# 3<sup>RD</sup> QUARTER NEWSLETTER

2022

**EDUCATIONAL RESOURCES** 

**CONCEPTUAL SAMPLE** 

**ROOF-TO-WALL TIE-IN** 

Issue date: September 12, 2022

**DETAILS:** 

air barrier

aba association of america

5.3

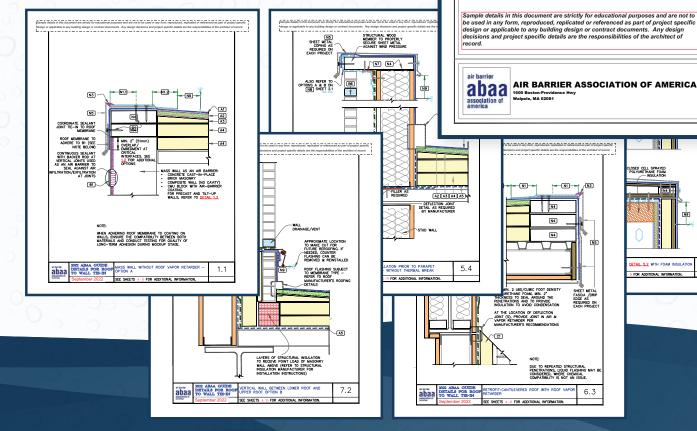
# **ROOF-TO-WALL TIE-IN**

## **EDUCATIONAL RESOURCES**

CONCEPTUAL SAMPLE DETAILS

The Transitions, Terminations, and Flashings Committee has developed a set of educational construction details for the challenging roof-to-wall air barrier connection. These conceptual details have been developed to act as a technical resource for the industry. A tremendous amount of work has gone into the development of this resource, and we thank all our committee members in developing, reviewing, and providing technical expertise. A special thank you goes to our co-chair, Mr. Adam Ugliuzza for leading the charge and providing technical review and Mr. Malik Nawaz for developing the 2D CAD drawings and work on incorporating committee input and revisions throughout the process.

## DOWNLOAD: https://bit.ly/3Lf8Vtl



# GREETINGS FROM THE CHAIRS

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Welcome to the 2022 3rd Quarter ABAA Newsletter! Andrew and I are excited to start our term as the newly elected Co-Chairs and wanted to take this opportunity to provide an introductory overview. We have been involved in ABAA for over seven years and in that time, have enjoyed watching the organization grow, as well as participating in various research efforts as the Co-Chairs of the Research Committee. Andrew and I are both Principals with our respective firms and licensed Architects. In our roles as Architects, we deal with the selection and design of air barrier systems in new construction, as well as in retrofit and repair projects. Our forensic work experience has also provided insight as to how things can go awry if not properly specified, designed, audited, and/or constructed! Given this, we are proponents of the many benefits that ABAA offers the industry, including the diverse and wide-ranging initiatives and outreach in education, research, quality assurance, contractor support, technical and training, all intended to reach our partners in the design, construction, and manufacturing communities.

We also wanted to take this opportunity to thank Brian Stroik for his leadership over the past three years and acknowledge that we have big shoes to fill – so much so, that we needed two people! Under his leadership, ABAA was able to not only survive but strive during the pandemic by continuing to grow and enhance our ability to provide education and training (both virtually and in-person), begin the efforts in becoming an Ansi-Accredited Standards Developer, and to develop new certifications to offer the community. As the organization and its initiatives has continued to grow, Andrew and I hope to better serve our membership by sharing this role which will allow us to participate in many of the current and future endeavors.

As we reflect on ABAA's recent accomplishments, it becomes even more impressive given the pandemic started in 2020! We are pleased to highlight a few of the many achievements, including the weekly webinar

services; whole building airtightness training; programming developments in certifications and credentials; engagement of a code consultant; updates to material evaluation requirements: expansion of the energy calculator and an increase in publications and communications in the industry. The support and efforts of our Marketing Committee continue to expand our outreach and promote our various endeavors, so they are known and recognized in the broader building enclosure community. We are grateful for the service and dedication of our members, committee chairs and members, industry partners, and leadership that made these possible. We are continually impressed by the amazing volunteer efforts from our membership!

We are also appreciative of the continued hard work and commitment of our Board of Directors and Executive Committee. We are pleased to announce our new Excom which includes Craig Wetmore (York Manufacturing) as Vice Chair, Andrea Wagner Watts (DuPont) as Vice Chair, Rob Aird (Robert A. Aird Incorporated) as Treasurer, Matt Giambrone (OCP Contractors) as Secretary and Brian Stroik (ACIG) as the Past Chair. The Excom is looking forward to continued collaboration and partnership with all our members!

In closing, we are excited to see what the next three years brings for this amazing organization!

### **Sarah Flock**

Co-Chair: Air Barrier Association of America Raths, Raths, and Johnson

**Andrew Dunlap** 

Co-Chair: Air Barrier Association of America SmithGroup

# MEMBER ARTICLE

# HIGH-PERFORMANCE EXTERIORS PROVIDE LONG-TERM ENERGY EFFICIENCY

by Amaris Beza, P.E.

Pay close attention to how building enclosure systems intersect. Mistakes at transitions can result in energy inefficiency and premature failure of individual elements.

**MEMBER ARTICLE** 



High-Performance Exteriors Provide Long-Term Energy Efficiency

Pay close attention to how building enclosure systems intersect. Mistakes at transitions can result in energy inefficiency and premature failure of



For example, a two-dimensional representation of a building may have a continuous red line that encloses the heated area of a house but excludes the unheated garage and attic spaces.

Planners will then need to identify junctions in the building where different components or materials meet. For example, a designer may make note of junctions between the walls and floors, between walls and roof, at window frames, and at access doors.

These junctions will need to be sealed during the construction process. Minimizing junctions in the design phase can help to make airtightness a more achievable goal.

Construction strategies that take advantage of digital design technology may be effective here, as digital airtightness plans can be more easily shared during the construction process.

Ideally, the airtightness plan will be fully developed before the planning stage is over and construction begins.

# MANAGING AIRTIGHTNESS ON THE CONSTRUCTION SITE

On-site, achieving airtightness requires close coordination between contractors and designers. Typically, designers will appoint an airtightness expert who will work on the construction site to guide operations and answer questions about the airtightness plan.

Choice of construction material can have a major impact on building airtightness. The designer will have to decide what material and design they will use for their air barrier system—potential choices include fluid-applied barriers, sheet-applied barriers, and flashing for junctions like windows and doors.

Even decisions like the choice of adhesive and sealant additives can have a major impact on a building envelope's seal—kaolin and attapulgite, for example, can help to improve a sealant's lubricity, suspension, and barrier properties. Using a sealant additive like these may be essential for some buildings where junction design requires sealants with improved filling properties.

Some designers will test the airtightness barrier once it is complete but before construction is done. This process can give contractors a chance to repair issues with the barrier before additional construction makes further changes difficult.

# GUIDELINES AND REGULATIONS FOR AIRTIGHTNESS TESTING

There are many standards that define how to perform airtightness testing, including several from the ASTM, an ISO standard, the Air Barrier Association of America (ABAA) standard, and the standards of the U.K.-based Air Tightness Testing & Measurement Association (ATTMA).

While these standards vary somewhat in approach, they all typically involve testing the airtightness of a building using controlled pressurization and depressurization of the building or part of the building. The designer measures building pressure as it changes to determine how well the building is sealed.

By measuring multiple parts of a building, designers can also check for varying levels of airtightness across a structure.

### **AIRTIGHTNESS TESTING METHODS**

Most airtightness testing strategies will either use fan pressurization or tracer gas to test the building for leaks.

The fan pressurization test involves the temporary installation of a fan and blower door in a building entrance. Airflow through the fan creates a static and uniform pressure inside the building. Measuring the pressure differential throughout the envelope will give the tester a sense of how airtight the building is. Generally, the more airflow you need to increase building pressure, the less airtight the envelope is.

Tracer gas measurements are often used for building components, like air ducts. A known quantity of a non-toxic, odorless, and man-made chemical, like sulfur hexafluoride (SF6), is injected into the building. After a certain period of time has passed, a gas analyzer is used to measure the quantity of gas remaining in the building.

Typically, contractors will perform two tests: a pretest, and a final test. It's not unusual for buildings to fail the pre-test due to design oversights. Failing the pre-test can be an opportunity to uncover drafts and leaks that may be patched before the final test.

Airtightness building tests are not mandatory everywhere, though they are mandatory in much of the United Kingdom and a number of U.S. and Canadian states. In some areas, building designers must use the fan pressurization test to measure the airtightness of the building. In others, a building designer may have a great deal of control over how to test a structure for airtightness.

# ESSENTIAL CONSIDERATIONS FOR AIRTIGHTNESS IN BUILDINGS

Airtight buildings are more comfortable, more efficient, and less likely to cause health problems for occupants than drafty structures. Ensuring a new home or office complex is airtight can be a challenge, however, unless designers consider building airtightness from the very beginning of the building process.

Designers should pay close attention to the number and placement of building junctions during the design process. Once construction begins, the designer's choice of air barrier and sealant type will be important. Testing multiple times will help contractors catch issues with the barrier before construction is complete.



# **CONFERENCE OPPORTUNITIES**



### **EXHIBITOR REGISTRATION**

Your goods and services will be visited by hundreds of trade professionals. The exhibitor's hall is a high-traffic area, as booths will be located in and just outside the main ballroom, close to our keynotes, lunches, opening reception, and training rooms. Prime booth locations are provided on a first come, first serve basis!



### **SPONSORSHIP**

Sponsoring is the perfect way to enhance your visibility among influential business leaders, design professionals, building owners, general contractors, and air barrier contractors.

Sponsors are recognized prominently in marketing materials before, during, and after the conference. Availability is limited and these sell out fast.



### **CALL FOR ABSTRACTS**

Interested in presenting at ABAA's Annual Building Enclosure Conference & Trade Show? Visit to our website for guidance, a list of desired presentation topics, or submit one of your own. The deadline for submission is October 15th, 2022.



www.abaaConference.com

## THE EXECUTIVE SLATE WAS APPROVED BY THE BOARD OF DIRECTORS



Co-chair Andrew Dunlap **SmithGroup** 



Co-chair Sarah Flock Raths, Raths & Johnson, Inc.



Immediate Past Chair **Brian Stroik American Contractors Insurance Group** 



First Vice-chair Andrea Wagner Watts DuPont



Second Vice-chair **Craig Wetmore** York Manufacturing, Inc.



Secretary Matt Giambrone **OCP Contractors, Inc.** 



**Treasurer Robert Aird** Robert A. Aird, Inc.

air barrier

# **HAVE AN ARTICLE IDEA?**



MENTORING



**GUIDANCE** 



SUPPORT



**EXPERTISE** 

### WHEN YOU SHARE YOUR KNOWLEDGE, YOU WIN!

Publishing an article can be a great way to advance your career and create new opportunities. Do you have an article or idea in mind? We pair ABAA Members with ABAA Mentors that will advise you on your article, and verify technical details.

You have skills and knowledge others are trying to obtain. We are looking to assist with articles on a wide range of air/moisture barrier topics, from absolute beginner to highly technical. Contact us to get started!

EMAIL IDEAS AND QUESTIONS TO LOUISE AT: LHARDMAN@AIRBARRIER.ORG

## **U.S. DEPARTMENT OF ENERGY (DOE) BUILDING ENVELOPE CAMPAIGN**

The Air Barrier Association of America (ABAA) has joined with other industry leaders—the AIA, IIBEC, and the IFMA—as an organizing partner of the U.S. Department of Energy (DOE) Building Envelope Campaign.

ABAA members are encouraged to participate in the Building Envelope Campaign. The BEC provides a new building envelope assessment tool for determining your building's BEP-value and identifying areas for potential envelope improvement.

For the introduction to the campaign, click below:



LINK TO THE PROGRAM: https://ec.ornl.gov/

# The goals of the Building Envelope Campaign are to better the industry by:

- Motivate action and increase awareness of the value of investing in high-performance building enclosure technologies for both new and existing commercial buildings.
- Recognize leaders adopting and achieving high performing building enclosure systems, and
- Demonstrate and document energy and cost savings with integrated design, construction, commissioning, and maintenance from the implementation of high performing enclosure systems.

# The benefits of joining the Building Envelope Campaign include:

- Achieve energy savings through an improved building envelope
- Get technical assistance from Oak Ridge National Laboratory
- Gain recognition for your organization's participation
- Win a national award from the U.S. Department of Energy

# FEATURE ARTICLE

## MEASURED AIR LEAKAGE REQUIREMENTS IN CONTEXT

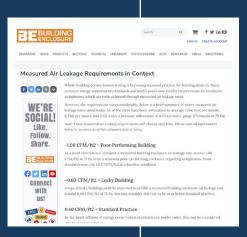
by Daniel Overbey, AIA, NCARB, LEED Fellow

Whole-building pressurization testing is becoming standard practice for building projects. Many common energy conservation standards and model codes now exhibit requirements for enclosure airtightness, which are to be achieved through measured air leakage rates.



As published on BuildingEnclosuresOnline.com.

FEATURE ARTICLE





# **ABAA TAKES A POSITION**

STOP WATER FROM GETTING INTO YOUR WALLS DURING CONSTRUCTION!



You don't want to miss this one! This paper will give you strategies to protect the air barrier once it is installed. If not properly protected, self-adhered systems form blisters or even completely delaminate; we see it all the time, don't risk it!

Make training part of your job-site team meetings. Print and share this free air barrier training with your team, links below.

FREE PRINTABLE TRAINING MATERIALS



# WHOLE BUILDING AIRTIGHTNESS TRAINING AND CERTIFICATION **PROGRAM - 3RD EVENT!**

The ABAA Whole Building Airtightness Training and Certification is a 40-hour training program delivered over 5 days. This course is designed for all skill levels! Trainees plan and carry out simulated building airtightness tests on physical mock-ups.



OLE BUILDING AIRTIGHTNESS

A BARRIER ASSOCIATION OF AMER

Building Airtightness Program"









## WHAT HAS ABAA BEEN DOING **FOR MEMBERS IN 2022?**



JANUARY THRU SEPTEMBER

ATTENDEES 9283 CONTINUING EDUCATION UNITS 9709

**EVENTS** 85

### RECENT EDUCATION

- 01-Jun RDH Building Science Live Whole Building Airtightness Testing
- 01-Jun The Clean Energy for Home Conference If It's Not Raining, where is the Water Coming From?
- 02-Jun The Insurance Guy's Top 5 Concerns with the Building Enclosure
- 13-Jun Specification Consultant's of Independent Practice ABAA Updates
- 16-Jun Air Barrier Field Testing of Various Air Barrier Materials During Construction Process
- 21-Jun What is the CABS Program?
- 23-Jun Technical Advances in Structural Insulated Sheathing?
- 28-Jun CSI Tech Talk; QA or QC: What to Specify for High-Performance Building Enclosures
- 30-Jun Managing Project Specific Details
- 06-Jul CSI Web Reach; If It's Not Raining, where is the Water Coming From?
- 07-Jul The Interface of Glazing Assemblies
- 14-Jul AIA San Antonio; Mission Impossible
- 14-Jul Through-Wall Flashings Compatibility, Sustainability & Performance
- 21-Jul Failure is Not an Option: Connections to Storefronts & Curtain Walls
- 28-Jul Achieving a High-Performance Air Barrier System
- 28-Jul Rocky Mountain Masonry Institute Mission Impossible
- 04-Aug Detailing for Better Air Barriers in Wood Framed Buildings
- 11-Aug High Performance Cold Storage Roof Design (And Why Uncontrolled Air is the Enemy)
- 18-Aug BEC Los Angeles; "By Others" The Elusive Subcontractor Responsible for Transitions
- 25-Aug Multifamily Enclosure Design



### REGISTER & LEARN

www.airbarrier.org/events/category/webinars

### HUNGRY FOR MORE EDUCATION?

Sample our Learning Unit Café, an online menu of our most requested air barrier courses that any architectural firm, BEC. CSI, or AIA chapter can schedule at their convenience.

The menu consists of both Live and On-Demand presentations and all are 1 LU/HSW, and many are GBCI.

> ORDER FROM THE MENU www.airbarrier.org/abaa-learning-unit-cafe/

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### RDER ONLINE NOW

**MAIN COURSE** 

1.0 LU/HSW/GBCI

Oh No! What Did I Miss? How to Properly Specify an Air Barrier

The Big Disconnect: The Importance of Wall to Roof Connections for Yo Air Barrier

Please Proceed with Caution: Ensure Your Building Enclosure is Sustainable and Performs

American Contractors Insurance Group, Performance Excellence & ant. Chair of the ABAA. Past Chair – BEC National

Trust, but Verify - Quality Control for your Air Barriers

New Tools to Help Drive Decisions in your Air Barrier Specifications

Air Barrier Material Testing – Why Peanut Butter is Good for a Sandwich, but NOT for your Air Barrier

Live Presentations can be scheduled 8am-8pm EST



1.0 LU/HSW/IIBEC

ailable to stream 24/7

Specifying Air Barriers to Achieve Airtightness

Game Plan to Getting Air Barriers Right

"By Others" – The Elusive Subcontractor Responsible for Transitions + GBCI by: Andrew Dunlap, AIA, CDT, LEED AP, NCARB, Principal, SmithGroup, Inc.

WWW.AIRRARRIER.ORG

## **UPCOMING SYMPOSIUMS AND CONFERENCES**

| DATE     | ORGANIZATIONS + LOCATION   |
|----------|--|
| 00 0     | OOL Discouries Helf Desc Communications Advance A7   |
| 22-Sept  | CSI Phoenix Half Day Symposium - Mesa, AZ  If It's Not Raining, Why is My Roof Leaking? \ Designing with Metal Wall Panels |
|          | Through-Wall Flashings Compatibility, Sustainability & Performance   |
| 23-Sept  | Jayne Construction Full Day Symposium - Albuquerque, NM  |
| 20 0001  | Building Science Fundamentals \ Through Wall Flashings   |
|          | NFPA 285 History & Solutions \ Firestopping 101  |
|          | Leak Free Enclosure Process  |
| 10-Oct   | Advancing Construction Quality Conference (Sponsor & Exhibitor) - Scottsdale, AZ   |
|          | Accomplishing a Durable, High-Performance Building Enclosure   |
| 18-Oct   | BEC-GD Enclosure Consciousness 2022 – Leak Free Buildings: Can They Really Be Constructed?                                 |
| 21-Oct   | AIA Oregon C.O.T.E. Half Day Symposium – Virtual Only  |
|          | Achieving a High-Performance Air Barrier System  |
|          | Proceed with Caution: Ensure Your Building is Sustainable & Performs  How to Specify an Air Barrier                        |
| 27-Oct   | BEC Tampa Bay Half Day Symposium – Virtual Only  |
| 21 000   | "By Others" The Elusive Subcontractor Responsible for Transitions  |
|          | If It's Not Raining, Why is My Roof Leaking"?  |
| 01-Nov   | CSI Greater Lehigh Valley Half Day Symposium - Allentown, PA   |
| 09-Nov   | BEC Iowa Half Day Symposium - Des Moines, Al + Virtual   |
|          | How to Specify an Air Barrier  |
|          | "By Others" The Elusive Subcontractor Responsible for Transitions  |
|          | Understanding Difficult Critical Transitions   |
| 10-Nov   | AIA Nebraska Half Day Symposium – Omaha, NE + Virtual  |
|          | How to Specify an Air Barrier \ Understanding Difficult Critical Transitions   |
| 14-Nov   | "By Others" The Elusive Subcontractor Responsible for Transitions  IIBEC Convention & Tradeshow – Milwaukee, W             |
| 17-Nov   | BEC MN Chapter Meeting - Minneapolis, MN   |
| 17 110 1 | Building Enclosure Architectural Details: Conveying Construction Drawing Clarity   |
|          | Building Enclosure Pre-Construction Meeting  |
| 17-Nov   | BEC Tampa Bay Half Day Symposium - Virtual Only  |
|          | Observing Building Enclosures Leaking: Heat, Air & Water Using Infrared Thermography                                       |
|          | Setting the Standards for Whole Building Testing   |
| 04-Dec   | Buildings XV Conference, Pre-Conference Workshops - Clearwater Beach, FL   |
|          | Achieving an Airtight Building   |
|          | Whole Building Testing and Inspection  |
|          | Building Assembly Air and Water Leakage Research   |
|          |  |



AIA Continuing Education Provider



### **REGISTER & LEARN**

www.airbarrier.org/events/category/webinars

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### **LIVE WEBINARS**

- 22-Sept ABAA Webinar Denali Jones Topic TBD
- 27-Sept ABAA Webinar CABS Certification Program
- 29-Sept ABAA Webinar Value Engineering the Air Barrier
- 30-Sept ABAA Webinar Designing Wall Systems for Specific Climate Zones
- 04-Oct ABAA Webinar Whole Building Certification Program
- 05-Oct BNP Media Webinar Speaker & Topic TBD
- 06-Oct Air Barrier Continuity & Constructability Challenges
- 13-Oct ABAA Webinar Enclosure Failures, Detailing & Testing
- 20-Oct ABAA Webinar Designing Wall Systems for Specific Climate Zones
- 27-Oct ABAA Webinar Water, Wind, Windows, and Walls with Continuous Insulation
- 28-Oct ABAA Webinar Roof-to-Wall Details
- 10-Nov ABAA Webinar It Takes a Village to Build a High-Performance Building
- 16-Nov IMI MN Mission Impossible: Air Barrier Connections



# ON-DEMAND WEBINARS

QA or QC: What to Specify for High Performance Building Enclosures - <a href="https://bit.ly/3ePxpOc">https://bit.ly/3ePxpOc</a>
Moisture Movement in Building Enclosures - <a href="https://bit.ly/3KVQYA8">https://bit.ly/3KVQYA8</a>
Recurring Field Installation Issues with Air Barriers - <a href="https://bit.ly/3HNYOE5">https://bit.ly/3HNYOE5</a>
What Did I Miss? How to Properly Specify an Air Barrier System - <a href="https://bit.ly/3GLDdka">https://bit.ly/3GLDdka</a>
Trust, But Verify - Quality Control For Your Air Barrier - <a href="https://bit.ly/3GLDdka">https://bit.ly/3GLDdka</a>
The Importance Of Wall To Roof Connections For The Air Barrier - <a href="https://bit.ly/3gEQiFU">https://bit.ly/3gEQiFU</a>
Game Plan To Getting Air Barriers Right - <a href="https://bit.ly/3E2NuHe">https://bit.ly/3gEQiFU</a>
The Elusive Sub-Contractor Responsible For Transitions - <a href="https://bit.ly/33x3lf5">https://bit.ly/33x3lf5</a>
New Tools, Research & Site Quality In The Air Barrier Industry - <a href="https://bit.ly/3EWuew1">https://bit.ly/3EWuew1</a>
Navigating The Real, Imperfect Air Barrier Details - <a href="https://bit.ly/3dTIRoc">https://bit.ly/3dTIRoc</a>
Air Barrier Continuity Strategies for Storefront & Curtain Wall Systems - <a href="https://bit.ly/3ytbodF">https://bit.ly/3ytbodF</a>

# CERTIFICATION TRAINING

# SPRAYED POLYURETHANE FOAM INSTALLER TRAINING

- November 15-17 Online Training
- February 12-13 Daytona Beach, FL

### WHOLE BUILDING AIRTIGHTNESS TRAINING

November 14-18 - Seattle, WA

# SELF-ADHERED AND FLUID APPLIED TRAINING

December 13-15 - Online Training

### FIELD AUDITOR TRAINING

October 25-27 - Online Training

**CERTIFY YOURSELF OR YOUR TEAM! REGISTER:** https://bit.ly/34Pu258

# FEATURE QAP PROJECT: [

## **TACO BELL DEFY**



MORE INFO: https://bit.ly/3RND7hL Taco Bell Defy is the first of its kind, an innovative drive-through only concept featuring food lifts that drop the food down to 4 drive-through lanes. Finding the perfect air barrier to function through Minnesota's seasons is quite the task. Add to that, installing during MN winter and we were faced with a tough decision. Follow the link below to find out more!

**ARCHITECT:** Sperides Reiners Architects, Inc.

GENERAL CONTRACTOR: Engelsma Construction, Inc. / Nate Caswell

**LOCATION:** Brooklyn Park, MN **TYPE:** New Construction

**VALUE:** \$68,144

BUILDING AREA (sq. ft.): 3,000

TOTAL AIR BARRIER AREA (sq. ft.): 8,454

ACCREDITED CONTRACTOR: Spec 7 Group, LLC

AIR BARRIER INSTALLERS: Nick Frandrup, Denorris Stokes,

Corey Laney

## WE WANT TO SHOWCASE YOUR QAP PROJECT!

EMAIL LOUISE AT: LHARDMAN@AIRBARRIER.ORG



Projects will be reviewed and upon acceptance, will be showcased on our website, weekly email, and social media outlets.



# FIND A CABS SPECIALIST THAT SERVICES YOUR STATE IN SECONDS!

SEARCH THE ABAA ONLINE DATABASE!

CABS FINDER: <a href="https://www.airbarrier.org/specialist-search-page/">https://www.airbarrier.org/specialist-search-page/</a>