

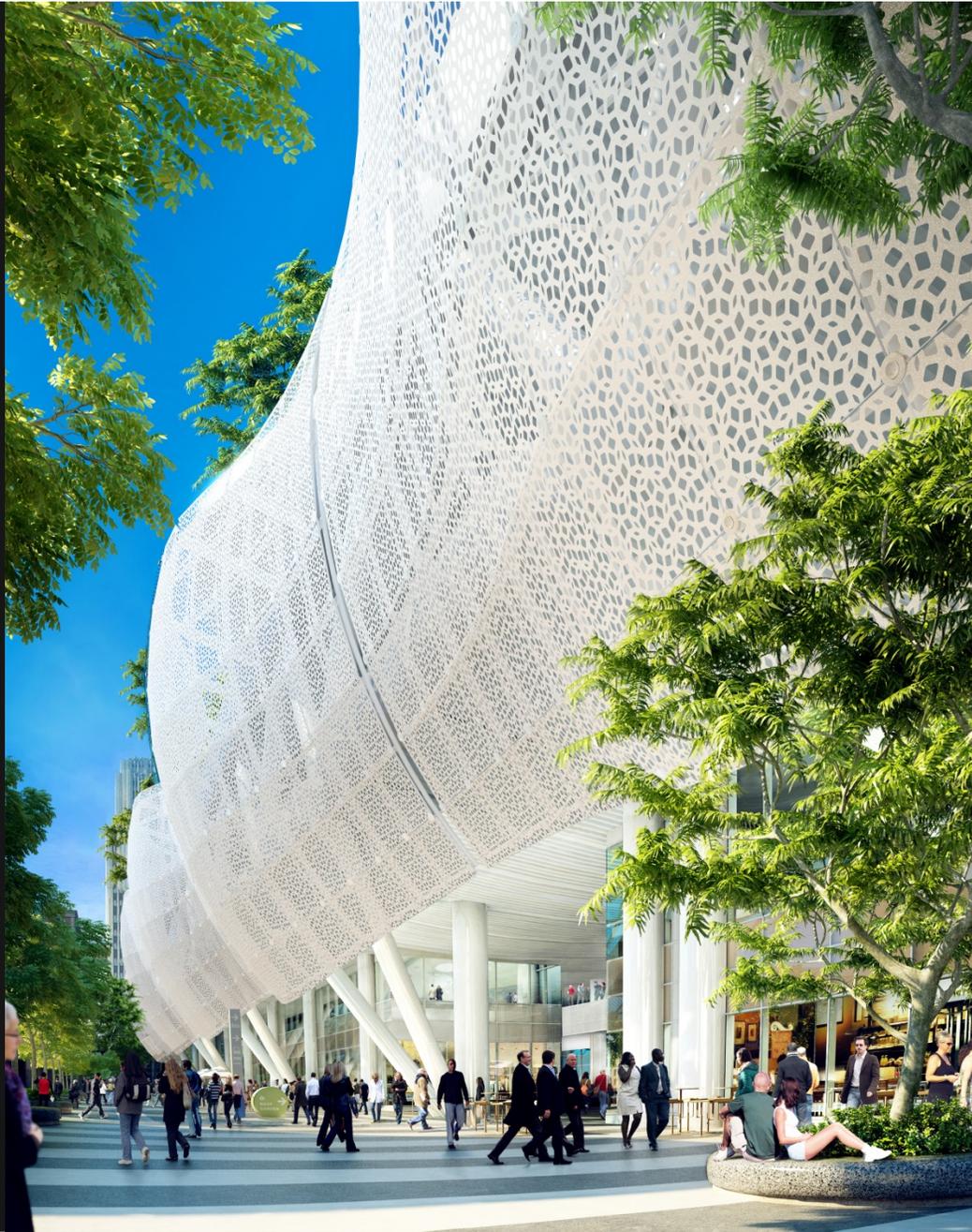
TJPA BOARD DESIGN PRESENTATION

Architectural Update – Metal Panel Awning

1 JULY 2013

Pelli Clarke Pelli Architects

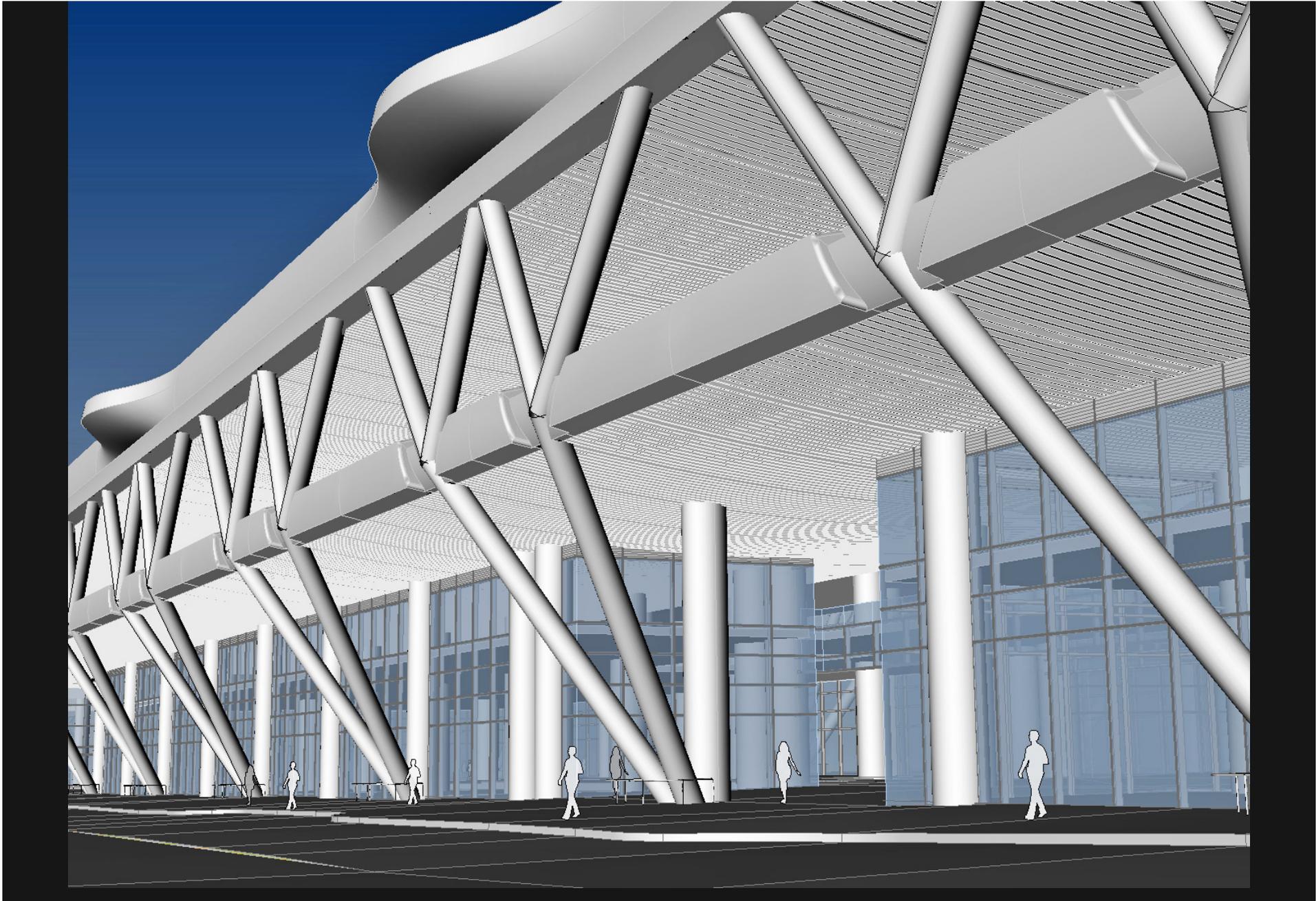
- AWNING GEOMETRY
- PATTERN
- PATTERN DENSITY
- MATERIAL
- MAINTENANCE
- FIRE AND LIFE SAFETY
- INTERIOR VIEWS
- LIGHTING
- COST



NATOMA STREET VIEW – METAL AWNING

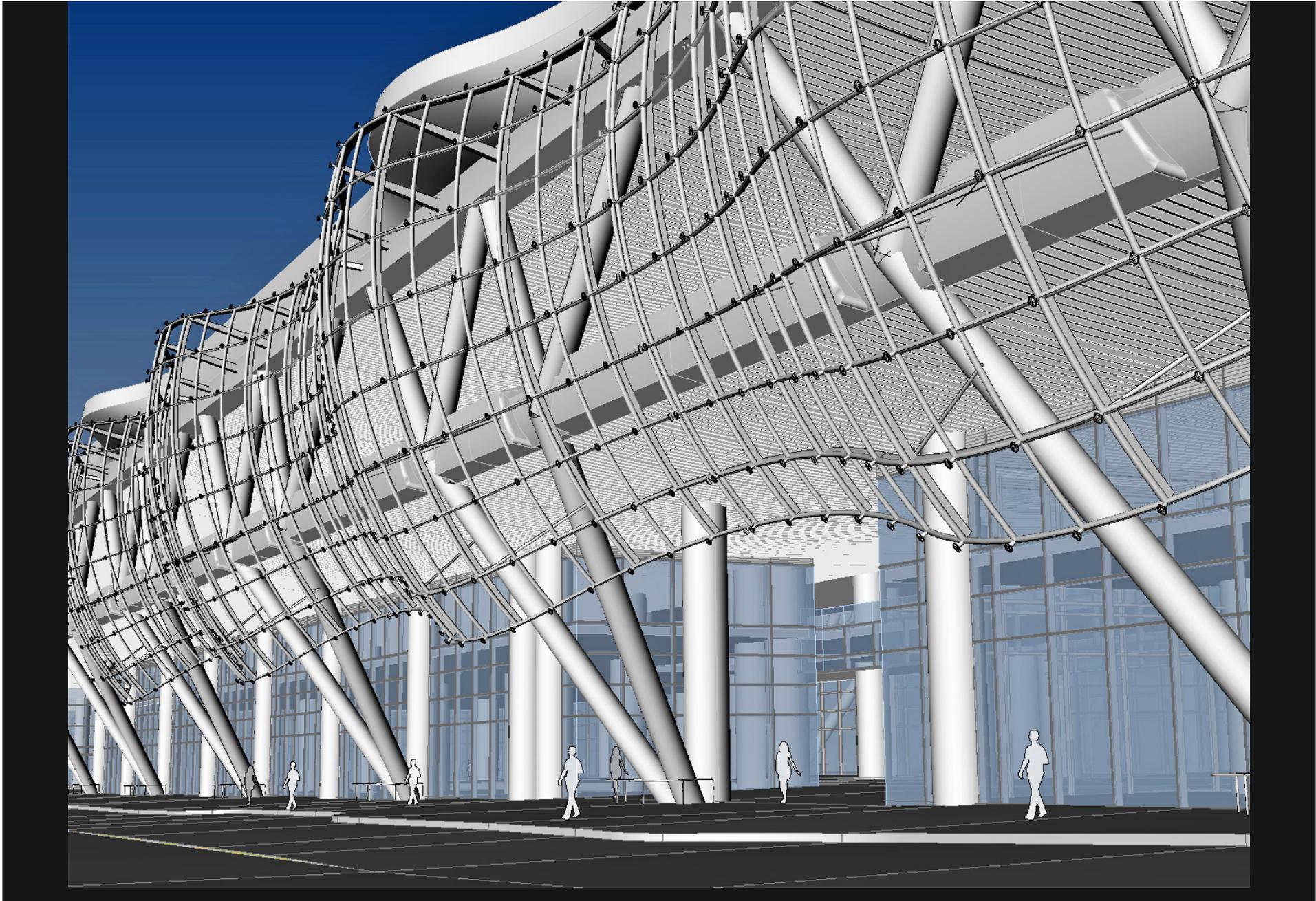
AWNING GEOMETRY



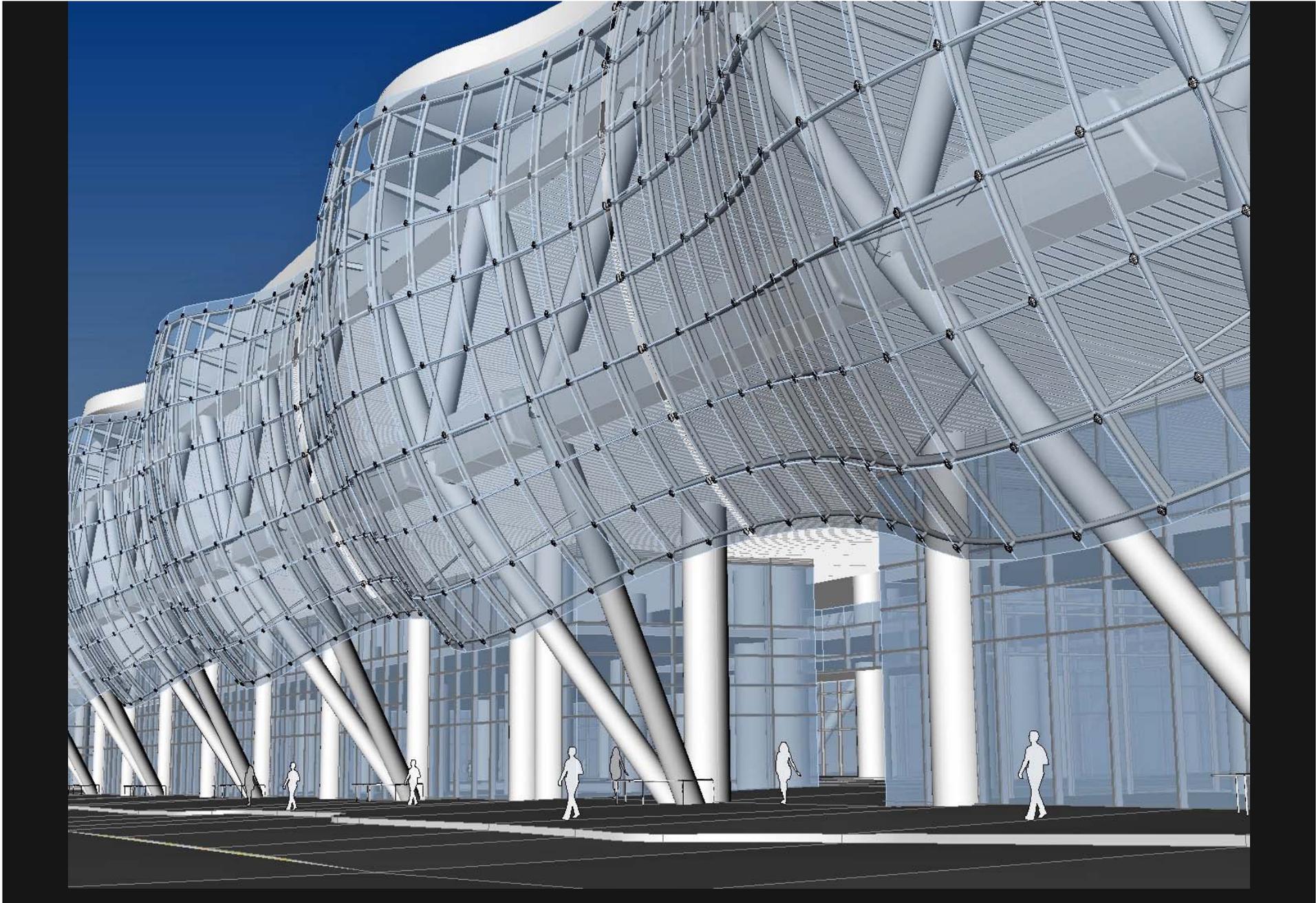


SUPERSTRUCTURE

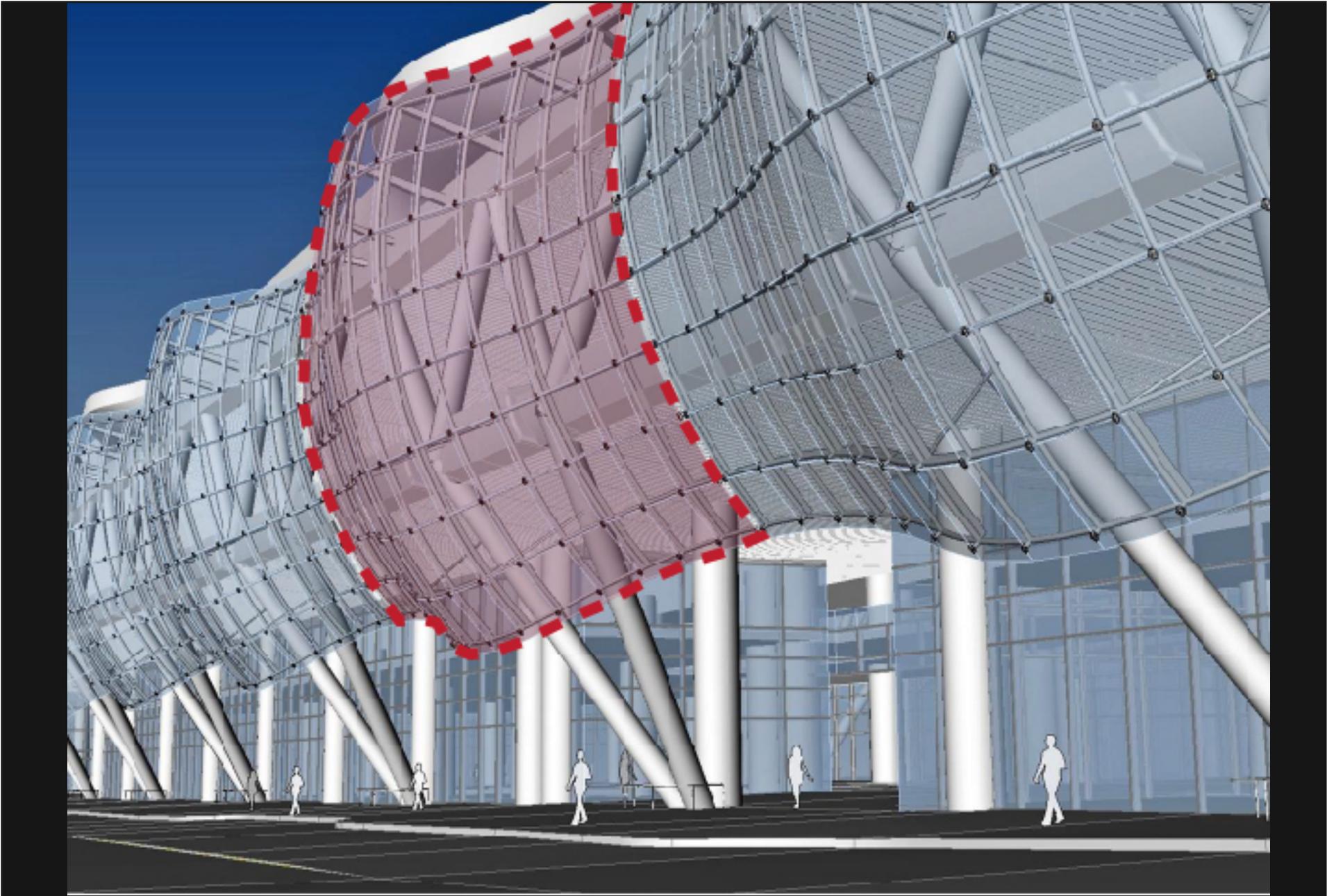




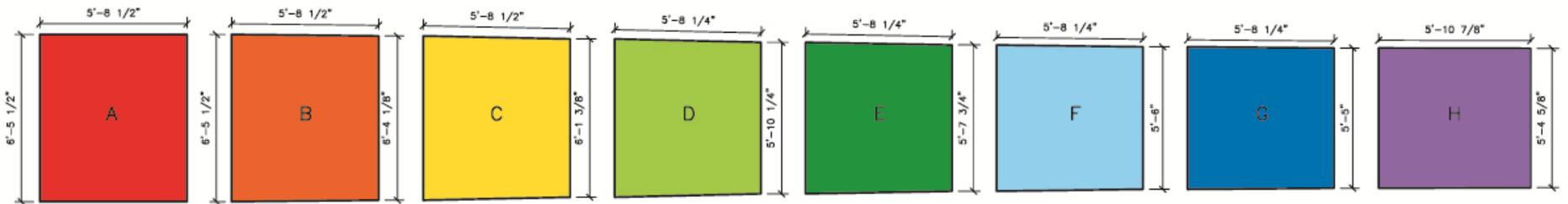
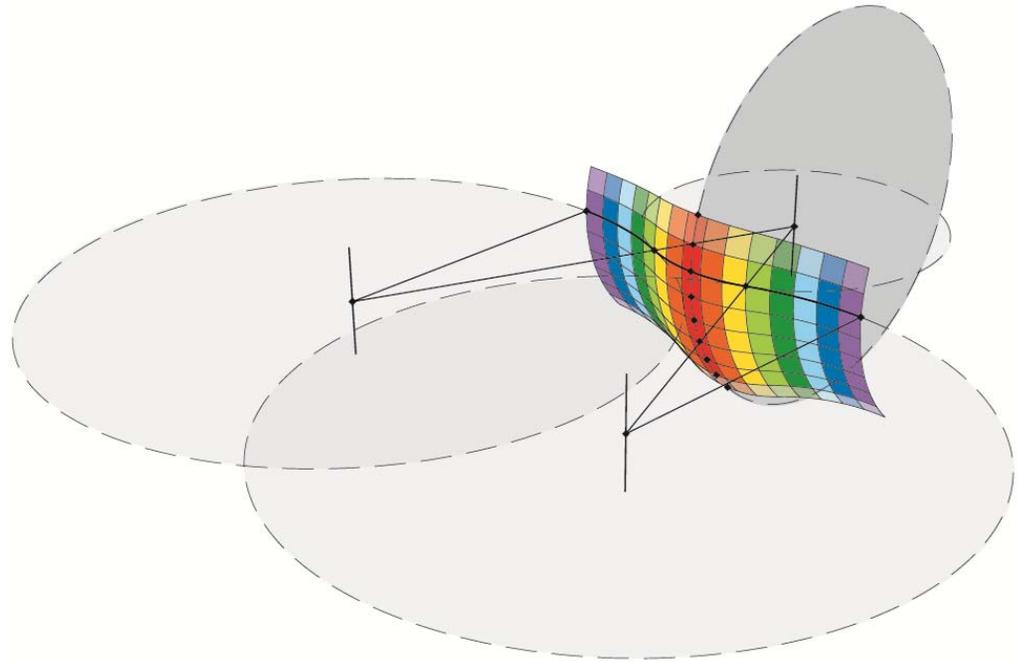
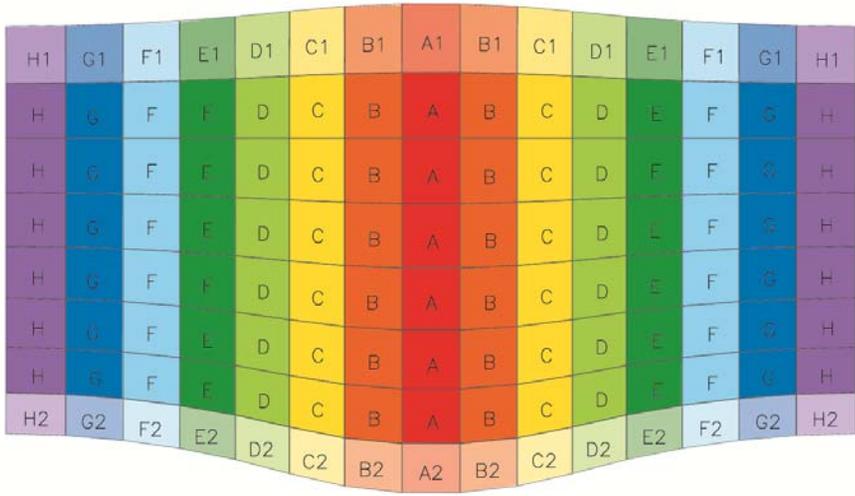
AWNING SUBSTRUCTURE



AWNING PANELS



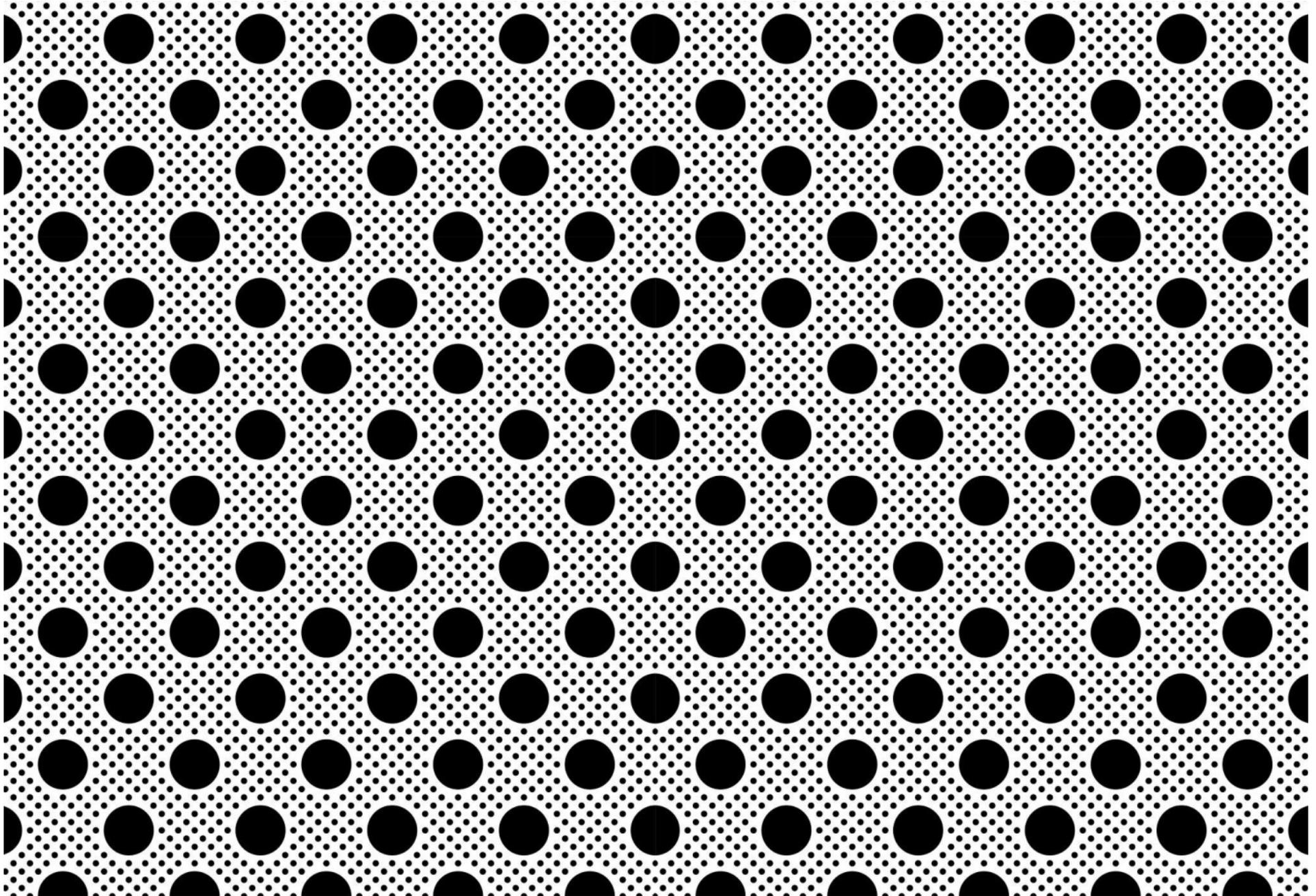
AWNING PANELS



PANELIZATION

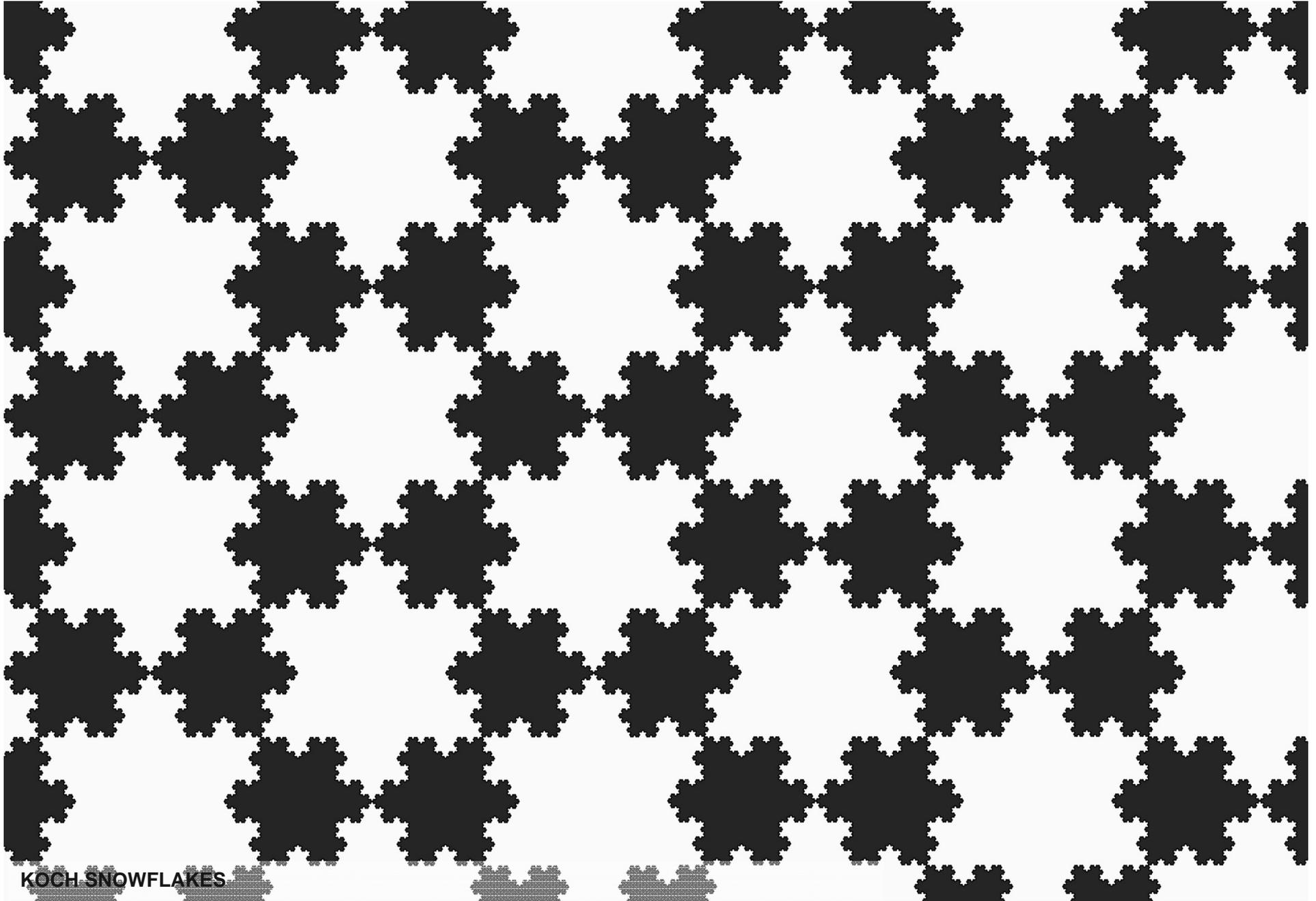
PATTERN





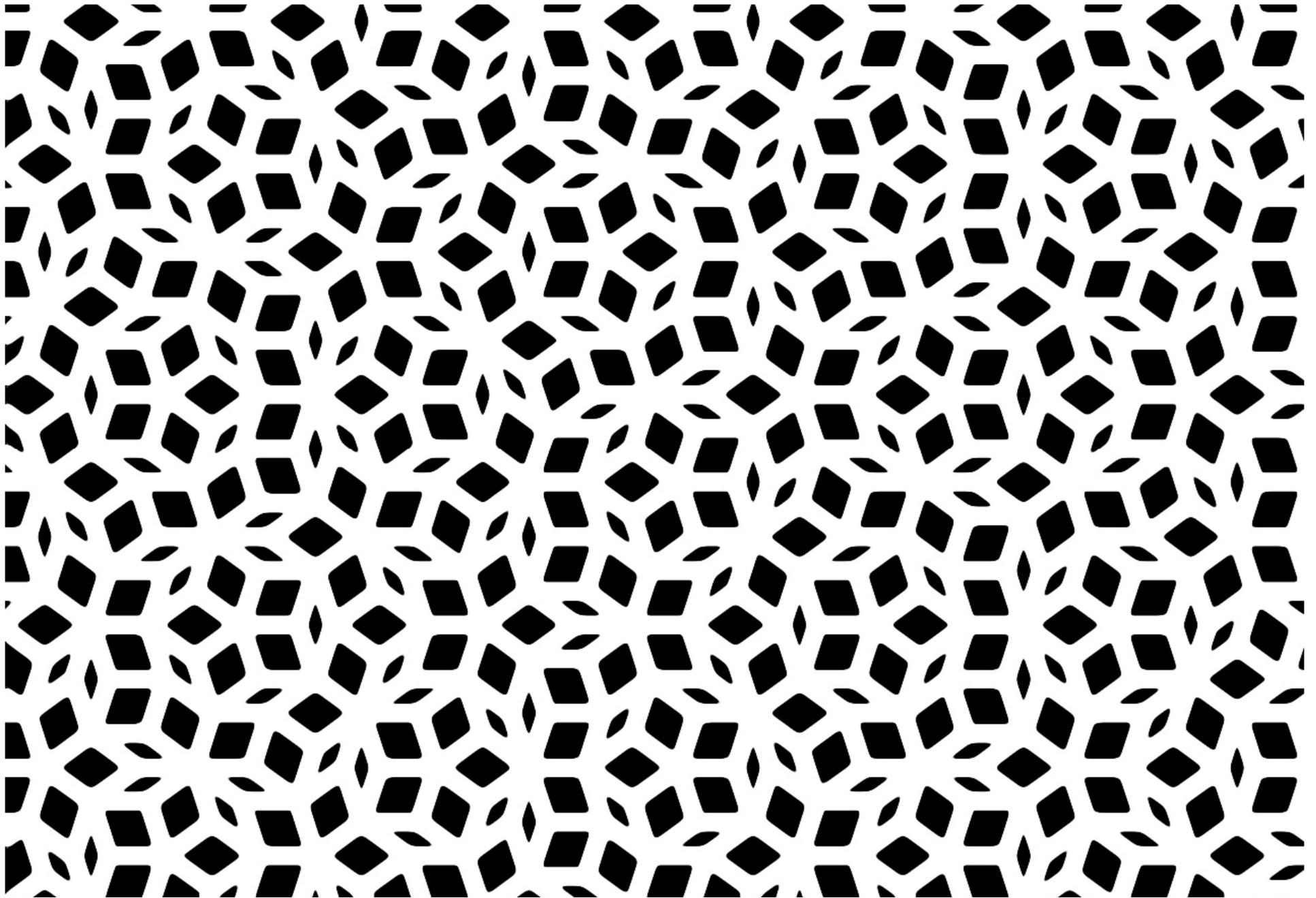
ORIGINAL DOT PATTERN – PERIODIC DESIGN



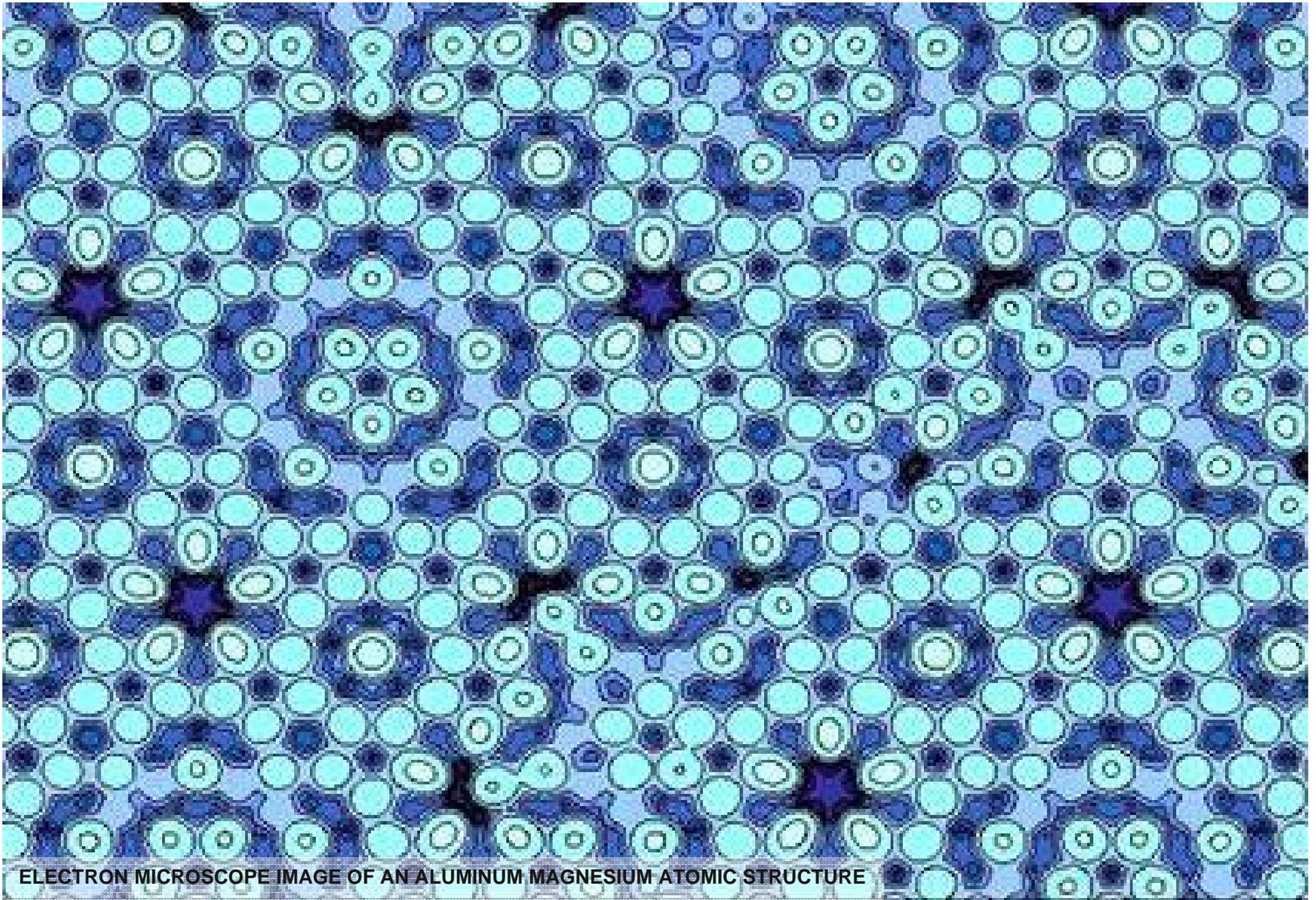


KOCH SNOWFLAKES

EXAMPLE OF PERIODIC PATTERN

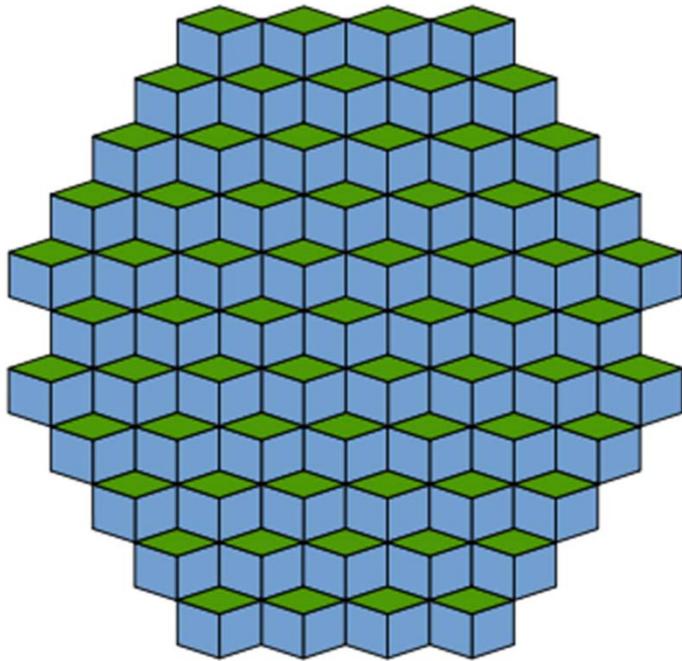


PENROSE TILING PATTERN – APERIODIC PATTERN

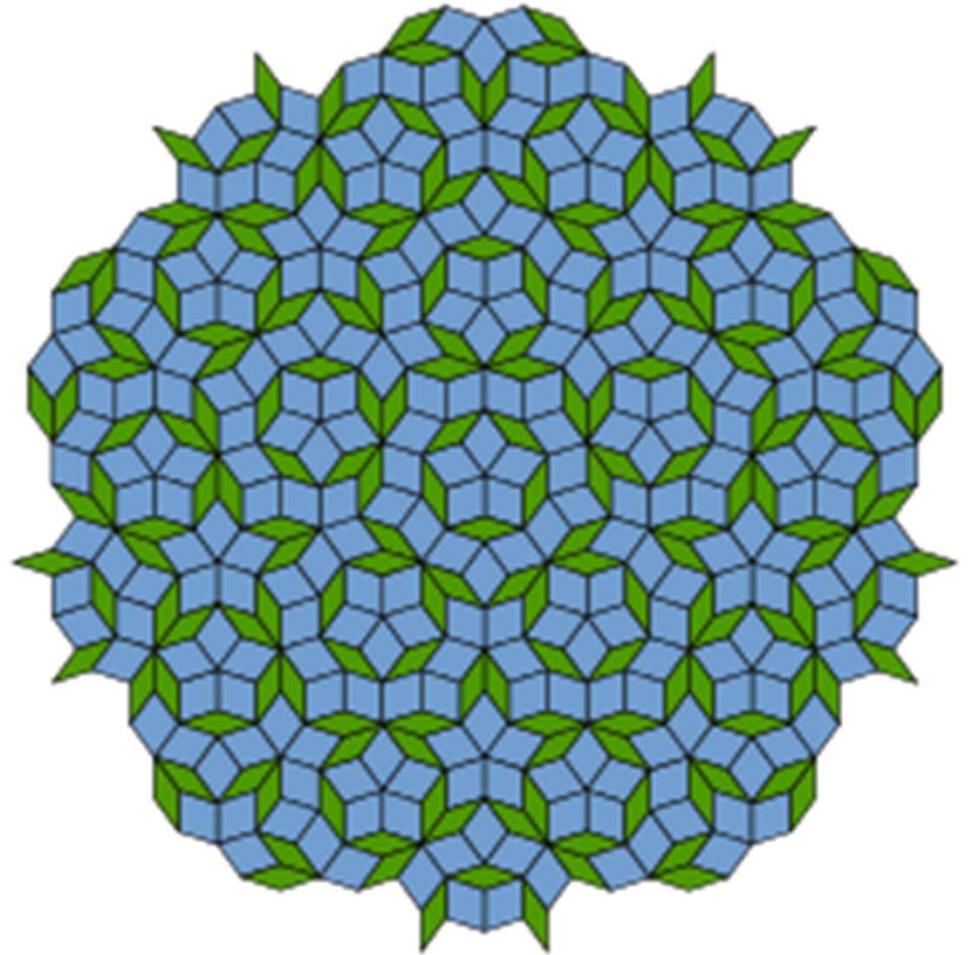


ELECTRON MICROSCOPE IMAGE OF AN ALUMINUM MAGNESIUM ATOMIC STRUCTURE

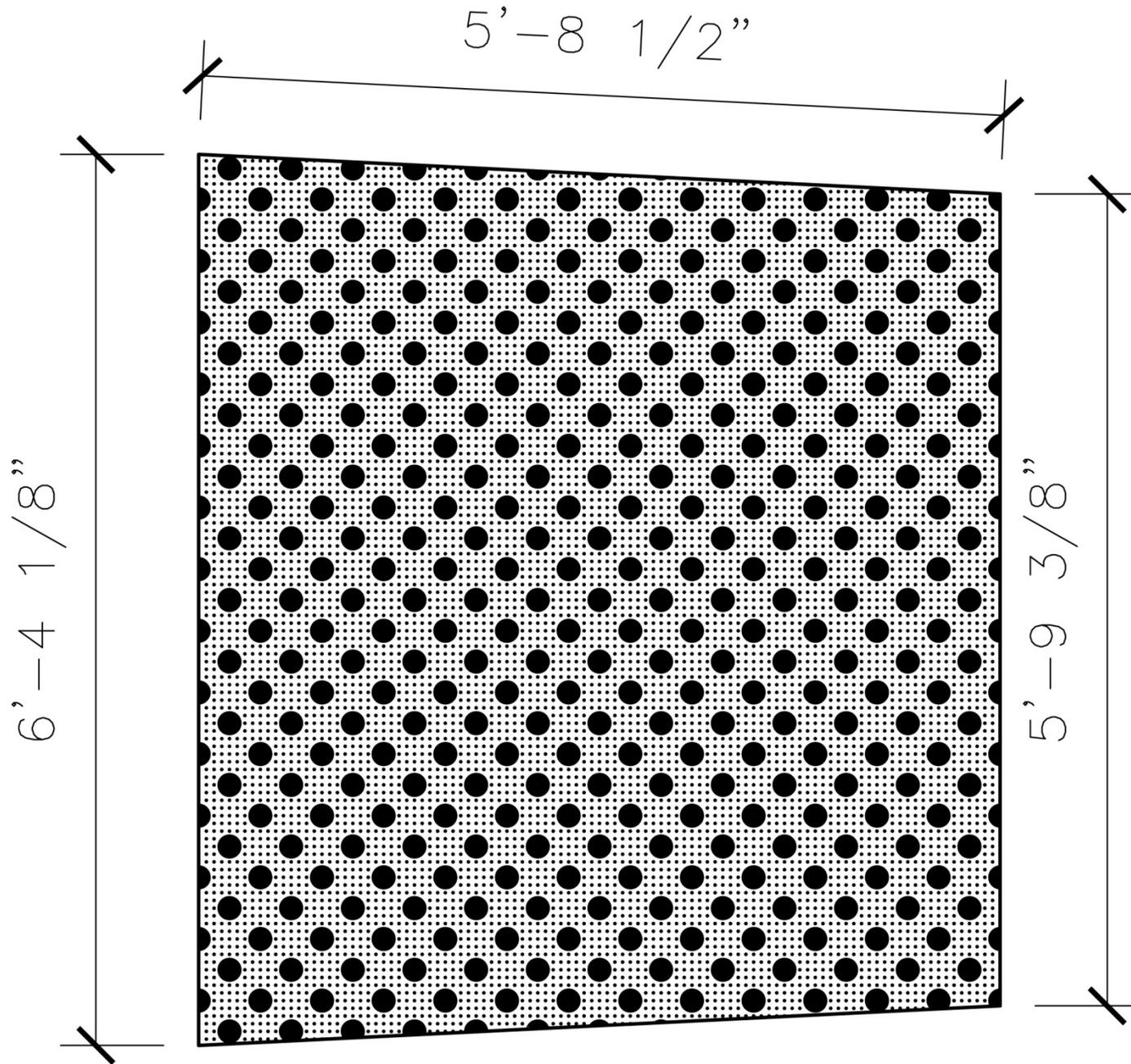
EXAMPLE OF APERIODIC PATTERN IN NATURE



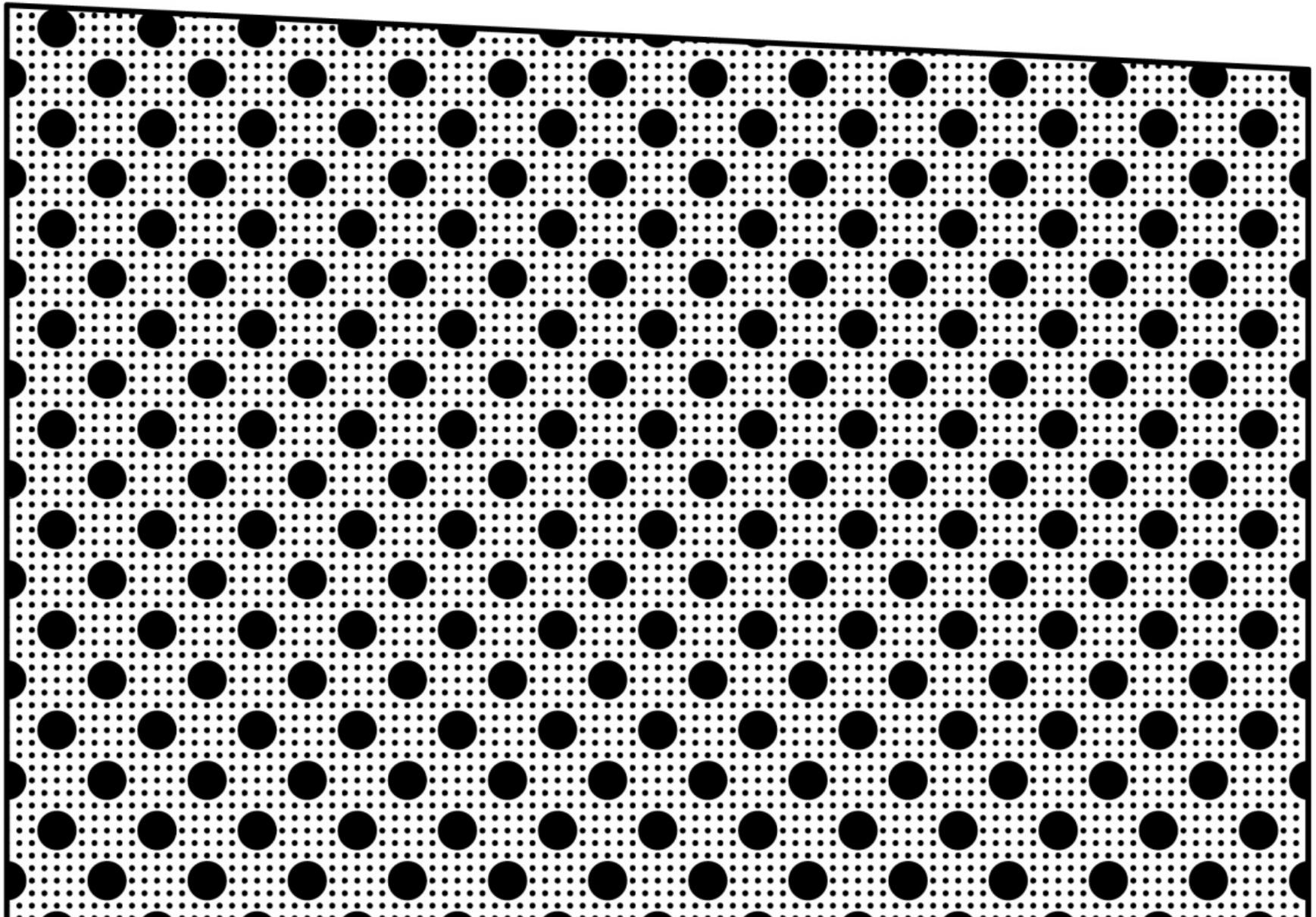
PERIODIC



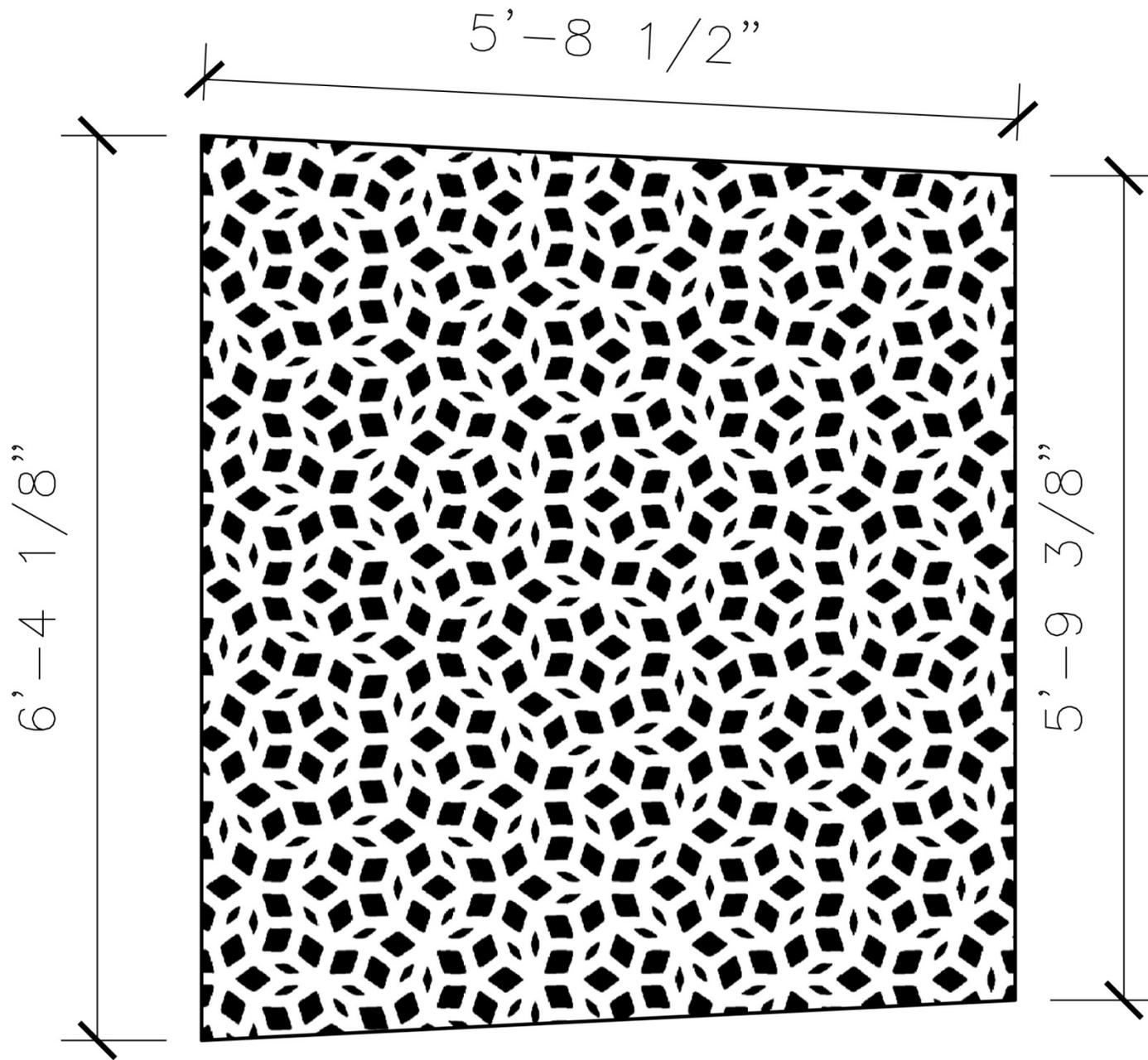
APERIODIC



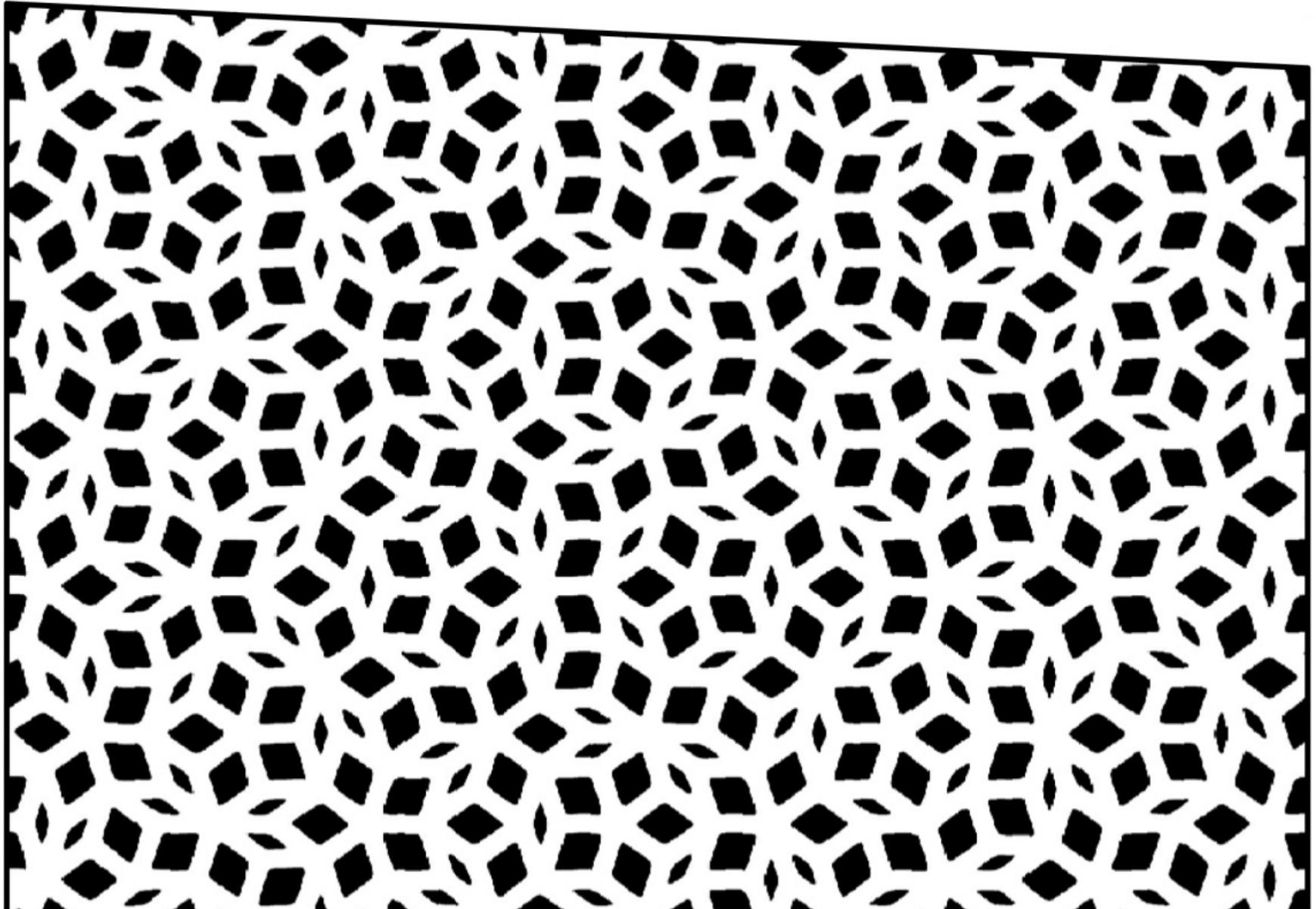
TRAPEZOIDAL PANEL WITH PERIODIC PATTERN



PANEL EDGE WITH PERIODIC PATTERN



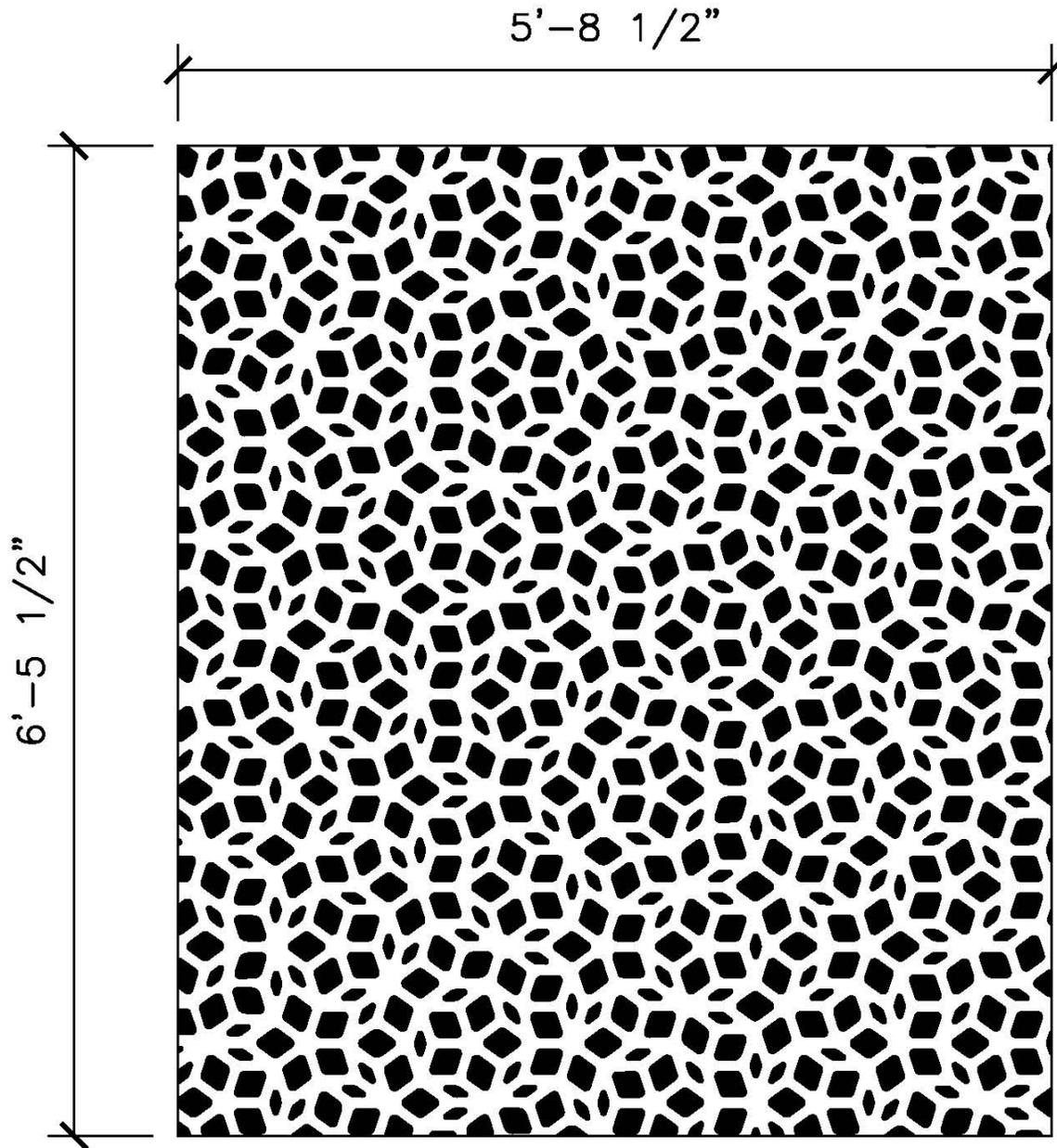
TRAPEZOIDAL PANEL WITH APERIODIC PATTERN



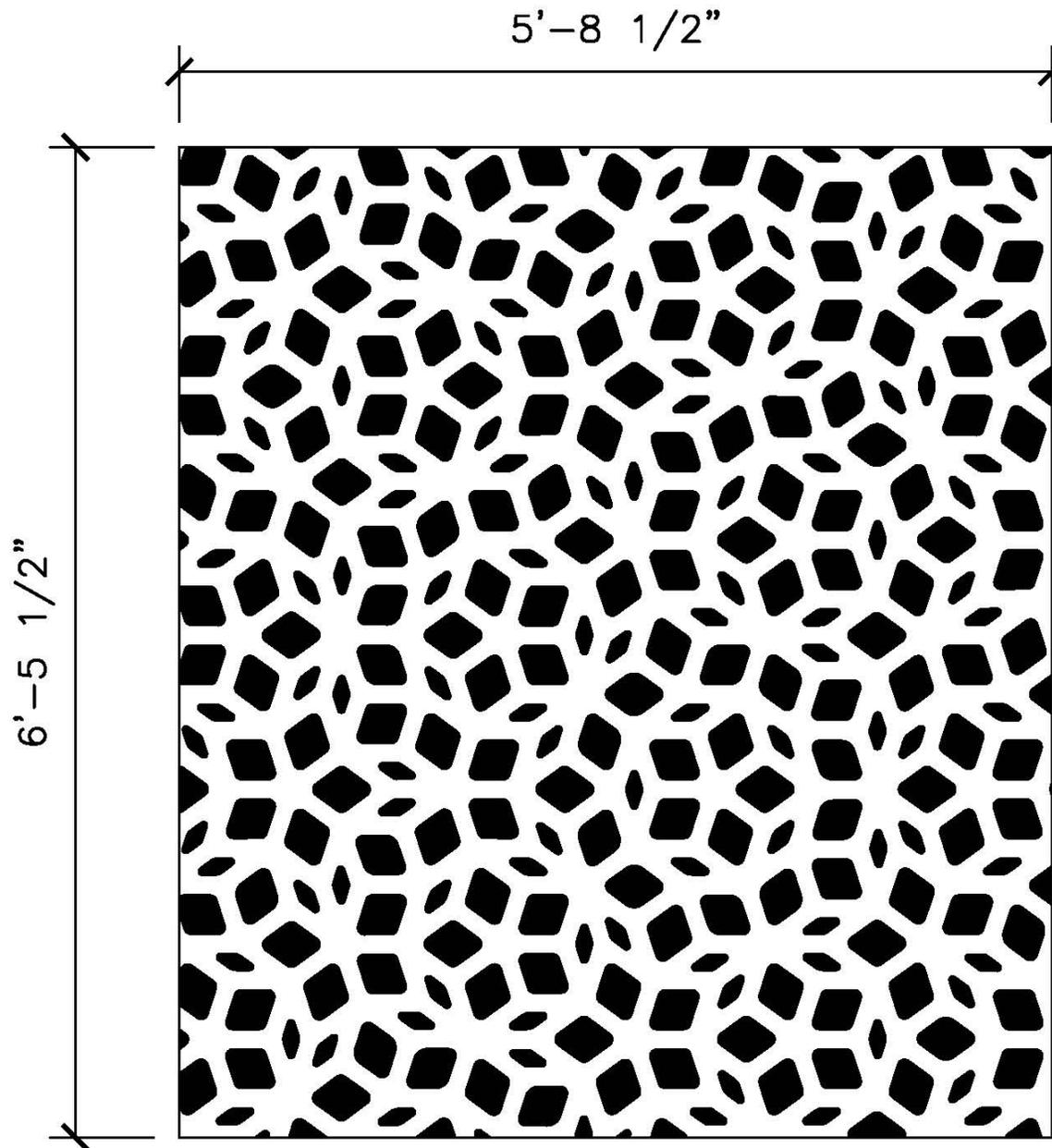
PANEL EDGE WITH APERIODIC PATTERN

PATTERN DENSITY

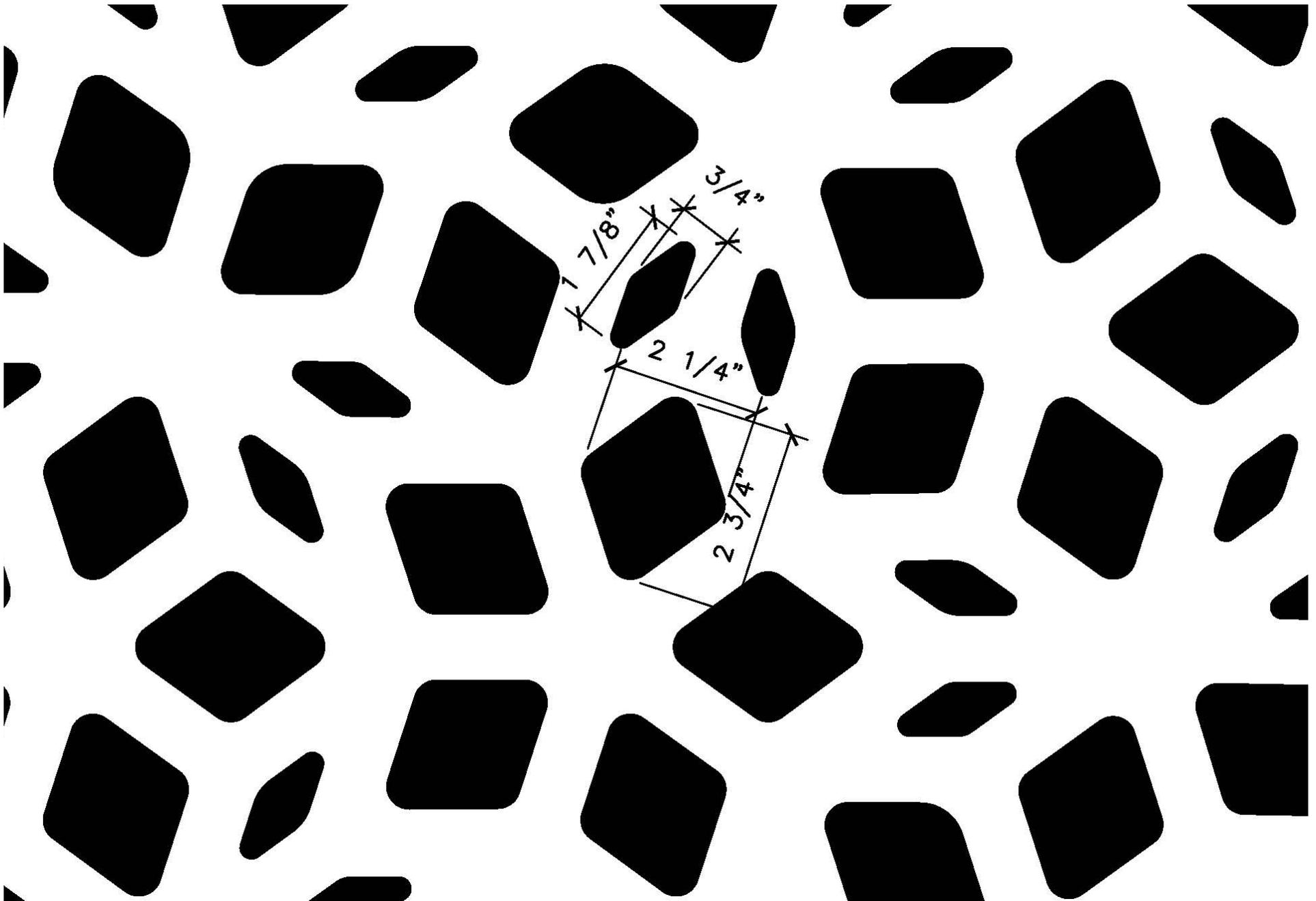




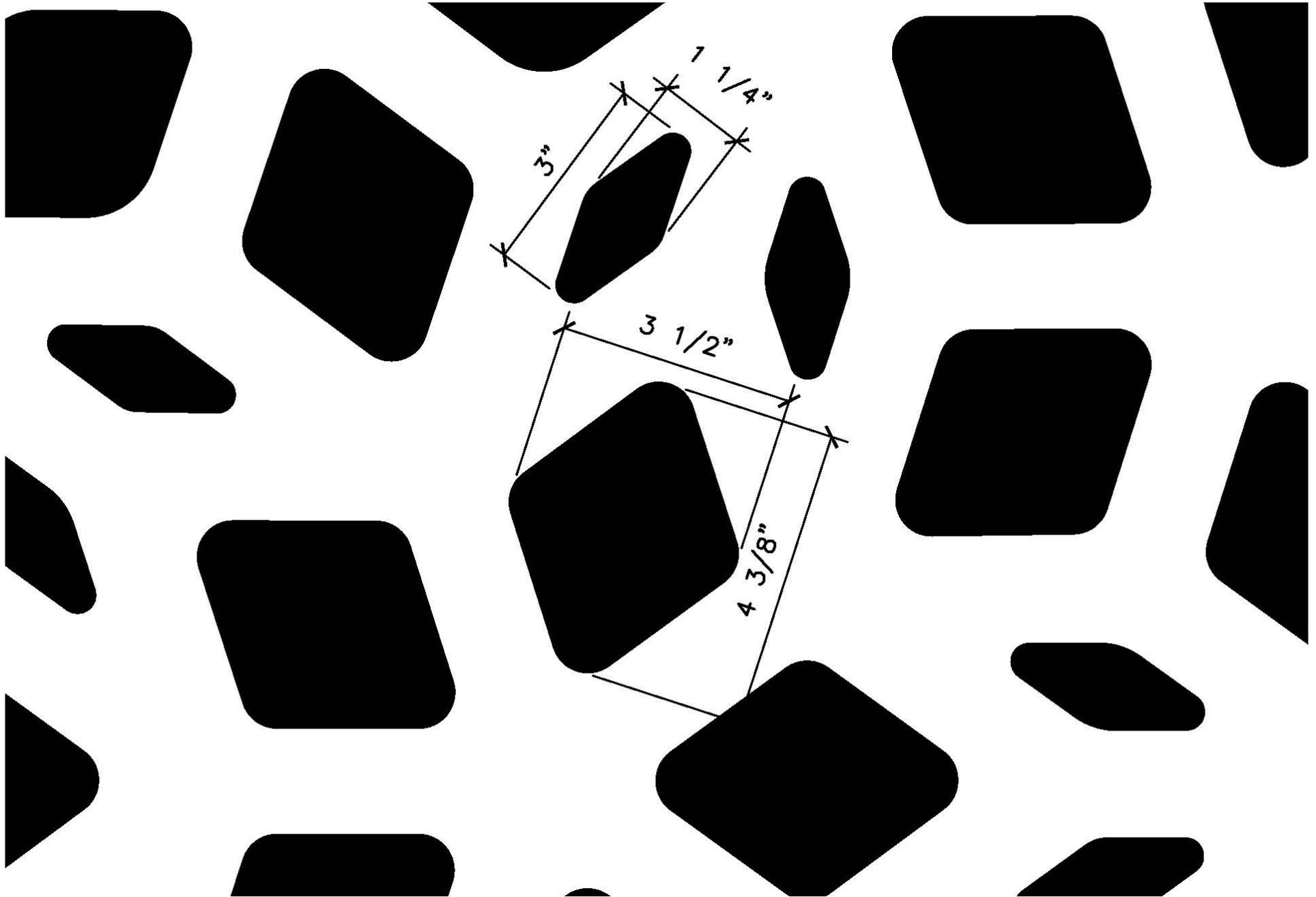
PANEL TYPE A – PREVIOUS PERFORATION SCALE



PANEL TYPE A – REVISED PERFORATION SCALE



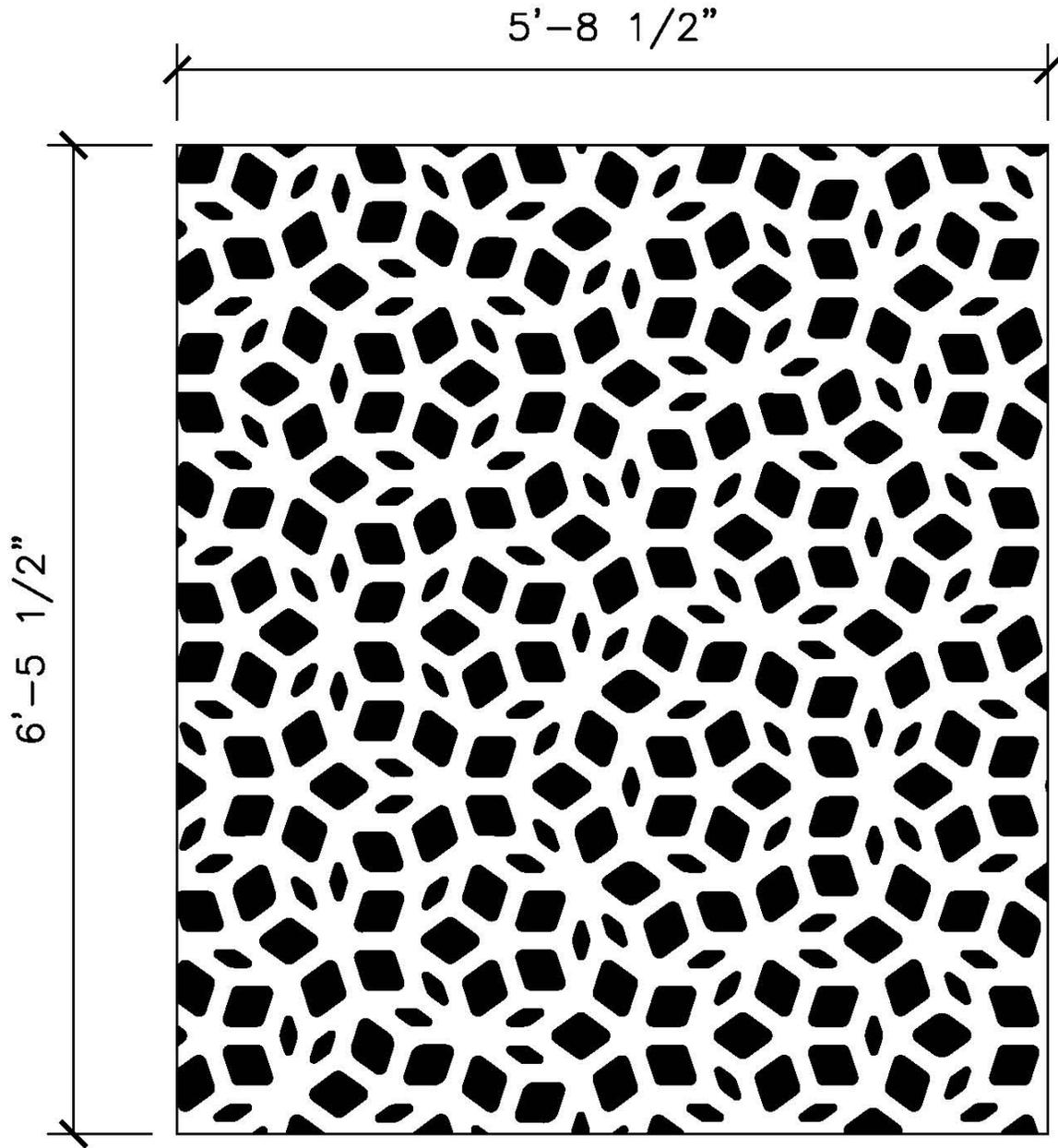
PREVIOUS PERFORATION SCALE



REVISED PERFORATION SCALE



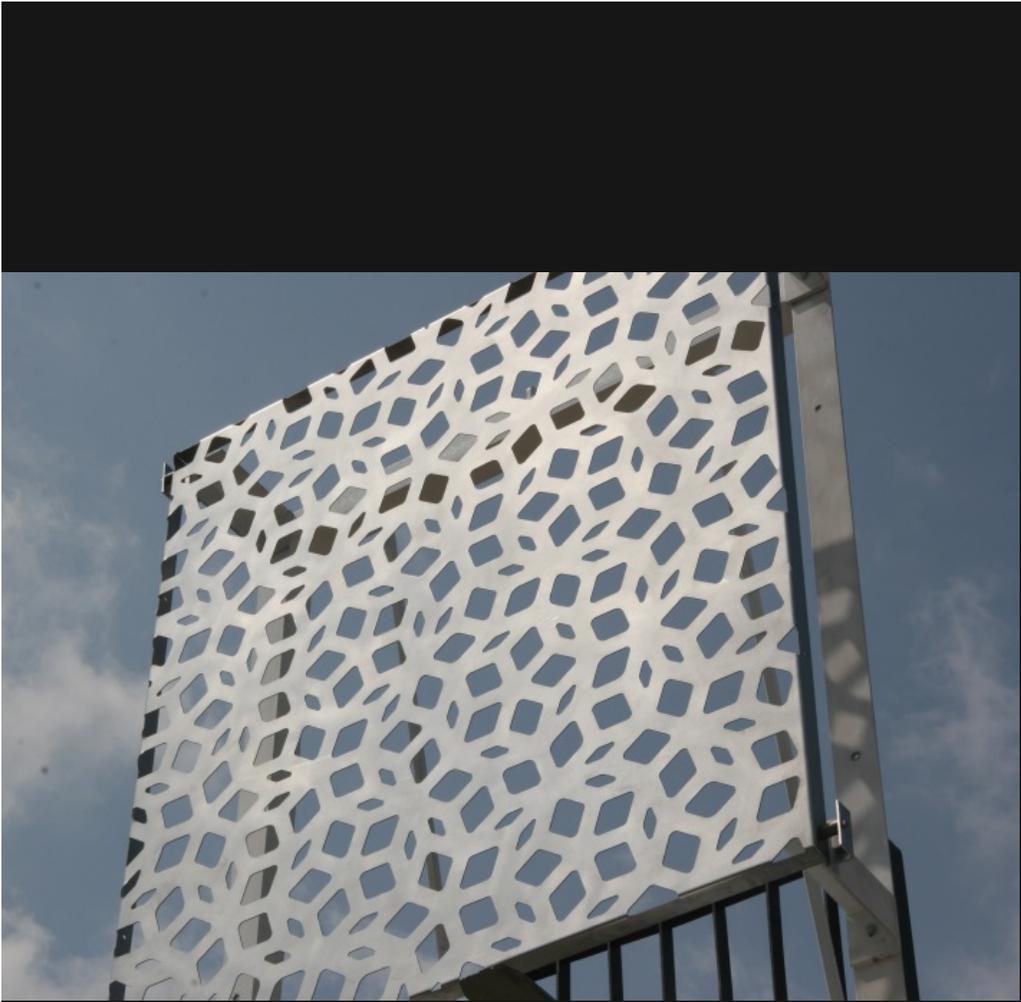
PATTERN SCALE STUDY AT PCPA NEW HAVEN



PATTERN

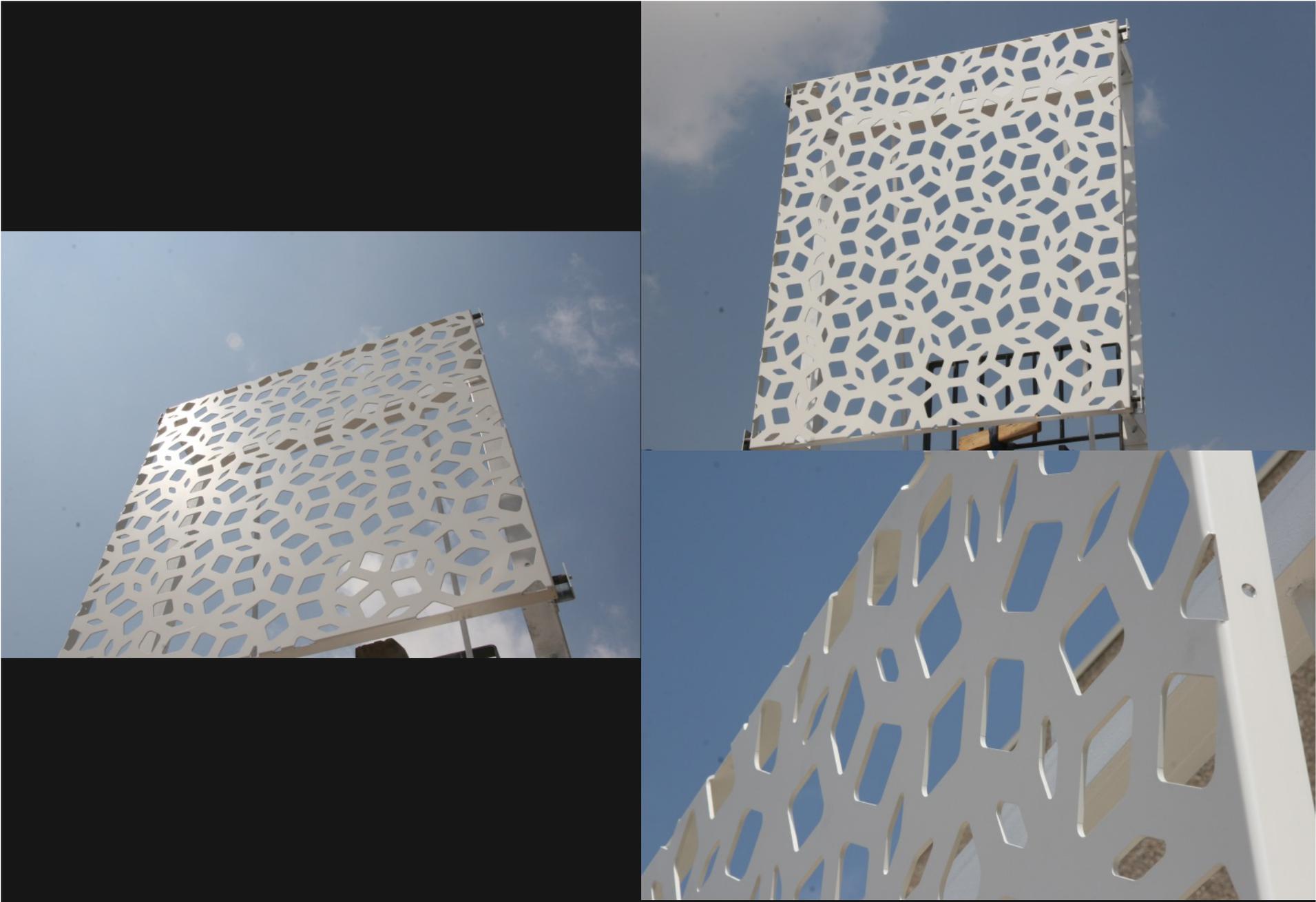
MATERIAL





STAINLESS STEEL

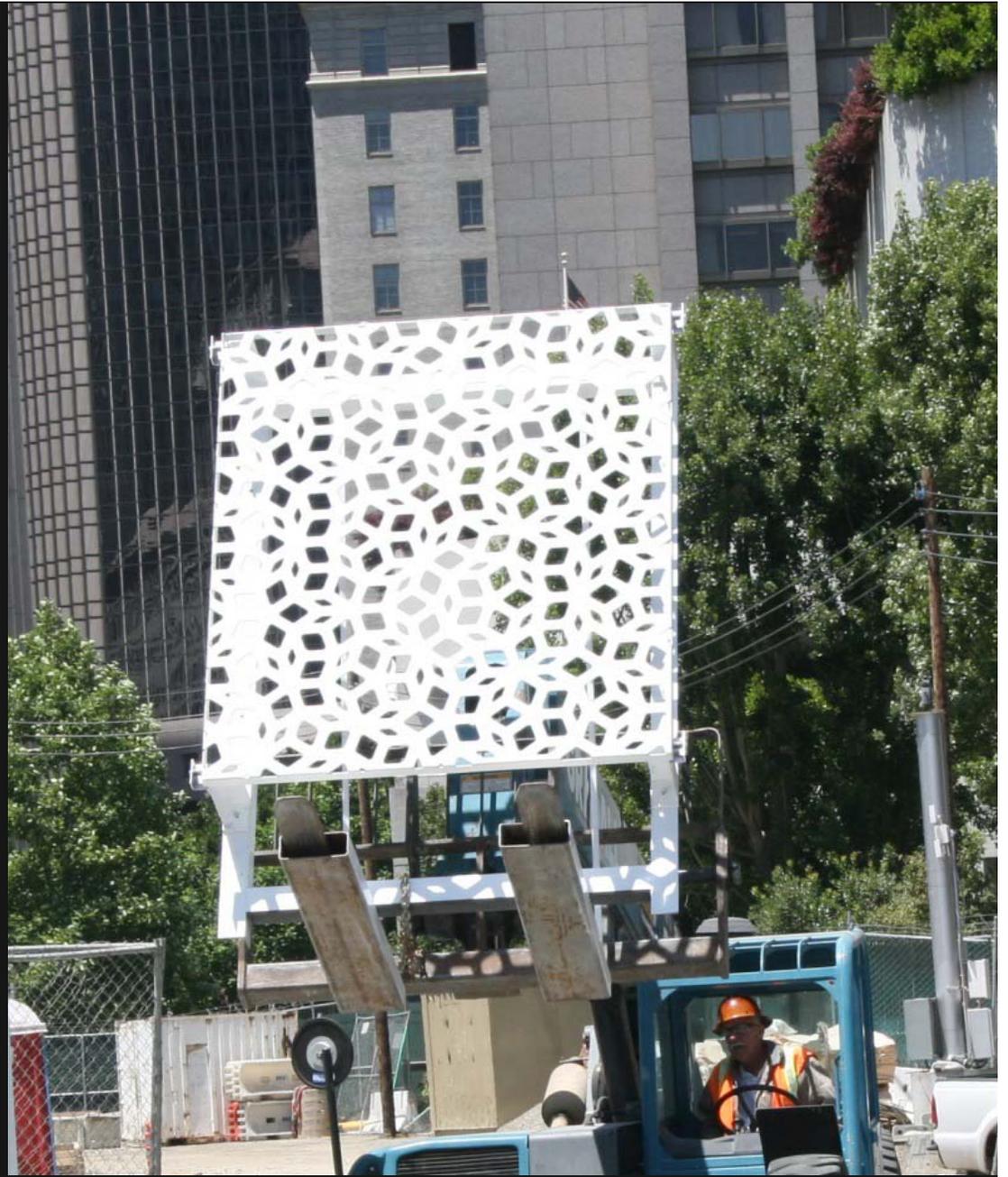




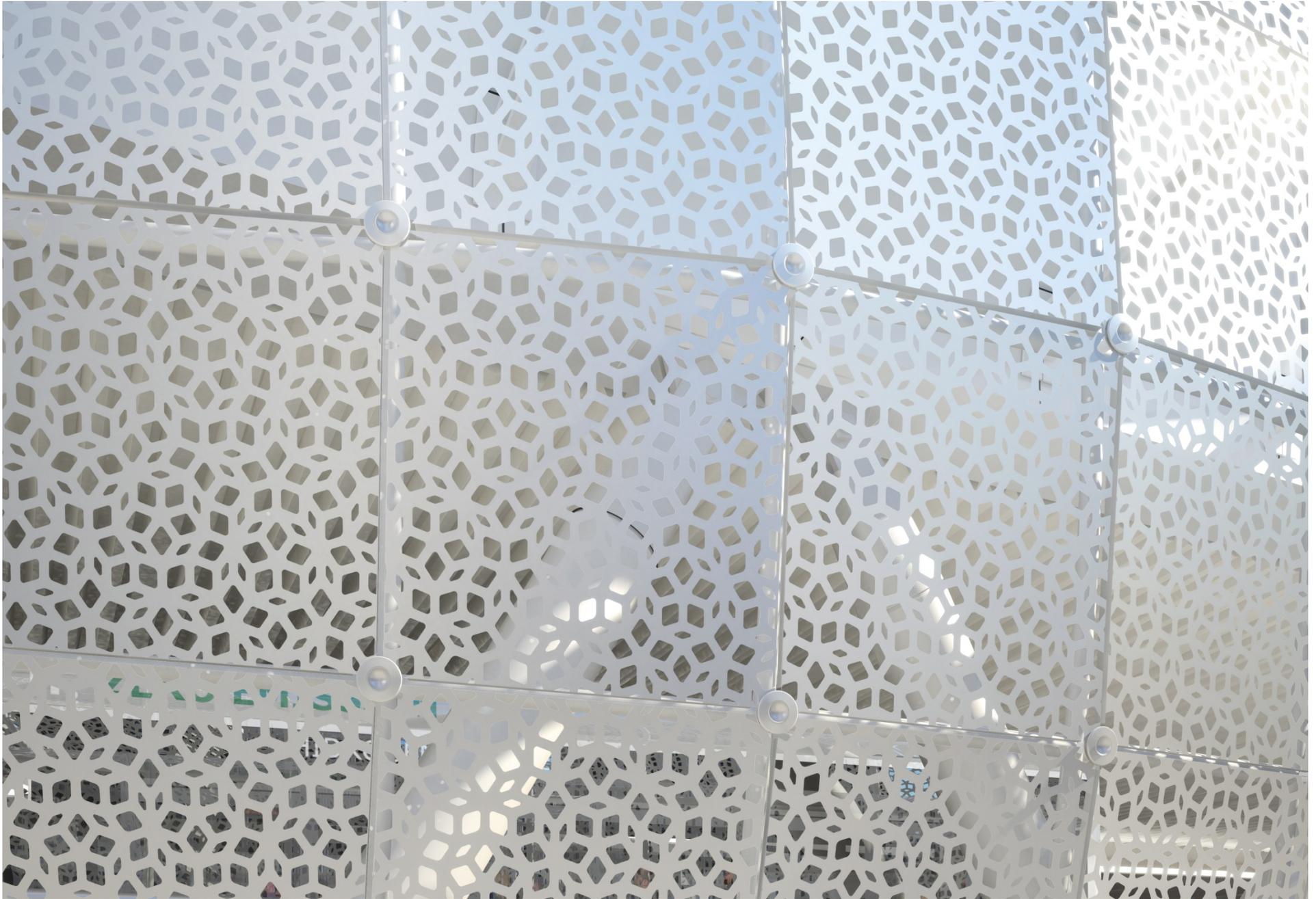
PAINTED ALUMINIUM



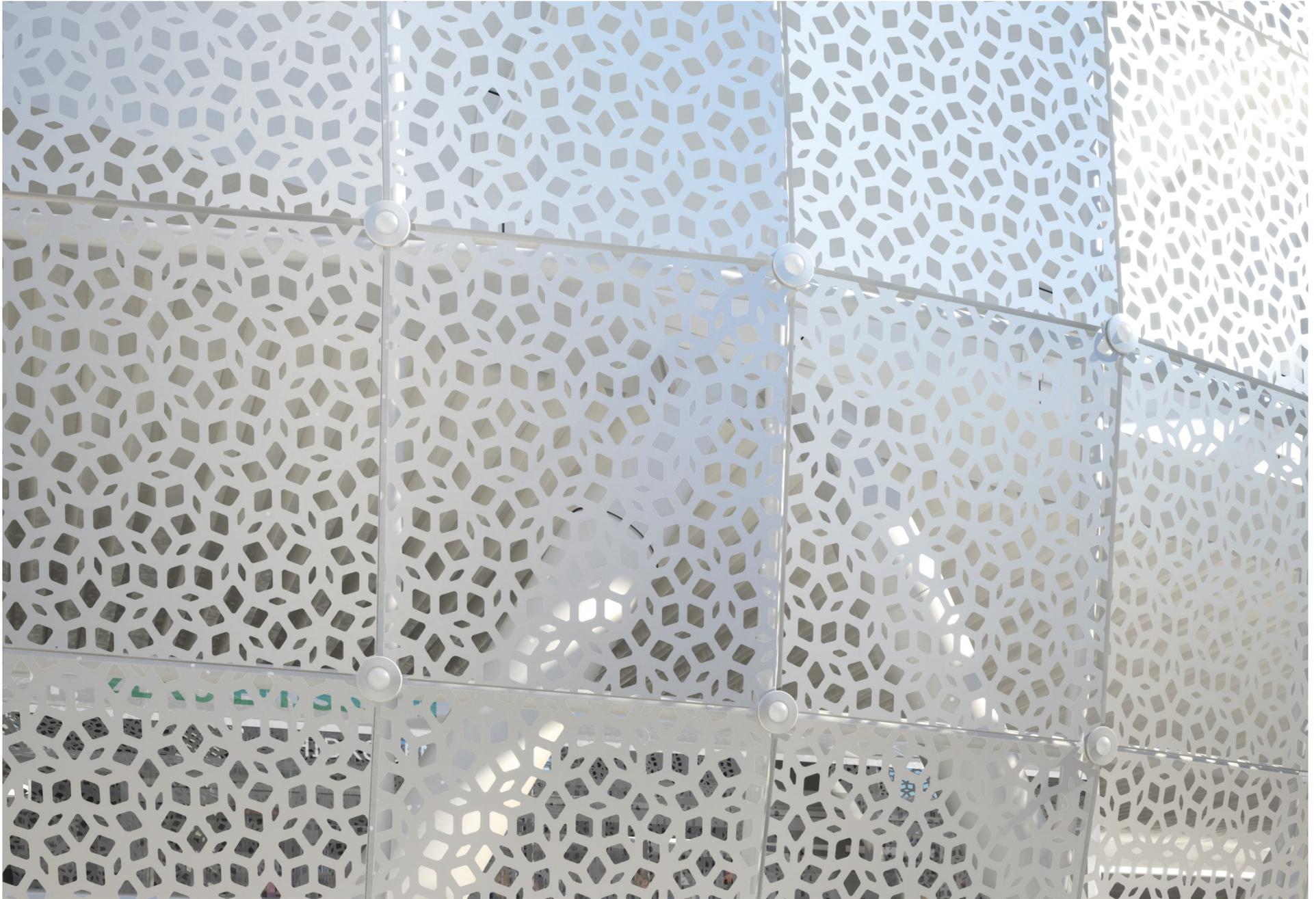
FULL SIZE PANELS IN SAN FRANCISCO



FULL SIZE PANELS IN SAN FRANCISCO



METAL PANEL AWNING DETAILED VIEW – WITHOUT LED LIGHT



METAL PANEL AWNING DETAILED VIEW – WITH LED LIGHT



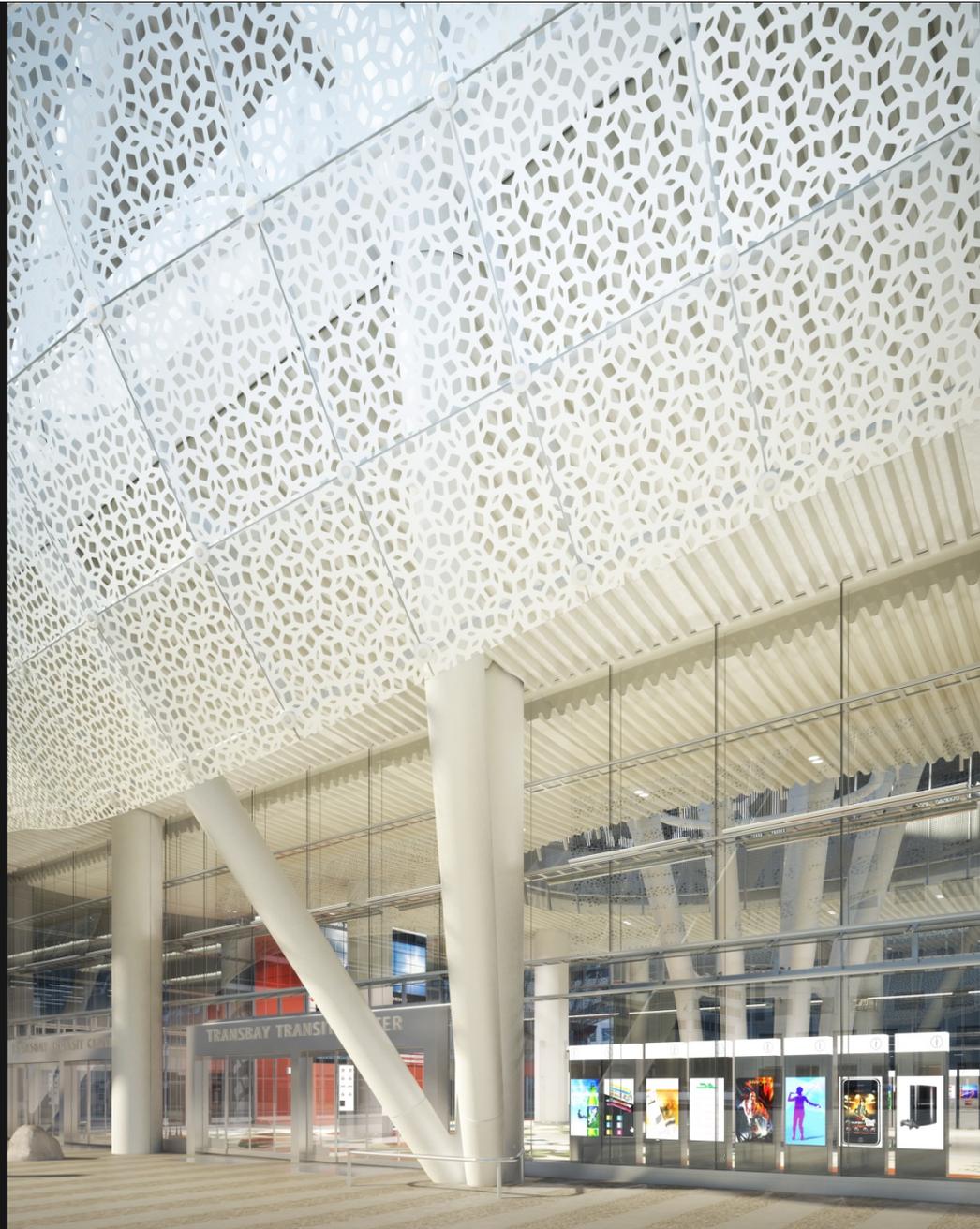
NATOMA STREET VIEW



BEALE STREET VIEW



FIRST STREET VIEW



MISSION SQUARE VIEW



MISSION SQUARE VIEW – RELATIONSHIP TO TRANSBAY TOWER



FIRST AND MINNA STREET VIEW – RELATIONSHIP TO TRANSBAY TOWER



Transbay Transit Center

MAINTENANCE

Maintenance

- Strategy similar to glass panels.
- Utilization of man-lifts and washing of the panels.
- Schedule of minimum cleaning cycle of once per year to maintain appearance and panel finish longevity.

FIRE AND LIFE SAFETY

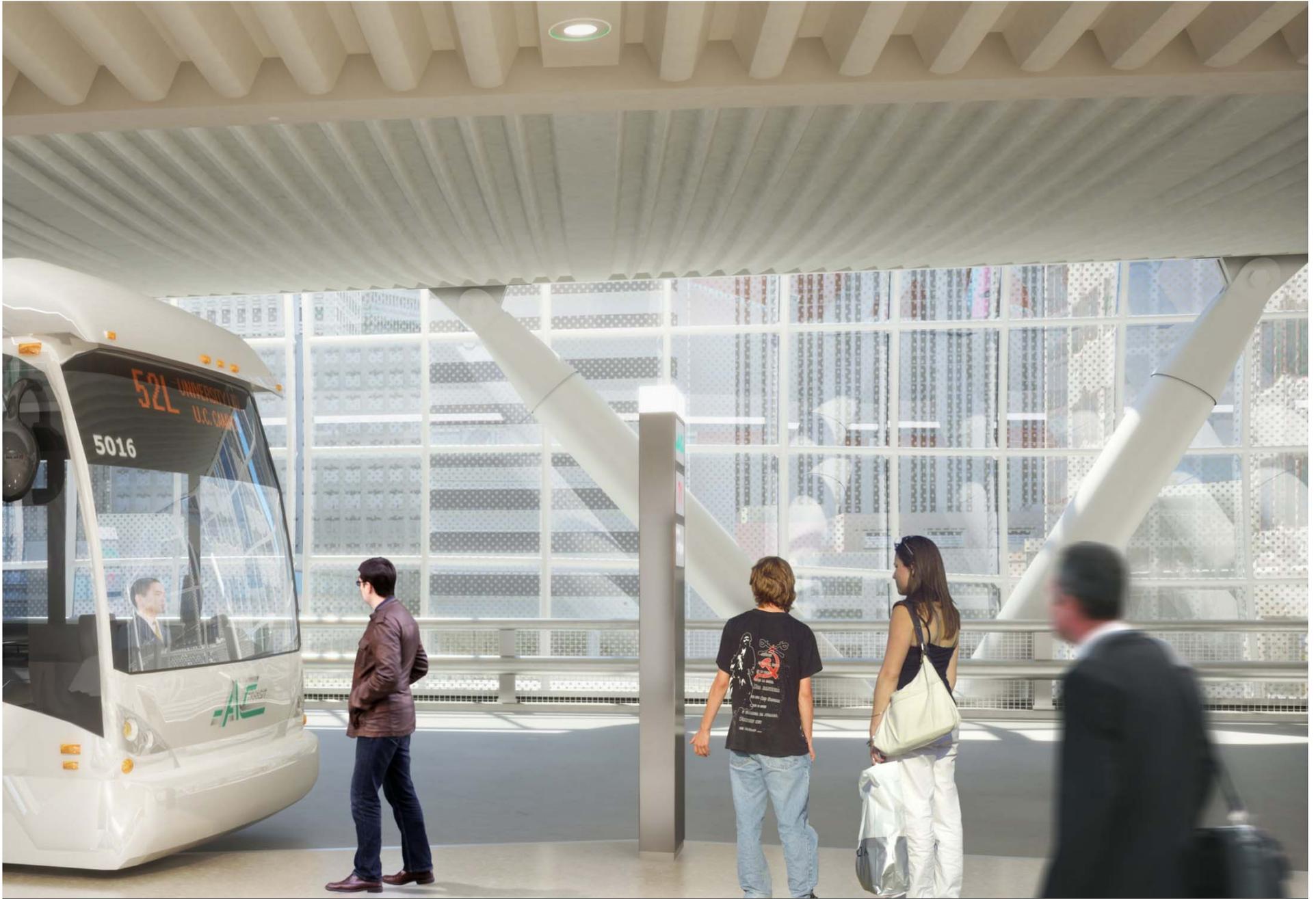


Fire & Life Safety

- Panels are non-flammable and do not create any fire & life safety issues.
- Results from Design Team analysis indicate no detrimental effects from the change to perforated metal panels.
- Information has been provided to allow the Bus Deck Smoke Ventilation Peer Reviewers an opportunity to comment on the change from glass to perforated metal panels.

INTERIOR VIEW





INTERIOR VIEW FROM BUS DECK – GLASS AWNING



INTERIOR VIEW FROM BUS DECK – METAL AWNING

LIGHTING





NATOMA STREET VIEW – METAL PANEL AWNING LIGHTING 1



NATOMA STREET VIEW – METAL PANEL AWNING LIGHTING 2

COST

GLASS OPTION WITH RVA:	\$38.5M
STAINLESS STEEL OPTION:	\$24M - 27M (savings of \$4M – 7M)
PAINTED ALUMINUM OPTION:	\$17M – 22M (savings of \$9M – 14M)

COST SAVINGS OF \$16.5M - \$21.5M WITH PAINTED ALUMINUM OPTION