Baggage Handling Systems Experience



ARORA

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Dear Prospective Client,

Since 1986, Arora has specialized in providing engineering services tailored for complex infrastructure projects including parking and transportation facilities and have re-thought the role played by a traditional MEP engineering provider and our practice has evolved to emphasize the technology that connects systems infrastructure, improves operations and longevity, and makes life safer and easier for those who use it.

We are airport people who understand that aviation facilities are among the most complex and dynamic environments for systems design. Continuously evolving user needs, security concerns, and technology demand that airport system architectures be open to facilitate change, as well as the exchange of information with users and other systems. Arora consistently ranks amongst the top airport engineering firms, earning a spot in the top 15 for the last 8 consecutive years on Building Design+Construction's (BD+C) Top 80 Airport Facility Engineering Firms, and ranking overall as one of BD+C's Top 70 engineering firms.

Arora has substantial knowledge of Airport Baggage Systems Operations through their life cycle from planning, to design, construction management, testing and commissioning, and finally continued operations and preventative maintenance. Our primary engineering experience around BHS systems has been related to the terminal building systems design and how they integrate and tie into a baggage system. This includes the security and special systems interface, fire alarm, suppression, and the MEP power and ventilation requirements. We design for clients in every sector with the future in mind and live our tagline of Rethinking Infrastructure as we approach each unique project. Despite constantly evolving transportation needs, all parking facilities must ultimately be designed for optimal user convenience, efficiency, durability and long-term return on investment.

We are familiar with a host of BHS manufacturers, and Arora understands how to implement a turnkey project solution, its key components and the coordination of stakeholders including the Airport, Airlines, TSA, and CBP to insure a successful project.

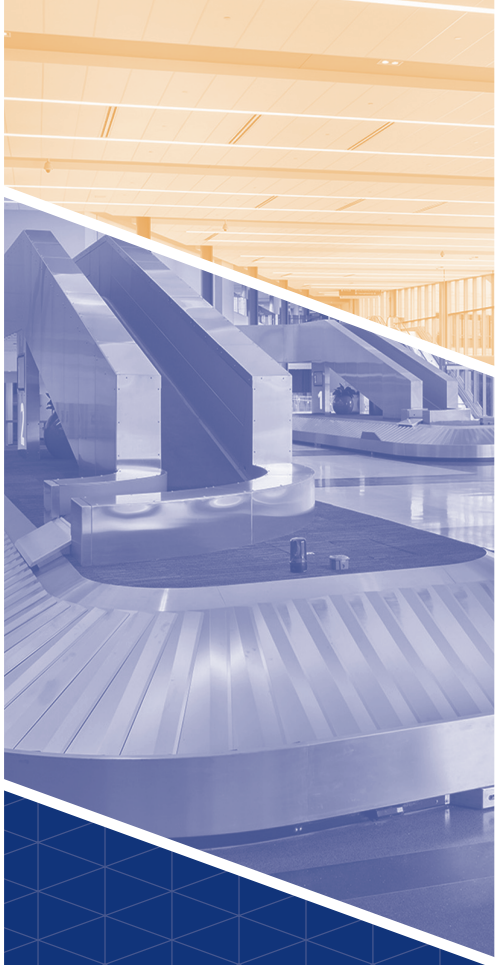
No project is too big or too small, and we look forward to working with you and exceeding your expectations for quality and service.

Sincerely,

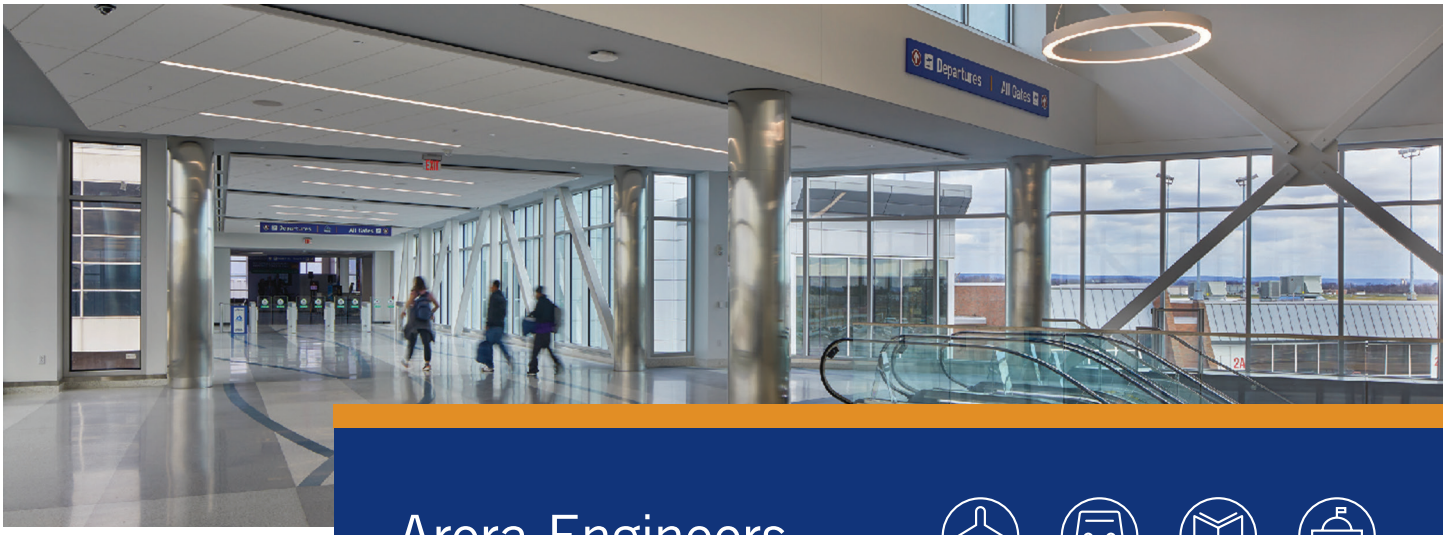
Manik Arora, PE
President and CEO

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INTRODUCTION



Arora Engineers

At Arora Engineers, we believe infrastructure needs to do far more than provide a seamless, safe, sustainable and comfortable environment. Our goal is to maximize its role, impact and value through highly intelligent solutions that not only meet operational needs, but forward business objectives.

We meet the evolving needs of the world's most critical industries – aviation, transportation and education – through more intelligent, sustainable and connected infrastructure solutions that maximize value for our clients and partners.

Expertise

Since 1986, we have held ourselves to rethinking the role of the traditional MEP firm. As a result, we've evolved our practice to emphasize the technology and processes that connect systems infrastructure, improve operations and longevity and make life safer and easier for those who use it.

Arora specializes in providing engineering services tailored for clients in aviation, transportation, education, government and commercial sectors, and has developed a unique understanding of the challenges and opportunities facing these critical industries.

Services

SPECIAL SYSTEMS / TECHNOLOGY

+ Mass Notification & Public Address
+ WiFi systems
+ Voice/data systems
+ Network architecture
+ Data centers
+ MDF/IDF room layouts
+ Network design via fiber or copper backbone
+ Plant cabling systems
+ Fiber optic and copper structured cabling systems
+ Communications system design
+ CCTV/MATV/CATV systems
+ Program Scheduling & Scheduling Review
+ Access control
+ Duress systems
+ Perimeter intrusion detection
+ Risk and needs assessments
+ Video walls
+ Security operations and procedures evaluation
+ Passenger/customer information display systems
+ Signage systems/Electronic video information display systems (EVIDS)
+ Software and equipment evaluation and recommendations
+ FIDS/BIDS/GIDS/CUPPS/SUPPS
+ Multi-lingual/International traveler



ATLANTA

BOSTON

CHICAGO

DALLAS

DENVER

FORT LAUDERDALE

HOUSTON

LOS ANGELES

NEW YORK

ORLANDO

PHILADELPHIA

PHOENIX

SAN DIEGO

SAN JOSE

SEATTLE

BENGALURU, INDIA

PUNE, INDIA

ELECTRICAL

+ Low and medium voltage power distribution
+ Emergency and standby power systems
+ Lighting design and photometrics
+ Substation/switchgear
+ Grounding and lightning protection
+ Single-line diagrams
+ Short circuit & coordination studies
+ Traffic Studies
+ Roadway and ITS Design
+ Power and lighting equipment selection and specifications
+ Motor control centers
+ Electrical equipment sizing
+ Energy efficient systems
+ Electrical code analysis
+ Electrical plan review and master plan development

AIRFIELD ELECTRICAL

+ Airfield Lighting and Signage
+ Approach Lighting Systems
+ Instrument Landing Systems
+ Navigational Aids
+ Airfield Lighting and Control Systems
+ Runway Incursion Mitigation
+ Pavement Surface Sensor Systems
+ Vertiports

HVAC / PLUMBING

+ Sustainable/Green Building design
+ HVAC
+ Central plant design
+ Underfloor Air Systems design
+ Constant and variable air volume systems
+ Radiant heating systems
+ Geothermal system design
+ Building automation and digital controls
+ Domestic water systems
+ Storm and sanitary system design
+ Fuel system design
+ Lifecycle Costing, Energy Analyses

FIRE PROTECTION AND LIFE SAFETY

+ Fire alarm and detection system design
+ Standpipes & water-based sprinkler system design
+ Foam systems & special hazard suppression design
+ Fire pumps & fire protection water supply system design
+ Smoke management
+ Code analysis and consulting
+ Plan review
+ Due diligence reports
+ Performance based analysis
+ Risk/hazard assessment
+ Site conditions survey

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

+ Database setup and implementation plans
+ CAD to GIS conversion plans
+ FAA Airport GIS program compliance
+ Legacy data access integration
+ Web-based GIS portal development
+ Asset and utility data management
+ Field inspection and inventory
+ GPS data capture and attribution

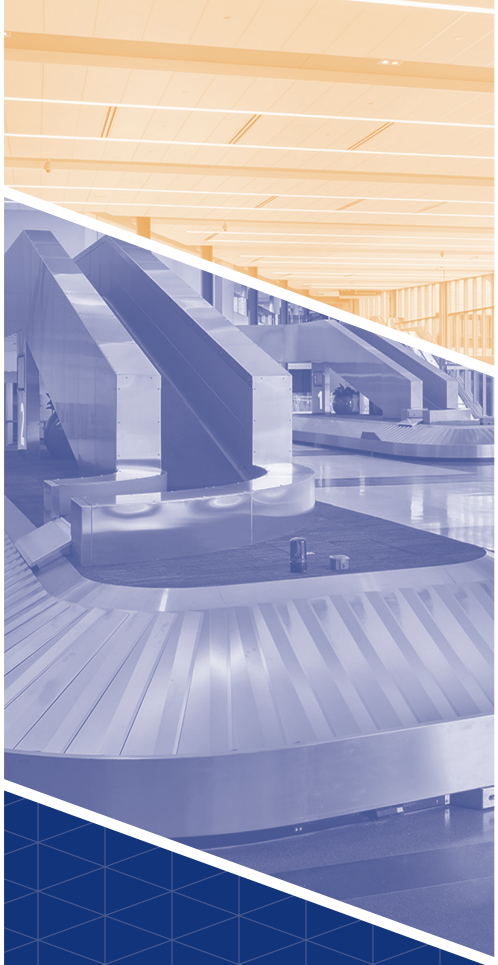
PROGRAM MANAGEMENT

+ Project management
+ Procurement coordination
+ Information management
+ All-inclusive project control
+ Runway Incursion Mitigation
+ Pavement Surface Sensor Systems
+ Airfield Lighting Vaults and Power Distribution
+ Sustainable Solutions
+ Construction Safety and Phasing
+ Multi-Airport Program Management

CONSTRUCTION MANAGEMENT & INSPECTION

+ Project administration
+ Master systems integrator
+ Daily inspection
+ Project documentation
+ Submittal review/tenant permit reviews
+ Design Development & Management
+ Owner's Representative
+ Feasibility & Planning Studies
+ Project controls
+ Design Development & Review
+ Quality Control & Quality Assurance
+ Constructibility reviews
+ Value engineering
+ Runway Incursion Mitigation
+ Airfield Lighting Vaults and Power Distribution
+ Pavement Surface Sensor Systems
+ Construction Safety and Phasing

ARORA®



FIRM EXPERIENCE

PROJECT DETAILS

Client

Bob Bruno
Vice President of Engineering
Connecticut Airport Authority
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Windsor Locks, CT 06096
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(860) 254-5516

Construction

Approx. $151-188M

Project Start

2020

Project Completion

Est. 2026

Highlights

+ Delivered MEP/FP and Special Systems design for the CBIS, Departures Level Fit Out, and apron infrastructure.
+ Redesigns included two electrical substations and CTX-supporting UPS systems.
+ Provided full CA and resident inspection services through multiple project phases and TSA compliance cycles.
+ Supported PGDS v7.0 testing, commissioning, and functional integration for long-term operational success.

CONNECTICUT AIRPORT AUTHORITY

TERMINAL DEVELOPMENT PROGRAM - INLINE CBIS & TERMINAL EXPANSION

Bradley International Airport (BDL), Windsor Locks, CT

Arora Engineers (Arora) served as a subconsultant to AECOM in support of the Connecticut Airport Authority (CAA) for the Terminal Development Program at Bradley International Airport (BDL) in Windsor Locks, Connecticut. A central focus of the program was the replacement of legacy stand-alone lobby screening equipment with a modern Inline Checked Baggage Inspection System (CBIS). The new system was developed to align with updated TSA Planning Guidelines and Design Standards (PGDS v6.0 and v7.0), improve baggage screening throughput, and support the airport's long-term capacity and infrastructure goals.

Arora provided full MEP/FP and Special Systems engineering for the CBIS facility and other associated terminal improvements, working across multiple task orders and amendments. Located within a newly constructed airside structure, the CBIS required complex system integration with existing terminal infrastructure. Arora's design responsibilities included HVAC, electrical, plumbing, fire protection, fire alarm, data/communications, CCTV, and access control. The project scope grew to include the Departures and Upper Level Fit Out, which added new passenger gates above the CBIS footprint, requiring careful mechanical system planning and coordination with TSA, CMR, and multiple trade partners.

In addition to design services, Arora supported bidding, construction administration, and stakeholder engagement activities. The team redesigned two new electrical substations, developed high mast lighting for the expanded apron, which included additional modifications to the existing Express Parking Lot #1, and upgraded UPS infrastructure for CTX machine loads. Arora also led field inspections, reviewed contractor submittals and RFIs, and supported TSA commissioning and ISAT pre-testing. This ongoing work continues to help ensure BDL's baggage handling infrastructure remains flexible, secure, and responsive to future passenger demand.



CONNECTICUT AIRPORT AUTHORITY

TERMINAL DEVELOPMENT PROGRAM - INLINE CBIS & TERMINAL EXPANSION

Bradley International Airport (BDL), Windsor Locks, CT

Scope of work included:

+ Validated baggage throughput and system planning criteria for the CBIS facility.
+ Advanced design documentation from 30% studies through 100% CDs for CBIS and terminal improvements.
+ Designed HVAC, electrical, plumbing, fire alarm, fire protection, CCTV, access control, and data/communications systems.
+ Engineered infrastructure for new high mast lighting (HMLP) on the aircraft apron.
+ Designed two 4000A double-ended electrical substations to support the new baggage handling system and all other MEP/FLS loads.
+ Developed and coordinated UPS upsizing to accommodate CTX machine loads.
+ Replaced an existing 750kW generator with a 1500kW generator to support critical airport operations
+ Provided planning and design for the Departures and Upper Level Fit Out above the CBIS facility.
+ Created terminal holdroom layouts, gate reconfigurations, furniture plans, and PBB positions.
+ Participated in value engineering sessions and TSA stakeholder design charrettes.
+ Supported bid-phase services, including walkthroughs and addendum responses.
+ Delivered full construction administration services, including RFIs, submittals, pay apps, PCOs, CCDs, and punch lists.
+ Oversaw system integration, ISAT pre-testing, and TSA PGDS v7.0 commissioning.
+ Provided resident engineering services across multiple amendments.

PROJECT DETAILS

Client

Nashville International Airport
Traci Holton, PE, CM
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Development & Engineering
One Terminal Drive, Ste. 501
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615-275-4139

Construction

$86 Million

Project Start

2022

Project Completion

2026

Highlights

+ $86 Million Expansion
+ Progressive Design Build Delivery Method
+ Telecommunications Infrastructure
+ Structured Cabling System

METROPOLITAN NASHVILLE AIRPORT AUTHORITY

BAGGAGE HANDLING SYSTEM EXPANSION PROJECT

Nashville International Airport, Nashville, TN

Arora Engineers (Arora) provided special systems design and engineering services including development of drawings and specifications for Nashville International Airport (BNA) baggage handling system (BHS) with a progressive design build delivery method. The overall scope of work of this project included a budget of approx. $86 million for expansion of the BHS system at BNA.

Scope of work included:

+ Evaluation of one final alternative based on architectural layouts and designs
+ Review of contractor product shop drawing submittal
+ Passive and active telecommunications infrastructure including raceways and structured cabling to service area within building per MNAA requirements
+ Telecommunications infrastructure including raceways and cabling to connect new infrastructure to existing terminal infrastructure.



+ Coordination of structured cabling system (phone and data) requirements with MNAA
+ Coordination and layout of CCTV device coverage with MNAA
+ Coordination and layout of access control devices as required, coordinated with MNAA
+ Raceways and infrastructure to support CCTV and access control systems.



PROJECT DETAILS

Client

Neil McLean
Gensler
Senior Associate
500 S. Figueroa St
Los Angeles, CA 90071
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Neil_Mclean@gensler.com

Project Start

2023

Project Completion

2025

Highlights

+ 8,000 SF Baggage Claim
+ Data Collection & Site Investigation
+ Code Analysis
+ It/Comm, PA, EVIDS, ACAMS/ CCTV Security Systems

PALM SPRINGS INTERNATIONAL AIRPORT

BAGGAGE CLAIM EXPANSION

Palm Springs International Airport (PSP), Palm Springs, CA

Arora Engineers (Arora) provided professional engineering services for the PSP Bag Claim Expansion. The project improved the passenger experience by providing more area for customers queuing at the rental car counters and at the baggage claim devices through the expansion of the building of approximately 5,000 SF to 8,000 SF. The project included the replacement of the existing claim devices with new carousel devices and up and over belts conveying bags from the insertion point to the device.

Scope of work included:

+ Data collection for existing documents and preparation of REVIT backgrounds for use in developing the design.
+ Site investigation to review visible building systems, existing facility, and adjacencies.
+ Stakeholder discussions with the airport executive staff for input on their operational and space needs, and overall design goals. Through executive staff, discussions with the rental car companies facilitated for their functional needs.
+ Development of a basic program for the project.
+ Preparation of a code analysis for the project.
+ Initial development of 3 high level concepts for evaluation.
+ Developed one concept scheme (accepted by client from the options developed during concept).
+ Schematic development of documents. Created cartoon set of the CD documents set.
+ Reviewed basic building systems and their potential impact on the design of the space (IT/Comm, PA, EVIDS and ACAMS/CCTV security systems)
+ Prepared initial equipment device selections.
+ Formalized functional layouts. Identified design elements and coordinated with the team.





Photo Credit: Wikipedia

PROJECT DETAILS

Client

Urban Engineers, Inc.
Stephen Ehrlich, Vice President Facilities/CM Practice Lead
530 Walnut Street
Philadelphia, PA 19106
sehrlich@urbanengineers.com
(215) 837-6570

Construction Cost

$19 Billion (JFK Redevelopment Program)

Project Start

2023

Project Completion

2026

Highlights

+ Baggage Handling System – Construction Inspector

PORT AUTHORITY OF NEW YORK & NEW JERSEY (PANYNJ)

JFK VERTICAL FACILITIES, INSPECTOR STAFFING, TERMINALS 1 & 6

John F. Kennedy International Airport (JFK) New York, NY

Arora Engineers (Arora) is providing full-time, on-site Baggage Handling Inspector services for The Port Authority of New York & New Jersey (PANYNJ) $19 Billion John F. Kennedy (JFK) Redevelopment Program.

Terminals 1 and 6 are under construction and scheduled to open in 2026. Vanderlande is designing and building the Baggage Handling System (BHS) for Terminal 1. This system utilizes both standard (RAW) conveyor with ACS post CBRA. There is early bag storage being installed as well. The system is comprised of (8) ticket counter inputs, (8) baggage claims carousels and (9) sortation makes up devices. There are also oversized inbound and outbound conveyor lines being installed. Terminal 6 is utilizing a baggage handling system manufactured by Daifuku. This system is a standard RAW conveyor design. The CBRA is designed with MIT (manual inspection tables), (4) ticket counters (2) being installed in each phase, (5) make up units (3) in Phase 1, and (6) baggage claims carousels (international and domestic).

Scope of work included:

Arora is providing full-time, on-site, Baggage Handling System Construction Inspector support services for coordinating and monitoring the integration of an innovative baggage handling system in Terminals 1 and 6. Services include reviewing contract documents (plans and specifications), attending contractor coordination meetings, monitors electrical construction contractor's activities, verifying the work-in-place complies with the plans and specifications, documents activities, and communicating and resolving issues and conflicts with the contractors. Our inspector is successfully representing PANYNJ's interests and maintains positive working relationships with user groups, consultant staff, A/E contacts, and construction personnel.



PROJECT DETAILS

Client

City of Philadelphia, Division of Aviation
Jim Jones, PE
Project Manager
International Plaza II
Suite 540
Philadelphia, PA 19113
james_t.jones@phl.org
215-937-6229

Construction

$ 20,700,000

Project Start

2017

Project Completion

2020

Highlights

+ Provided engineering construction phase services for MEP/FP/SS for the PHL CBIS Recapitalization Project.
+ Provided special systems and electrical inspections for PHL CBIS Recapitalization Project

CITY OF PHILADELPHIA, DIVISION OF AVIATION

PHL TERMINAL A-WEST SECTOR 3 CHECKED BAGGAGE INSPECTION SYSTEMS (CBIS) RECAPITALIZATION PROJECT

Philadelphia International Airport (PHL), Philadelphia, PA



The City of Philadelphia, Division of Aviation (DOA) completed a Checked Baggage Inspection System (CBIS) recapitalization renovation and a new Check Baggage Resolution Area (CBRA) addition for Philadelphia International Airport's (PHL) Terminal A West Sector 3. Arora Engineers (Arora) was the engineer of record for the mechanical, electrical, plumbing, fire protection, and special systems engineering construction phase services and special systems and electrical inspections for the CBIS Recapitalization Project.

The entire design was completed as a REVIT virtual building model, with all building systems, architectural, and structural components and baggage handling belts, etc., shown in the 3-D model. This allowed precise interdisciplinary coordination during the design process to minimize field conflicts.

SCOPE OF WORK INCLUDED:

+ Removal of existing ductwork and other HVAC and plumbing systems in Sector 3, and the installation of new HVAC and plumbing systems to serve renovated areas in coordination with the new Baggage Handling System. The area was provided with new gas-fired infrared heaters and door heaters and protected by a new CO2/NO2 detection system and exhaust fans.
+ Removal of existing ductwork and other HVAC and plumbing systems in Sector 4 and the installation of new HVAC and plumbing systems to serve renovated areas in coordination with the new Baggage Handling System (BHS) and security fence.
+ A new gas-fired single zone VAV rooftop unit was provided for the Sector 4 CBRA addition. Central plant limitations precluded the connection to the airport's central chilled-water system. The use of a VAV system ensured continuous dehumidification for occupant comfort while saving fan energy.
+ The Sector 23 BHS Control Room had its HVAC reconfigured, as required by the new layout.
+ Modifications to condensate drain piping from existing EDS equipment in A-West Ticket Lobby to support new EDS equipment.

Construction Phase Services:

+ Reviewed change orders for MEP/FP/SS work.
+ Reviewed contractor submittals and shop drawings.

CITY OF PHILADELPHIA, DIVISION OF AVIATION

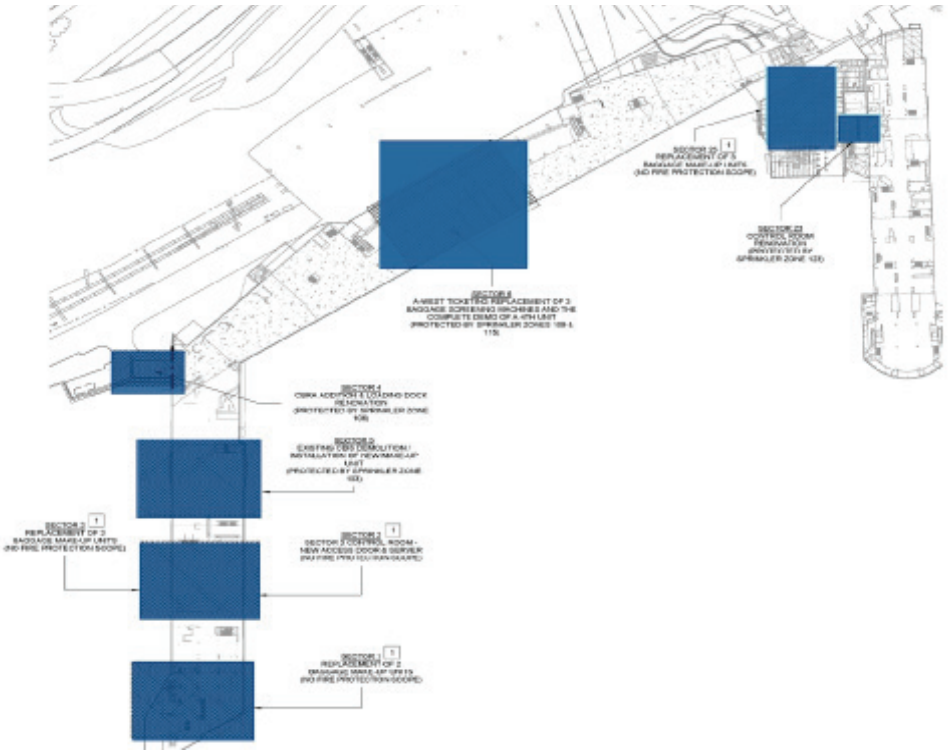
RECAPITILIZATION PROJECT

Philadelphia International Airport (PHL), Philadelphia, PA

+ Responded to Contractor Requests for Information (RFI's).
+ Provided supporting documentation for bulletins where appropriate.
+ Attended on-site construction meetings
+ Participated in AECOM team project calls.
+ Developed a pre-final and final punch list.
+ Reviewed as-built drawings submitted by the contractor.
+ Produced final as-built drawings / updated REVIT files for owner.

Special Systems and Electrical Inspections:

+ Interfaced with different departments at PHL, including security, engineering, and construction groups.
+ Reviewed shop drawings to ensure compliance with project specification and DOA security requirements.
+ Provided on-site inspection services during the construction and coordinating work in the field with all trades.
+ Conducted project coordination meetings.
+ Performed testing and commencing systems as a PHL representative.
+ Generated all testing and certification paperwork to be given to DOA.
+ Escorted and supervised all access on the AOA and throughout all back of house areas.
+ Coordinated all access for construction in the terminal for peak and off-peak hours.
+ Collected and validating as-built drawings from the contractor.
+ Provided project closeout.



PROJECT DETAILS

Client

City of Philadelphia, Division of Aviation
Jim Jones, PE
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International Plaza II
Suite 540
Philadelphia, PA 19113
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215-937-6229

Project Start

2017

Project Completion

2018

Highlights

+ Provided critical inspection and coordination support for CBIS implementation and TSA certification efforts.
+ Supported complex, multi-stakeholder construction activities within an active airport environment.
+ Assisted in resolving construction and coordination challenges impacting schedule, cost, and compliance.
+ Enhanced airport security infrastructure and passenger processing efficiency through successful system implementation.

CITY OF PHILADELPHIA, DIVISION OF AVIATION

D/E EXPANSION - PM SUPPORT

Philadelphia International Airport (PHL), Philadelphia, PA

Arora Engineers (Arora) served as a subconsultant to AECOM in support of the City of Philadelphia, Division of Aviation, for the Terminal D/E Expansion and Modernization Program at Philadelphia International Airport in Philadelphia, PA. The project focused on completing critical upgrades to the ticket lobby and Checked Baggage Inspection System (CBIS), which were essential to improving passenger processing, enhancing security screening capabilities, and meeting Transportation Security Administration (TSA) certification requirements. The client faced challenges related to construction delays, system performance issues, and the need to coordinate multiple stakeholders within an active airport environment.

To address these challenges, Arora provided special systems inspection and PM/CM support services that ensured proper installation, integration, and functionality of complex airport systems. Arora's approach emphasized proactive field coordination, detailed review of shop drawings and construction documents, and continuous engagement with contractors, airport stakeholders, and regulatory agencies. By supporting testing, commissioning, and certification efforts, Arora helped facilitate compliance with stringent TSA requirements while maintaining alignment with project schedules and operational constraints.

Through its involvement, Arora played a key role in advancing the completion of critical infrastructure improvements at Philadelphia International Airport. The project resulted in enhanced baggage screening operations, improved system reliability, and better coordination among project stakeholders. These improvements ultimately supported a safer, more efficient passenger experience while strengthening the airport's operational performance and long-term infrastructure resilience.



CITY OF PHILADELPHIA, DIVISION OF AVIATION

D/E EXPANSION - PM SUPPORT

Philadelphia International Airport (PHL), Philadelphia, PA

Scope of work included:

+ Provided on-site inspection services for special systems installations, including CBIS-related infrastructure.
+ Reviewed shop drawings and submittals to ensure compliance with project specifications and Division of Aviation requirements.
+ Coordinated field activities with contractors, airport stakeholders, and multiple trades.
+ Conducted and participated in project coordination meetings with airport departments and project teams.
+ Supported system testing, commissioning, and certification activities in coordination with TSA representatives.
+ Generated testing documentation and certification reports for submission to the Division of Aviation.
+ Collected and validated as-built drawings from contractors to support project closeout.
+ Coordinated secure access within airside and restricted areas, including escorting personnel as required.
+ Supported AECOM in oversight of construction management activities, including monitoring contractor performance and progress.
+ Reviewed construction reports, meeting minutes, and project documentation to identify issues and risks.
+ Assisted in resolving administrative and technical issues, including discrepancies in quantities, costs, and schedules.
+ Coordinated with design and construction teams to address system integration and construction challenges.
+ Participated in coordination with airlines and airport operations to minimize disruptions and maintain operational continuity.
+ Assisted in cost tracking and budget monitoring against approved project funding.
+ Coordinated with TSA for CBIS testing, certification, and compliance requirements.
+ Facilitated communication between the Division of Aviation, AECOM, contractors, and regulatory agencies.
+ Supported resolution of complex project issues related to system performance and construction sequencing.

PROJECT DETAILS

Client

City of Philadelphia
Division of Aviation
Imad Haq, PE
Airport Engineering Manager
Capital Development Group
Philadelphia International
Airport 1 International Plaza,
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215-937-7878

Construction

$40,000,000

Project Start

2007

Project Completion

2014

Highlights

+ Design and Construction Administration
+ Fire Protection Engineering For Baggage Screening System
+ Clean Agent Suppression System
+ New CCTV Camera Design
+ New Access Control System Doors Design
+ Universal Cabling Distribution Design

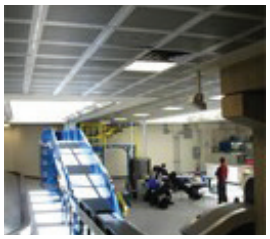
CITY OF PHILADELPHIA, DIVISION OF AVIATION

IN-LINE BAGGAGE SCREENING (CBIS) SYSTEM

Philadelphia International Airport, Philadelphia, PA

Arora Engineers (Arora) performed MEP, Special Systems, Fire Protection Engineering, and Construction Management services for the Checked Baggage Inspection Systems (CBIS) in Terminals A-West and A-East at Philadelphia International Airport.

Scope of work included:



The scope included modifications to the existing A East Pier to include a new connector bridge for baggage conveyors, two new baggage handling rooms, and modifications to the existing baggage handling system in Terminal A-East.

Mechanical design included HVAC, radiant heating, door heaters, CO2 sensing, and ventilation. Electrical engineering services included design for new motor control panels, a new electrical substation, lighting, and low voltage power distribution. The plumbing design included engineering for drainage, new restrooms, and condensate.



The fire protection scope of work included modifications to the existing wet sprinkler systems that were necessary to accommodate the new space layouts. New pre-action and clean agent systems were also required for the new space layout. The scope also involved fire alarm and detection system design tasks, such as notification appliance and initiating device relocations per NFPA codes and fire alarm programming matrix revisions per DOA standards. New notification appliance and initiating device layouts were required for the new structures, in addition to all new devices that were required for the pre-action and clean agent systems.

Special systems engineering included the addition of approximately 50 new CCTV cameras, 20 new security doors, universal cabling distribution design, telecom room modifications, multi-user flight information display systems, TSA systems, and full systems design for a new OSR and BHS rooms.

PROJECT DETAILS

Client

Philadelphia International Airport
Mr. Imad Haq, PE
Airport Engineering Manager
Capital Development Group
1 International Plaza
Suite 200
Philadelphia, PA 19113
imad.haq@phl.org
215-937-7878

Construction

$40,000,000

Project Start

2007

Project Completion

2014

Highlights

+ Program management
+ Construction management and inspection
+ Project cost estimating and coordination

CITY OF PHILADELPHIA, DIVISION OF AVIATION

CONSTRUCTION / PROGRAM MANAGEMENT SERVICES

Philadelphia International Airport, Philadelphia, PA

Arora Engineers (Arora) performed construction management for the new Checked Baggage Screening System (CBIS) in Sector 23 and Terminal A-East baggage areas at the Philadelphia International Airport. The project included a new CBIS in Terminal A-East and an upgrade of the existing CBIS serving the east half of Terminal A-West to comply with the latest TSA standards.

Scope of work included:

Arora's services consisted of on-site inspection, design, and design review services. The tasks entailed construction management (CM) and contractor quality control (C.Q.C.) services to ensure that electrical, plumbing, and mechanical construction was completed in accordance with the requirements of construction documents and applicable codes/standards on various projects.

Scope of work included:

+ Program management
+ Construction management and inspection
+ Project logistics
+ Cost estimating
+ Project coordination
+ Representation at stakeholder meetings
+ Project close out
+ Assistance in the management of tenant project



PROJECT DETAILS

Client

City of Philadelphia
Division of Aviation
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Construction

$150,000,000

Project Start

2008

Project Completion

2015

Highlights

+ Design-Bid-Build
+ Project Included 86,000 Sf Baggage Claim Building
+ Provided MEP Fire Protection, And Security/ Special Systems Engineering
+ Construction Administration Support and Inter-Agency Coordination

CITY OF PHILADELPHIA, DIVISION OF AVIATION

TERMINAL F HUB EXPANSION

Philadelphia International Airport, Philadelphia, PA

Arora Engineers (Arora) provided design for the mechanical, plumbing, fire protection, fire detection, electrical, special systems, and security engineering services for an expansion of Terminal F at the Philadelphia International Airport. Improvements involved approximately 88,400 SF of new floor space, a new baggage claim building, additions and modifications to the existing building, new architectural finishes, and systems upgrades. Terminal F has three concourses connected by a central hub, 38 gate positions, a ticketing building, a baggage claim, and a skybridge leading to the parking structure.

Scope of work included:

+ Electrical: Power distribution; lighting design and controls, power ductbank design, motor control panel, substation modification and analysis, and concession space low voltage power.
+ Mechanical: Study of future cooling and heating capacity, satellite thermal plant expansion systems, including pumps and pipelines, domestic water piping, sanitary and stormwater design, and gas piping modifications required.
+ Fire/Life Safety: code review; fire alarm and detection system, clean agent suppression (Fm 200 or other), fire sprinkler systems (wet, dry, pre-action), hydrant and hose reel systems, and fire egress interfaces.
+ Special Systems/Security: Multi-use flight information displays, visual paging advertising/wayfinding, network architecture (Mac minis, cat 6 Cabling, upgrade G4 Platform), horizontal structured cabling design, access control and intrusion detection, access control doors, CCTV, digital video recording, TACS, ambient noise sensing and automatic compensation, amplification of Live Speech announcements originating at microphone stations, UCDS, and MDF/IDF analysis and design.

Arora also provided construction administration support and inter-agency coordination. With this expansion, the airport hoped to create a better passenger experience and generate additional concession sales by expanding available space and improving retail options.



PROJECT DETAILS

Client

AECOM
Dana Heffernan, Project Manager
1700 Market Street
Suite 1600
Philadelphia, PA 19103
Dana.heffernan@aecom.com
215-789-2112

Project Start

2013

Project Completion

2014

Highlights

+ Cctv Upgrade
+ Access Control
+ Universal Cabling Distribution Design

ALLEGHENY COUNTY AIRPORT AUTHORITY

SOUTH MATRIX EXPLOSIVES DETECTION SYSTEM (EDS) REPLACEMENT

Pittsburgh International Airport (PIT), Pittsburgh, PA

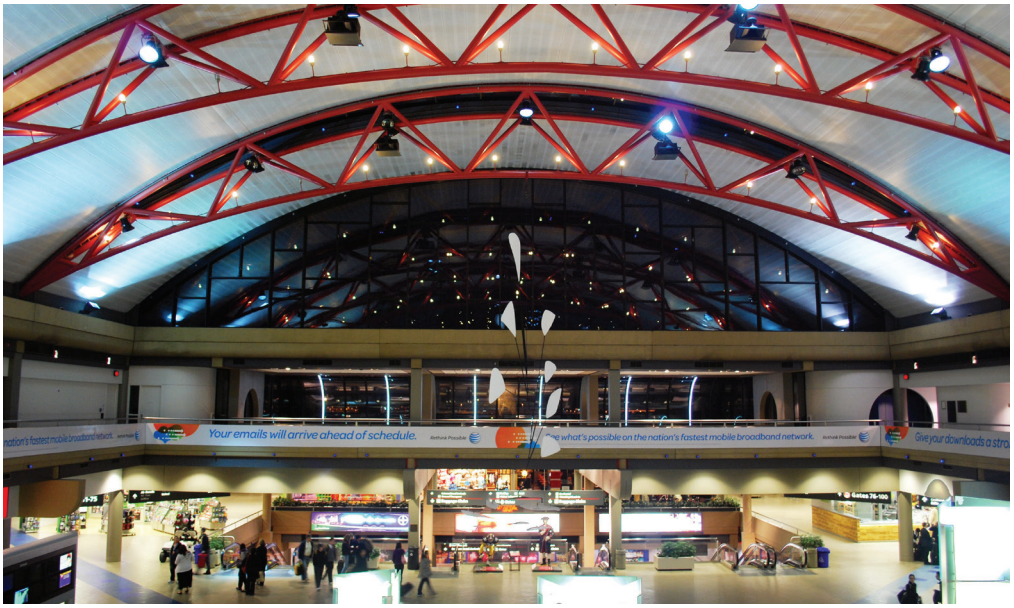
Arora Engineers provided special systems design and engineering associated with the replacement of the south matrix EDS at Pittsburgh International Airport (PIT). The scope included CCTV, access control and universal cabling distribution design (UCDS) for the redesign of the EDS system including new detection machine locations, a new OSR room and new CBRA room, and the associated demolition required for the existing systems.

Scope of work included:

The project included an upgrade of the entire facility's CCTV video-management system and viewing solutions to add new technology CCTV cameras and video storage.

The project also included access control doors and system expansion, universal cabling-distribution design, telecommunications-room modifications and control cabling for EDS machines. New system features included design for a new on-screen resolution room as well as new checked-baggage resolution area. Special systems design was completed for all the new areas.

The project design required communications and coordination with structural, architectural, mechanical and electrical engineering firms to complete a detailed phasing plan. Specifications were also included as part of the design package.



BAGGAGE HANDLING SYSTEMS

WE ARE JWI.



We've managed over a **billion** dollars-worth of baggage projects.

JWI is an industry leader in the management of intricate programs, having completed projects from coast to coast, at airports like Denver International, O'Hare International, Newark Liberty International, and San Diego International.



Our BHS Services

- **BHS SME Support**
- **BHS Study**
- **Program/Project Management**
- **Construction Management**
- **Planning**
- **Design Management & Peer Review**
- **Phasing & Scheduling**
- **Contract Administration & Compliance**
- **Project Controls**
- **QA/QC Management**
- **TSA Testing & Commissioning Oversight**



JWI
An ARORA Company

AVIATION
TRANSIT
SURFACE TRANSPORTATION
SPECIALTY MARKETS

312.997.3720
jwincorporated.com

ABOUT JWI

For over 26 years, JWI has provided exceptional owner's representation, program management, and construction management for public and private owners. We have built our reputation by developing positive, long-term relationships and providing an energetic, diverse, and inclusive workplace.

With headquarters in Chicago, IL and offices around the country, we have easy and cost-effective access to any assignment anywhere in the world.

EXPERIENCE



SAN - Terminal One Replacement Program (BHS Project Management)



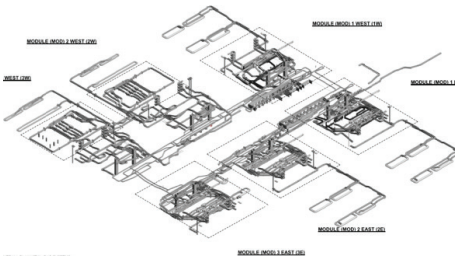
EWR - Terminal A Redevelopment (BHS Project Management)



DEN - United Baggage Handling System



ORD - Terminal 5 Baggage Handling System Redevelopment



DEN - Recap and BHS Modernization



ORD - Terminal 5 Baggage Handling System Replacement



ORD - Terminal 5 CBIS + CBRA Optimization



SAN - Terminal 2 FIS Facility BHS



ORD - Terminal 1/Terminal 3 Bagroom Safety Upgrades

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SEATTLE
LOS ANGELES

CHICAGO DEPARTMENT OF AVIATION (CDA)
O'HARE 21 PROGRAM – TAP BHS

CHICAGO, IL







Owner
Chicago Department of Aviation (CDA)

Client
Chicago Department of Aviation (CDA)

Services
Program Management

Value
$12 Billion

Time Frame
May-18 - Dec-32

As a part of the robust $12 Billion program revitalizing the O'Hare Terminal Buildings, JWI is providing Project Management, overseeing the entirety of the Terminal Area Plan (TAP) Baggage Handling System (BHS) Program. Within the TAP BHS program, JWI is responsible for the BHS design management, oversight of BHS CMAR, and coordination of BHS installation with the TAP building CMARs. These projects include the BHS at Satellite 1, the O-Hare Global Terminal and Concourse (OGT/OGC), the consolidated tunnel and interfaces with Terminal 1 and Terminal 3.

The Program Management team for O'Hare 21 oversees constructing TAP Elements while also managing the ongoing Capital Improvement Program (CIP). The TAP will utilize the Construction-At-Risk (CMR) contracting method to build new Satellite Concourses, Extensions, a Global Terminal, Parking Garages, Baggage Handling Systems, Airfield Pavements, Roads and Related Infrastructure. The Program's aggressive master schedule requires a significant coordination effort amongst all Stakeholders.

JWI
J. A. Watts, Inc.

UNITED AIRLINES
BAGGAGE HANDLING SYSTEM PM SERVICES

O'HARE INTERNATIONAL AIRPORT (ORD)







Owner
United Airlines, Inc.

Client
United Airlines, Inc.

Services
Baggage Handling System
Construction Management
Design Management
Project Controls
Project Management
Security

Value
$600,000,000

Time Frame
2023 - 2032

JWI
An ARORA Company

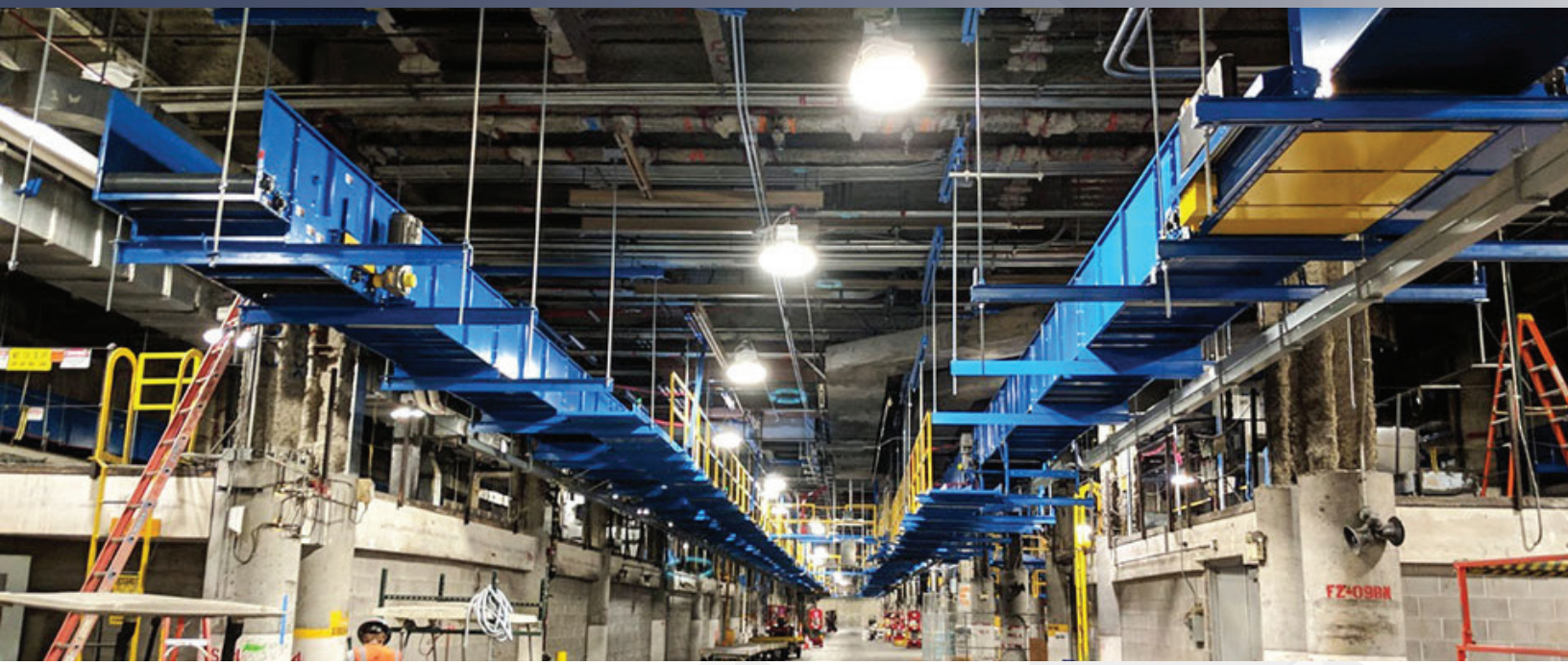
JWI is providing project management for the design, procurement, and construction of the Baggage Handling System (BHS) that will replace the existing BHS at United hub, Chicago O'Hare International Airport Terminal 1. This $6M project includes replacing two existing Checked Baggage Inspection System (CBIS) with a larger CBIS containing 6 Explosive Detection System (EDS) machines, the South expansion of concourse B to house the larger CBIS, build out of a temporary baggage screening pod, replacement of the outbound sortation system including 23 new makeup units, replacement of all 17 transfer lines including the North extension of concourse B to house new 8 transfer lines, replacement of all ticket counter conveyor, and replacement of existing flat claim devices with an automated inbound sortation system that includes 10 new slope plate claim devices.

JWI is working with United, TSA, and the Chicago Department of Aviation (CDA) to develop and implement a BHS and facility design that meets the baggage processing, phasing, and operational requirements of all stakeholders. The BHS and building design is also coordinated with the CDA design team to interface with both the ORD Global Terminal and Satellite 1.

JWI provides program management, BHS subject matter expertise, technical submittal reviews, design management, construction management, scheduling, estimating, procurement, contract management, change management, pay application processing, and financial management services on this project.

UNITED AIRLINES DEN BAGGAGE HANDLING SYSTEM 2020

O'HARE INTERNATIONAL AIRPORT, CHICAGO, IL







Owner
United Airlines

Client
United Airlines

Services
Project Management

Value
$100M

JWI provided United Airlines with project management services for the replacement of their entire basement level Baggage Handling System (BHS) and Apron Level make-up units.

The existing BHS will be replaced by a standard double loop sorting system for United's transfer baggage at Denver International Airport (DEN). The project includes the removal of existing baggage make-up units and the installation of 30 new make-up units. Two new Baggage Control Rooms will also be created to support the new and improved BHS.

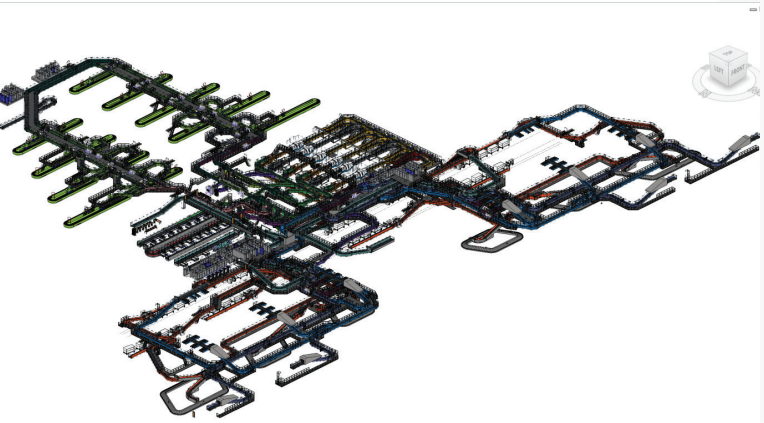
The JWI team managed the day-to-day coordination between the contractor and many United Airlines Stakeholders as well as provided third-party review of design issues, should any arise during the construction process. JWI also worked with all local user groups and key stakeholders, so there would be zero impact on United's and DEN's operations.

JWI
J. A. Watts, Inc.

EWR TERMINAL ONE
BHS REDEVELOPMENT PROGRAM

NEWARK LIBERTY INTERNATIONAL AIRPORT (EWR)







Owner
Newark Liberty International Airport

Client
Jervis B. Webb

Services
Baggage Handling System

Value
$56,000,000

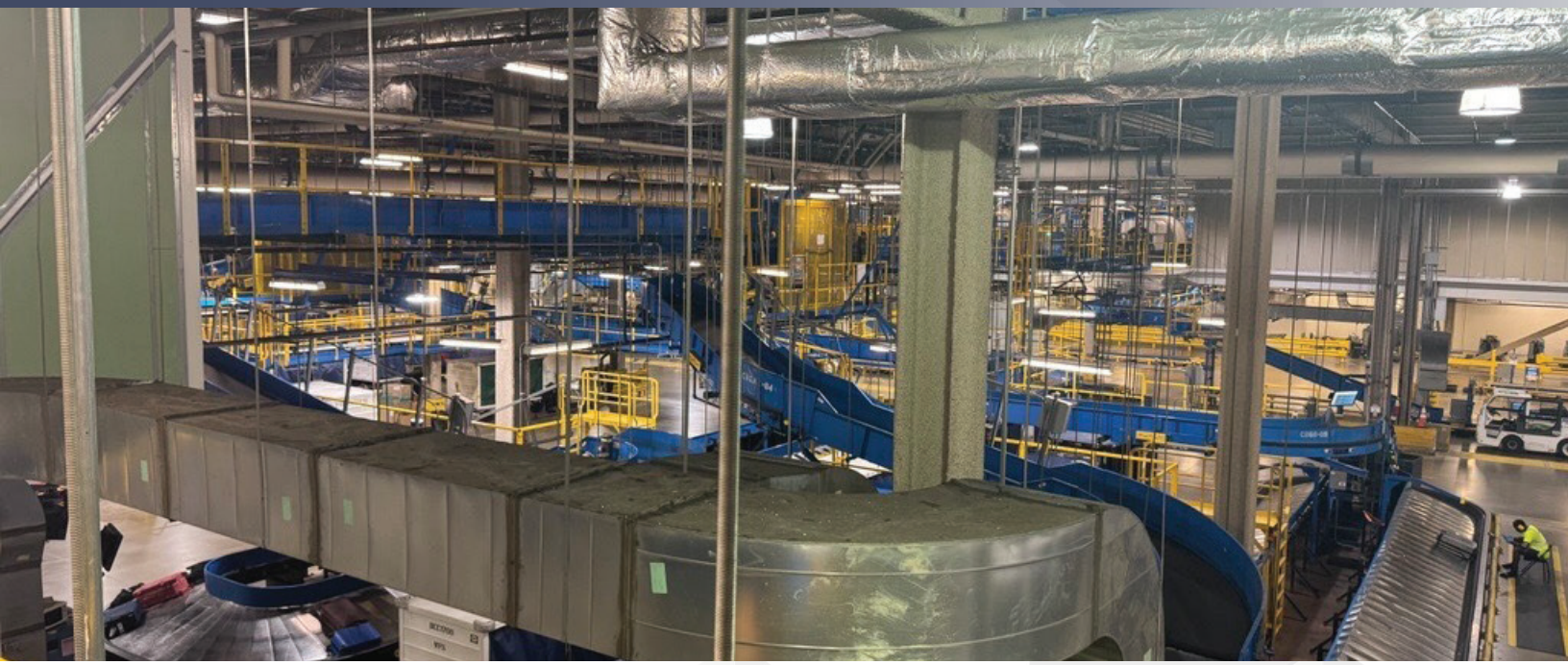
JWI performed as Project Manager for Jervis Webb on the Newark Terminal One BHS Redevelopment Program at EWR. The new Terminal One replaced the existing Terminal A, the Airport's oldest terminal.

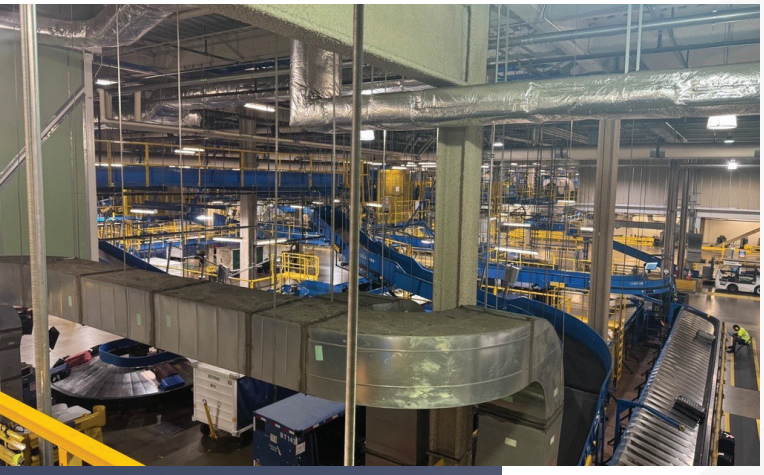
JWI's responsibilities and duties included: management of internal resources including Mechanical, electrical and software engineering; development of the project schedule and value assignment for the Schedule of Values; management of all sub-contractors for installation of conveyors; coordination of deliveries to and from the warehouse and to the site for installation; responsible for project updates both internally to Webb as well as to the contractor TPP in support of the prime contract; coordination with the designer (design assistance) during the design development phase; coordination with the design teams for the mechanical, electrical, plumbing, structural and architectural aspects of the building in the 3D BIM coordination meetings; and site coordination with the other trades as required in the areas of the BHS.

JWI
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IND CAPITAL IMPROVEMENT PROGRAM (CIP) – BHS CENTRALIZED CBIS

INDIANAPOLIS INTERNATIONAL AIRPORT







Owner
Indianapolis Airport Authority (IAA)

Client
Shrewsberry & Associates, LLC.

Services
Program Management
Construction Management
Design/Design Management
Project Controls
BHS Project Management SME

Value
$150 Million

JWI
J. A. Watts, Inc.

JWI, in partnership with Shrewsberry & Associates, is part of the Program Management Office (PMO) team leading the oversight of Indianapolis International Airport's multi-year, multi-phase Capital Improvement Program. Our team provides executive consulting, project management, and project controls services spanning the entire program lifecycle—from design and preconstruction through construction and final close-out. JWI also brings specialized expertise in design and design management, construction management, and a subject matter expert in Baggage Handling Systems (BHS).

As part of our responsibilities, JWI serves as the subject matter expert for the BHS Centralized CBIS Project. This $150 million initiative, currently in the design phase by VTC, will be delivered using the Construction Manager as Constructor (CMc) delivery method, as defined by IAA. JWI supports the ownership team by advising on project scope, budget, and schedule, and by reviewing design documents and logistics plans submitted by the contracting team.

SAN DIEGO INTERNATIONAL AIRPORT TERMINAL 1 REPLACEMENT PROGRAM

SAN DIEGO, CA



The Airport Development Program (ADP) at San Diego International Airport (SAN) envisions the replacement of Terminal 1, which was built in 1967, with a more modern facility and other improvements that enhance the airport experience for everyone. The program includes a new 31-gate Terminal 1, parking structure and transit area, dual-level roadway and curbfront, on-airport entry roadway, and the relocation of the airport's administration building. Completion of this program is anticipated in early 2027.

OWNER	San Diego County Regional Airport Authority (SDCRAA)
CLIENT	Turner-Flatiron a Joint Venture
ROLE	Project Management
VALUE	$3 billion

JWI is a part of the overall program's project mangement team. Our initial role was to serve as the Baggage Handling System (BHS) Project Manager and BHS Subject Matter Experts. JWI leads the overall airport requirements and cost validation phases for the BHS through the design, construction, testing, commissioning, and closeout phases of the project.

JWI is currently supporting the Joint Venture (JV) during the preconstruction phase of the SAN T1 replacement project specifically for the Baggage Handling System (BHS). These services include participation in normal BHS design meetings to ensure overall constructability, compliance with TSA requirements for Checked Baggage Inspection Systems (CBIS), supporting the Airport Authority with TSA Other Transaction Authority (OTA) funding requests.

JWI's involvement in the Design has yielded the project $7.9 million in Value Engineering savings to date.

JWI also supports the BHS Procurement process to include obtaining BHS budgetary estimates based on 15% designs, holding pre-bid conferences to engage and inform vendors of the preliminary project schedule, procurement timeline and overall procurement process. Future procurement support activities will include development of the bid (RFP) package and ultimately BHS vendor bid evaluation, bid leveling and selection of BHS vendor for the project.

Once the BHS contract is awarded JWI will provide oversight of the selected BHS vendors to ensure project execution. Since being involved at Terminal 1, JWI has added $10,000 in scope items to support other SAN projects. JWI brought in its Passenger Boarding Bridge (PBB) team to solicited PBB budgets for 30 gates on behalf of the JV.

JWI
J. A. Watts, Inc.

SAN DIEGO INTERNATIONAL AIRPORT
TERMINAL 2 FIS FACILITY BAGGAGE HANDLING SYSTEM
SAN DIEGO, CA







JWI was the construction manager for the installation of San Diego International Airport's Terminal 2 Baggage Handling System (BHS). The project consisted of two inbound feeds, one oversized feed and one transfer line. The transfer line was routed over the roof of the Federal Inspection Services (FIS) building to tie in to an existing ticket counter.

The entire $229 million FIS building had to be designed and built in roughly 13 months. The complexity of the BHS installation was due to this exceedingly tight time frame, and installation had to be perfectly coordinated around all other trades.

Despite these time constraints, JWI worked directly with the baggage vendor Vanderlande and TCCPCL Joint Venture to ensure that the coordination of events, delivery of materials, installation of conveyors, and overall testing was executed on time for the grand opening in June of 2018.

OWNER	San Diego International Airport
CLIENT	TCCPCL Joint Venture
ROLE	Construction Management
VALUE	$6.8 million

JWI
J. A. Watts, Inc.





Arora Systems Group, LLC

Arora Systems Group, LLC, (ASG), a subsidiary of Arora Engineers, provides specialized facilities maintenance testing, inspection, repair, installation, operations and on-site staffing solutions for clients ranging from small facilities to complex infrastructure sites. Fire and life safety, security, special systems and baggage handling systems are the core focus of our business. Acting as an owner's representative, ASG offers clients an extra level of technical expertise, supervision and coordination – no matter what the scope or schedule.

Key Services

+ On-site maintenance management
+ 24-hour emergency response
+ Fire/Life Safety testing, inspections, repairs, and installation
+ Fire detection systems
+ Fire suppression systems
+ Fire pumps
+ Special agent/high hazard extinguishing systems
+ Foam systems
+ Smoke evacuation systems
+ UL listed central station monitoring
+ Emergency lighting
+ Surveillance – CCTV
+ Access control
+ Security alarm detection systems
+ Baggage Handling Systems Control Room Operations management and staffing
+ Troubleshooting and preventative maintenance

Representative Clients

+ Philadelphia International Airport
+ Philadelphia Family Court
+ Pennsylvania Convention Center
+ City of Philadelphia, Free Libraries
+ City of Philadelphia, Streets Dept.
+ School District of Philadelphia
+ City of Philadelphia, Parks and Rec.
+ City of Philadelphia, Warehouses
+ PhilaPort
+ Pennsylvania Turnpike Commission
+ University of the Sciences
+ Keystone Care

PROJECT DETAILS

Client

PhiliTEC
Lori Gomez
General Manager
AvAirPros Services
Philadelphia International Airport
Philadelphia, PA 19153
l.gomez@avairprosservices.com
734-658-0272

Project Start

2017

Project Completion

2030

Highlights

+ Baggage Handling System (BHS) Control room operators and supervisors for the Sector 3 (A-West), A-East/ Sector 23, B/C and D/E control rooms at PHL
+ Consistent on-site Facility Maintenance presence at PHL since 2004
+ 20/7 oversite of control room operations since 2007
+ Dispatch and Work order Coordinators managing all related creation, management and closeout of Maximo work orders, preventative maintenance, and coordination of mechanics and Utility Workers.

PHILADELPHIA TERMINAL & EQUIPMENT COMPANY

OPERATIONS AND MAINTENANCE SERVICE FOR BAGGAGE HANDLING SYSTEMS

Philadelphia International Airport, Philadelphia, PA

Arora Systems Group (ASG), as a subcontractor to JBT / Oshkosh, has performed on PhiliTEC RFP#17-0001 since 2017, as a continuation of similar services under the previous City of Philadelphia Facility Maintenance contract starting in 2012. Under the Operations and Maintenance services contract at Philadelphia International Airport (PHL), ASG oversees the Checked Baggage Inspection Systems (CBIS), Baggage Handling Systems (BHS), staffing all BHS Control Room Operators and required supervision. In 2024 ASG was selected as a the prime direct to PhiliTEC for the Control Room operations as well as adding the Dispatcher team for a multi-year duration.



Scope of work included:

ASG employs a team of 22 Baggage Handling System (BHS) room operators and supervisors for the Sector 3 (A-West), A-East/Sector 23, B/C and D/E control rooms at PHL, providing comprehensive services for the baggage handling system contributing to the efficient operation of PHL.

ASG's responsibilities primarily include constantly monitoring the status of the maintained systems and alerting the Work order Coordinators/Dispatchers, Jam Runners, Technicians and the Contract Manager when situations occur that need their attention. Our team has a deep understanding of the physical system layout and associated controls functionality in order to efficiently manage the baggage flow during the daily operation through the BHS and direct the response staff to the incidents.

The ASG team fully understands all the functions of the BHS Control Systems, the Aviation approved System Contingency Plan, and how to use these functions to monitor, control/manage the operational control functions of the BHS for dispatching appropriate Mechanics/Technicians to troubleshoot and address system faults.

Additionally, ASG works to support preparing reports and trending analysis in addition to our daily shift reports and statistics completed by each operator following each shift.

CITY OF PHILADELPHIA, DEPARTMENT OF AVIATION

OPERATIONS AND MAINTENANCE SERVICE FOR BAGGAGE HANDLING SYSTEMS

Philadelphia International Airport, Philadelphia, PA

Through its dedicated team of operators and supervisors, ASG ensures the efficient and reliable operation of the BHS control rooms, contributing significantly to the seamless management of baggage handling systems at the airport.

The primary duties of the Control Room Operators include:

+ Monitoring the conveyor line baggage flow balancing;
+ Monitoring laser array statistics;
+ Monitoring statistical reports;
+ Monitoring/set make-up assignments;
+ Obtaining, editing and loading flight schedules;
+ Responding to operations inquires, complaints and issues;
+ Making BHS operational decisions, initiating and coordinating implementation of any backup/fallback procedures necessary to allow continued operations (e.g., choosing alternative routings via reversible conveyors, initiating use of Fallback tags, coordination with user airlines);
+ Interface directly with the user airlines, airport, PhiliTEC and the TSA;
+ Ensure smooth daily start-ups by reviewing start-up check lists and procedures; and
+ Assume the responsibility of staffing the BHS Control Room and the monitoring of the BHS via the BHS Management Information System (“MIS”) and Maintenance Diagnostics System (“MDS”) during the system’s operational period.



PROJECT DETAILS

Client

Elliott-Lewis Corporation Jay Ruhnke
Director of Facility Services
2900 Black Lake Place
Philadelphia, PA 19154 jay.ruhnke@phl.org
215-937-6701

Project Start

2012

Project Completion

2016

Highlights

- Project features systems testing and inspection, upgrades, maintenance, and emergency repairs.
- ASG provides an on-site NICET – certified fire alarm team
- Staff coverage provided 24/7/365
- BHS Control Room Operators for A-East and Sector 23 Control Rooms

CITY OF PHILADELPHIA, DIVISION OF AVIATION

FACILITIES MAINTENANCE CONTRACT V S2Z57010

Philadelphia International Airport, Philadelphia, PA

Arora Systems Group (ASG), participated on the City of Philadelphia's Division of Aviation (DOA) Facilities Maintenance Contract (FMC V). This is ASG's second FMC contract with the DOA having previously served on the FMC IV agreement

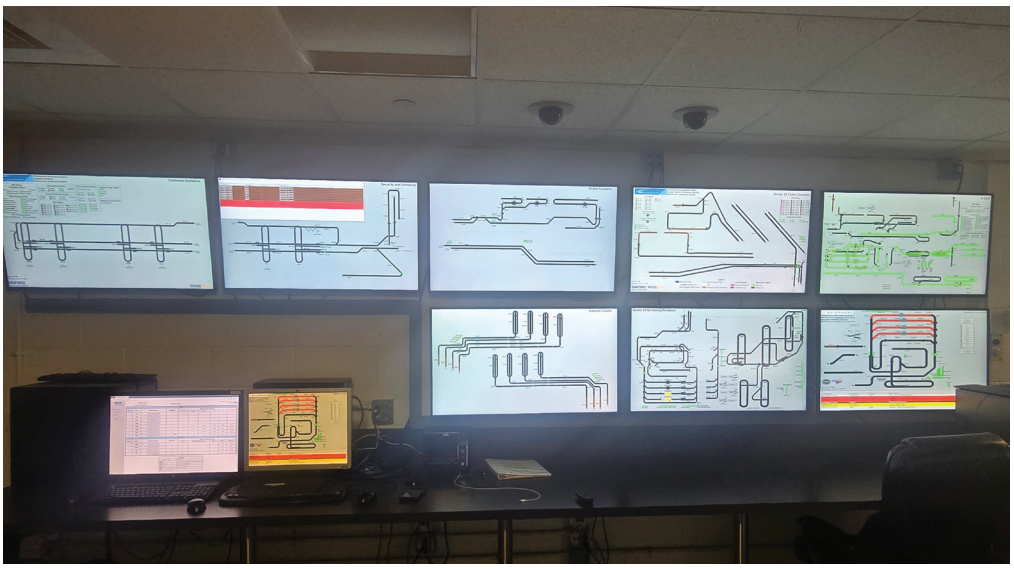
ASG provided services for the following schedules under the current FMC V contract:

- Schedule "F" Fire Sprinkler Protection
- Schedule "L" Fire Alarm Test and Inspection
- Schedule "B" Baggage Operators and Jammers
- Schedule "H" Airfield Lighting Control Systems

BAGGAGE HANDLING SYSTEM – OPERATORS

ASG manages a team of 8 factory certified BHS operators for PHL's terminal A-East and Sector 23 Baggage areas as well as a team of 7 for Terminal D and E baggage areas. The A-East and Sector 23 are manufactured Jervis Webb system and D/E is manufactured by Alliant technologies. ASG also creates and manages the schedule as well as directs the 15-20 baggage jammers in each area, and monitors the system on 2 shifts 20 hours or more per day, 7 days a week.

ASG is the point person for resolution of all system issues and coordinating with all stakeholders including the airport, airlines, maintenance staff, and contractors. In addition to system monitoring and problem rectification, ASG performs continuous preventative maintenance and system diagnostics to ensure smooth operations.



CITY OF PHILADELPHIA, DIVISION OF AVIATION

FACILITIES MAINTENANCE CONTRACT V S2Z57010

Philadelphia International Airport, Philadelphia, PA

FIRE PROTECTION

These services include fire protection inspection and emergency service repair for wet, pre-action and special hazards sprinkler systems. This requires visual and functional tests and system monitoring 24/7, 365. Inspections are performed monthly, quarterly, and annually in accordance with NFPA 25.

ASG has signed on with Philadelphia Bargaining Unit Local 692 for our sprinkler fitter work force guaranteeing the best possible workmanship. Full-time sprinkler fitters are stationed on-site to provide continuous services. The Airport consists of 133 Wet Systems, 34 FM-200 Systems, 43 Backflows, 150 Hydrants, 26 Fire Hose Stations, 10 Dry Standpipes, and 5 Preaction systems



FIRE ALARM

These services include fire alarm detection systems inspection and testing of each fire alarm detection device within the airport facilities including pre-action and special hazards sprinkler systems. This requires visual inspections and functional tests. Inspections are performed on an annual cycle in accordance with NFPA 72. ASG maintains an on-site full-time NICET-certified fire alarm team to provide continuous services. This Simplex alarm system ties into the airports central control station and is one of the largest Networked Alarm System on east coast consisting of 7576 Devices

AIRFIELD LIGHTING CONTROL SYSTEM (ALCS)

These services include maintenance and monitoring of specialty hardware such as network switches, fiber control modules for the regulators, Dell PC Hardware and software manufactured by Crouse Hinds and serviced quarterly. These items are a 24/7 operation for the airfield in five field lighting vault locations across the airport and play a vital role in Airfield operations.

Routine tasks include emergency repairs, upgrades, testing and inspection, maintenance, and operation of the various systems. Work is being performed at Philadelphia International Airport, Northeast Philadelphia Airport, and surrounding facilities such as warehouses, maintenance shops, cargo rooms, etc

PROJECT DETAILS

Client

City of Philadelphia,
Department of Aviation
Jeff Tubello
Project Manager
1 International Plaza,
Suite 200
Philadelphia, PA 19113
jeff.tubello@aecom.com
(215) 937-7852

Myrton Schlechtweg
Gilbane Building Company
100 Penn Square East,
Suite 1040
Philadelphia, PA 19107
Desk: 215-937-1830
Cell: 609-760-2355
MSchlechtweg@GilbaneCo.com

Project Start

August 2016

Project Completion

October 2016

Highlights

+ Off hours staffing for in support of the preparatory ISAT testing in Terminal D and E Baggage Handling System areas
+ Provided systems training for many of the airlines
+ ASG Control Room Operator Staff received training and certification from Alliant Technologies

CITY OF PHILADELPHIA, DIVISION OF AVIATION

TERMINAL D/E CHECKED BAGGAGE INSPECTION SYSTEM STARTUP AND ISAT TESTING SUPPORT

Philadelphia International Airport, Philadelphia, PA

Arora Systems Group (ASG), has been delivering specialized operational support for the Baggage Handling Systems (BHS) at Philadelphia International Airport (PHL) since 2007, which included assistance with the City of Philadelphia, Division of Aviation Program Management team, Gilbane Building Company, Elliot Lewis, JBT, and Alliant Technologies for the testing, startup, repairs, and TSA ISAT Testing of the Terminal D and E Check Baggage Inspection System (CBIS). (Reference Project: J06214.000)

Baggage Handling System (BHS) Support
ASG helped bring the previously dormant and uncompleted Terminal D/E CBIS and control room to fruition by providing numerous levels of support to the various stakeholders.

This culminated in ISAT testing with the TSA to clear and open the Terminal D and E Baggage Handling System areas. ASG's scope included Control Room Operator support for System Testing, trouble shooting and corrective repairs, Owner's Functional and Load Testing, pre-TRR and TRR, performing an 800 bag rate test, Delta Training, and formal ISAT Testing. ASG offered off-hours staffing for the Alliant upgrade to the Terminal D/E BHS control room workstations. This included setting up remote terminals and assisting with testing to enhance report processing capabilities, ensuring the upgrades were implemented efficiently and with minimal disruption to operations.

The scope of work also included support to correct issues discovered during owner's inspections like BHS roll-up doors not opening or closing properly, improper transfer of normal to emergency power during loss of power to a motor control panel, etc. to assist with BHS operation, as needed with Alliant. As part of this process, all ASG Control Room Operator Staff received training and certification on the operations of the systems in addition to internally hiring and training a new team to assume responsibility for the control room operations following testing.



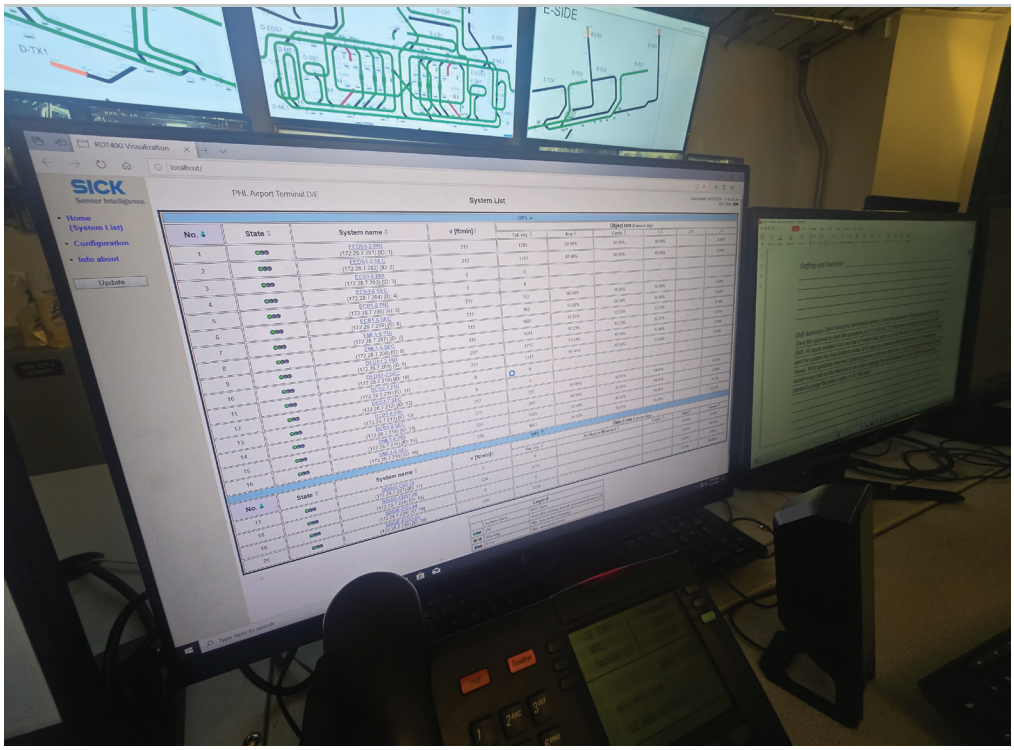
CITY OF PHILADELPHIA, DIVISION OF AVIATION

TERMINAL D/E CHECKED BAGGAGE INSPECTION SYSTEM STARTUP AND ISAT TESTING SUPPORT

Philadelphia International Airport, Philadelphia, PA

The ASG team participated alongside DOA and TSA staff in systems training for many of the airlines operating in this area including Spirit and Delta among others related to PHL Baggage Loading Guidelines, PHL Contingency plan, and TSA Best Practices.

Related to the BHS Contingency Plan, the ASG team provided reviews, input and ultimate ownership for its implementation and training.





CONTACT:

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