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BUILDING ENCLOSURE CONFERENCE 2023

The ABAA QAP, An Architect's Cheat Guide to Sustainable Durable Buildings

Amy Baker & Brian Stroik

AIA Continuing Education Provider

abaa EDUCATION

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BE BUILDING ENCLOSURE

The ABAA QAP, an Architect's Cheat Guide to Sustainable, Durable Buildings

This presentation will discuss how Architects can help their projects achieve sustainable, durable, and identified performance goals by requiring the ABAA Air Barrier Quality Assurance Program (QAP).

We will illustrate the resources available to design professionals to achieve high-performance project goals by reviewing requirements for certified installers and contractors, how to specify and require ABAA evaluated materials, the ABAA site quality control audit process, and how to determine the associated cost and a return on investment.

Finally, we will review the process and challenges of value engineering high-quality installation standards and how to articulate the cost/benefit of implementing the ABAA QAP program compared to the increased risk of moisture damage and lowering of energy performance goals.

Amy Baker, AIA, CSI, CDT, SCIP

- **Firm Owner: Architecture and Specifications Consulting**
- **20 years experience in the industry**
- **Board of Directors: ABAA**
- **Board of Directors: BEC-GD**
- **Board of Directors: CSI-Detroit**
- **Vice President: SCIP**
- **SpecLink Product Innovation Advisory Board**

Brian Stroik

- **Past Chair & Fellow: ABAA**
- **Past Chair: BEC National**
- **Board of Directors: BETEC**
- **Co-Chair: BEC-WI**
- **Voting Member – ASTM E 06**
- **Sr. Member ASQ**
- **Residential Company Owner**
- **Union Carpenter**
- **Degree in Psychology**
- **PEQ Consultant: American Contractors Insurance Group**

abaa EDUCATION

Learning Objectives

1. Understanding the state of the industry regarding Building Enclosure Failures
1. How to locate and use industry-recognized air barrier and enclosure quality program specifications
1. Understand how an enclosure Quality Assurance Process (QAP) can reduce Owner, Construction Manager and Installer Risk
1. Discuss an industry leading enclosure quality program that has been utilized for over 20 years with astounding success, including what the program entails and cost to have the program on your construction project.

BUILDING ENCLOSURE CONFERENCE 2023

Scene 1:The Call

Architect/Spec Writer & Owner Discussing a New Project

Why Specify a Quality Assurance Program (QAP)?

- QAP improves schedule, reduces rework, and reduces the potential for future litigation from poor installation
- Ensure the project meets the Project Specifications/Requirements
- ASHRAE Study 1478 showed Projects using a formal enclosure quality program met the owner's requirements 100% of the time, those without a formal program only 20% of the time

Building Owner

Protects your investment, maximizes energy savings, and reduces operating costs for the life of the building

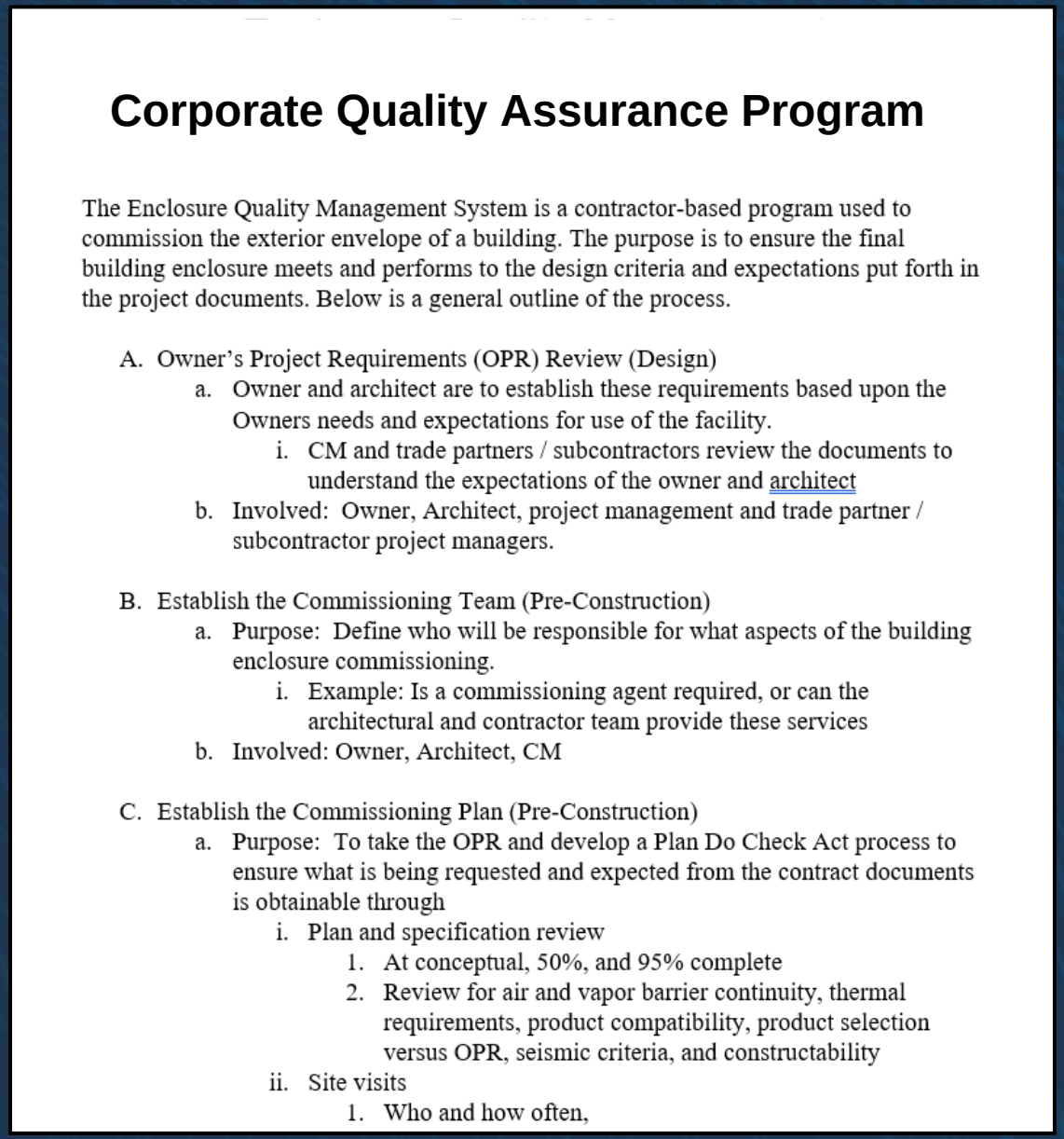
Architects

Manages risk, offers 3rd party impartial resource, and provides owner a high-performance building

Why Specify a Quality Assurance Program (QAP)?

- Approximately 75% of Construction Defect Claims involve Water [1]

- Estimated only about **5%-10%** of Construction Managers have a formal quality program [1]



Corporate Quality Assurance Program

The Enclosure Quality Management System is a contractor-based program used to commission the exterior envelope of a building. The purpose is to ensure the final building enclosure meets and performs to the design criteria and expectations put forth in the project documents. Below is a general outline of the process.

A. Owner's Project Requirements (OPR) Review (Design)
   a. Owner and architect are to establish these requirements based upon the Owners needs and expectations for use of the facility.
      i. CM and trade partners / subcontractors review the documents to understand the expectations of the owner and architect
   b. Involved: Owner, Architect, project management and trade partner / subcontractor project managers.

B. Establish the Commissioning Team (Pre-Construction)
   a. Purpose: Define who will be responsible for what aspects of the building enclosure commissioning.
      i. Example: Is a commissioning agent required, or can the architectural and contractor team provide these services
   b. Involved: Owner, Architect, CM

C. Establish the Commissioning Plan (Pre-Construction)
   a. Purpose: To take the OPR and develop a Plan Do Check Act process to ensure what is being requested and expected from the contract documents is obtainable through
      i. Plan and specification review
         1. At conceptual, 50%, and 95% complete
         2. Review for air and vapor barrier continuity, thermal requirements, product compatibility, product selection versus OPR, seismic criteria, and constructability
      ii. Site visits
         1. Who and how often,

[1] = Zurich Insurance "Construction quality management programs: Keys to successful project delivery" - 2017

Why Specify the ABAA Quality Assurance Program (QAP)?

A Properly Functioning Air & Water Barrier System:

- Dry Building: Avoids Water Intrusion, Condensation & Mold
- Occupant Comfort: Draft-Free, Uniform Temperature
- Air Quality: Virtually Pollen-Free, Flow Control Facilitates Ventilation

Information courtesy of
Mr. Paul Grahovac, Director of New Business Development, General Counsel, and Risk Manager
PROSOCO

Why Specify the ABAA Quality Assurance Program (QAP)?

A Properly Functioning Air & Water Barrier System:

- HVAC: Less Through-put, Less Maintenance, Longer Life
- Clean: Infiltration Dust Free
- Quiet: Greatly reduced exterior noise
- Energy: Significant savings

Information courtesy of
Mr. Paul Grahovac, Director of New Business Development, General Counsel, and Risk Manager
PROSOCO

What is the ABAA Quality Assurance Program?

1 – Evaluated Materials

2 – Certified Installers

3 – Trained Auditors – Audit Projects/Installations

4 – Auditors Audits are 3rd Party Audited

What is the ABAA Quality Assurance Program?

1 – Evaluated Materials

What is the ABAA Quality Assurance Program?

2 – Certified Installers

What is the ABAA Quality Assurance Program?

3 – Trained Auditors – Audit Projects/Installations

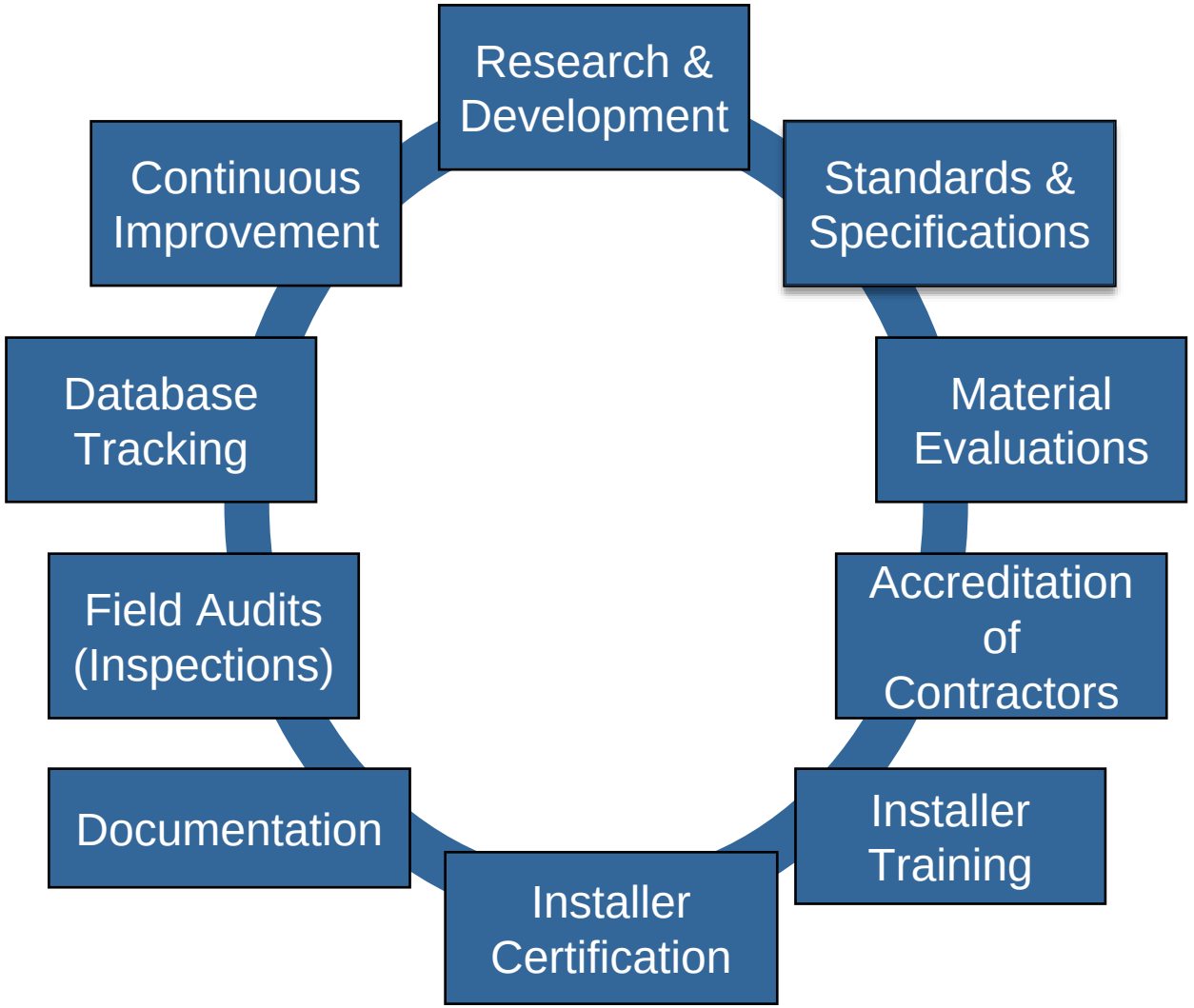
What is the ABAA Quality Assurance Program?

4 – Auditors Audits are 3rd Party Audited

QUALITY ASSURANCE PROGRAM

FOR AIR BARRIERS

Based on ISO 9001 model for quality assurance



Owner:

How does the ABAA QAP become part of the project?

Do I need to do anything to kick it off?

https://www.airbarrier.org/technical-information/master-specification/

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Project Master Specification

ABAA Master Specification document downloads

ABAA develops specifications for projects in the Master Specifications Format.

Specifications have been developed for a wide range of air barrier materials; which ABAA has developed criteria for the evaluation of a material, accessory, or component. Specifications have been developed for the major building assemblies – wall, roof and foundation.

Add the following phrasing to your Division 7 specification to include the Quality Assurance Program (QAP):

QAP SPECIFICATION LANGUAGE

1. Installer Qualification: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audits
2. Manufacturer Qualification: Use ABAA evaluated materials from a single manufacturer regularly engaged in air barrier material manufacture. Use secondary materials approved in writing by primary material manufacturer

Division 7 Master Specification

- ABAA 072713 SELF-ADHERED SHEET AIR BARRIER SPECIFICATION
- ABAA 072726 FLUID-APPLIED MEMBRANE AIR BARRIER SPECIFICATION
- ABAA 072703 CLOSED CELL, MEDIUM-DENSITY SPRAY POLYURETHANE FOAM AIR BARRIER SPECIFICATION
- ABAA 072723 BOARDSTOCK – RIGID CELLULAR THERMAL INSULATION BOARD AIR BARRIER SPECIFICATION
- ABAA 072708 MECHANICALLY ATTACHED FLEXIBLE SHEET AIR BARRIER SPECIFICATION

ABAA has also developed a Division 1 Specification which provides administrative and procedural requirements for; specifying an airtight building enclosure that controls infiltration or exfiltration of air, inspection and testing services required to verify compliance, necessary information for the coordination between subcontractors, customized fabrication and installation procedures, not production of standard products.

Division 1 – Specification

- ABAA 014100 THE AIR BARRIER SYSTEM SPECIFICATION

018316 Building Enclosure Performance Requirements

1.4 ADMINISTRATIVE REQUIREMENTS

A. ABAA Coordination: Transmit ABAA QAP Job Notification Form to ABAA representative no later than [**30**] <**Insert number**> days after execution of the Agreement.

B. Coordination: Coordinate Work of each building envelope Section to achieve performance requirements and the following:

1. Coordinate construction schedule to allow for preconstruction meetings, mock-ups, reviews, and testing and inspections included in other Sections.

2. Coordinate sequencing of trades to achieve proper transitions that conform with manufacturer's requirements for installation and compatibility.
3. Coordinate the installation of penetrating items, including mechanical, electrical, and plumbing penetrations, to occur before the installation of the air barrier assembly whenever possible. Where penetrating the installed air barrier assembly is unavoidable, coordinate sealing and detailing requirements with manufacturer's recommended repair procedures.
4. Coordinate with agencies providing testing and inspections to provide access and staging areas.

Kickoff form to notify ABAA of a new project

Preconstruction and Preinstallation Meetings

C. Preconstruction Meeting: In conformance with requirements specified in [**Section 013100**] [**Section 013000**] [**other Division 01 Sections describing Preconstruction Meeting requirements**], discuss items of significance that could affect the progress and performance of air barrier system installation, including:

1. ABAA Quality Assurance Program requirements and schedule.
2. Schedule and phasing.
3. Air barrier system boundaries and transitions.
4. Coordination and sequencing of Work with other Sections.
5. Mock-ups.
6. Testing and inspecting.

D. Preinstallation Meetings: Conduct at [**Project site**] <**Insert location**>.

1. Specific requirements are included in Air Barrier Sections.
2. Discuss where each trade's Work begins and ends and the responsibility and sequence of installation for all joints and transitions between systems and components.

Division 07 Air Barrier Sections

Detailed Preinstallation Meeting Requirements

B. Preinstallation Meetings: Conduct at [**Project site**] <**Insert location**> a minimum of two weeks prior to commencing Work of this Section.

1. Meet with Owner, Architect,[**Construction Manager,**] testing and inspecting agency representative, ABAA Field Auditor, air barrier assembly installer, and installers whose work interfaces with or affects air barrier assembly installation.
2. Examine substrate conditions and review substrate preparation requirements.
3. Review mock-up requirements.
4. Review testing and inspection requirements.
5. Review methods and procedures related to installation, including manufacturer's written instructions and details.
6. Review coordination and sequencing with Work of other Sections.
7. Review transition details and compatibility of transition materials.
8. Review penetration sealing and repair procedures after air barrier material installation.

Division 07 Air Barrier Sections

Specific QAP Requirements for Materials, Installers, and Auditing

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer with a minimum five years experience in the manufacture of air barrier assemblies.

B. Installer Qualifications: An entity with a minimum five years experience in the installation of specified products that employs installers and supervisors who are trained and approved by manufacturer.

1. Company: Accredited by the Air Barrier Association of America whose installers are certified in accordance with the ABAA Quality Assurance Program.

C. ABAA Quality Assurance Program (QAP): Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit.

D. ABAA Evaluated Air Barrier Assemblies: Use evaluated materials from a single manufacturer engaged in the air barrier material manufacture. Evaluated assemblies may be found on the Air Barrier Association of America's website: www.airbarrier.org.

Division 07 Air Barrier Sections

Sample Mock-up Language

1.8 MOCK-UPS

A. Mock-up: Build mock-up to set quality standards for materials and execution[**and for preconstruction testing**].

1. Mock-Ups: Build [**stand-alone**] [**integrated**] <**Insert requirement**> mock-ups of exterior wall assembly, incorporating backup wall construction, external cladding, window, storefront, door frame and sill, insulation, ties and other penetrations, and flashings to demonstrate surface preparation, crack and joint treatment, application of air barriers, and sealing of gaps, terminations, and penetrations of air barrier assembly.

   a. Location: [**As directed by Architect**] [**As indicated in Drawings**].
   b. Size: [**8 ft. (2.5 m) long by 8 ft. (2.5 m) high**] <**Insert requirement**>.
   c. Coordinate construction of mock-ups to permit inspection and testing of air barrier before external insulation and cladding are installed.
   d. Include junction with roofing membrane[**, outside corner condition,**] [**, window or storefront,**] [**and**] [**foundation wall intersection**] <**Insert requirement**>.
   e. If Architect determines mock-ups do not comply with requirements, reconstruct and reinstall air barrier materials until mock-ups are approved.
   f. [Approved integrated mock-ups may become part of the completed Work if undisturbed at time of Substantial Completion.][Remove stand-alone mock-ups prior to Substantial Completion or earlier if directed.]

2. Approval of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless Architect specifically approves such deviations in writing.

Division 07 Air Barrier Sections

Sample Preconstruction Mock-up Testing Language

1.9 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: [**Owner will engage**] [**Engage**] a qualified testing agency to perform preconstruction testing on mock-ups.

B. Mock-up Testing: Comply with performance requirements indicated, as evidenced by reports based on mock-up testing by a qualified testing agency.

1. Air Infiltration: Test in accordance with ASTM E1186 (air leakage location) and ASTM E783 (air leakage quantification) at a pressure differential of 1.57 psf (75 Pa).
2. Water Penetration: Test in accordance with ASTM E1105.
3. Adhesion Testing: Test for required air barrier adhesion to substrate in accordance with ASTM D 4541 using a Type II pull tester except that the membrane shall be cut through to separate the material attached to the disc from the surrounding material.
   a. Record mode of failure and area where the material failed in accordance with ASTM D4541. When the air barrier manufacturer has established a minimum adhesion level for the product on the particular substrate, indicate in the inspection report whether this requirement has been met. When the air barrier manufacturer has not declared a minimum adhesion value for the tested product/substrate combination, the value shall simply be recorded.
4. Perform mock-up testing prior to installation of cladding and trim but after installation of all fasteners for cladding and trim and other penetrating elements.
5. Notify Architect [**seven**] <**Insert number**> days in advance of the dates and times when mockups will be tested.

Division 07 Air Barrier Sections

3.5 FIELD QUALITY CONTROL

A. ABAA Quality Assurance Program: Perform examinations, preparation, installation, testing, and inspections under ABAA's Quality Assurance Program.

1. Arrange and pay for ABAA field audits to verify conformance with the material manufacturer's instructions, the ABAA Quality Assurance Program, and the requirements of this Section.
2. Cooperate with ABAA Field Auditor and testing agencies to provide access to Work and staging areas. Notify ABAA in writing of schedule for Work of this Section to allow sufficient time for testing and inspection. Do not cover Work of this Section until testing and inspection is accepted.
3. Audits and testing shall be carried out at the following rate:

    a. Up to 10,000 sq. ft. (930 sq. m): One audit.
    b. 10,001 to 35,000 sq. ft. (931 to 3,250 sq. m): Two audits.
    c. 35,001 to 75,000 sq. ft. (3,251 to 6,970 sq. m): Three audits.
    d. 75,001 to 125,000 sq. ft. (6,971 to 11,610 sq. m): Four audits.
    e. 125,001 to 200,000 sq. ft. (11,611 to 18,580 sq. m): Five audits.
    f. Over 200,000 sq. ft. (18,580 sq. m): Six audits.

B. Evaluation: Air barriers will be considered defective if they do not pass tests and inspections.

1. Remove and replace deficient air barrier materials at no additional cost to the Owner and retest as specified above.

C. Repair damage to air barriers caused by testing following manufacturer's written instructions.

D. Prepare test and inspection reports.

Whole Building Airtightness Testing Specifications

COMING SOON

https://www.airbarrier.org/technical-information/master-specification/

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Project Master Specification

ABAA Master Specification document downloads

ABAA develops specifications for projects in the Master Specifications Format.

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Division 1 – Specification

- ABAA 014100 THE AIR BARRIER SYSTEM SPECIFICATION

Owner:

What's the expected **COST** of the ABAA QAP?

01 Evaluated Materials

02 Trained and Certified Installers

03 Trained and Certified 3rd Party Auditors and Project Audits

04 Independent 3rd party audit review

Strip Mall

Building Cost: $6,390,000
ABAA Wall Area: 11,348 sf
QAP Investment: $4,964
Audits: 2

% of Job Cost: .08%

Small Hotel

Building Cost: $17,280,000
ABAA Wall Area: 17,280 sf
QAP Investment: $5,468
Audits: 2

% of Job Cost: .03%

Medium Office

Building Cost: $24,334,400
ABAA Wall Area: 10,975 sf
QAP Investment: $4,932
Audits: 2

% of Job Cost: .02%

Large Hotel

Building Cost: $65,594,884
ABAA Wall Area: 33,849 sf
QAP Investment: $6,877
Audits: 2

% of Job Cost: .01%

Secondary School

Building Cost: $51,037,800
ABAA Wall Area: 27,040 sf
QAP Investment: $6,298
Audits: 2

% of Job Cost: .01%

Large Office

Building Cost: $276,224,400
ABAA Wall Area: 64,480 sf
QAP Investment: $11,480
Audits: 3

% of Job Cost: .004%

01 Evaluated Materials

02 Trained and Certified Installers

03 Trained and Certified 3rd Party Auditors and Project Audits

04 Independent 3rd party audit review

Secondary School

Building Cost: $51,037,800
ABAA Wall Area: 27,040 sf
QAP Investment: $6,298
Audits: 2

% of Job Cost:
.01%

Owner:

It’s a go! Let’s do it!

Scene 2: The Discussion

Two years later the discussion between the Architect/Spec Writer & Construction Manager

Building Quality, Reducing Risk, and Mitigating Moisture:

QAP is a job site program that ensures proper materials, installation and inspection of the air and moisture barrier system.

QAP by the Numbers

20,000+
QAP Specified Projects

84 Million
Sq. Ft. of QAP Audited Air Barrier Installation

ZERO
Reported Air Barrier Assembly Claims

2,200
Certified and Registered Installers

5,600
Audits

107
Evaluated Materials

Whole Building Airtightness Testing

ABAA - Quality Assurance Program (QAP)

https://www.airbarrier.org/qap-overview/

Evaluated Assemblies

(Plan)

Contractor Accreditation

(Plan)

Installer Certification

(Plan / Do)

Field Documentation

(Do / Check)

Onsite Field Audits

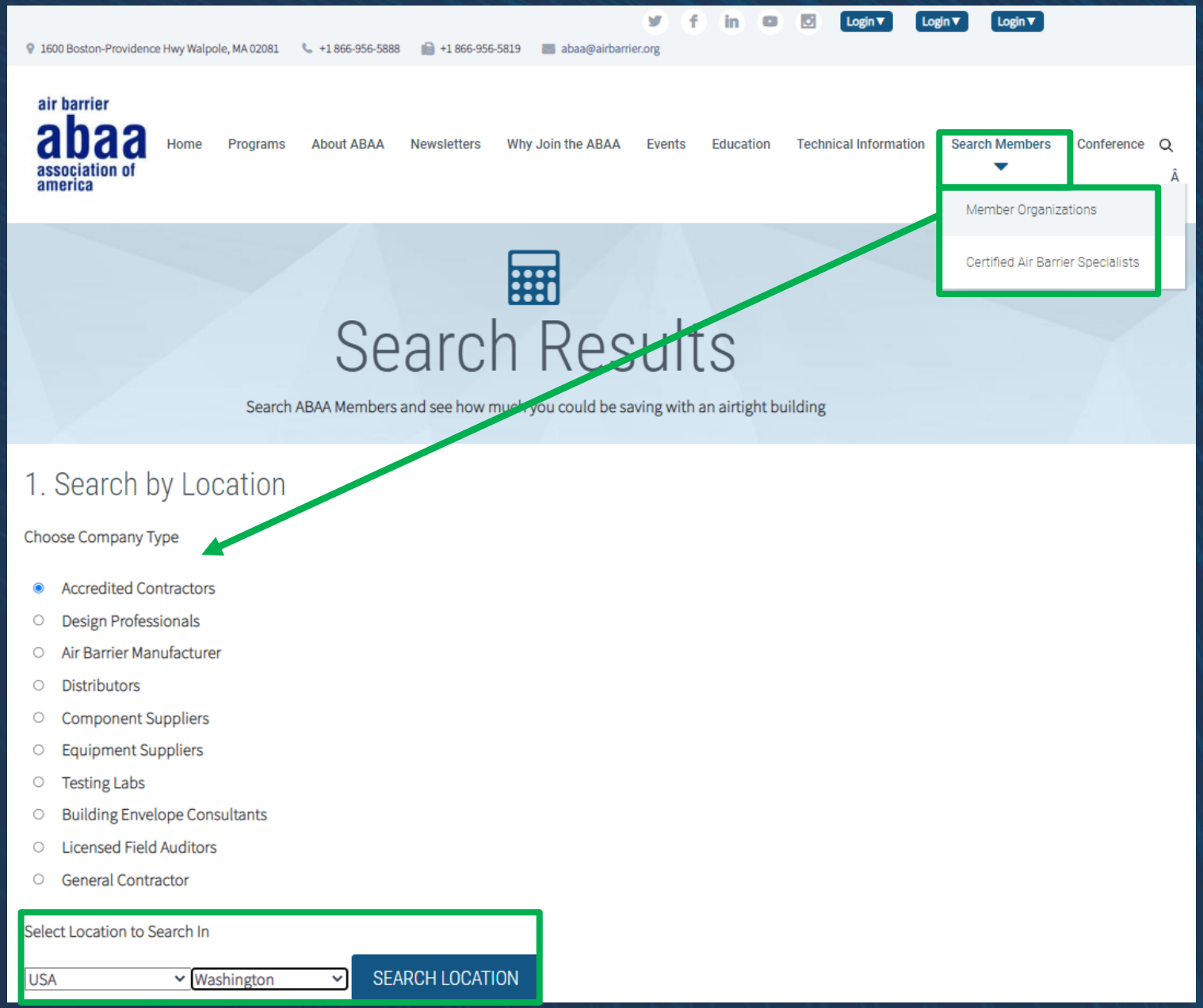
(Check)

Final ABAA Audit Confirmation

(Act / Adjust)

Where to Find Installers of the QAP for Your Project

https://www.airbarrier.org/search-results/



1600 Boston-Providence Hwy Walpole, MA 02081 +1 866-956-5888 +1 866-956-5819 abaa@airbarrier.org

Search Results

Search ABAA Members and see how much you could be saving with an airtight building

ABAA Members: Found 6 Contractors in **Washington**

The ABAA members listed immediately below are located in the location searched. Click on a name for further details.

DEFINITIONS	
FA	Fluid Applied Membranes
SA	Self-Adhered Sheet Membranes
SPF-MD	Sprayed Polyurethane Foam (Medium Density Closed Cell)
BDSK	Boardstock – Rigid Cellular Thermal Insulation Board

Company	Head Office	FA	SA	SPF	BDSK
ANS d/b/a Insulpro Projects, Inc	Fife, WA	✔	✔	✔	
CONSTRUCT, Inc.	Tumwater, WA	✔	✔		
Insulation Contractors of Washington, LLC	Kent, WA	✔	✔	✔	
McKinstry Co. LLC	Seattle, WA	✔	✔		
Spray-On Foam and Coatings Inc	Battle Ground, WA		✔	✔	
Weathersealed, Inc.	Eatonville, WA	✔	✔		

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Search Results

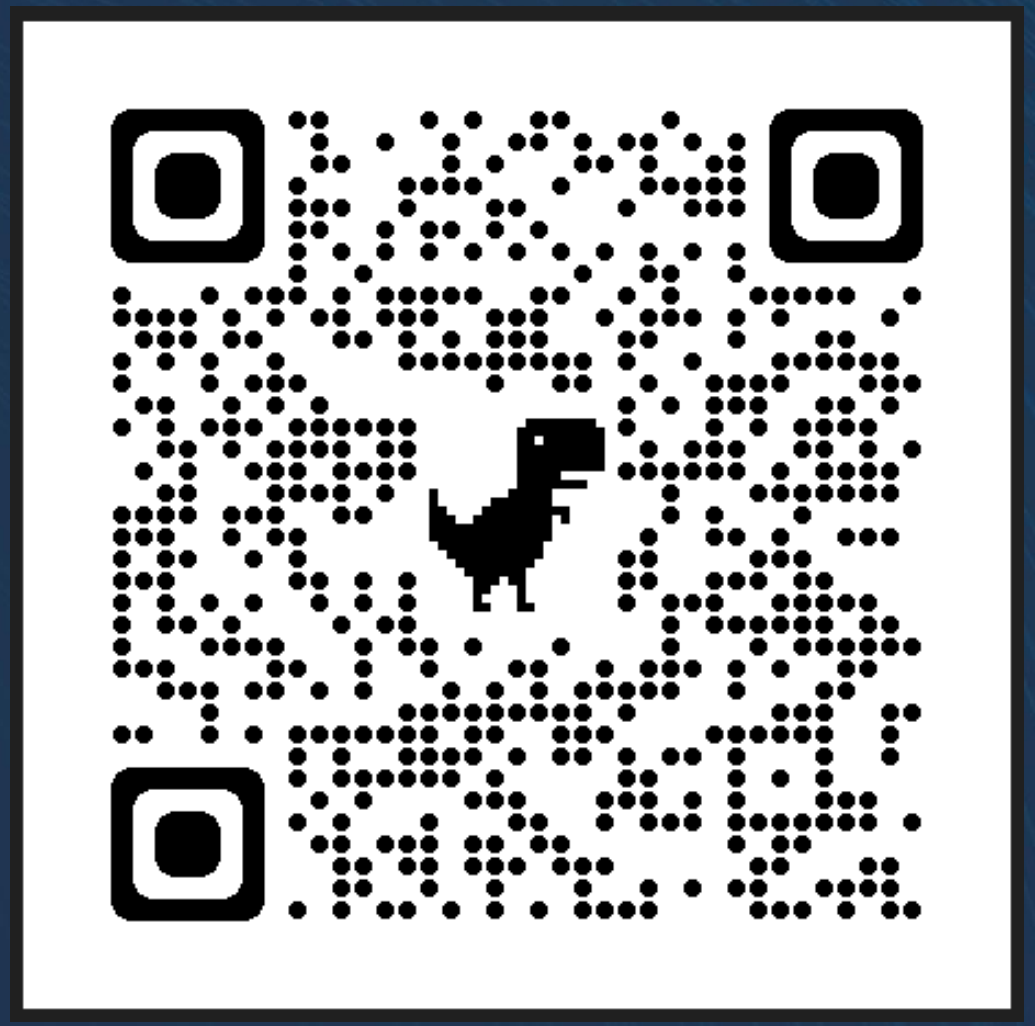
Search ABAA Members and see how much you could be saving with an airtight building

The ABAA members listed below will work in Washington. Click on a name for further details.

Company	Head Office	FA	SA	SPF	BDSK
ABG Caulking Contractors, Inc.	Goodlettsville, TN	✔	✔		
Alcal Specialty Contracting, Inc.	Sacramento, CA	✔	✔	✔	
Best Contracting Services, Inc.	Gardena, CA	✔	✔		
Brazos Urethane, Inc.	Texas City, TX		✔	✔	
Cameron Building Envelope Specialists	Elkridge, MD	✔	✔	✔	
Foxhill Construction LLC	Hampstead, NC	✔	✔		
Haas Insulation	Waipahu, HI	✔	✔	✔	
IBP - Installed Building Products	Columbus, OH	✔	✔	✔	
M.G. McGrath, Inc.	Maplewood, MN	✔	✔		
National Steel and Air Barrier, Inc.	Fruita, CO	✔	✔		
Primo Construction LLC	Tigard, OR	✔	✔		
Stony Creek Services, Inc.	Westland, MI	✔	✔	✔	
Structural Waterproofing and Restoration	Memphis, TN	✔	✔		
Summit Sealants and Restoration Services, Inc.	Englewood, CO	✔	✔		
Tadco Houston LLC	Houston, TX	✔	✔		
Western Partitions, Inc.	Tigard, OR	✔	✔		

Where to Find the **COST** of the QAP for Your Project

www.airbarrier.org/qap/qap-calculator/



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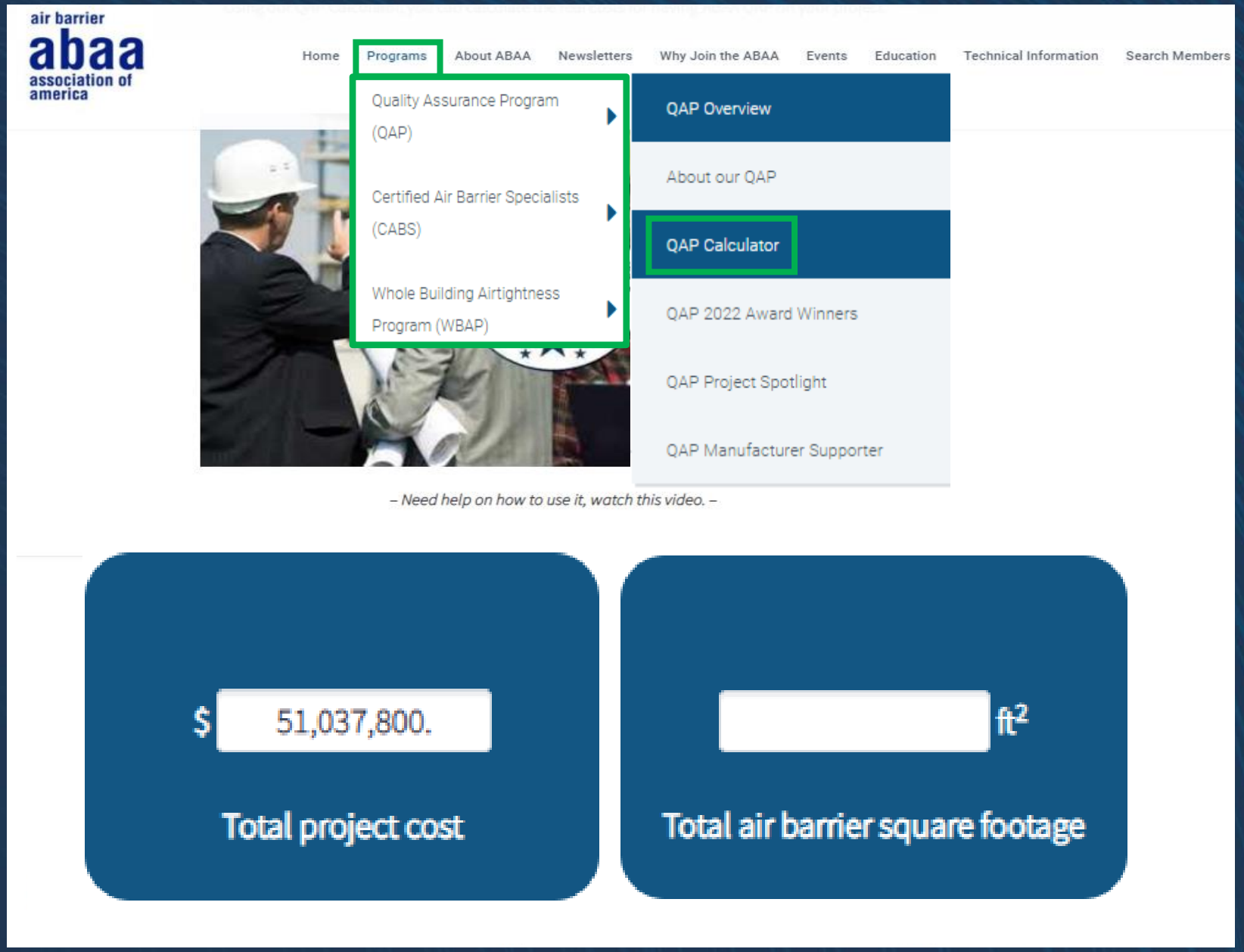

Where to Find the Cost of the QAP for Your Project

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$ 51,037,800.

Total project cost

27,040 ft²

Total air barrier square footage

Where to Find the Cost of the QAP for Your Project

ABAA QAP

01 Evaluated Materials

02 Trained and Certified Installers

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Current Construction Industry Concerns

AGC Sept 1st 2022 – 91% of construction firms are having staffing difficulties

Forbes August 2022 – currently, 430,000 construction industry job openings

What does an audit look like?

Section 1- Air Barrier Assembly Materials

	YES	NO	N/A	DEMERIT POINTS Installer	DEMERIT POINTS Contractor
Fluid-Applied Air Barrier Material:					
Manufacturer name: DOW					
Primary air barrier material trade name: Defendair-200					
Lot/batch number: H050M5G051					
Is the material being installed specified in the project specifications or has it been approved by the specifier?	X				
Are manufacturer's installation instructions on site and available for review?	X				
Installed material expiry date within limits?	X				
Are MSDS sheets on-site and available for review?	X				
Transition Material:					
Manufacturer name: DOW					
Transition material trade name & type (FA or SA): Silicone Transition Strip					
Transition material lot/batch number: N/A (Illegible label)					
Primer manufacturer: N/A					
Primer trade name: N/A					
Primer lot/batch number: N/A					
Are manufacturer's installation instructions on site and available for review?	X				
Installed material expiry date within limits?	X				
Are MSDS sheets on-site and available for review?	X				
Mastic/Sealant:					
Manufacturer: DOW					
Mastic/sealant name: DOW-791					
Lot/batch number: HM050M5R080					
Are manufacturer's installation instructions on site and available for review?	X				
Installed material expiry date within limits?	X				
Are MSDS sheets on-site and available for review?	X				
Are all materials being stored on-site at time of audit as per manufacturer's specifications?	X				

Section 1 - Air Barrier Assembly Notes

Observations:

DOW DefendAir 200 is the air barrier that is being used on this project. DOW Dow-791 sealant is being used at through wall penetrations and at rough openings. The air barrier system is primerless and, as such, no primer was in use at time of audit. DOW silicone transition strips are also being used on the project as a transition material for larger transitions and corner reinforcement at window rough openings. Installers had MSDS sheets on-site and available for review, along with installation instructions for all air barrier materials being used on-site.

Corrections:

None required.

Section 2 - Audit Preparation

	YES	NO	N/A	DEMERIT POINTS Installer	DEMERIT POINTS Contractor
Certified Installer(s):					
On-site at time of audit?	X				
Applying air barrier?		X			
Registered Installer(s):					
On-site at time of audit?	X				
Applying air barrier?	X				
Are the installer(s) certified by ABAA to install self-adhered and fluid-applied air barrier materials? (see back of installers card for certification(s))	X				
Are daily job site reports, (electronic or hard copy) on site and available for review?	X				
Are daily job site reports complete and accurate?	X				
Do **all** installers have ABAA photo identification card(s) (Digital or Physical), on site and in installers possession?	X				
Are **all** installer photo identification card(s) current?	X				
Are the air barrier accessories *(i.e.. transition materials, mastic, primer)* used listed by the **design professional** in their master specification?	X				
Are the air barrier accessories *(i.e.. transition materials, mastic, primer)* used listed by the **manufacturer** in their master specification?	X				
If no, have they been approved by the manufacturer in writing?			X		

What are the **project specifications** for thickness of the fluid-applied air barrier material (in wet & dry mils)?	per manufacturer
What is **manufacturer master specifications** for application thickness of the fluid-applied air barrier material (wet & dry mils)?	30 wet / 15 dry
What is the percentage of ABAA QAP-specified air barrier assembly installed at time of audit?	50%
What is the percentage of ABAA QAP-specified **installed** air barrier assembly available for visual inspection?	60%

Section 4 - Visual Inspection

	YES	NO	N/A	DEMERIT POINTS Installer	DEMERIT POINTS Contractor
Pictures taken by auditor ?	X				
Video taken by auditor ?		X			
Location of inspection:					
North Wall:	X				
South Wall:	X				
East Wall:	X				
West Wall:	X				
If any of the above listed as N/A, provide details in the observations section below.					
(Abbreviation "MS" - Manufacturer Master Specification):					
Transition Materials:					
Were transition materials specified and used on this project?	X				
If no, explain in observations section below.					
If yes, were they installed as per project specifications?	X				
Did the auditor observe the installer applying primer for transition membrane?		X			
If yes, did sufficient time elapse for transition membrane application over primer?			X		
Primer for transition materials used specified in accordance with MS?			X		
Was primer and transition material applied at a temperature in accordance with MS?			X		
Transition membrane fully bonded to substrate, rolled smooth, free of wrinkles, not delaminated, free of "fish mouths" and voids?	X				
Transition membrane seams and end joints overlapped in accordance with MS?	X				
All joints and exposed edges in transition materials terminated in accordance with MS?	X				
Were transition membranes installed at building envelope penetrations such as corners, joints, drains, penetrations and window/door openings as per MS or project specifications?	X				
Fluid-Applied Air Barrier Material:					
Final application of material a uniform color and thickness?	X				
Is the final application free of problems with moisture washing off the liquid membrane after it was installed? IE: water entering the tops of the walls during construction or prolonged rain events.	X				
Is the final application free of problems such as slumping, blistering, cratering, peeling, pinholes, shadow effect and "alligator skin"?	X				
Application equipment used as per fluid-applied air barrier manufacturer's specifications?			X		
Application of passes in accordance with MS?			X		
Are the adjoining areas free of overspray?	X				
General:					
Transition membranes and fluid-applied air barrier materials installed at a temperature in accordance with MS at time of audit?	X				
Are damaged areas or voids from pull-adhesion testing repaired in accordance with MS?		X			
Were transition membranes installed as per MS?	X				
Width of transition membrane meets MS?	X				
Has transition membranes and fluid-applied air barrier materials been kept free of contact with non-compatible (physical or chemical) materials?	X				
As per daily work sheets, is transition materials and fluid-applied air barrier material within manufacturer's UV exposure time limit at the time of audit?	X				

Section 4 - Visual Inspection Observations and Mandatory Corrections

Observations:

The air barrier was observed installed along North, East, West and South elevations. At window and balcony door rough openings, DOW-791 sealant was observed wrapping 3" into rough opening and extending 3" onto wall substrate, for a total of 6" per manufacturer specifications (See Photo #19). Per conversations with the certified installer, air barrier is being applied to gypsum wallboard panels at a remote site, then shipped to the construction site. Once the panels arrive on site, they are inspected for damages and defects prior to installation (see Photo #25). The air barrier was observed with uniform color and thickness; no evidence of slumping or shadowing was observed at time of audit (see Photo #11). At corners of window and balcony door rough openings, DOW Silicone Transition Strips were installed with edges fully encapsulated in DOW-791 sealant (See Photo #22). At a transition between cast-in-place concrete and exterior gypsum wallboard along South elevation at second floor, pinholes were observed in Dow-791 sealant (see Photo #17). As previously stated in section 3, DOW DefendAir is a primerless system, therefore, installation and use of primer on-site is not applicable to the project. Stoguard air barrier materials were observed installed on-site at locations to be covered by EIFS along West and North elevations (See Photo #21). Per conversations with the certified installer, this section of air barrier was installed by another contractor and is not part of the installer's scope of work. Pipe penetrations along South elevation at first floor were observed sealed with Dow-791 sealant tooled smooth (See Photo #8). The air barrier installation was limited to detail work at time of audit, hence, the use of application equipment and application of passes could not be confirmed at time of audit. Locations where adhesion testing had been conducted had not been repaired at time of audit (see Photo #30).

Corrections:

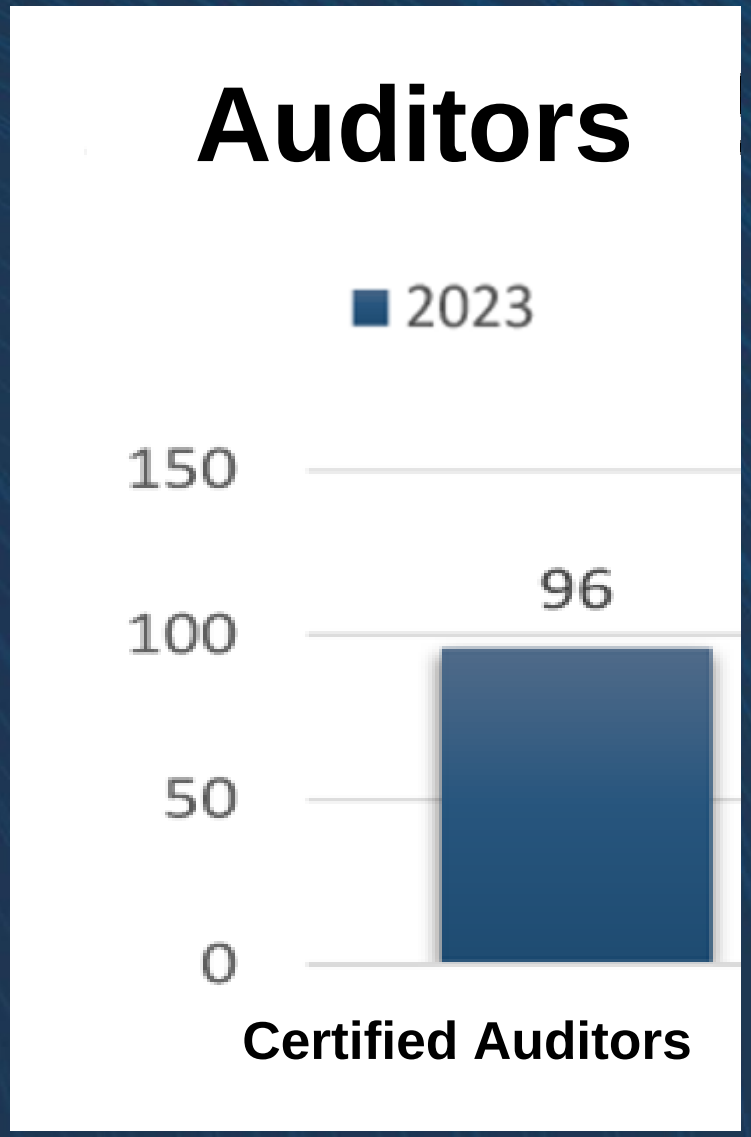
Ensure areas damaged during adhesion testing are repaired per manufacturer's specifications. Ensure pinholes in the Dow-791 sealant are repaired per manufacturer specifications.

ABAA QAP NOTE:

ABAA contractor shall:

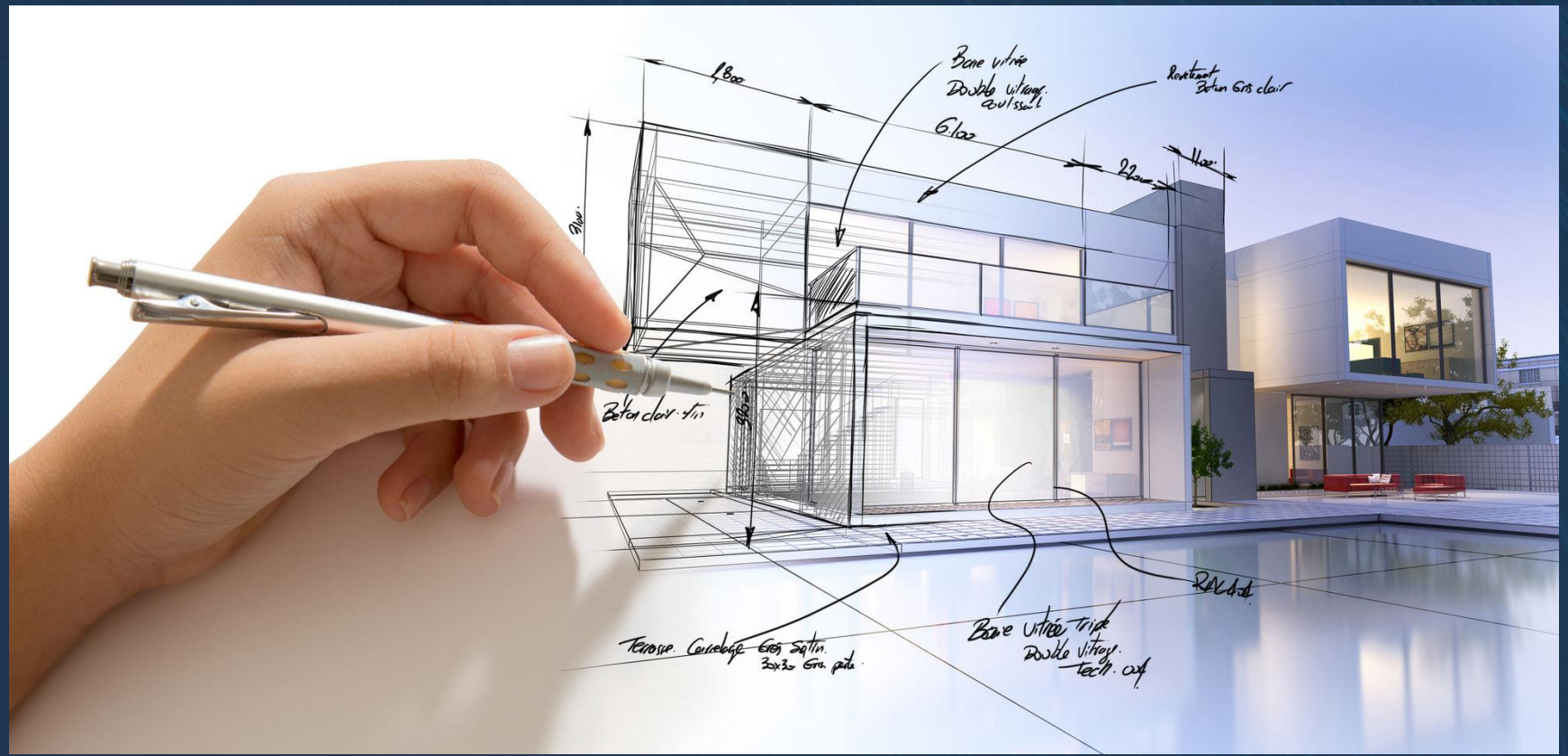
1. Locate and repair all deficiencies.
2. Photograph all corrections
3. Document all corrective action on daily job site reports.
4. Submit copies of those daily job site reports to the ABAA office.

How many Certified Auditors does ABAA have?



Scene 3:
2 Years After Project Completion

The Next Project Owner Calls Architect



Why Specify the ABAA Quality Assurance Program?

Easy to Find and Use – Complete Specifications

https://www.airbarrier.org/technical-information/master-specification/

Why Specify the ABAA Quality Assurance Program?

Complete Quality Assurance Program

1. Industry-Evaluated Materials
2. Evaluated Contractors with Trained/Certified Installers
3. 3rd Party Neutral Certified Air Barrier Auditors
4. Site Audits are Audited by an Association for Completeness

https://www.airbarrier.org/qap-overview/

The Final Scene:

USACE Core Requires **ABAA QAP** on all New Construction

Whole Building Air Tightness Testing

- Required by the State of Washington for **Occupancy**
- Numerous Cities Around the USA Require Testing
- 2018/2021 IECC Section C402.5.1
- One of the two ways to meet the IECC

QAP
Quality Assurance Program

A Quality ASSUREance Program for Air Barrier Installation

Our Inner Voices

Andi Wagner-Watts
(Amy's inner voice)

Building Science
Education Manager

GAF

Craig Wetmore

(Owner & Brian's inner voice)

President

York Flashings

Amy Baker

Owner

Amy Baker Architect

Brian Stroik

Performance Excellence
&
Quality Consultant

ACIG