eews
claddings
envelopes
exterior walls

date: april 28, 2022
project: wexford - drexel
exterior facade

prepared for turner construction

facade proposal and analysis
based on sd pricing set
payette architects • march 11, 2022

eastern exterior wall systems, inc.
645 Hamilton Street, Suite 300 • Allentown, PA 18101 • 610.868.5522

Key Points to Our Approach

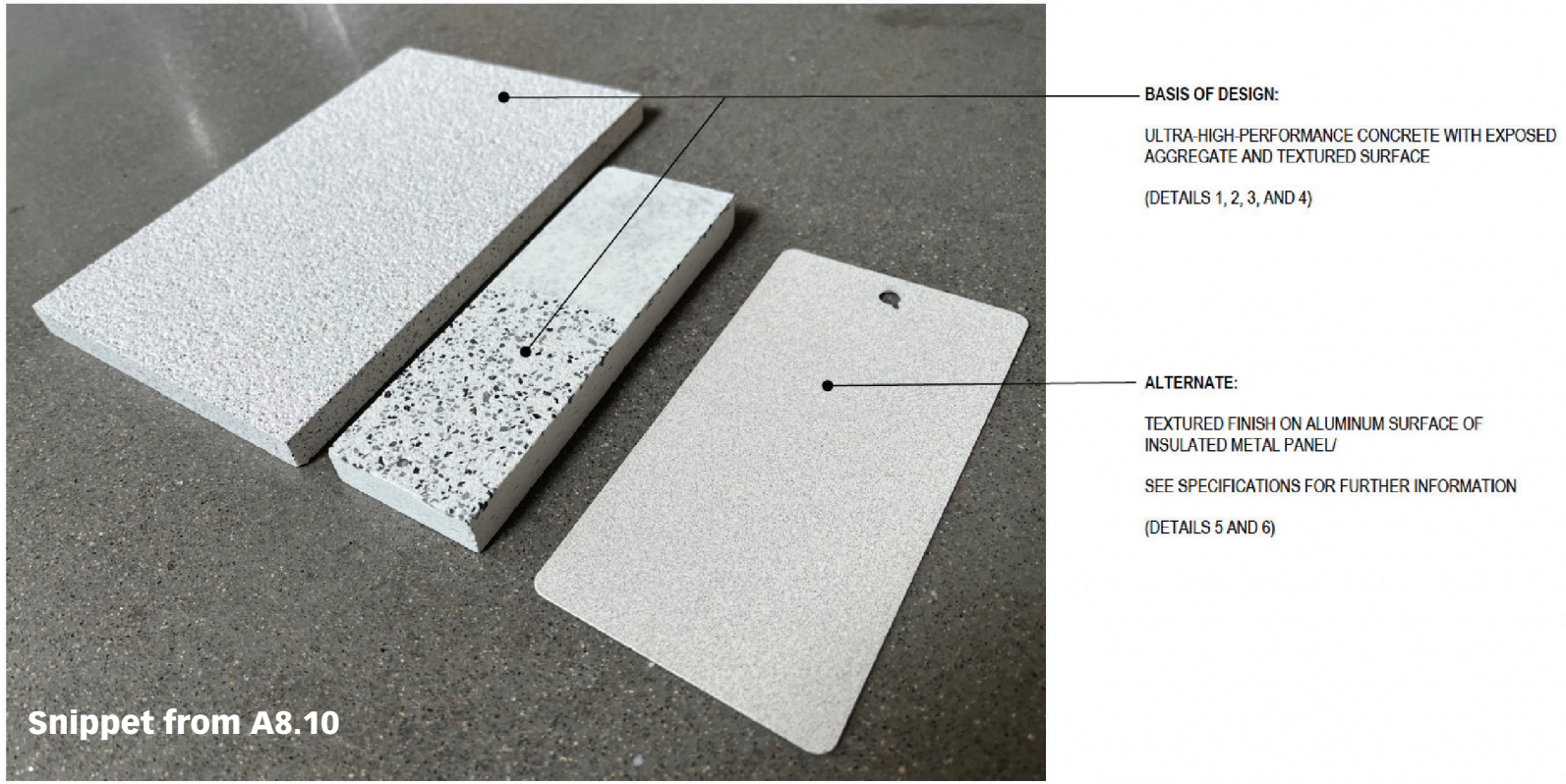
Drawing A8.10 calls for the basis of design as UHPC, but also an alternate for textured IMP. EEWS does not recommend IMP in this application because the ends and edges of IMP panels are problematic to seal and trim for good long term weather performance.

ACM is offered with a textured finish similar to IMP. As between ACM and UHPC, ACM is the lesser cost alternative and provides superior long term weather performance. This proposal presents ACM as the base offering with an add alternate for UHPC.

As drawn, the outer surface of the glass and the UHPC/louvers are co-planar. This proposal recesses the windows/louvers to provide the ultimate weatherproofing assembly into mega panel. We can provide an add alternate to achieve co-planar glass and claddings.

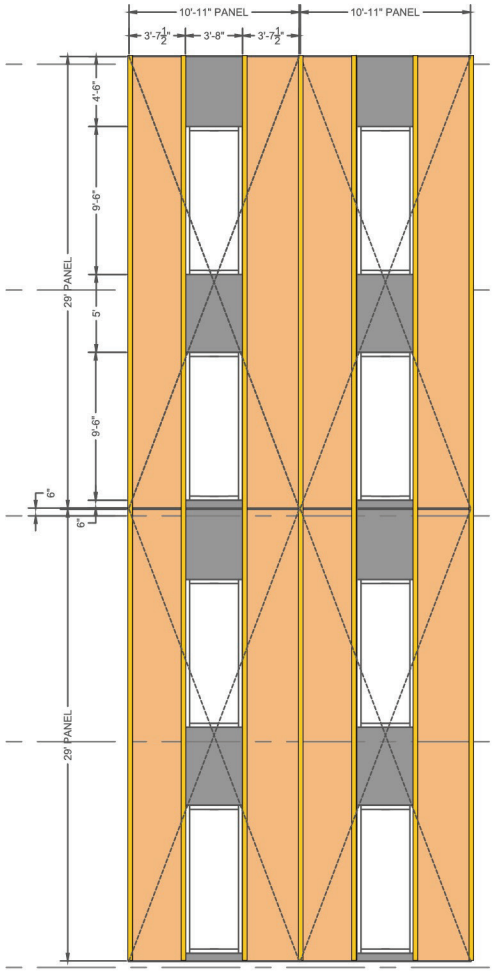
We have developed a preliminary Thermal Analysis demonstrating the superior performance of our mega panel system.

Panel-to-panel joints will require some modification and additions to facilitate the mega panel system.
Sunshade fins are included as ACM because extruded fins are not available with a textured finish.

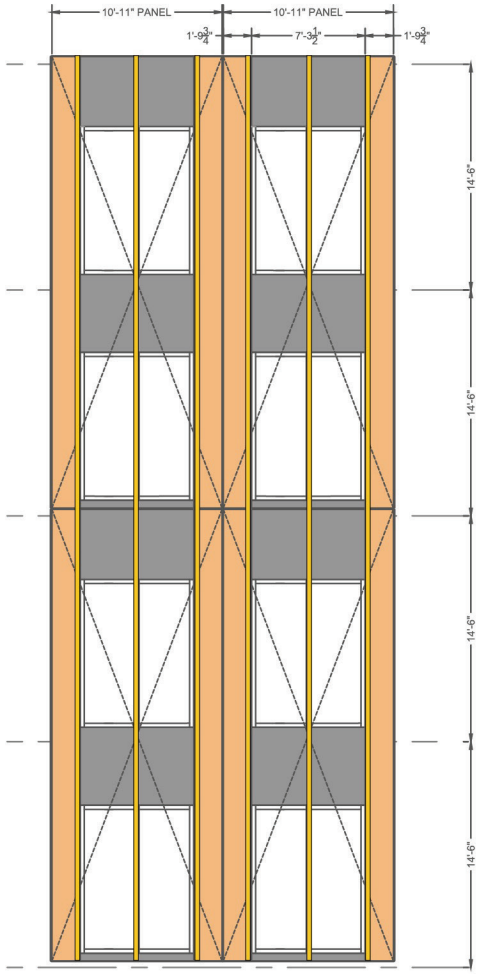


Snippet from A8.10

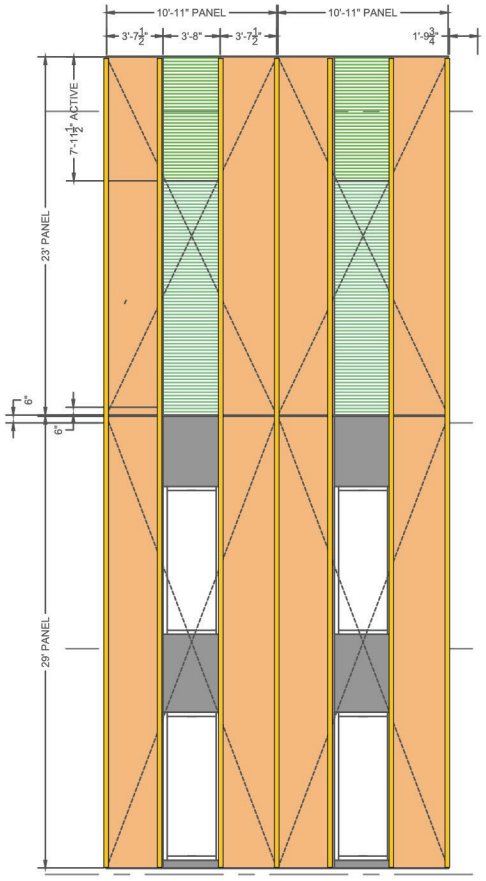
EEWS Approach



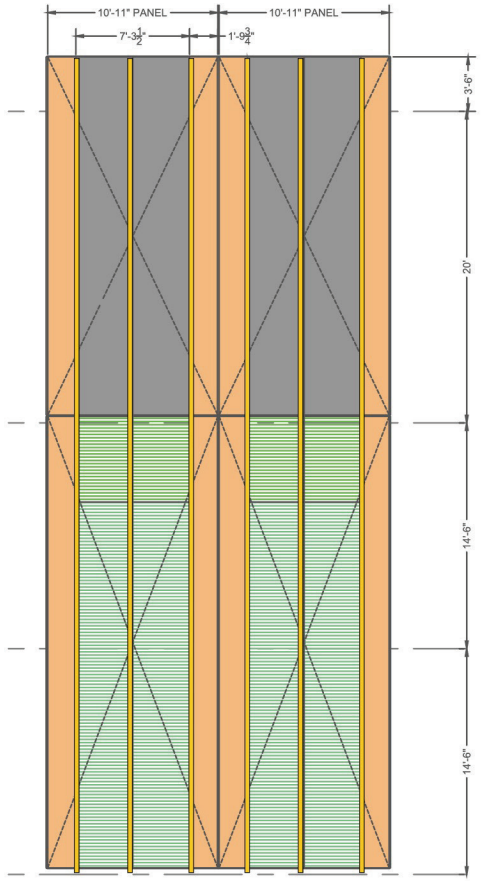
Typical South
Panel Concept
Punched Windows



Typical North and West
Panel Concept
Punched Windows



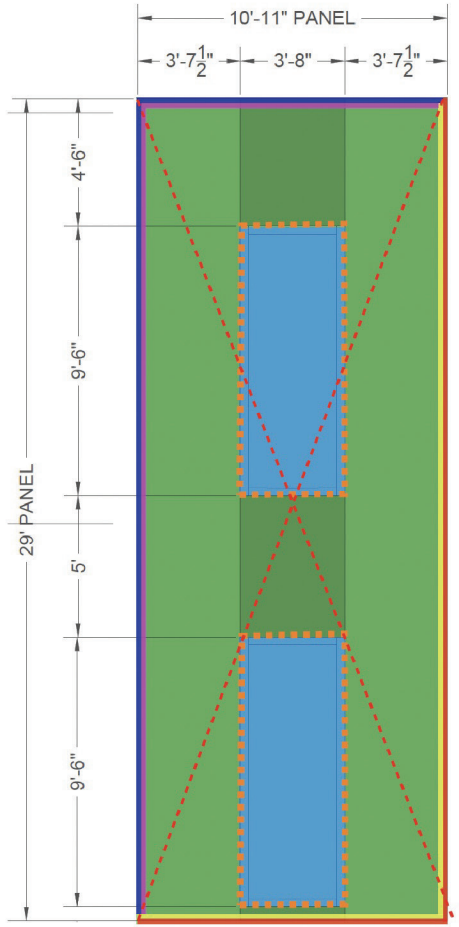
Typical South
Panel Concept
Punched Louvers



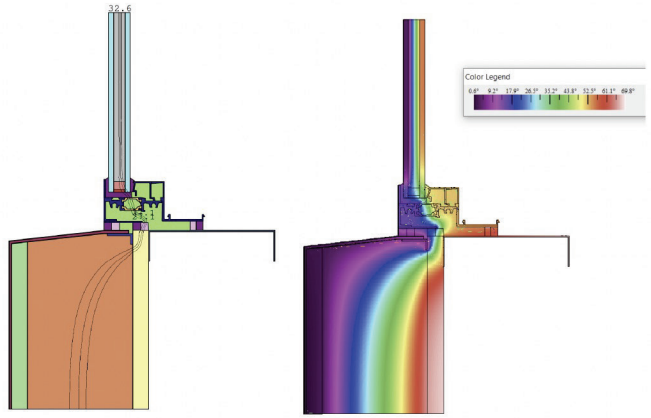
Typical North
Panel Concept
Punched Louvers

Thermal Information

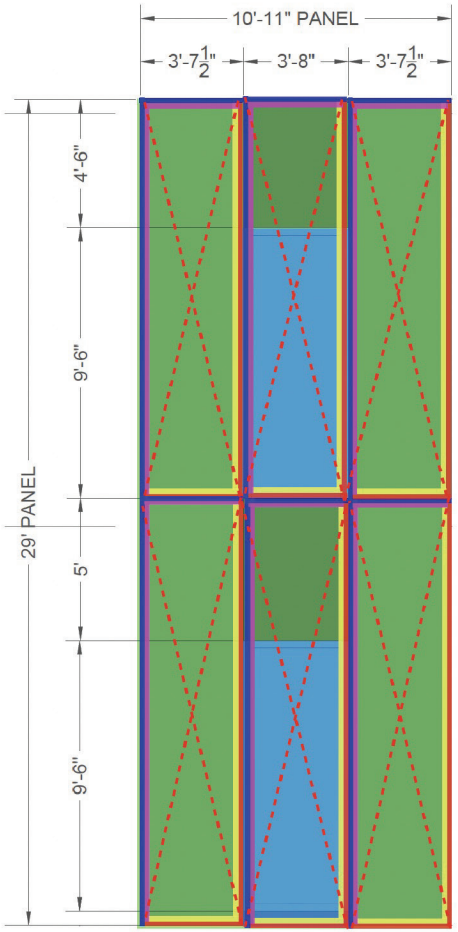
EEWS Mega Panel



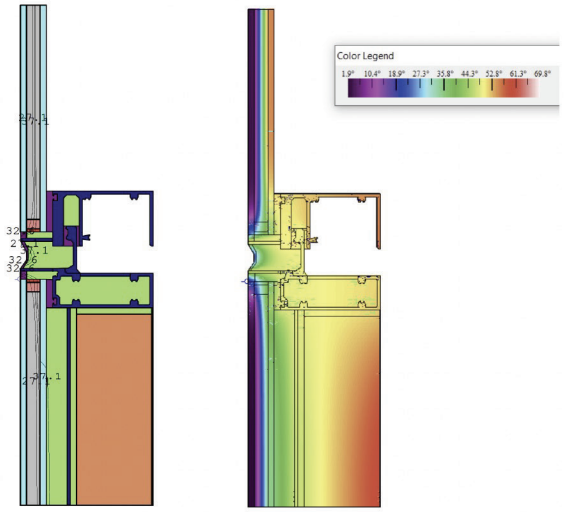
	(hr.sf.F)/btu
Total Module R-Value	7.03
	btu/(hr.sf.F)
Total Module U-Factor	0.142



Generic Curtainwall



	(hr.sf.F)/btu
Total Area R-Value	4.68
	btu/(hr.sf.F)
Total Area U-Factor	0.214



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Eastern Exterior Wall Systems

Building. Experience.

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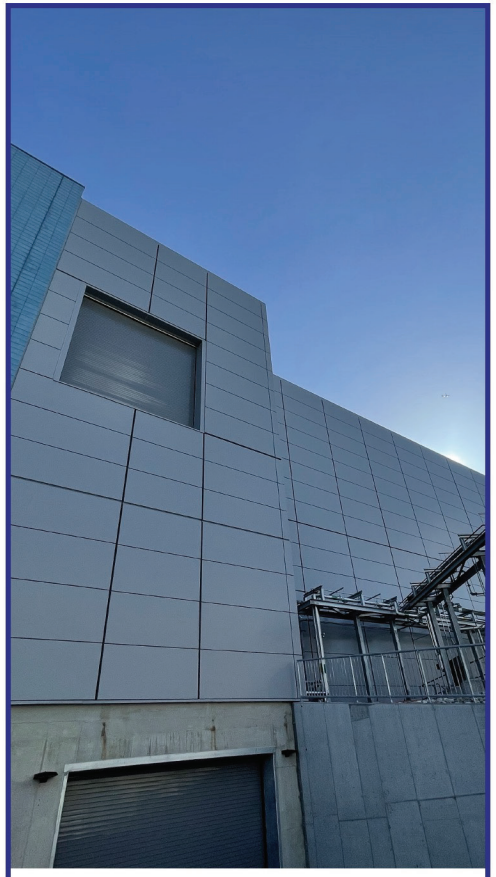
High Performance Buildings

Cornell University
"The Passive House"
Roosevelt Island • NYC

200 Ashland
"BAM Tower"
Brooklyn • NYC



Merck
Modular Biological Mfg
West Point, PA

EEWS continuously develops its designs into the best high performing enclosure systems in existence.

Examples of our leading technology are the Cornell University Residence, currently the tallest certified Passive House building in the world; the Brooklyn Academy of Music (BAM) residences and the Merck modular biological manufacturing facility where the manufacturing interior was fully modular and the exterior was prefabricated requiring highly complex attachment engineering provided by EEWS

Please copy the link below into your browser to view videos many projects.

https://www.youtube.com/channel/UC6fuWykugV8M200Ks9c6YlA

https://www.eews.com

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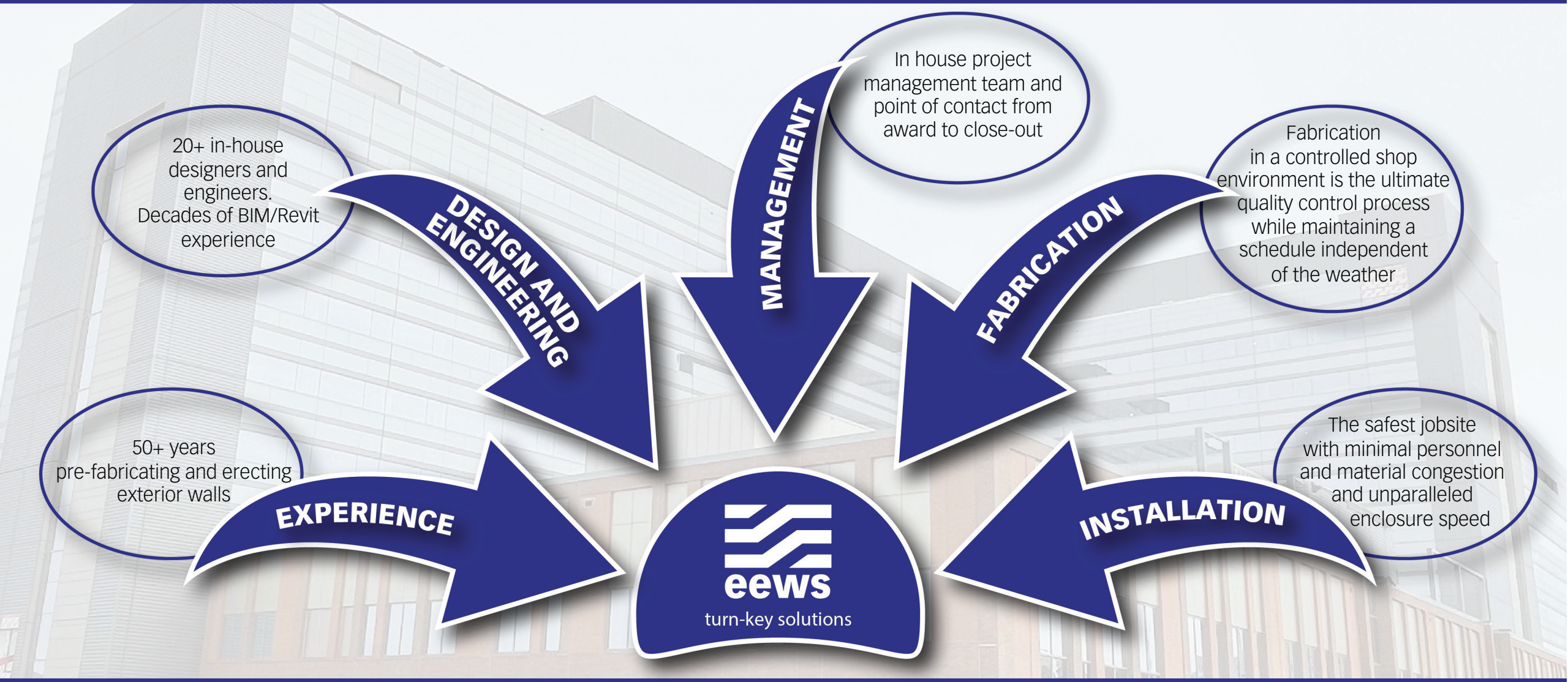
Best Qualified



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EEWS Design Assist Approach

EEWS believes the most successful design-assist projects occur when there is:

- A true spirit of collaboration
- Prefabricated system designers and drafters are in-house, highly experienced, and Revit certified
- A realistic budget and schedule
- Early agreement of details
- Constant monitoring of design evolution and timely budget feedback to the team
- Experienced partners
- One team from design to fabrication to installation

EEWS brings all of these to each project it undertakes

Drexel University Health

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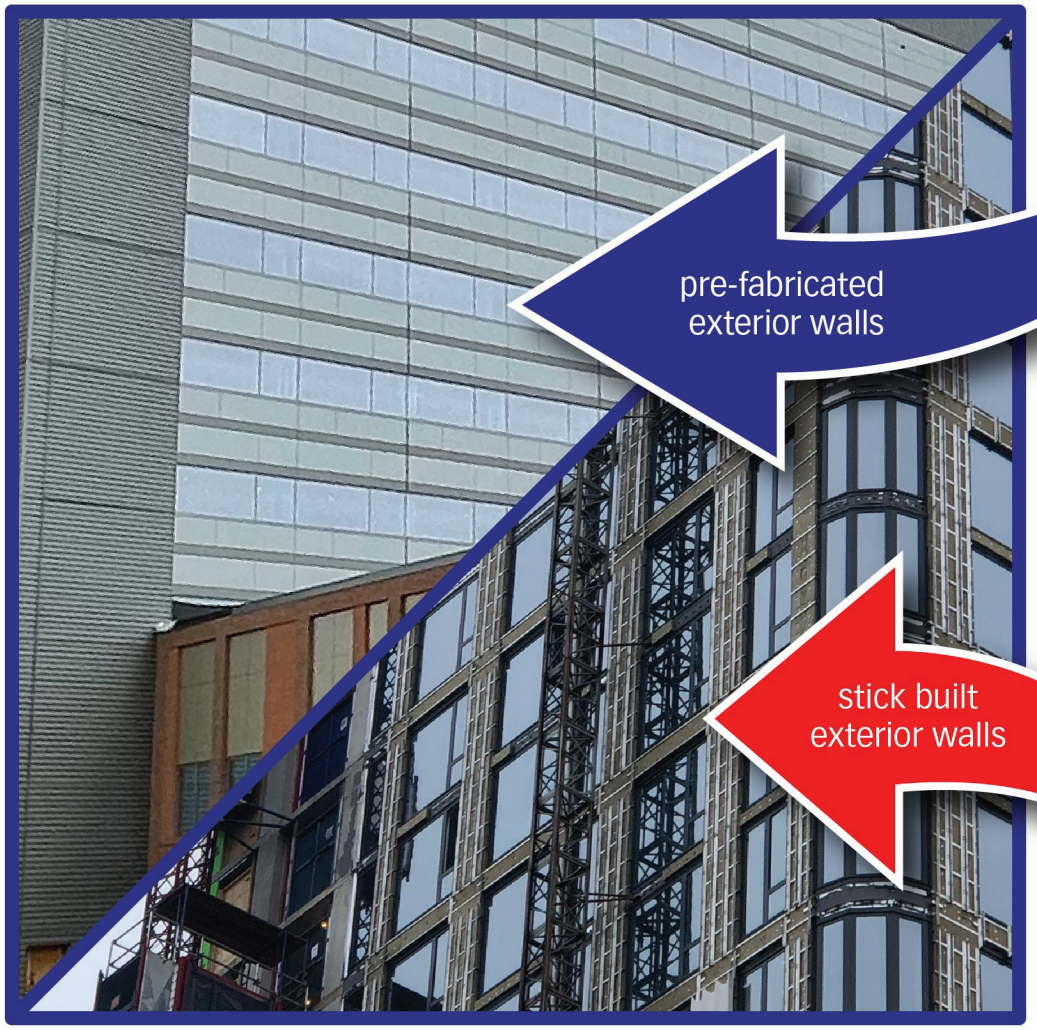
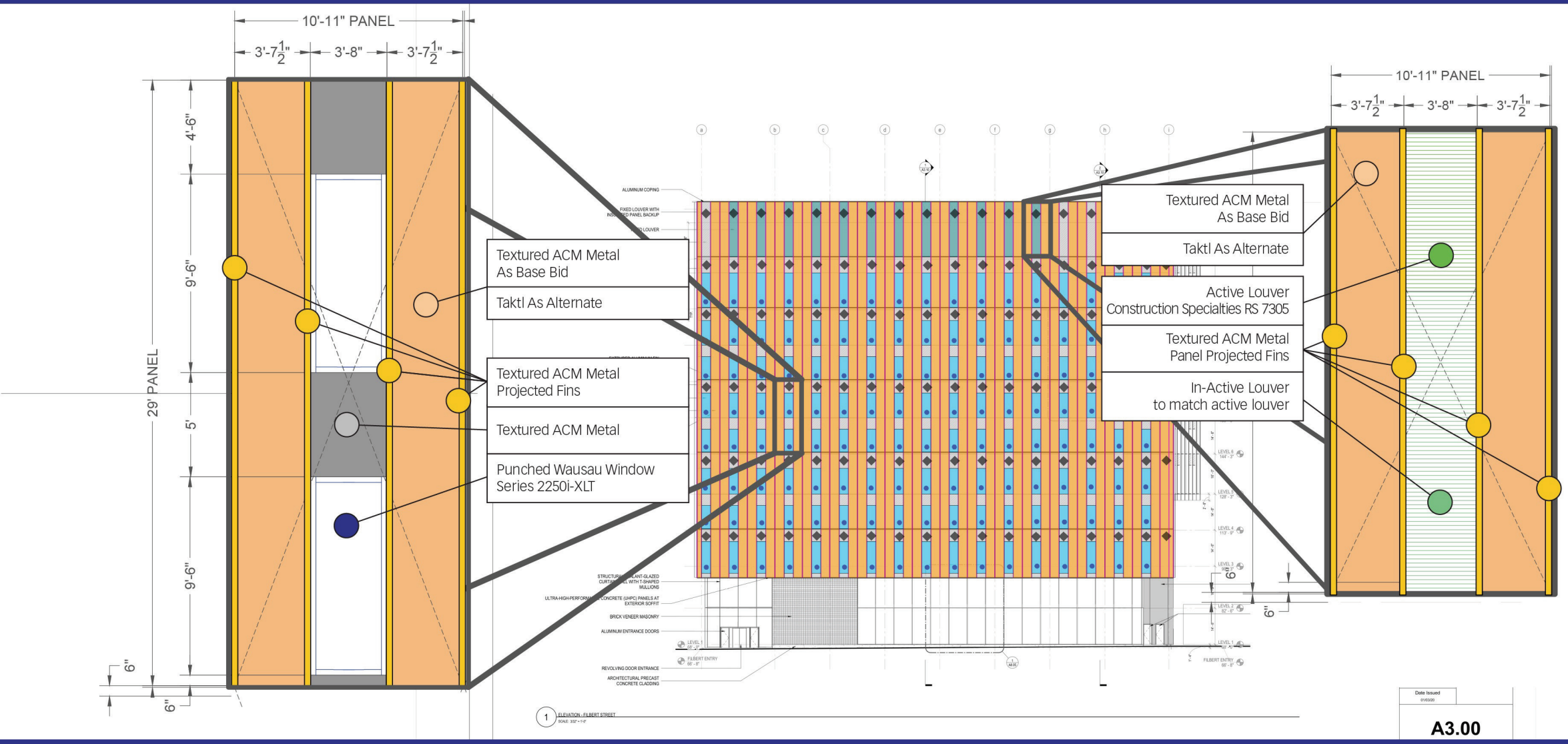
Benefits of Prefabrication by EEWS



- A safer jobsite
  - Significantly less men on site
  - Little to no material stored on site
  - Little to no jobsite congestion
- Excellent engineering and management
- Factory assembled for ultimate quality control
- Better moisture and thermal performance
- Greatly reduced time of enclosure
- Single source system responsibility and coordination

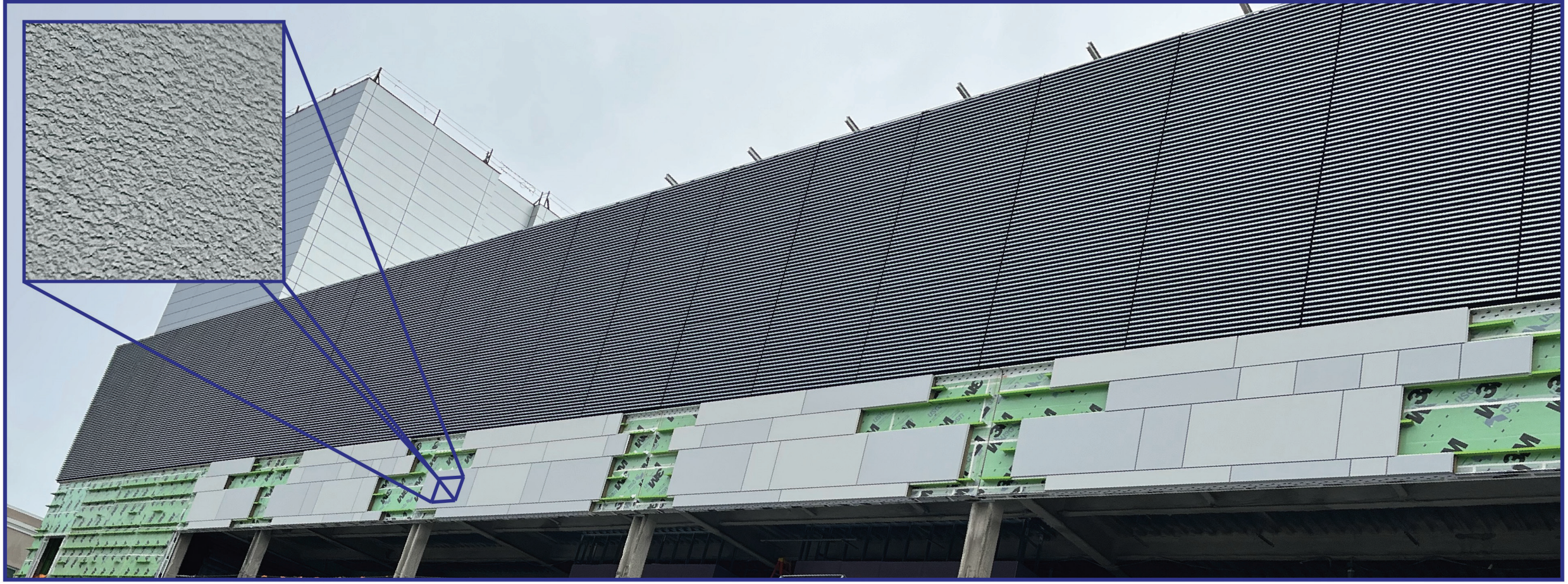
- Congested job site for manpower & equipment which diminishes safety
- Quality control harder to maintain
- Time of enclosure is much longer and can delay completion and other trades
- Multiple sources of responsibility

Scope of Work



Textured ACM, Active and Inactive Louvers

Grandview Health



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ACM Mega Panel with Wausau Windows

UC Calhoun Building

project description:

- The Calhoun building is a student dorm for the University of Cincinnati
- The building was demo'd to the structure and reclad with mega panels by EEWS
- This is the first building in Ohio designed with mega panels in mind

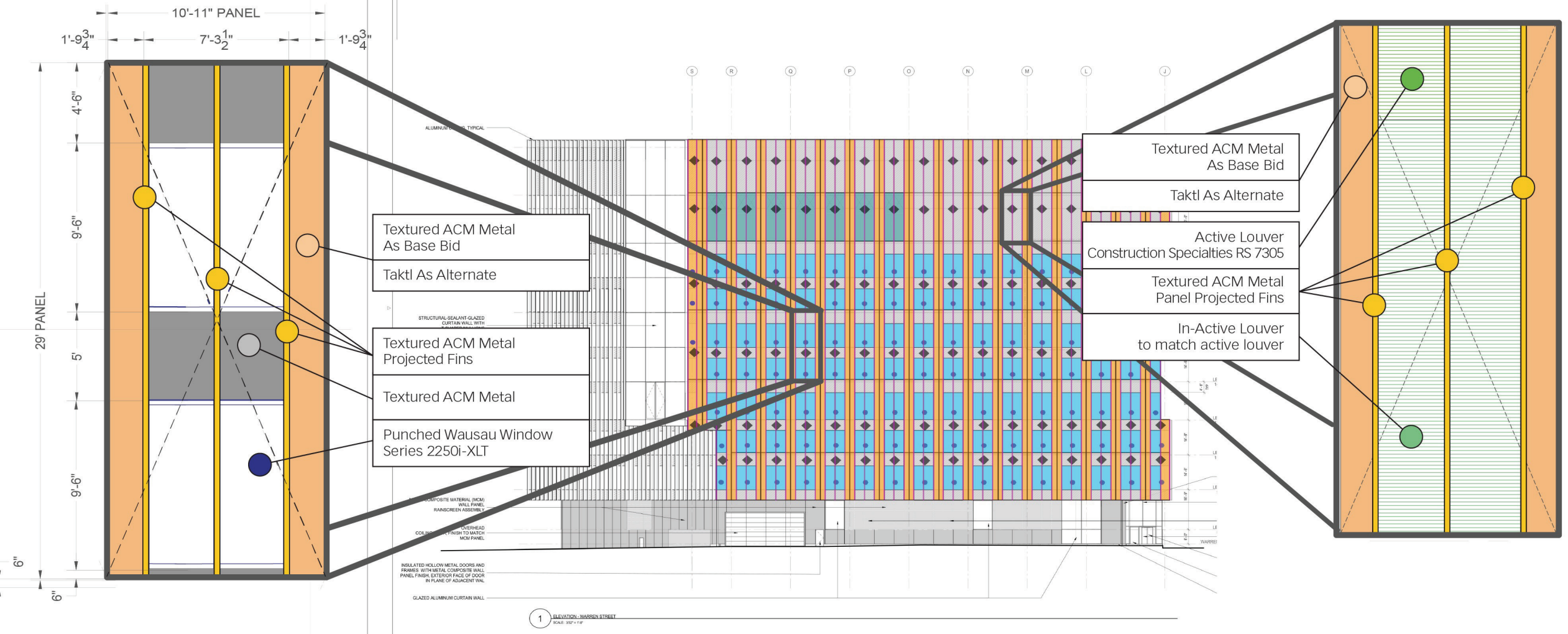
project challenge:

Deliver the highest quality exterior wall possible within a very aggressive schedule to provide for timely student occupancy.

eews solution:

- Exterior wall exceeded all thermal requirements
- Wausau Windows were pre-installed in the shop
- Architectural intent was met with metal panels
- Project was installed at a rate of 1 floor per day
- Job was completely designed in Revit (3D) allowing for accurate analysis of the wall and coordination with all trades

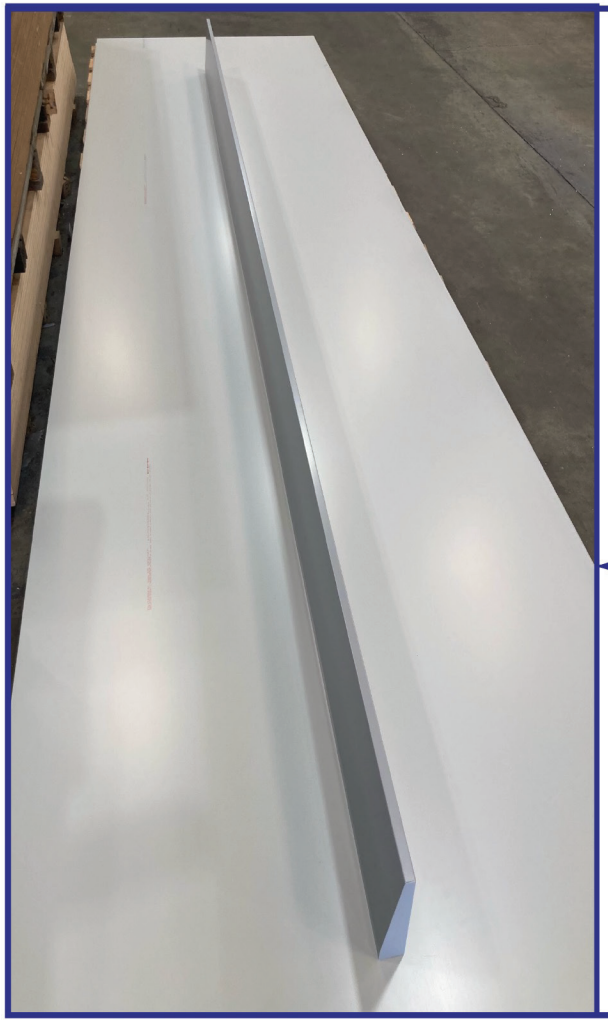
Scope of Work

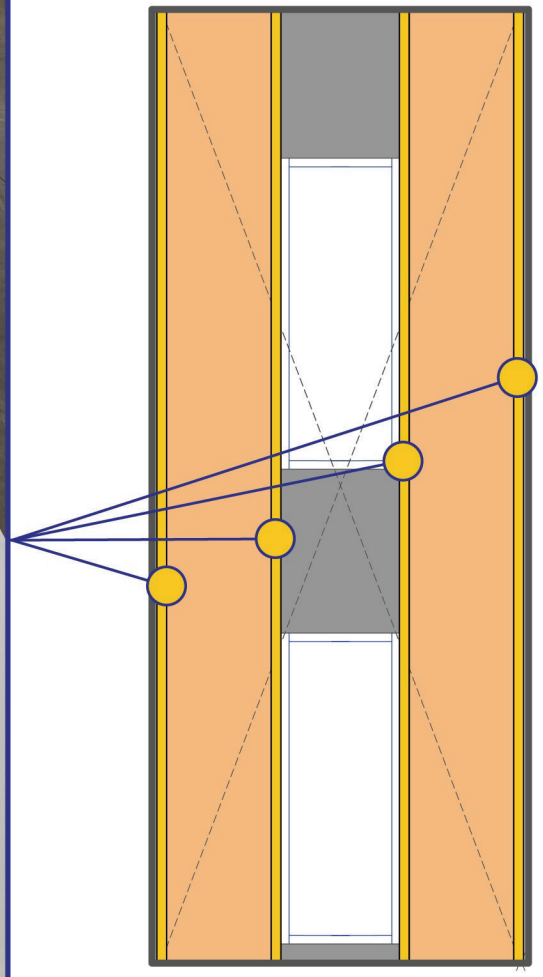


ACM Mega Panel with Projected Fins

Drexel University Health

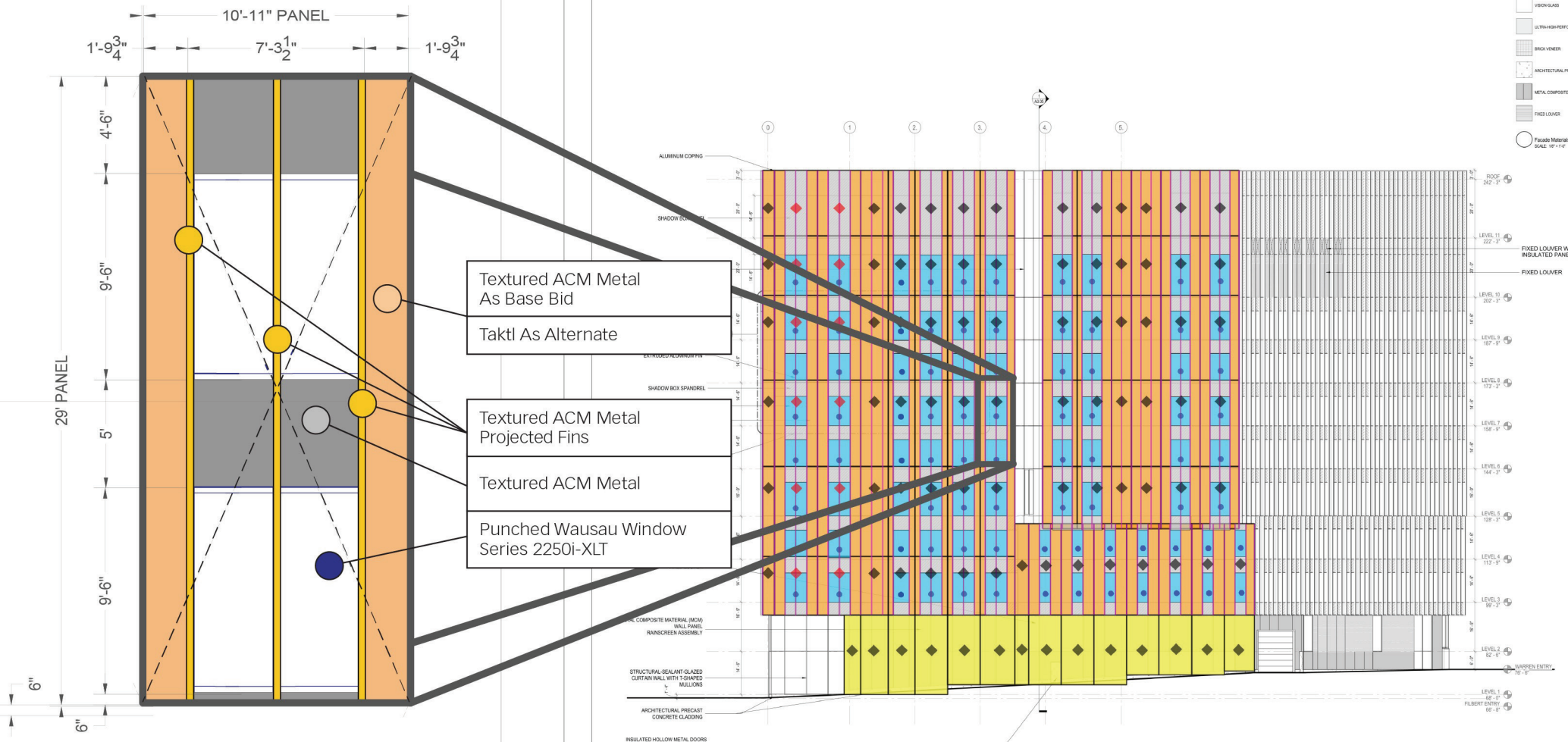
Custom Textured ACM Fin





EEWS has produced a project specific sample fin with end caps pictured to the left. The value included in the proposal assumes a slightly more eased leading edge

Scope of Work



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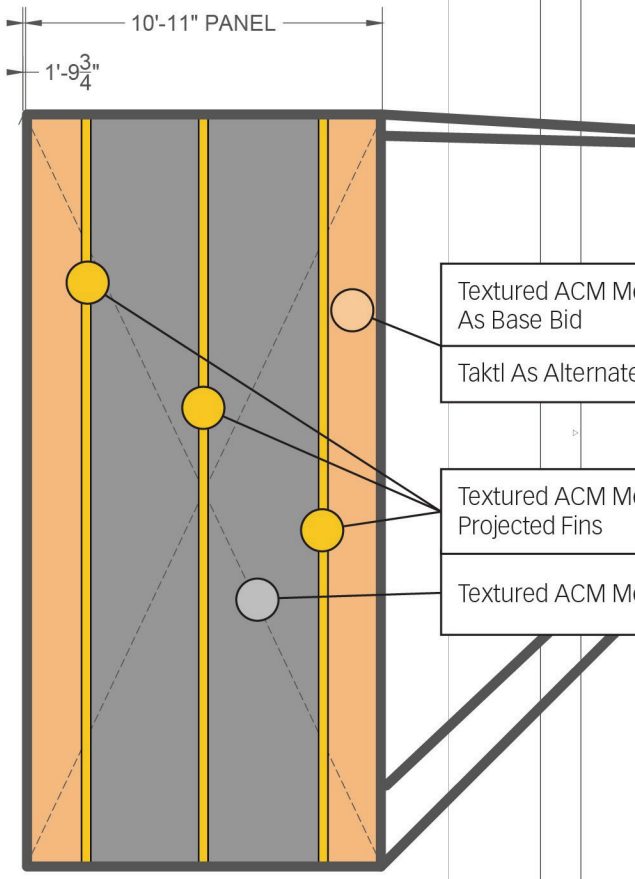
ACM Mega Panel with Complex Geometry And Integrated Windows

BAM Tower

Scope of Work



NOT FOR CONSTRUCTION

#	DATE	DESCRIPTION

WEXFORD / DREXEL
NEW LABORATORY BUILDING
SCHEMATIC DESIGN PRICING PACKAGE

BUILDING ELEVATION - WEST

Drawing Scale: As indicated
Project Number: Project Number
Date Issued: 03/07/22

A3.03

ACM and Terra Cotta Mega Panels

University of Pennsylvania

Mohawk Valley Health System

project description:

- State of the art hospital in Utica, NY
- Blend of multiple metal panel skins as well as a brick clad podium.
- Intricate and complicated features on the façade
- Schedule driven by hospital needs and weather patterns in this Northern climate.

project challenge:

- Deliver the highest quality exterior wall possible by integrating Centria Insulated Metal Panels into EEWS's proprietary prefabricated rainscreen system and providing timely enclosure for a large building in a region where trade labor is in short supply

eews solution:

- Exterior wall exceeded all performance requirements through the application of EEWS' prefabricated rainscreen system
- Job was completely designed in Revit (3D) allowing for accurate analysis of the wall and coordination with all trades

EEWS Design Assist Process with BIM

Model the building geometry

Map the panel layout

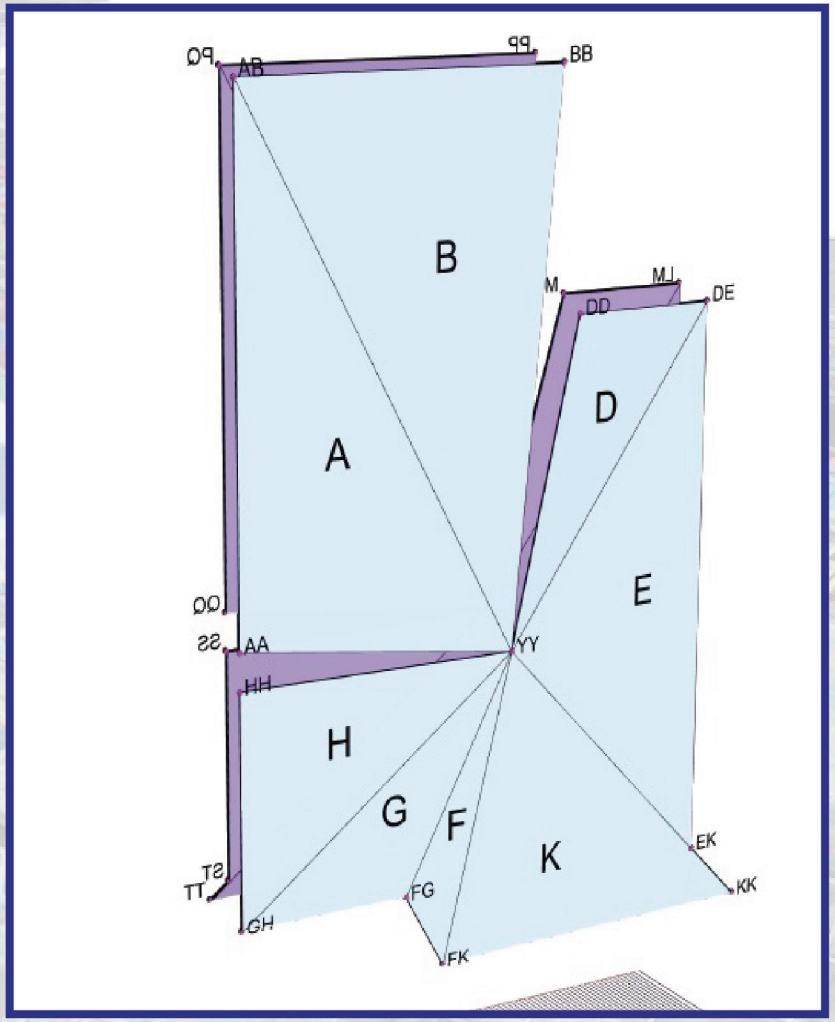
Proof of design - Structural Analysis

Proof of design - Thermal Analysis

Analyze the panel components

Model the panel

Model the details



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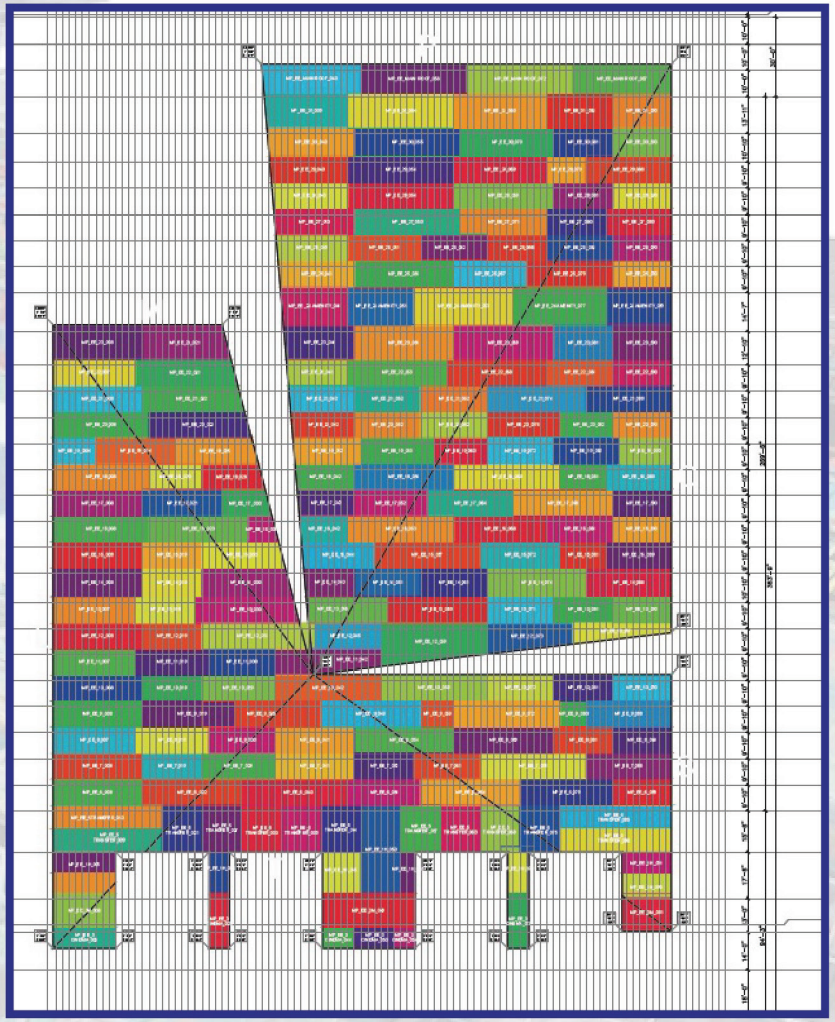

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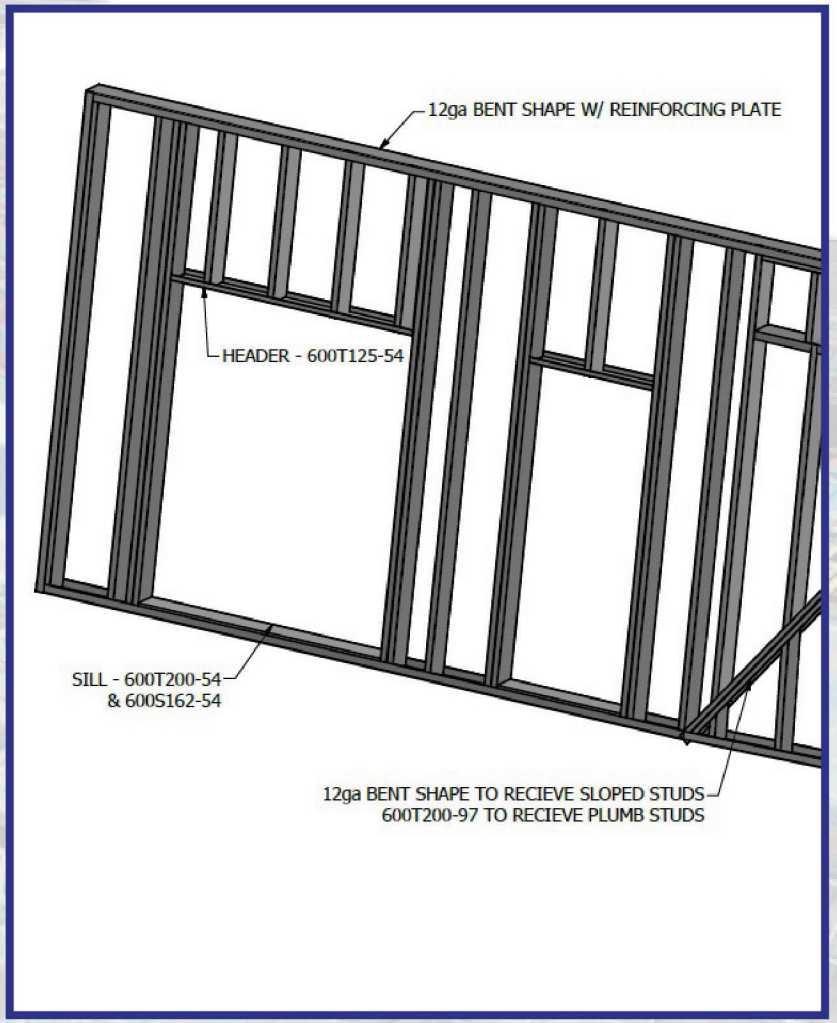

Design Process with BIM

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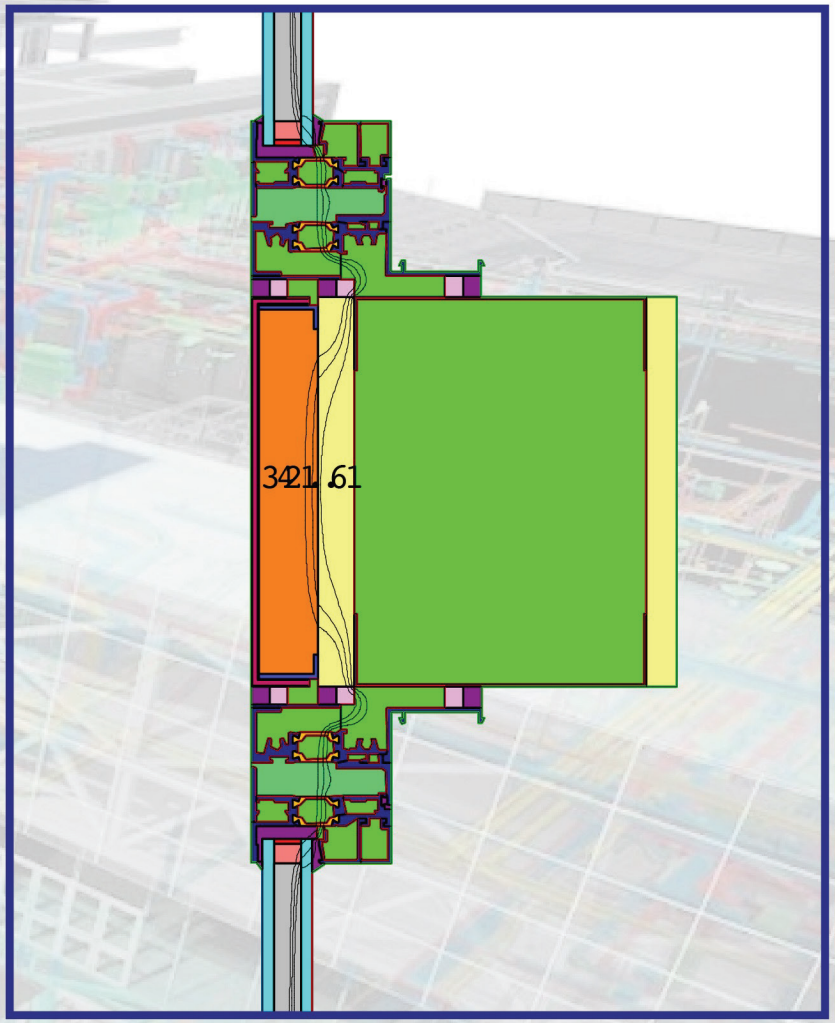

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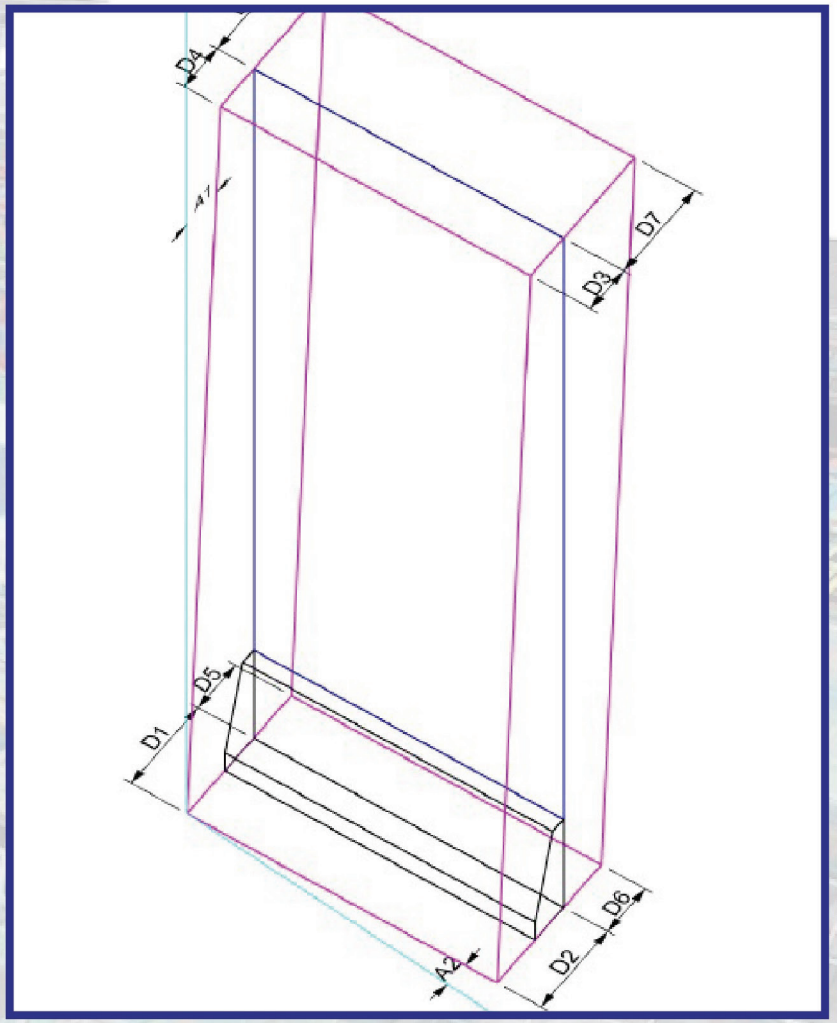

Design Process with BIM

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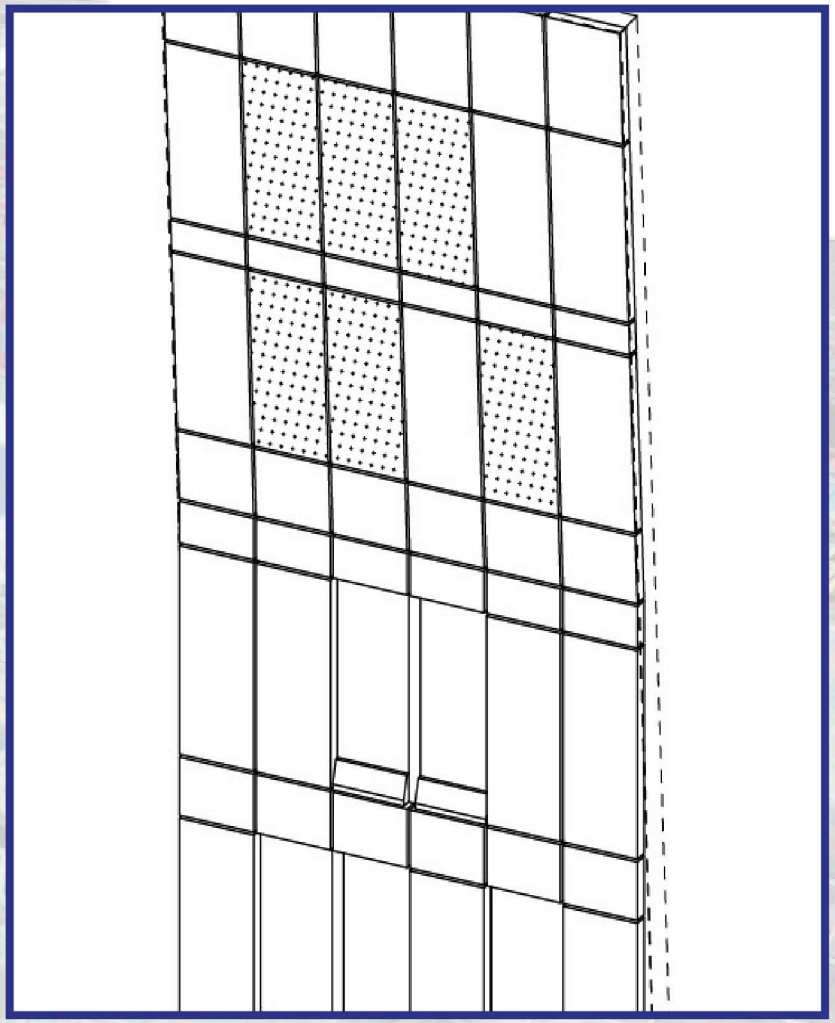

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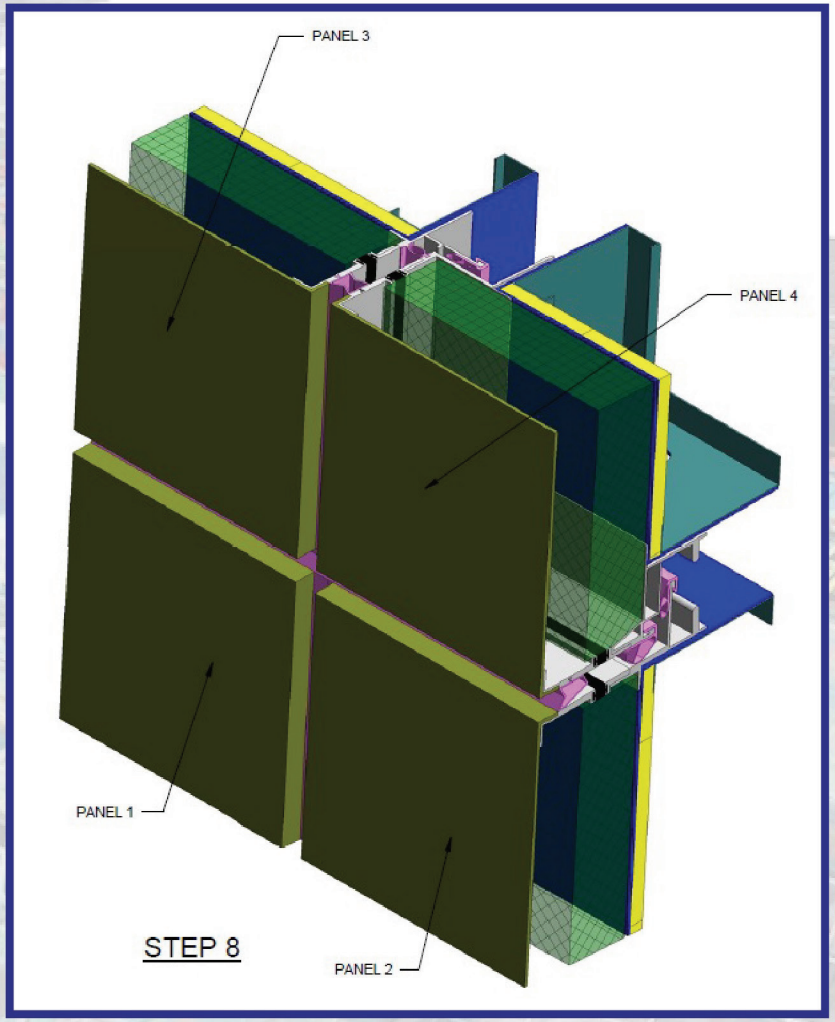
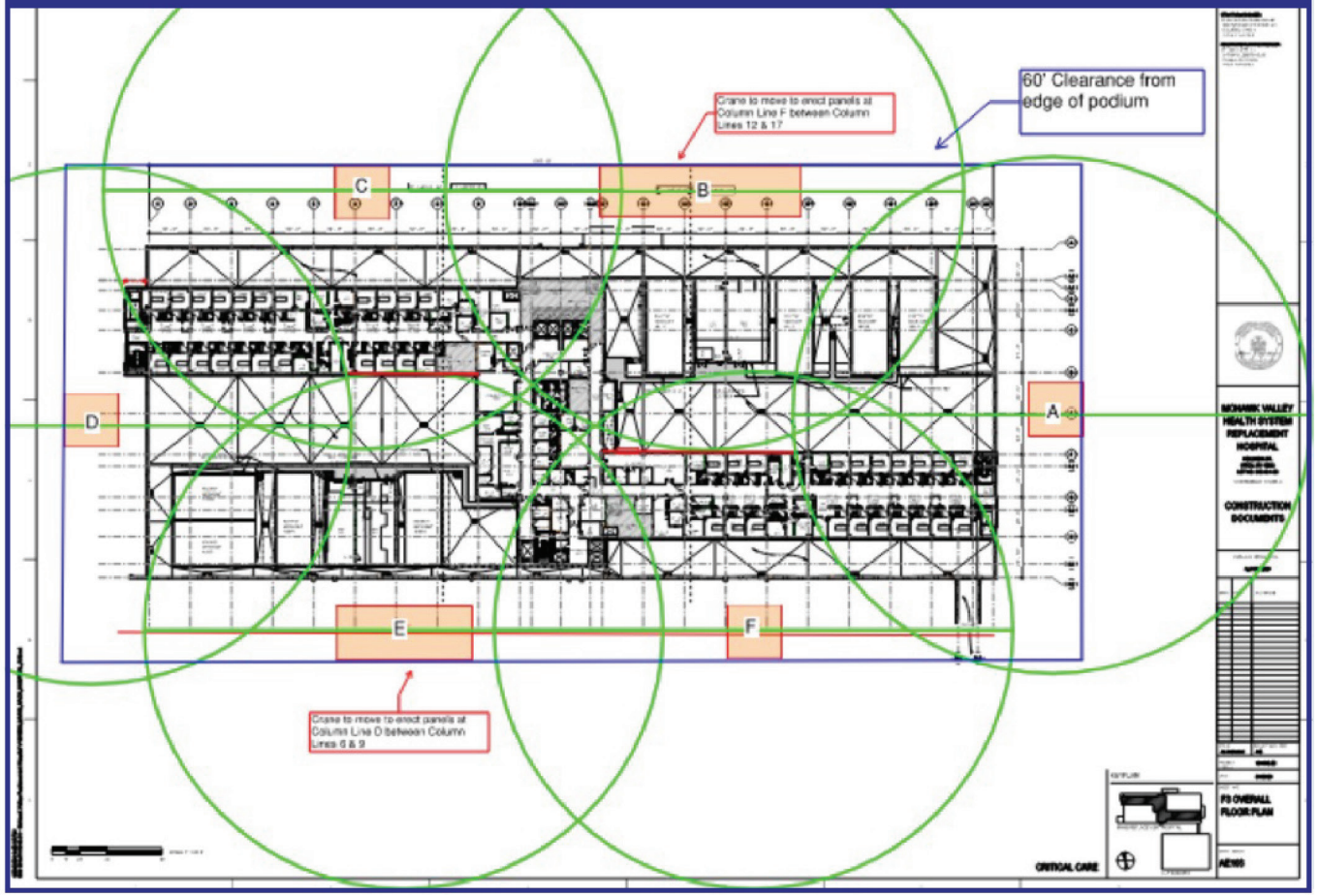
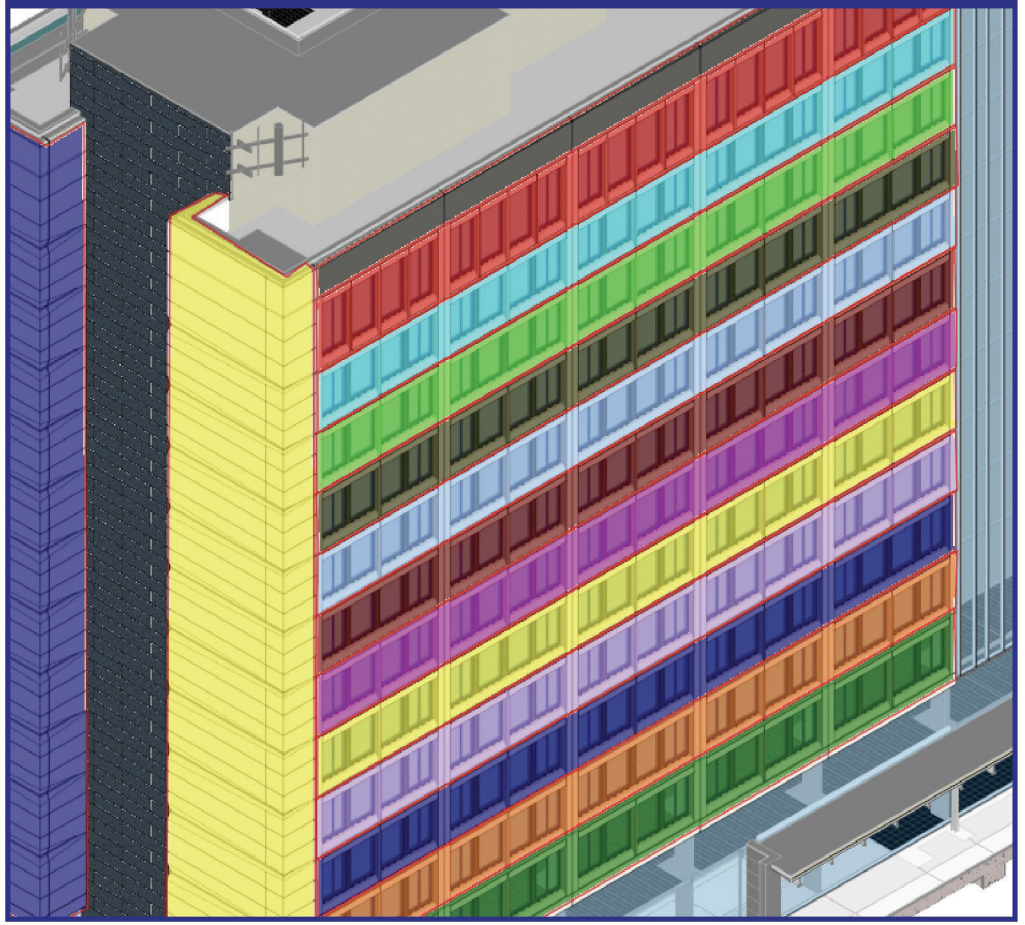


Logistics and Site Planning

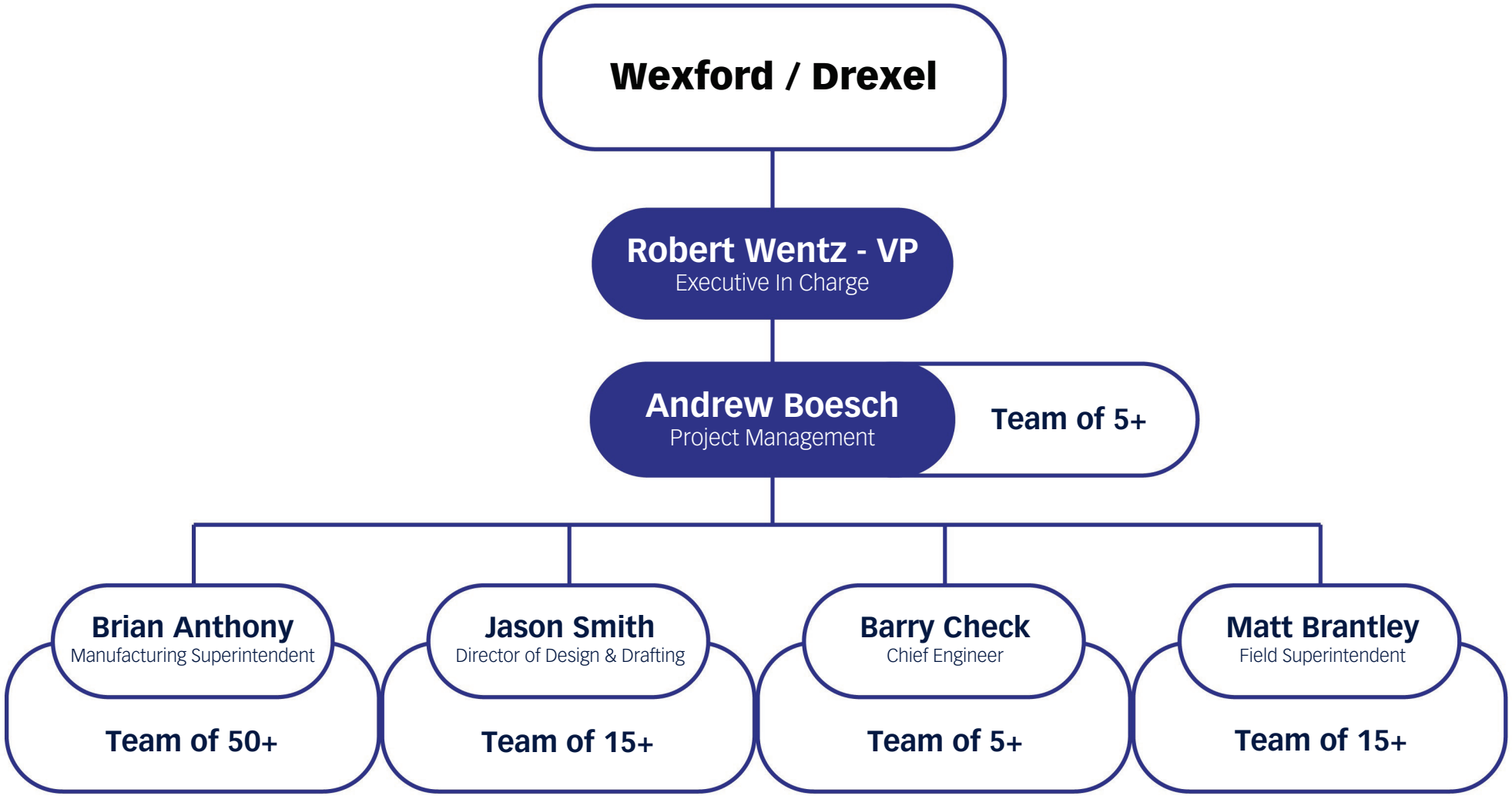
site analysis



installation sequence planning



Project Org Chart



Specific Scope of Work

- Design Assist, including 3D BIM (level 300) modeling is included.
- All systems to be in accordance with EEWS' standards and standard manufacturer's materials warrantees.
- The primary structure must be sufficiently stiff to support system attachment and reaction loads.
- Prefabricated rain screen system includes 6" light gauge galvanized framing, 5/8" sheathing, 3M AVB, 5" outboard mineral wool insulation, thermal green girt furring, proprietary aluminum extrusion/gasket perimeter, Wausau series 2250i-XLT windows, 4mm fire-core ACM in 2 coat opaque, non-directional textured finish. 3 colors are included.
- Modest layout and dimensional changes will be necessary to facilitate and optimize cladding and panel sizes and attachments.
- Outside corners are achieved by returning panel finish onto the jamb depth of the panels. Deep framing legs at corners are excluded.
- Windows are set back nominally 5" from face of panel and ACM finishes are returned 6" into rough opening to facilitate a non-flush condition. The installation can be made flush for additional cost.
- ACM fins are included as custom textured finish projecting nominally 10" from flat plane of panel ACM finish. EEWS has produced a physical sample. The value in this proposal assumes a slightly more eased leading edge than shown in the photograph.
- All work of any kind at the sill/jamb conditions of curtain wall areas is excluded because they are effectively roofing conditions. These areas to be reviewed with TCCO.
- Curtainwall, storefronts / entrance, doors, wall penetrations, spandrel glass, edge caps, expansion joints, flashings, all back of parapet work, copings, window washing buttons/ISPs and roofing work of any kind are excluded.
- Slab edges/structure to be designed and located such that panel systems "fly by".
- Maximum unbraced length is 14'6". Structural spans larger than this dimension will require supplemental base building structure (girts) by others.
- All soffits, canopy work, field applied ACM at levels 1 and 2 between columns A & I on the South Elevation, J & R on the North Elevation, 9 & 0 on the West Elevation and field applied ACM at building carve out on levels 10 through roof between columns 4 & S, are all excluded
- Slab edge fire-safing and smoke seal excluded.
- Comebacks and leave outs excluded.
- Dedicated fire watch excluded.
- Demolition of any kind is excluded.
- Safety cabling/netting to be coordinated such that is does not interfere with the installation of panels. Removal of perimeter safety cabling/netting/other is excluded.
- Physical protection of any kind and final cleaning is excluded.
- Storage and/or double handling is excluded
- All mockups and testing of any are kind are excluded.
- Contract terms, conditions, insurance provisions and coverages to be discussed and mutually agreed upon.
- All on-site insurance costs are excluded. Wrap up coverage assumed.
- All EEWS' work to be completed prior to Q2, 2024.
- Close, level, stable access to the building for our trucks and equipment is expected. All standby costs of any type and temporary lighting/services excluded.
- Use of project tower crane provided by others at no cost to EEWS.
- EEWS' responsibility ends with the proper, undamaged installation of panels onto the building structure.
- Benchmarks elevation and baseline offset control lines marked on floors provided in both directions, on each floor, provided by others.
- Bond is excluded.
- Liquidated and/or consequential damages are excluded.
- Sales tax is excluded