical Control System Network Architecture

## 2.2.2 New Controls Components

The following control system components will be provided as new, replacing the existing equivalent components.

### 2.2.2.1 Conveyor VFDs and Full-Voltage Starters

The existing ArmorStart VFDs will be replaced with new Allen-Bradley Armor PowerFlex series VFDs. The new VFDs will communicate with the new PLCs via a redundant Ethernet/IP ring known as a "Device Level Ring" (DLR). Each VFD will also collect input signals from its respective head-end photoeye and shaft encoder for conveyors that use tracking logic.

The new Armor PowerFlex line from Allen-Bradley does not provide a full-voltage starter option. For existing conveyors which use ArmorStart full voltage starters, these will be replaced with small IEC starters and 1734-series Point I/O modules, installed in individual enclosures for each motor. This will reduce costs by allowing the re-use of existing motors and 480VAC power connections. The IEC starter overload, local head-end photoeye and Motor Safety Disconnect auxiliary inputs will be wired to the 1734-series Point I/O modules, further reducing installation costs. The 1734-series Point I/O will communicate to the new PLCs via the same Ethernet/IP DLR network as the VFDs and new RIO panels.

### 2.2.2.2 Remote I/O Panels

The existing control system uses a number of RCP (Remote Control Panels) to translate the ControlNet PLC connections to DeviceNet for local device communication, as well as the necessary E-stop relays for the conveyor motors. Each RCP will be replaced with a new Remote I/O (RIO) panel. Each RIO panel will include new E-stop relays, connected to existing E-stop wiring to reduce wiring costs. Each RIO panel will also include I/O modules which collect I/O signals from new control stations any photoeyes not installed at the conveyor head-end.

### 2.2.2.3 Control Stations

The existing Baggage Handling System uses Control Stations that contain a 1799-series DeviceNet I/O module, which can be purchased from third party suppliers. In order to align with the updated Ethernet/IP architecture, and any future lower level control system upgrades, each control station will be replaced with a standard push-button control station that uses 24VDC for each input or output signal. The following control stations will be provided, with quantities to be finalized during the detailed design phase. The new control stations will be installed next to the existing control stations, as close as practically possible.

Type	Details
1	Ticket Counter/Induct Enable/Disable
2	Jam Reset
3	Jam Reset w/ Audible Beacon
4	Conveyor Jog/Enable/Disable
5	Fire/Security Door
7	Conveyor Manual Mode Auto/Jog



Type	Details
8	Conveyor Overheight
9	Conveyor Jog Fwd/Rev
10	Estop w/ Reset
11	Estop
12	Stack Light
13	High Capacity Diverter
14	VertiSorter
15	Stack Light & Beacon

## 2.2.2.4 Photoeyes and Shaft Encoders

The existing photoeyes and shaft encoders are DeviceNet enabled. In order to align with the new Ethernet/IP based architecture, and facilitate future upgrades, these devices will be replaced with standard 24VDC field devices.

All photoeyes will be replaced on a one-for-one basis. New shaft encoders will be installed in parallel with existing encoders. The new encoders will be installed on the same non-driven rollers as the existing encoders. Testing and calibration will be performed with the new Ethernet/IP control system. The existing DeviceNet encoders will be removed once the new Ethernet/IP control system is on-line.

## 2.2.2.5 Replace existing BIT/BRP and L3 PanelView Display Consoles

The existing PanelView display consoles used at the BIT/BRP stations within the TSA search room, and the displays associated with each L3 EDS machine will be replaced with new stand-alone display workstations.

Each workstation will include the following components:

- Contec BX-S959 Industrial PC using Windows 10
- ELO 1739L Panel Mount Touchscreen
- Symbol LS3408 Scanner (BSDs only)
- Enclosure and mounting hardware. Note it is assumed existing mounting posts and/or brackets or swing arms are serviceable and will be re-used is.

Each BIT/BRP pair will be replaced with a single BSD. Each L3 PanelView will be replaced one-for-one with a new stand-alone display workstation.

## 2.2.3 Updates to Existing Controls Components

A number of existing controls devices contain components that are obsolete. These devices will be modified in-place, with the obsolete components removed and replaced with updated Ethernet/IP-based devices. Details for each system are noted in the following sections.

It is anticipated that up to fifty-three new RIO panels will be required. These will be installed next to the existing RCPs in order to take advantage of existing field wiring where possible.

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

## 2.2.3.1 VertiSorter Enclosures

The five VertiSorter (VSUs) currently use 1734-series DeviceNet I/O modules. The DeviceNet communication modules will be replaced with 1734-AENTR Ethernet/IP communication modules.

Please note that according to the information we have, the VSUs also use PowerFlex 40 VFDs. These drives are noted as "active mature". These drives can be replaced with Rockwell's PowerFlex 525-series drive. As part of this project, we suggest the Project Team investigate and document the replacement process for these drives in the event a PowerFlex 40 drive fails.

## 2.2.3.2 High-Capacity Diverters

The High-Capacity Diverters (HCD) were installed in 2009. Each HCD enclosure includes a MicroLogix 1000 series PLC, as well as a 1790D-series DeviceNet IO module. Both of these components are obsolete. For our initial assessment, Brock Solutions has included new 1734-series Ethernet/IP I/O modules to replace the 1790D-series DeviceNet IO module. Regarding the MicroLogix PLC, this controls the open/close sequence of the HCD, where speed and timing are critical. In order to maintain this level of functionality, we would not recommend moving this machine-level control to the new Outbound PLCs. Our initial recommendation would be to replace the MicroLogix PLC with a newer platform, however also consider that the PowerFlex 40 series VFD used with the HCD has become "active-mature", and may also require replacement. The HCD also uses an SEW MoviTrac VFD, which according to our initial research is still available for purchase.

In summary, our initial assessment is to place the HCD I/O signals on Ethernet/IP and evaluate the lifespan of the complete HCD assembly. If the mechanical and electrical components are serviceable, then the Project Team can evaluate the benefits of upgrading the MicroLogix PLC.

## 2.2.3.3 Motor Starter Panels (MSPs)

The existing Ticket Counter conveyors are controlled by full-voltage starters and 1734-series DeviceNet IO modules. The DeviceNet communication module will be replaced by a 1734-ANETR module, allowing the existing IO modules to communicate with the new Outbound PLCs via Ethernet/IP.

## 2.2.3.4 Remote Starter Panels (RSPs)

The outbound make-up units use RSPs (Remote Starter Panels) to collect IO signals for their respective field devices. There are two types:

- MU1 and MU1A: Currently use 1734-based IO modules on DeviceNet. The communication modules will be replaced with 1734-AENTR modules, allowing Ethernet/IP communication with the new DLR network
- MU2, MU3, MU4, MU5 and MU6: Currently use 1790D-series IO DeviceNet-based modules. Brock Solutions will provide new 1734-based IO modules, which will communicate with the new Outbound PLCs via Ethernet/IP.

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

## 2.2.3.5 L3 I/O Interface Panels

Currently, each of the five L3 EDS machines include a small enclosure to collect I/O signals between each EDS machine and the BHS PLC. These small enclosures contain 1790D-series DeviceNet I/O modules, which are obsolete.

Brock Solutions will provide new 1734-series IO modules and a 24VDC power supply to be installed within the existing enclosure. The new IO modules will communicate with the new PLCs via Ethernet/IP. Note that a new 120VAC power feed will be required in order to power these new IO modules.

## 2.2.3.6 L3 MVI Communications

The existing PLCs exchange data with the L3 EDS machines via an MVI ("Multi Vendor Interface") module. As there are no plans to update the L3 machines, it is assumed these modules will remain. Sufficient space will be available within the new PLC cabinet should SAT wish to move the existing MVI communication rack to the new PLC cabinet. This would allow the existing PLC cabinet to be completely removed.

## 2.2.3.7 Inbound Claim MCPs

The existing Inbound Claim MCPs use 1769-L32 PLCs and DeviceNet field components which are obsolete. Brock Solutions will provide new 5069-L320ER CPUs and IO Modules, along with new photoeyes and control stations to replace the existing DeviceNet-based components. The new PLC and IO modules will be installed within the existing enclosure, as it is assumed an individual claim unit can be taken offline for a sufficient amount of time to allow for installation. The new PLCs will use existing Ethernet connections to communicate with the HMI and Data Historian applications.

## 2.3 Upper-Level Modifications

The Upper-Level components of the BHS include the Sort Allocation Controller (SAC), Data Historian Server (DHS) and Human Machine Interface (HMI). The intent of this project is to minimize the modifications required to these systems, as they were recently upgraded.

New device tags will be added to new Upper-Level systems, such that both new and old PLCs can communicate to them as required for testing and production. Once the device-level tags have been added, I/O mapping and tag aliasing will be used within the new PLCs to eliminate any further changes to the Upper-Level Systems as the Lower-Level control system is migrated to Ethernet/IP.

### 2.3.1 BHS Map

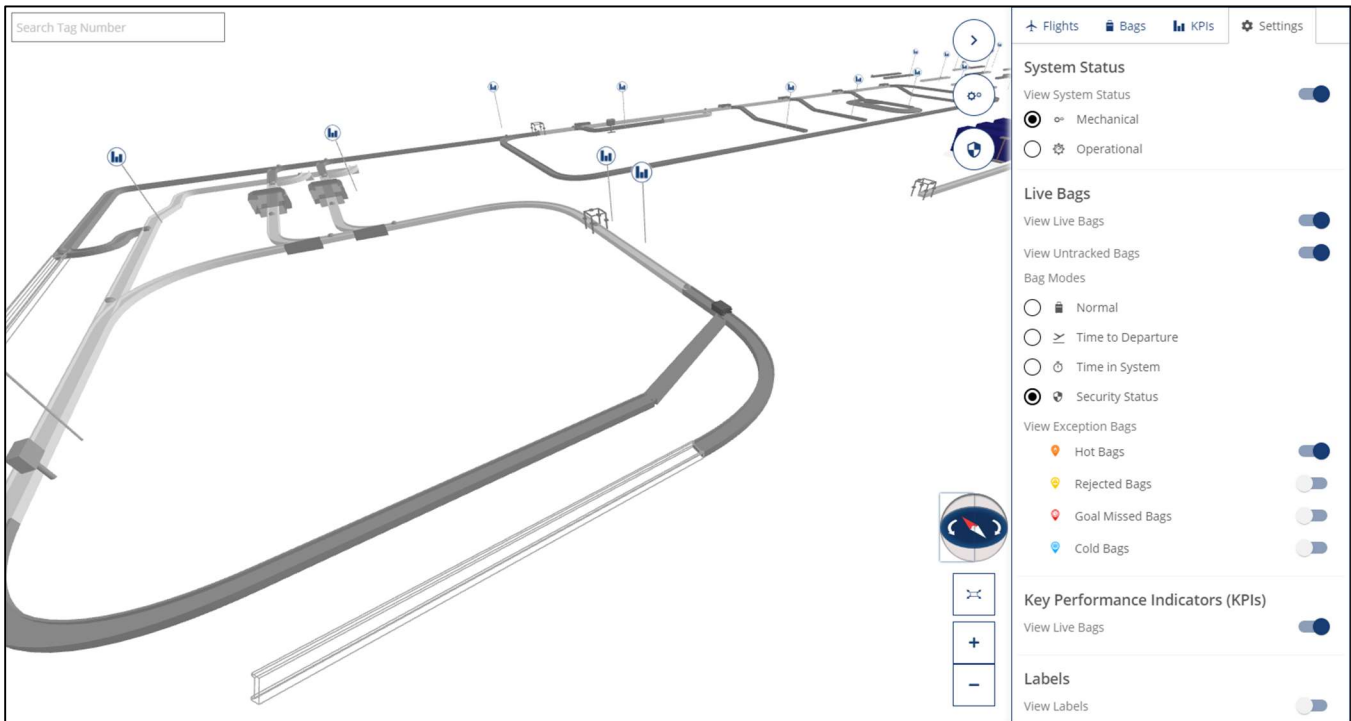
As part of this project scope, Brock's BHS Map will be added to SmartSort. BHS Map provides users with a conceptual, three-dimensional view of the overall baggage system. This representation offers both visual and contextual-based information designed to facilitate operational management of the system. Users will be able to zoom in and out of the map and will have the ability to view multiple layers and filters. These layers and filters will include the following:

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

- **Live Bags Mode** – See the location and status of all bags currently in the BHS. Get a real-time picture of where bags are in your system.
- **Mechanical Status Mode** – See the running and stopped state of the BHS.
- **Operational Status Mode** – See how efficiently bags are flowing through the BHS.
- **Key Performance Indicator Mode** – See bag throughput, rates, etc.
- **BHS Map Points of Interest (POI)** – Quickly navigate to pre-set parts of the BHS Map.

The purpose of this BHS Map is not to replace the HMI but to complement it. In addition to gaining a high-level view of the system's performance, supervisors and operations management will be able to use the BHS Map to see how bags are flowing through the system and develop an understanding on where live bags are in the system.

The following is a sample of what a BHS Map could look like with the live bags layer turned on: YouTube link: <https://youtu.be/YpASjFvPQD8>



Sample BHS Map

## 2.4 Electrical Installation Scope Summary

Brock Solutions will work with AvAirPros and SAT to develop a detailed Electrical Installation scope, using the completed electrical design for the updated Lower-Level Control System. Based on our preliminary review, we expect the electrical installation will involve, at a minimum, the following.

## 2.4.1 General Scope

1. Provision of all Site Safety Supervision, permits and applicable documentation. Other contractors' (such as Brock Solutions) on-site staff will work under the Electrical Contractor's (EC's) Site Safety Program while on-site.
2. Receive and safe storage of all components for the updated system, including but not limited to 53 Remote I/O, 450 ArmorStart VFDs and/or starters, over 300 control stations, 500 photoeyes, 240 shaft encoders, individual as well as I/O racks and communication modules. Transport these items to site and install as needed. Electrical Contractor (EC) will provide off-site storage and will assume responsibility for equipment from receipt of equipment until installation is noted as complete by Owner or Owner's representative.
3. Installation of new components, as summarized in section 2.2.2
4. Termination and labeling of all cabling and wiring. Supply / provision and installation / modification of all required junction boxes, conduit, raceway, cable tray, cables, wires, and junction boxes. EC to select the locations for each junction box to minimize the conduit and wire lengths. Test and confirm the accuracy of all new or modified wiring back to the termination point. Provide a signed report showing the results.
5. Provide detailed installation drawings including detailed conduit routing or cable tray diagrams, indicating size of conduit and cable trays, size and number of conductors, as well as size and location of junction boxes per SAT requirements. Installation will be performed per SAT Electrical Installation Specification and National Electrical Code (NEC).
6. In the event a device or component is to be removed, remove the power and controls conduit and wire back to the MCP or the closest junction box if the conduit and wiring to be removed is mixed in with conduit and wiring that needs to remain. Label any associated decommissioned wire inside the MCP as spare.
7. SAT will have the opportunity to salvage any decommissioned equipment prior to removal from site and disposal. Disposal of all equipment shall be in accordance with all SAT, City, State and Federal laws and regulations.
8. Assume working hours will be 7 days per week, 9pm until 4am. EC to provide employees who have security badge access to the airside construction area. Brock Solutions or others will not provide security escorts.

## 2.4.2 Equipment Installation

A summary of the controls equipment to be installed under this scope of work includes the following:

1. **New PLC Cabinet Installation:** Install one new 4-bay MCP within the existing Control Room. The new PLC Cabinet will include all internal components necessary for operation. EC to provide five 120VAC/15A power circuits from a building power source as directed by AvAirPros and SAT. EC to provide ten ControlNet RG6 coax connections between the new and existing PLC cabinets. EC to provide ten CAT-6E Ethernet connections between the new PLC cabinet and the existing Server Cabinet located within the control room. All connections to be terminated and testing by the EC to confirm functionality prior to turn-over.
2. **Remote I/O Panels:** Install 53 new Remote I/O (RIO) panels within the BHS. Generally speaking, these will be installed at the same location as each existing Remote Control Panel (RCP), as close to the existing RCP as practical. Each RCP will be part of a "Device Level Ring" Ethernet network, where a CAT-6 Ethernet connection will be established from the PLC to the first RIO panel, then daisy-chained through each VFD or starter, then return back to the PLC cabinet. Please see the diagram provided in section 2.2.1 for an overview of the system architecture. Details to be provided, however EC should assume that the connections to/from each RIO to the main PLC panel will require fiber optic cable.
3. **VFD and Starter Replacement:** Each of the existing ArmorStart VFDs will be replaced with Allen-Bradley Armor PowerFlex VFDs. The new VFDs should mount in the same location as the existing VFDs, re-using the existing 480VAC power wiring. Existing ArmorStart starters will be replaced with new stand-alone IEC starters, using 1734 Ethernet/IP Point IO modules in individual enclosures. The enclosures will mount in the same location as the existing starters, re-using existing 480VAC power wiring.  
The new VFDs and starter enclosures will be connected to the Ethernet/IP DLR network established for the PLCs and RIO panels. Existing motors and 480VAC power wiring will be re-used as much as possible. Note that a key difference between the new and old system are the photoeye and shaft encoder connections, as these will be wired to each new Armor PowerFlex VFD or starter enclosure.
4. **Control Station Replacement:** All existing control stations will be replaced with new control stations that match the existing functionality. New control station I/O will be wired to the new RIO panels. Each new control station will include an M12 connector, which should allow the re-use of the existing E-stop wiring. EC is free (and encouraged to) take advantage of existing field wiring and raceways where practical to reduce wiring costs.
5. **Photoeye Replacement:** All existing photoeyes will be replaced. Head-end photoeyes will be wired to their respective motors. All other photoeyes will be wired to the closest RIO panel.
6. **Shaft Encoder Replacement:** All existing shaft encoders will be replaced. New shaft encoders will be wired to new VFDs or starters. New encoders will be installed on the same non-powered roller as existing encoders, on the opposite side of the conveyor where possible. Where this is not practical, new encoders will be installed and switched out as required during testing.

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7. Upgrades to Existing Enclosures: A number of existing enclosures contain controls equipment that is DeviceNet-enabled and must be replaced. These include:
  - a. VertiSorters (VSU): Replace existing 1734-ADNR DeviceNet module with 1734-AENTR module. Each existing VSU will be connected to the same Ethernet/IP DLR network as the VFDs and RIO panels. EC to install new CAT-6E cabling as directed to connect to this network.
  - b. High-Capacity Diverters (HCDs): Replace the existing 1790D series IO module with a new 1734-based, Ethernet/IP enable remote IO rack. The IO racks will be provided already assembled for each cabinet. EC to remove existing IO module and wire existing IO connections to the new IO modules, per field wiring diagrams provided by Brock Solutions. Assume the new IO racks will fit within existing enclosures. Brock Solutions will supply controls-related components such as IO modules, however EC to provide installation materials such as wire, raceway, standoffs and terminal blocks.
  - c. Motor Starter Panels (MSPs): Replace existing 1734-ADNR DeviceNet module with 1734-AENTR module. Each existing MSP will be connected to the same Ethernet/IP DLR network as the VFDs and RIO panels. EC to install new CAT-6E cabling as directed to connect to this network.
  - d. Remote Starter Panels (RSPs) MU1 and MU1A: Replace existing 1734-ADNR DeviceNet module with 1734-AENTR module. Each existing RSP will be connected to the same Ethernet/IP DLR network as the VFDs and RIO panels. EC to install new CAT-6E cabling as directed to connect to this network.
  - e. Remote Starter Panels (RSPs) for MU2, MU3, MU4, MU5 and MU6: Replace the existing 1790D series IO module with a new 1734-based, Ethernet/IP enable remote IO rack. The IO racks will be provided already assembled for each cabinet. EC to remove existing IO module and wire existing IO connections to the new IO modules, per field wiring diagrams provided by Brock Solutions. Assume the new IO racks will fit within existing enclosures. Brock Solutions will supply controls-related components such as IO modules, however EC to provide installation materials such as wire, raceway, standoffs and terminal blocks.
  - f. L3 Interface Panels: Replace the existing 1790D series IO module with a new 1734-based, Ethernet/IP enable remote IO rack. The IO racks will be provided already assembled for each cabinet. EC to remove existing IO module and wire existing IO connections to the new IO modules, per field wiring diagrams provided by Brock Solutions. Assume the new IO racks will fit within existing enclosures. Brock Solutions will supply controls-related components such as IO modules, however EC to provide installation materials such as wire, raceway, standoffs and terminal blocks. EC to provide a new 120VAC power connection from a building power source as directed by SAT
8. Replace Existing PanelViews: The following PanelView displays will be replaced.
  - a. BIT/BRP: Each BIT/BRP pair will be replaced with one new BSD (Bag Search Display). Each touchscreen BSD will be provided in an enclosure and will be mounted to the existing mount

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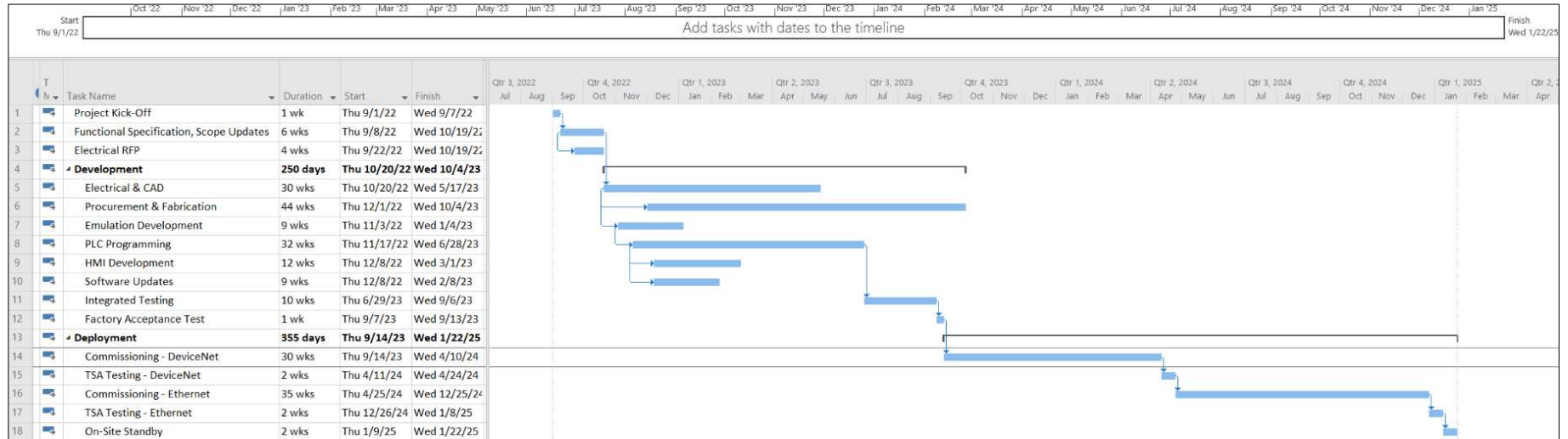
or swing arm. Existing 120VAC power and Ethernet connections will be re-used. EC to provide all related installation scope to mount each BSD enclosure as required.

- b. L3 EDS PanelView Display: Replace the existing L3 PanelView display with a new stand-alone touchscreen display workstation. The new touchscreen will be provided with an enclosure that will mount to the existing mounting post. Existing 120VAC power and Ethernet will be re-used. EC to provide all related installation scope to mount the new L3 PanelView display to the existing mounting post.



## 2.5 Preliminary Project Schedule

The following provides a preliminary overview of the Project Schedule.



In summary:

- Functional Specification & Scope Updates: 6 weeks
- Electrical RFP Issue, Review Submittals: 4 weeks
- Electrical and CAD Design: 30 weeks
- Procurement and Fabrication: 44 weeks
- Software Development: 9 weeks
- Deployment - Base DeviceNet: 30 weeks
- TSA Testing - Base DeviceNet: 2 weeks
- Deployment - Update to Ethernet/IP: 35 weeks
- TSA Testing - Updated Ethernet/IP: 2 weeks

### 3 Commercial Terms

#### 3.1 Pricing

The total cost for the proposed system is **\$7,529,035.00**. The following table summarizes the pricing for the services provided.

Item	Total
Functional Specification, Detailed Design, Electrical RFP	\$260,895.00
Hardware and Off-the-Shelf Software	\$3,042,460.00
Electrical Design and CAD	\$578,745.00
PLC Programming, Software Development & Testing	\$901,605.00
On-site Commissioning, SAT, Test Plans, Training and Documentation	\$1,821,510.00
Test Labor (Allowance)	\$150,000.00
Travel and Expenses	\$773,820.00
<b>Total</b>	<b>\$7,529,035.00</b>

#### 3.2 Pricing Notes

- Price excludes applicable taxes and bonding.
- Pricing does not include electrical installation. As of this submittal, an estimated range of costs for the electrical installation scope of work would be \$5,000,000.00 to \$7,000,000.00 USD.
- Insurance risk passes to Customer immediately upon delivery to site.
- Prices are quoted in USD and valid for 30 days.
- Payment in full is a prerequisite to transfer of title to Customer.
- Progress billings will be invoiced monthly, based on the progress of work. Terms are net 30 days from the invoice date. Interest will be billed on late payments at the rate of 1% per month (12.68% per year). Pricing, schedules, and milestones may require adjustment if the project is suspended, delayed, or terminated for the convenience of Customer.

#### 3.3 Scope Clarifications

The following clarifications are included to define the scope of work between AvAirPros and Brock. If AvAirPros feels that any of these result in deviations from the scope of work, it is their responsibility to pass any such clarifications on to the customer.

1. Updated project scope and pricing, including electrical installation and installation supervision, will be provided at the completion of the Electrical RFP review period. Pricing and project schedule will be updated and agreed to with AvAirPros, SAT and all stakeholders prior to the start of development and/or procurement.

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2. Brock Solutions has included a budget of \$150,000 for test bags and associated labor, including storage and tagging/re-tagging. This can be adjusted as required after the initial design phase and project plan has been developed.
3. The existing ATRs and BMAs will be used as-is. No updates or modifications are included.
4. It is assumed that any equipment which is re-used as part of this project is serviceable. Brock Solutions does not warrant used equipment.
5. It is assumed the HCDs will remain as-is. Pricing to include or support mechanical upgrades or complete replacement of the HCDs has not been included.
6. For this project, Brock Solutions has allowed for two hours of operational training and four hours of maintenance training per shift for three shifts.
7. With the base proposal, Brock Solutions will provide the following on-site stand-by durations:
  - a. After each new Outbound PLC is brought on-line, using the DeviceNet infrastructure, five days, 8 hours per day
  - b. After each Inbound PLC is updated, two days, eight hours per day
  - c. As DeviceNet devices are migrated to Ethernet/IP, assuming three conveyors per overnight shift, provide on-site stand-by support for the first 8 hours of operation.
8. No spare parts are included with this proposal (other than commissioning spares). Furthermore, Brock Solutions will not stock any spare parts.
9. Due to current supply chain shortages and lead time volatility with controls and computer hardware components, Brock cannot be held responsibility for project delays resulting from these supply chain issues (in other words, these would be considered force majeure events). Any project timelines affected by such events shall be extended and the overall schedule adjusted accordingly, and Brock will not be responsible for any associated damages (liquidated, consequential, or otherwise). Should alternative components be utilized to alleviate schedule impacts Brock Solutions reserves the right to pass through any cost increases.
10. Legacy conveyors which interface to the new conveyors are not being modified. Brock Solutions will not be responsible for the capabilities of this legacy equipment including any impact these capabilities have on performance tests related to the newly installed equipment.
11. Future enhancements to SmartSort and/or the addition of related modules may involve additional one-time and/or recurring license fees.

## 4 Proposal Terms and Conditions

### 4.1 Site Access

Brock Solutions assumes that pre-arranged site time will be uninterrupted, and that our personnel will have free and clear access to equipment and reasonable assistance of Customer personnel. Should site time be interrupted by factors outside of Brock Solutions' control, all resulting standby time will be billed at Brock Solutions' current rates.

### 4.2 Customer Role and Responsibilities

This proposal assumes that: (a) all relevant information (i.e. drawings, specifications, other documents and/or queries related to the project) reasonably required by Brock Solutions to execute the project will be provided by the Customer; (b) Brock Solutions is entitled to rely on the accuracy and completeness of such information; and (c) the Customer will give prompt consideration to all information submitted by Brock Solutions for Customer's review or decision-making. Should the Customer not fulfill its project responsibilities, including payment of invoices when due, delays in the project may result.

### 4.3 Warranty and Project Performance

Pricing includes warranty that the Project will perform according to the specifications mutually agreed on and documented in the detailed functional specification until the earlier of (a) one (1) year from the date of acceptance or beneficial first use or (b) eighteen (18) months from delivery. Any performance figures provided by Brock Solutions are based on what we typically obtain in tests in our office. Brock Solutions has no responsibility for, and will not be liable for implied warranties, performance-oriented goals or similar targets unless specifically agreed in writing.

During the warranty period, Brock Solutions will correct, at Brock Solutions' office, any errors that prevent the Project functioning in accordance with the functional specification. Shipping costs and any costs to remove and reinstall a warranty item are Customer's responsibility. The warranty is void if any changes are made to the Project without the written approval of Brock Solutions and is contingent on the Customer having performed appropriate regular maintenance. Warranty work will be carried out Monday to Friday during normal business hours. Emergency support services are available at Brock Solutions' then current rates for such services.

Brock Solutions does not warrant components manufactured by others, but to the maximum extent permitted by the manufacturer, Brock Solutions will transfer any third-party hardware and software warranties to the Customer upon delivery of the Project.

Brock Solutions shall not be responsible for delays or failures due to an unforeseen event outside its reasonable control, including acts of God, fires, lightning, earthquakes, explosions, floods, diseases, pandemics, subsidence or other natural disasters, national emergencies, insurrections, civil disorders, military operations, acts of terrorism, or supply chain issues affected by any of the foregoing. Any Project timelines affected by such events shall be extended accordingly.

### 4.4 Ownership and Use of Intellectual Property (IP)

Brock Solutions shall retain full ownership rights to all intellectual property provided by Brock Solutions in conjunction with the project and/or services engagement (i.e. "Brock Intellectual Property"). Brock Intellectual Property includes but is not limited to all concepts, products, processes, designs, drawings, procedures, hardware, data, specifications, know-how, knowledge, methodologies, systems, programs, applications, computer software

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

or any other such items created or developed by Brock Solutions either prior to or during the course of performing the project and/or services for Customer.

Subject to Customer's payment obligations, Customer is granted a non-exclusive, permanent, worldwide license to Brock Solutions' intellectual property solely in conjunction with Customer's use of the deliverables at the designated site(s) and for their intended business purpose(s) as defined by the project and/or services engagement. The intellectual property contained in certain enhanced functions and/or modules related to the delivered software, which are not within the current scope of this project, may involve additional one time and/or recurring license fees if added to the software in the future.

## 4.5 Indemnities and Limitation of Liability

Brock Solutions and the Customer will indemnify and hold each other harmless from all suits, actions, or claims directly attributable to the acts or omissions of the indemnifying party that give rise to: (a) any alleged injury or damage to any person or property; and/or (b) any alleged infringement of intellectual property.

Brock Solutions' liability to the Customer is its proportionate share of the total liability based on its degree of fault, to a maximum of the fees payable to Brock Solutions for this project. In no event will Brock Solutions be liable to the Customer for any indirect, consequential, incidental, liquidated, or punitive damages.

## 4.6 Changes to Scope of Project

Brock Solutions will notify the Customer of any scope changes that may arise during the execution of this project. If mutually agreed, Brock Solutions can quote the change in scope on a fixed-price basis. Alternatively, any increases to the Project scope of work will be billed on a time and material basis using the following rates:

Description	Rate (per hr)
Advisory Services / Technical Expert	\$200
Project Manager / Senior Technical Staff	\$180
Intermediate Technical Staff	\$150
Junior Technical Staff	\$130
Documentation	\$110
Manufacturing Supervisor	\$110
CAD	\$95
Project Support and Administration	\$80
Panel Fabrication / Wiring	\$80

### Notes on Time and Material Rates:

- The above rates are valid for one (1) year from the date of the proposal, and are subject to annual escalation thereafter, at the rate of inflation.
- Materials and expenses will be billed at cost plus 15%.
- Travel to and from site will be billed at cost plus 15%.
- Meals will be billed at a per diem rate applicable to the site location.
- Accommodation will be billed at a per diem rate applicable to the site location.
- Time and material reports may be provided for Customer's signature on a daily basis.

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

## **4.7 Governing Law & Dispute Resolution**

This proposal shall be governed by the laws of the country (and state/province, if applicable) where the Brock Solutions entity issuing this proposal is incorporated, without regard to conflict of law provisions. Any dispute, claim or controversy arising out of or relating to this proposal shall be determined by final and binding arbitration under the ADR Chambers Arbitration Rules. The place of the arbitration shall be San Antonio, Texas. The number of arbitrators shall be one. The arbitrator shall be selected from any of the arbitrators rostered at JAMS.

## 5 Appendix A: Responsibility Matrix

The following table defines the scope of responsibility for the project.

Item	Designed / Controlled By	Furnished By	Installed By
Performance and Payment Bond	-	OEM	-
Permits, Licenses and Associated Fees	-	OEM/EC	-
QC and Safety Management	-	OEM/EC	-
Site offices	-	OEM	-
Temporary Construction and Utilities	-	OEM	-
Security	-	OEM	-
Onsite/Offsite Equipment Storage	-	OEM/EC	-
Inspection and Certification of Installation (including PE requirements)	-	OEM	-
PE Stamping of Electrical Design Drawings created by Brock	-	Brock	-
FAT (at Brock Solutions)	-	Brock	-
O & M Manuals (Control System Related sections)	-	Brock	-
O & M Operational Training	-	Brock	-
O & M Maintenance Training (Controls)	-	Brock	-
Contingency Operations for Interim Phasing – Baggage Handling Labour	-	OEM/Brock (per allowance)	-
Test Bags	-	OEM/Brock (per allowance)	-
Wiring Verification (IO Checkout) – Test Plans	-	Brock	-
Wiring Verification (IO Checkout) - Execution	-	EC	-
Mechanical Running Test - Execution	-	EC	-
Functional Testing - Test Plans	-	Brock	-
Functional Testing – Baggage Handling Labour	-	Brock	-
Functional Testing – Execution	-	Brock	-
System Testing – Test Plans	-	Brock	-
System Testing – Baggage Handling Labour	-	Brock	-
System Testing – Execution (includes the management and running of the tests and the associated baggage handling labour)	-	Brock/OEM	-
TSA/Battelle Related Testing – Test Plans	-	Others	-
TSA/Battelle Related Testing – Baggage Handling Labour	-	OEM	-

# San Antonio International Airport Terminal A BHS DeviceNet Replacement

Item	Designed / Controlled By	Furnished By	Installed By
TSA/Battelle Related Testing – Execution (includes the management and running of the tests and the associated baggage handling labour)	-	OEM (Brock to provide input)	-
Mounting arms for BSDs	(re-use existing)	(re-use existing)	(re-use existing)
Conduits, wire, raceways, junction boxes, connection boxes, related equipment, and terminations	EC	EC	EC
Control Station pedestals and brackets	(re-use existing)	(re-use existing)	(re-use existing)
Control Station Stainless Steel Faceplates	(re-use existing)	(re-use existing)	(re-use existing)
Control Stations	Brock	Brock	EC
Handheld Scanners	Brock	Brock	EC
HLC Network Switches - BHS Controls Related	Brock	Brock	EC
EDS Related Communications Modules and Wiring	(re-use existing)	(re-use existing)	(re-use existing)
HLC Network analysis and testing	EC	EC	EC
HLC Network cabling, ControlNet and Ethernet including Fiber Optic	Brock	EC	EC
HLC Network patch cables	(re-use existing)	(re-use existing)	(re-use existing)
HLC Network patch panels	(re-use existing)	(re-use existing)	(re-use existing)
Labeling control stations	Brock	Brock	EC
Labeling electrical conductors and cables	EC	EC	EC
Labeling electrical field devices	Brock	Brock	EC
Limit and proximity switches	(re-use existing)	(re-use existing)	(re-use existing)
LLC Distributed Network Cabling (thick, thin, flat, etc.)	Brock	EC	EC
LLC Distributed Network Connections (junction boxes, hubs, switches, tees, etc.)	EC	EC	EC
LLC Distributed Network node address field setting and adjustments	Brock	Brock	EC
LLC Distributed Network Remote control cabinets / enclosures	Brock	Brock	EC
RIO and PLC cabinet - unload and placement	-	-	MC
RIO and related hardware	Brock	Brock	EC



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Item	Designed / Controlled By	Furnished By	Installed By
Existing panel modifications	Brock	Brock	EC
Motor Safety Disconnects (full voltage starter-based conveyors only)	Brock	Brock	EC
Mounting materials for electrical components including all support hardware	EC	EC	EC
Photo-eye brackets and guards	(re-use existing)	(re-use existing)	(re-use existing)
Photo-eye Cables	Brock	Brock	EC
Photo-eye Reflectors	(re-use existing)	(re-use existing)	(re-use existing)
Photoeyes	Brock	Brock	EC
PLC Master cabinet	Brock	Brock	EC
PLC processors and related equipment	Brock	Brock	EC
PLC remote I/O and related equipment	Brock	Brock	EC
Power distribution - Upstream of BHS	(re-use existing)	(re-use existing)	(re-use existing)
Power distribution - within BHS	(re-use existing)	(re-use existing)	(re-use existing)
PPI/Encoder brackets	Brock	Brock	EC
PPIs/Encoders	Brock	Brock	EC
Quick disconnects for removable conveyors	(re-use existing)	(re-use existing)	(re-use existing)
Signaling Devices	Brock	Brock	EC
Variable Frequency Drives (Armor PowerFlex)	Brock	Brock	EC
Variable Frequency Drives Braking Resistor	Brock	Brock	EC
Full Voltage Starter Enclosures	Brock	Brock	EC

EC = Electrical Contractor

MC = Mechanical Contractor

Others = Owner or their representative

OEM = AvAirPros

**EXHIBIT C**

**PLANS  
(to be provided to City)**

## EXHIBIT D

### Required Federal Contract Provisions

#### Non-AIP Contracts

As used in this Exhibit, the term “contractor” or “Contractor” shall refer to Consultant entering into this Agreement with the City. Consultant/Contractor shall include the provisions set out in this exhibit in every subcontract, including procurements of materials and leases of equipment, unless exempt by Federal regulations and directives issued pursuant thereto.

#### GENERAL CIVIL RIGHTS PROVISIONS

The Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

#### COMPLIANCE WITH NONDISCRIMINATION REQUIREMENTS

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “Contractor”), agrees as follows:

- 1. Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
- 2. Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
- 3. Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor

for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.

4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
  - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
  - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

## **TITLE VI LIST OF PERTINENT NONDISCRIMINATION ACTS AND AUTHORITIES**

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d *et seq.*, 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 *et seq.*), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 *et seq.*) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

### **FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)**

This Agreement hereby incorporates by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers.

Consultant has full responsibility to monitor compliance to the referenced statute or regulation. Consultant must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

### **OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970**

This Agreement incorporates by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Consultant must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. Consultant retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Consultant must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.







# 20230315 FINAL BHS Funding Agreement- Lower Level Controls--mt--final (2)

Final Audit Report

2023-03-16

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