Prefabricated Exterior Wall Panels
The EEWS Advantage

Executive Summary

• Eastern Exterior Wall Systems (EEWS) is an industry leader in prefabricated exterior wall panels with over 40 years of experience building panels for projects in the northeastern United States.

• Today's commercial construction industry faces numerous challenges from weather delays, congested urban job sites, safety hazards, stricter building codes, labor shortages, productivity declines, and a reluctance to adopt new technologies.

• Lightweight exterior wall panels reduce the load on the building's structure, enabling a lighter, less expensive structure than is required for traditional precast concrete panels.

• Prefabrication simplifies the extra work needed to meet stricter building codes required by Leadership in Energy and Environmental Design (LEED) and Passive House environmental standards.

• Prefabrication attracts workers from a declining labor pool and provides them with a safer work environment. Prefabricators maintain a well-trained, stable workforce despite widespread labor shortages.

• Prefabrication is a growing trend with an anticipated 6.5% compound annual growth rate (CAGR) from 2015 to 2020.

• EEWS builds prefabricated exterior wall panels year-round in a climate-controlled factory. The completed panels are then shipped to the job site for quick assembly. This eliminates weather delays and simplifies job site logistics, especially on congested urban job sites.

• EEWS offers their wall panels as conventional barrier systems or modern rainscreen systems. Upgrading to EEWS's gasketed joint system provides an immediate, weather-tight enclosure upon panel installation.

• EEWS can adapt any field-applied finish for prefabrication. Architects typically select metal, thin brick, stone, terra cotta, or Exterior Insulation and Finish System (EIFS).

• EEWS operates as a single-source solution for building envelopes, and often partners with contractors and architects in a “Design Assist” relationship.

• EEWS designs their panels with Autodesk Revit, a Building Information Modeling (BIM) system. BIM facilitates collaboration with the project architects, designers, engineers, fabricators, erectors, and vendors.
EEWS History

EEWS pioneered the prefabrication of exterior walls in the early 1970s. With more than 10 million square feet of wall panels installed over more than four decades, EEWS is a leading fabricator in the northeast with $60 million in sales each year.

Based in Pennsylvania’s Lehigh Valley, EEWS concentrates on the major metropolitan areas of New York City, Philadelphia, Atlantic City, and Boston. Their skilled craftspeople work year-round in climate-controlled factories in Easton, PA and Bohemia, NY to produce consistently high-quality facades.

EEWS operates as a single source for building envelope responsibility and coordination. EEWS continually innovates their systems to meet modern energy codes and performance targets while providing architects and designers with the widest array of finished materials in the industry.

Introduction to Prefabricated Exterior Walls

The construction industry is notoriously slow to adopt modern technologies. Traditionally, builders build entirely on the job site with processes that have not changed much in decades. In the aftermath of the Great Recession though, these builders are now racing to modernize as they deal with tighter budgets, shorter schedules, and labor shortages.

Prefabrication, once considered a niche industry, addresses the challenges builders are now facing. Prefabricators build major building components, such as the exterior and interior walls, bathroom pods, and multi-trade utility racks, inside climate-controlled factories. They ship the completed components to job sites per the erection schedules and install them promptly with minimal on-site labor.

This white paper focuses on the advantages of prefabricated exterior wall panels versus traditional on-site construction. It identifies the challenges faced in modern construction projects, particularly those built in urban environments where lay-down and working space is at a premium. Then it discusses how prefabrication is superior to on-site construction for addressing these problems.

This paper also overviews the wide array of panel construction types and exterior finishes available. EEWS is one of the few prefabricators that offers true frame-to-finish wall panels.

Contractors and architects need to understand and embrace the growing trend of prefabrication in order to stay competitive in the post-Great Recession world.
Challenges in Urban Commercial Construction

Building construction comes with inherent challenges, starting with those brought on by the weather:

- Rain often stops construction in the early stages before the building envelope can be made watertight.
- In northern climates, prolonged cold spells make it impossible to apply materials that need to dry or cure.
- In southern climates, extreme heat and direct sun exposure adversely affect the drying and curing of some materials.

The challenges intensify on job sites in congested, urban environments:

- There is often little or no room for material lay-down outside of the building perimeter.
- A city may require sidewalks to remain open, which necessitates scaffolding and protection for pedestrians.
- Scaffolding increases the difficulty and hazards for workers constructing the building envelope. This difficult work environment drives up costs and completion times.

Construction hot spots are moving from the suburbs into cities. This shift is intensifying these problems for builders.

Meanwhile, OSHA is increasing their scrutiny of job site safety:

- Construction leads all industries in worker deaths.
- Construction site injury and illness rates have held steady for years.
- Nearly a third of all construction site injuries result in days away from work, with a median time away of 10 days.³

Environmental protection is a growing concern in all industries, and building codes changed accordingly:

- LEED and Passive House are building styles that are moving from experimental to mainstream.
- Despite their proven benefits, they add expense and complexity to projects.
- They require additional insulation, superior air-tightness, and increased moisture management.

The risks and hardships of construction work have driven workers out of the occupation and have failed to attract new ones:

- The Great Recession permanently reduced the construction labor supply when more than 2 million jobs were eliminated.
- The prolonged nature of the downturn drove many laid-off workers into new careers or retirement.
- The remaining workers are reaching retirement age faster than new workers are joining the industry.
- 21% of the construction work force is age 55 or older, but just 9% are 24 or younger.
- 78% of construction firms report difficulties in finding qualified workers, and 82% of firms anticipate this problem will worsen.³
Despite these challenges, construction firms remain reluctant to adopt new technologies. Construction productivity has failed to improve over the past 80 years, and it has been consistently declining since the late 1960s. Conversely, other U.S. sectors, such as agriculture and manufacturing, have enjoyed productivity increases of 10 to 15 times since the 1950s.\(^3\)

Builders must modernize their work methods to remain competitive. Recent studies prove that emerging technologies positively impact productivity and help attract younger workers. These technologies include:

- Building Information Modeling (BIM)
- Virtual reality (VR)
- Augmented reality (AR)
- Robots
- 3D printing
- The Internet of Things (IoT).\(^3\)

These advances in technology are elevating prefabrication from a specialty product towards mainstream adoption.

### Prefabrication Advantages

Prefabricating exterior wall panels is advantageous, even though it requires increased planning and design work.

#### Precision Advantage

When building components are constructed off-site in a factory, the need for precision is paramount. An installer on the job site cannot easily compensate for errors in prefabricated components. On modern prefabrication projects, laser scanners allow for precise measurements of the building’s superstructure. BIM systems use this data to streamline the design work and collaboration required to ensure wall panels fit together precisely.

### Prefabrication: A Growing Trend

Prefabrication is on the rise as the construction industry rebuilds after the Great Recession. With a CAGR of 6.5%, spending on prefabricated and modular construction is expected to reach USD $209 billion by the end of the decade.\(^1\) This growth is primarily fueled by the need to meet tighter budgets and shorter schedules. Prefabrication also addresses the need for improved quality control, decreased on-site labor density, and improved worker safety.\(^2\)

#### Single Source Advantage

Many trades must coordinate their efforts to complete a building envelope before interior work can begin. Even experienced project managers struggle to coordinate these trades when constructing facades on-site. EEWS and other prefabricators function as a single-source supplier of building facades which simplifies the work of project managers. While barrier wall and rainscreen panel-to-panel joints must be sealed in the field, the newer gasket systems create an immediate watertight enclosure upon installation (see the EEWS Gasket System sidebar on Page 8). Using a single source supplier results in overall schedule compression and cost savings.
Prefabricated Exterior Wall Panels - The EEWS Advantage

Logistics Advantage
Prefabrication works for all types of buildings, but it is especially beneficial for urban construction. It eliminates the need for scaffolding for facade work, and it requires little to no on-site storage for materials. Truckloads of finished wall panels arrive on site per the installation schedule, and their loads are hoisted directly from the trailers to the superstructure for efficient installation.

Safety Advantage
The simplicity of installing prefabricated wall panels contributes to a safer job site. A typical erection crew includes just six workers – two on the truck rigging panels and four on the building floors attaching panels to the structure. Fewer workers and less stored materials cluttering up the site result in less safety hazards.

Workforce Advantage
Prefabricators maintain steady workforces more readily than traditional construction firms. Indoor factories are cleaner and more attractive to workers than congested outdoor sites with changeable weather. Work hours and commutes are steady and predictable, and workers remain employed from project to project. These conditions attract and retain talent in a tightening labor market.

Weather Advantage
EEWS and other prefabricators build their products in climate-controlled factories. Fabrication occurs year-round, eliminating weather-related schedule delays from rain, snow, and extreme temperatures. Installation of panels proceeds in all weather conditions except during high winds and lightning storms, though time lost to these conditions is usually minimal.

Adhesion Advantage
Increasing environmental regulations lead to stricter building codes which mandate additional layers of moisture control inside of each wall panel. Air/vapor barriers consist of sheet goods or rolled-on liquids. Workers on scaffolding struggle to adhere large sheet barriers on a wall’s vertical surface, especially in windy conditions. In prefabrication, workers set wall panels horizontally on racks at about waist height. They can then adhere these large sheets easily. Workers field-applying roll-on barriers face the same challenges, and likewise apply them more easily in fabrication shops.

Quality Advantage
The quality of the finished wall system improves when constructed in a climate-controlled factory. LEED and Passive House projects require extremely tight air barriers and attention to detail on thermal breaks and outboard insulation. Well-trained prefabricators meet these stringent requirements better than on-site laborers do. Third party inspections by wall consultants are now commonplace. These inspectors prefer to conduct the majority of their work in the fabrication shop instead of climbing scaffolding on the job site.

Wall Panel Construction
All EEWS wall panels begin with a light-gage steel frame. Fabricators then mechanically fasten fiberglass-reinforced exterior-grade sheathing to this frame. Many prefabricators only take their work this far, resulting in a project that still requires substantial field work to finish. EEWS considers this to be just the start of their frame-to-finish wall panels. EEWS can factory-install windows and louvers into these panels as well.

EEWS’s fabricators factory-apply an air/vapor barrier appropriate to the system type and finish
Prefabricated Exterior Wall Panels - The EEWS Advantage

material. EEWS offers wall panels as two types, barrier walls or rainscreens. The method by which the wall system protects the building from water, vapor, and air intrusion differentiates these types.

Barrier Walls
Barrier walls prevent intrusion of the elements by providing impenetrable materials and sealants on the outer surface. Buildings have traditionally been constructed this way. A wet seal of double caulk joints prevents moisture penetration between panels. Although construction is simpler and less expensive, these buildings require ongoing maintenance of the caulk joints to prevent leaks.

Rainscreen Systems
Rainscreen systems allow moisture to penetrate the outer cladding, but they contain an internal moisture-management system to let the moisture dry or evacuate the system. Fabricators apply an inboard air/vapor barrier over the sheathing. This barrier, along with inboard sealant, prevents the elements from penetrating the inner wall cavity. The outer cladding protects the wall from the rain, snow, wind, and ultraviolet rays, while the air gap in-between insulates the building. Although rain screen systems are typically more expensive than barrier systems, they require less maintenance, and their insulating properties contribute to lower energy costs.

Facades
Depending on the cladding selected, finished panels can weigh up to 75% less than traditional precast concrete panels. Superstructure cost is reduced by the lighter loads on it. Thus the savings of a well-designed facade can reach beyond the facade itself.
**EIFS** is EEWS’s original wall system. Architects appreciate the unmatched flexibility and creativity this lightweight and economical finish offers. Expert craftspeople shape the facade by adhering expanded polystyrene or extruded polystyrene insulation to the substrate. Then they hand trowel an acrylic-polymer finish (synthetic stucco) over a layer of base coat and reinforcing mesh. Although available only as a barrier system, EIFS wall panels still meet stringent energy code requirements.

**Metal** facades are lightweight and contemporary, making them popular with architects. Architects can choose from aluminum composite material, aluminum plate, or corrugated metal, all of which can be constructed as either a barrier wall or rainscreen panel. These panels include insulation between the metal face and the sheathing to meet modern energy codes. Metal can also accommodate design features such as perforations or radiused surfaces.

**Thin Brick** facades are as durable as their full-brick counterparts, but they weigh up to 75% less. Craftspeople build a base of extruded polystyrene insulation, felt paper, galvanized metal lath, and a latex-modified, fiberglass-reinforced setting bed. Then they adhere the brick tiles to the base, and they flood grout or point and hand-tool them. Architects select brick tiles that are available in the same variety of colors and textures as full brick. Brick panels can be constructed as either a barrier wall or rainscreen.

**Stone** lends itself well to exterior use as either a feature or accent material. Natural stone’s durability is unrivaled, and it will last a lifetime without losing its color or luster from direct sunlight exposure. Architects can choose from granite, limestone, or cast stone. To meet modern energy requirements, stone panels are constructed as a barrier system with outboard insulation between the sheathing and stones.

**Terra Cotta** is a premium system offered only as a rainscreen. These natural clay tiles adapt well to both modern and traditional architectural styles. They are set outboard of the air/vapor barrier by means of concealed aluminum clips. Terra cotta tiles have color-permanence even when exposed to direct sunlight, and they can last well over a century.

Architects and designers are not limited to this predefined set of finishes. EEWS can adapt any field-applied finish for prefabrication. They have incorporated various specialty materials on past projects including copper and stainless steel sheeting, wood composites, porcelain tiles, fiber cement, and true stucco.
Gasket System Section

EEWS's new gasketed panel-to-panel rainscreen joint extends their range of high-performance prefabricated solutions. This dry-seal system uses pre-cured silicone gaskets and aluminum extrusions to simplify erection and installation. Gasketed joints provide an immediate, weather-tight enclosure. These seals eliminate the time and expense of using a swing scaffold to caulk joints after installation.

Build With EEWS

EEWS’s commitment to serving as a single-source solution for building envelopes reaches beyond the fabrication of wall panels. EEWS works with architects and contractors through all project stages to deliver an innovative and quality wall system.

Design Assist

“Design Assist” is a popular project delivery method for building envelopes. EEWS partners with architects early in the design stages to lend their knowledge, expertise, and skill to positively affect quality, schedule, and cost. EEWS can design and test proof-of-concept work, including visual and performance mockups, during this phase.

EEWS also works closely with structural engineers to influence:
- type of structure
- preferred load paths
- column and beam locations
- slab edge locations and conditions
- adjacencies to foundations, storefronts, window walls, curtain walls, and roofing

Building Information Modeling

BIM is a sophisticated, modern technology. It links three dimensional digital models of the building skin and structure to a database of information containing the design and specification of each component.

EEWS adopted BIM in its early days, using Autodesk’s Revit Architecture to detail the building model throughout the entire process. When designers make changes in dimensions and wall details to the building model, the BIM software handles the follow-through to all related drawing views.

EEWS also uses BIM technology to enhance communication and accuracy. BIM facilitates collaboration with the project’s architects, designers, engineers, fabricators, erectors, and vendors. Engineers analyze wall layouts and details with BIM to detect clashes and resolve issues prior to the start of fabrication.
AIA Continuing Education

EEWS teaches an AIA-approved continuing education course that introduces architects to prefabricated exterior wall panels. This course examines the benefits and processes of prefabrication and explains how it differs from traditional on-site construction. Architects learn about:

- the benefits of prefabricated building envelopes
- the processes of prefabrication and installation
- finish material and waterproofing options
- the energy efficiency of prefabricated exterior wall panels


Prefabrication vs. Site-Built: Construction Study Results

- 41 work days schedule reduction
- 3.7% direct cost savings
- $2.4 million indirect cost savings
- 5,000 fewer hours overall labor
- 30,000 hours diverted labor off-site
- 2 reduced safety incidents

1.74 Benefit-to-Cost Ratio

M.A. Mortenson Company conducted an independent study on the benefits of prefabrication in 2014. They installed prefabricated exterior wall panels on four floors of the Exempla Saint Joseph Hospital in Denver, CO. These panels typically measured 30 feet long by 15 feet tall. Their sizes and construction methods are representative of those used by EEWS.
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Learn more

Visit the EEWS Website:
http://www.eews.com

View case studies on recent landmark projects on the EEWS YouTube Channel:
https://www.youtube.com/eewsinc

References


Brandon Karst, 32, General Contractor

Brandon is the owner of Tall Towers, a general contracting firm in Philadelphia that specializes in building high-rises in the tight confines of city blocks. He is responsible for bidding on new projects and overseeing the progress of existing projects. He coordinates with key stakeholders on each project, including the property owner, city zoning officials, architects, engineers, and subcontractors. Because he spends most of his days in meetings dealing with high-level issues, he relies heavily on his project managers to handle the details and day-to-day issues at each construction site.

Brandon inherited the ownership of Tall Towers two years ago after his father’s sudden passing. His father in turn had inherited the business from his grandfather, and Brandon feels a strong sense of responsibility to continue his family’s legacy. He grew up in and around the business, and he skipped college to learn the construction trade firsthand. He began as a laborer while still in high school, moved into estimating after graduation, then worked his way up the ranks into project management. This has given him a solid understanding of the construction trade and the work performed by various subcontractors.

Despite his hands-on experience, he has been overwhelmed since assuming the leadership role. Tall Towers is still working through debts incurred during the Great Recession, a time in which they nearly went bankrupt. Now pent-up demand has seen commercial construction soaring, and Brandon is trying to grow the business for the future while still cleaning up the past. He routinely works 80 hours or more a week, much of that time trying to keep projects on schedule as subcontractors fall behind.

The company still operates much as it did since his grandfather started it, with many employees resistant to change. They are not leveraging modern technology, and the mantra of many long-term employees is “we do it that way because that’s the way we’ve always done it.” Brandon sees the construction business getting increasingly competitive and is beginning to get outbid more often by rival firms who have embraced modern technology and new ways of building things.

Brandon has begun delegating some of his responsibilities to his senior project managers so that he can begin to spend time “working on the business instead of working in the business.” He has begun setting time aside each week to learn about new construction techniques and ways to speed up construction while holding down costs. Although he is not very computer-savvy, he has sought the advice of consultants for using information technology to streamline his workflows. Brandon is a hands-on guy and enjoys meeting with others. He rarely reads or watches television.

Brandon is married to his high-school sweetheart and they have two young children, an eight-year old daughter and a five-year old son. He is motivated to revolutionize Tall Towers to better care for his young family, and he hopes to inspire them to one day carry on the family business. He believes that by embracing change and technology, he can be a role model for his children and employees to do the same.
Sandra Reed, 27, Junior Architect

Sandra is a junior architect at Hollander and Hayes Architects (HHA) in Philadelphia. She earned her architectural degree from Drexel University which is a highly regarded local college. She joined HHA as an intern and was hired full-time after graduation. Sandra works under the supervision of a licensed architect as she gains the experience needed to sit for the AIA exam to earn her own licensure.

Most of HHA’s projects are high-rise offices, hotels, and apartment buildings in Center City Philadelphia. Sandra’s main responsibilities are taking the senior architects’ conceptual designs for these buildings and creating detailed sets of construction blueprints from them. She works extensively in Revit, a 3D building information and modeling system that has become the industry standard in recent years. Her blueprints are used by other trades, such as civil, structural, exterior envelope, plumbing, electrical, and HVAC, so she also puts effort into coordinating with their designers.

The aspect she enjoys most about her job is learning about new building materials and design concepts. No two projects are ever the same, thus she believes she will never get bored of this field. There is always something new to learn, and she is excited that the construction industry is finally starting to embrace technology and shrug off their outdated ways of thinking. Sandra is young, computer-savvy, and not afraid to experiment with new software.

Although Sandra loves the creative aspects of her job, she gets frustrated with the multiple revisions each building goes through as they are often “value engineered” to meet budget. These changes often result from lack of early-stage coordination and upfront information from other trades which impact her designs.

Sandra is a model employee at HHA with the hopes of becoming a senior architect after passing her upcoming AIA exam. As she prepares herself for this promotion, she has been taking initiative to “get ahead of the curve” and seek out information early in a project in order to help reduce rework. She also avidly studies new building technologies that she hopes to incorporate in her own designs when she becomes a senior architect. Sandra also loves to share what she learns with HHA’s interns who she now mentors.

Sandra is unmarried and devoted to her career, often working 60-hour weeks. Much of her free time is spent studying architecture, design, and art as well. She is an avid reader and has a large home library of books about these subjects. Once she earns her promotion, though, she hopes to start a family and knows that some career time will have to be cut back as a result. That drives her to learn new and more efficient ways of designing things now though, so she will not feel as if she has to sacrifice family time to excel in her career.
Prefabricated Exterior Wall Panels - The EEWS Advantage

Executive Summary

Description
This will be a bullet-point list of the key points of the paper. Each point will be a sentence or two summarizing the main points of each section below.

User Perspective
Brandon will benefit most from this section as it gives him the highlights he needs without having to read the full report. If any particular point piques his interest, he can quickly scan to the section where he can get more information. Sandra will likely read this section in full to see the big picture of what is being presented.

Graphics
None

Additional Questions
Should we call this “Key Points” or “Summary” to sound more approachable and less corporate? This might matter since we are trying to appeal to blue collar professionals like Brandon.

EEWS History

Description
This section establishes EEWS as credible source of information on prefabricated exterior walls. It provides an overview of their 40-plus years as an innovator in prefabrication, the variety of exterior finishes they offer, their evolution of exterior wall performance to meet stricter building codes, and the design services they offer to work with architects and contractors.

User Perspective
This section will be short as neither Brandon nor Sandra are likely to be too interested in EEWS itself at this point and may skim it initially. However, it is necessary to establish EEWS as a credible authority before presenting the rest of the material. If this paper persuades Brandon or Sandra to contact EEWS for more information, they will likely revisit this to read it in full before initiating contact.

Graphics
A photo of an office building which is a prior EEWS project and their headquarters (Two City Center in Allentown, PA), photo to be obtained from EEWS’s website

Additional Questions
Has EEWS won any awards that could vouch for their credibility in the industry?

Introduction to Prefabricated Exterior Walls

Description
This section gives an overview of what this white paper will cover. It will establish that the focus is on the prefabrication of exterior walls on large commercial construction projects primarily built in tight urban environments. It will introduce the idea that innovation in the construction
industry has lagged behind most other industries, but that the market is ripe for change. Then it will propose that prefabrication, which has already been established as a niche market, is a solution that is becoming mainstream as builders address their growing challenges.

User Perspective
Sandra is most likely to benefit from this section, as she will likely read the document start-to-finish. This big picture will establish her expectations for the paper. Brandon will likely skim this section.

Graphics
A photo of one of EEWS’s landmark projects (Caesar’s Atlantic City Hotel and Casino), photo to be obtained from EEWS’s website

Additional Questions
None

Challenges in Urban Commercial Construction

Description
This section spells out the problem that the reader is trying to solve. It elaborates on several key challenges that today’s commercial construction industry is facing - urban job site logistics, tighter budgets and schedules, labor shortages, stricter building codes, and safe work practices. Although the reader may already relate to these problems, this section fills any gaps in their knowledge and primes them to be open to the solution presented in the next section.

User Perspective
Sandra will read this section fully, and it will continue her personal journey of educating herself about architecture and construction. Because she spends most of her time in the office, this gives her a better perspective of the difficulties faced on a construction site. This knowledge will inform her architectural designs and help her “sell” her decisions to those who are contracted to build them. Brandon will skim this section to pick out relatable pain points that his business experiences. This will prepare him to be receptive to the solution presented in the next section.

Graphics
A photo showing a congested and hectic urban construction site, to be obtained from a stock photo website

Additional Questions
None

Prefabrication – A Growing Trend

Description
This sidebar will show that prefabrication is a growing trend that should be taken seriously.

User Perspective
Brandon will easily notice and absorb the information in this graphic. He will realize that his company needs to get on this bandwagon. Sandra will use the information as support for using prefabrication in her designs.

Graphics
A bar chart showing the total dollar value of prefabricated construction from 2015-2020

Additional Questions
None
The Prefabrication Advantage

Description
This section covers our top-ranked objective of persuading the reader that EEWS’s prefabricated walls are the solution to the problems. It takes each challenge presented in the prior section and explains how prefabrication solves the problem. It also presents ROI data as objective proof for cost and time savings. This should be the longest section in the paper.

User Perspective
Sandra will read this section fully to learn about a construction technique that she likely has not encountered before. She will be eager to learn more so that she can start improving her own designs. Brandon will read this more thoroughly than other sections because he is eager to innovate in ways that revive his business and give him a competitive advantage.

Graphics
Infographic using data from the Mortenson Prefab Study with the following sections:
- ROI data on Exterior Wall Panels (cost savings and man-hour savings)
- Job schedule compression
- Improved on-site labor efficiency
- Decrease in number of safety incidents

Additional Questions
None

A Wealth of Options

Description
Now that the reader understands that prefabrication is a good solution to their problems, this section will elaborate on EEWS’s diverse product offerings. It will start with the basic framing, sheathing, and water protection that forms the basis of all wall panels. It will explain the difference between barrier and screen wall systems. Then it will elaborate on the variety of exterior finishes and options that can be used.

User Perspective
Sandra will find this to be the most interesting section of the report. Architects are driven primarily by building aesthetics and creativity, and Sandra will be relieved to know that prefabrication does constrain her creative options. The photos will draw her eye to this section and inspire her. Brandon will skim or skip this section entirely, as he his company does not make the aesthetic decisions on buildings; they only the cladding materials that the architect specifies.

EEWS Gasket System

Description
This sidebar will introduce EEWS’s gasket system which was developed in recent years. Although it could easily be the topic of its own white paper, it is presented as a sidebar here just to raise awareness of it and to further position EEWS as an industry leader.

User Perspective
Brandon will note this and remember it as an innovative way to speed up the on-site construction process. Sandra will add it to her growing knowledge of design options.

Graphics
Drafted detail of two panels connected and sealed with EEWS’s proprietary gaskets and extrusions.

Additional Questions
None
Graphics

- Two drafted details showing the difference between the barrier wall and screen wall systems in terms of how they offer moisture protection
- A “photo strip” of the photos from the “Our Products” page on the EEWS website

Additional Questions
None

Build With EEWS

Description
This section is a call-to-action for the reader to connect with EEWS for help with their current projects. The reader will be provided with EEWS’s phone number, email, website, YouTube channel, and a link to their lunch-and-learn program which offers continuing education credits to AIA licensed architects.

User Perspective
By this point, Brandon is already considering how prefabrication can benefit some of his current and upcoming projects, so he is interested in reaching out to EEWS directly (likely via telephone) to speak with a sales representative. Sandra is intrigued by the design possibilities and would like to visit EEWS’s website and YouTube channel to learn more. Although she is not an AIA licensed architect yet, she knows that many of her AIA licensed colleagues are always looking for ways to earn CEU’s, so she will pass along the lunch-and-learn information to them.

Graphics
A photo of a wall panel being hoisted to its place on the building facade by a crane, photo to be obtained from EEWS’s website

Additional Questions
The lunch-and-learn program has a unique appeal for architects, but can we offer something equally compelling for contractors? Perhaps an invitation to visit our fabrication shop or a free on-site assessment of ways prefabrication can help them?

References

Description
A list of non-EEWS references used in the prior sections.

User Perspective
Sandra may use this for further research and reading. Brandon likely won’t even notice it.

Graphics
None

Additional Questions
None