

CIRI: Fireweed Business Center

January 13, 2016



RIM ARCHITECTS RES3D.com



Energy Efficiency **NOW:** Elevating Energy Performance in Commercial & Residential Buildings

Project Basics:

Owner: Cook Inlet Region Incorporated (CIRI)

Architect: RIM Architects

Civil: CRW Engineering

Structural: Schneider Structural Engineers

Interior Design: RIM Design

Mechanical: Design Alaska

(with Peer Review from WSP in Seattle)

Electrical Engineering: HZA Engineering

Landscape Architecture: Corvus Design

Builder: Davis Constructors



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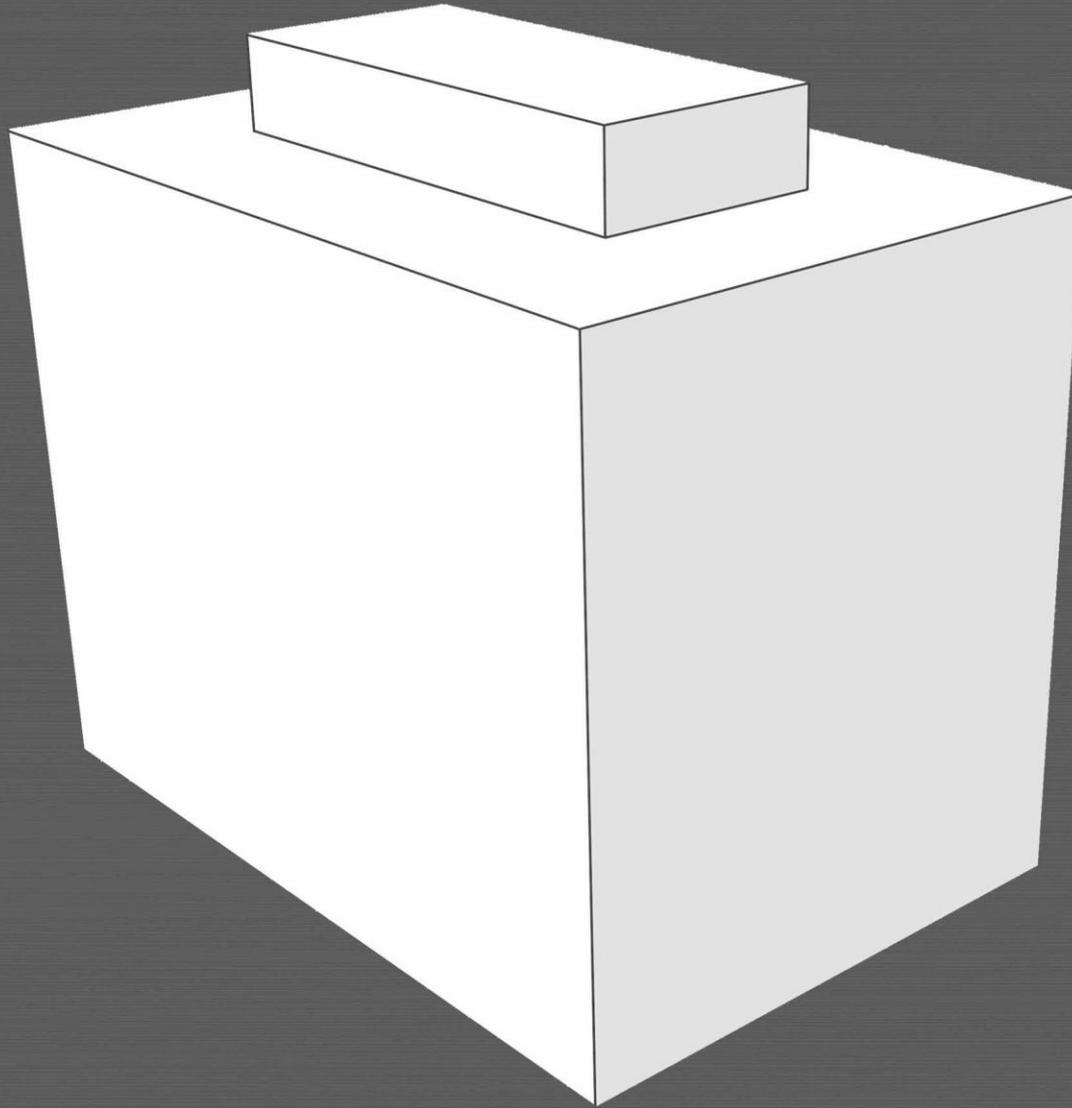
Presentation Focus:

Energy-efficient Commercial Buildings are possible in this region if we:

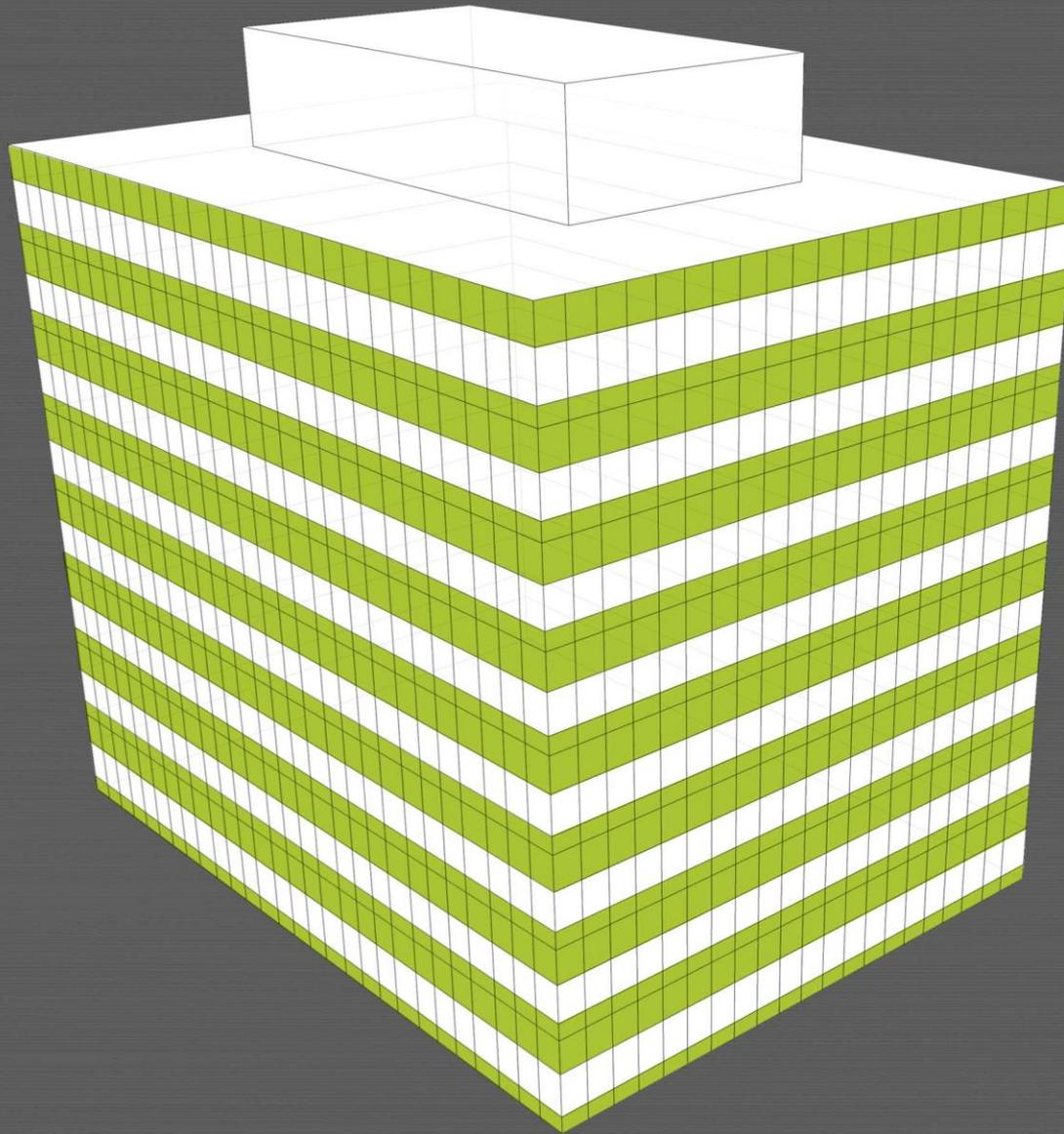
1. Reduce the need for energy through proper planning / design.
2. Use Appropriate Energy-saving Technology
3. Extend understanding of “efficiency” to include more than energy use. What is the *Business Case* for high performance building?

Reduce Need for Energy:

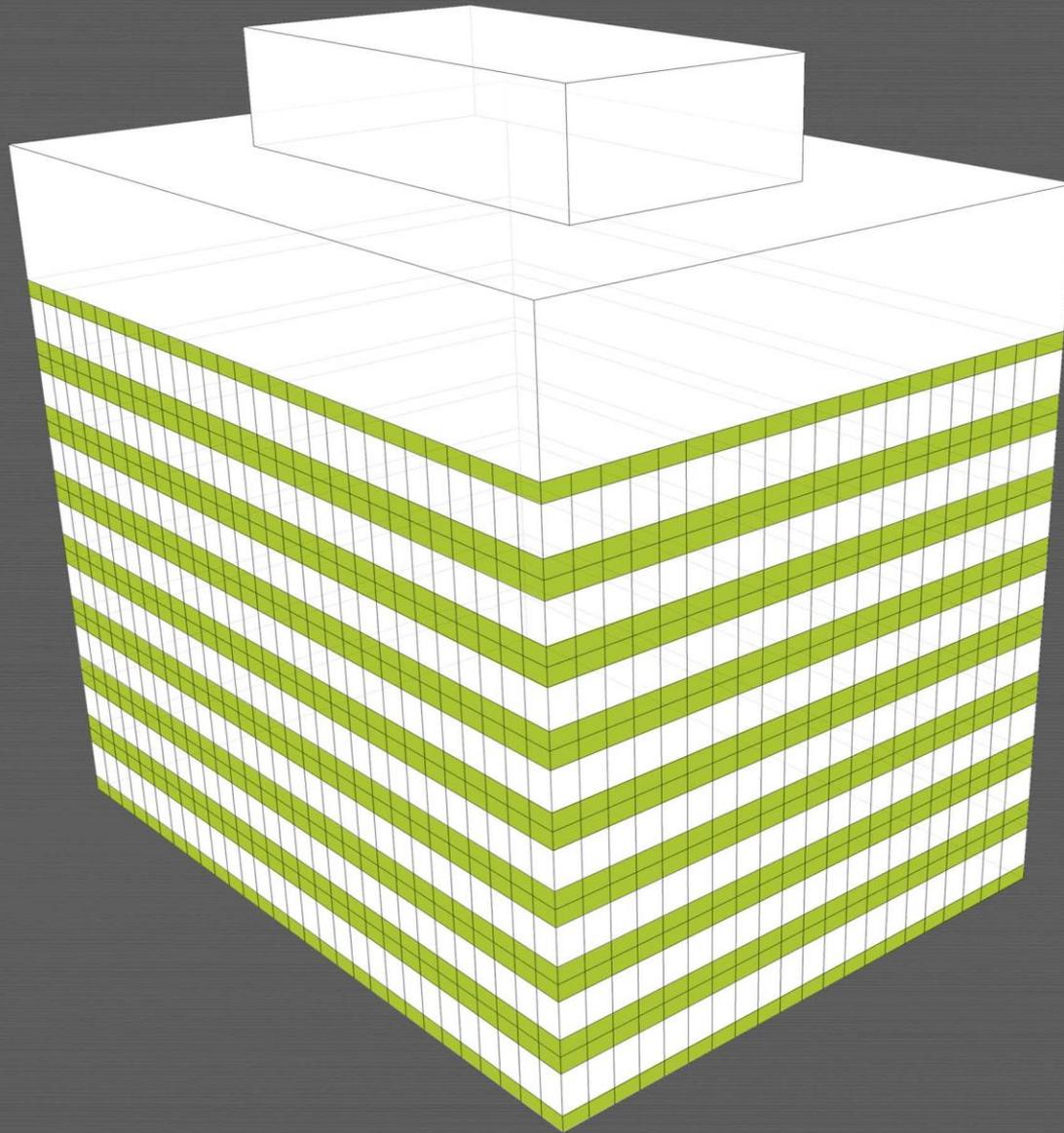
- Begin with [imaginary] construction of “Baseline”
- Analysis software has ability to test the baseline against alternate scenarios.
- Assess the space needs; challenge the assumptions.
 - Where can we provide less?
 - Less building volume means less to heat and cool.
 - Less building perimeter “skin” means less area to lose heat or cooling.



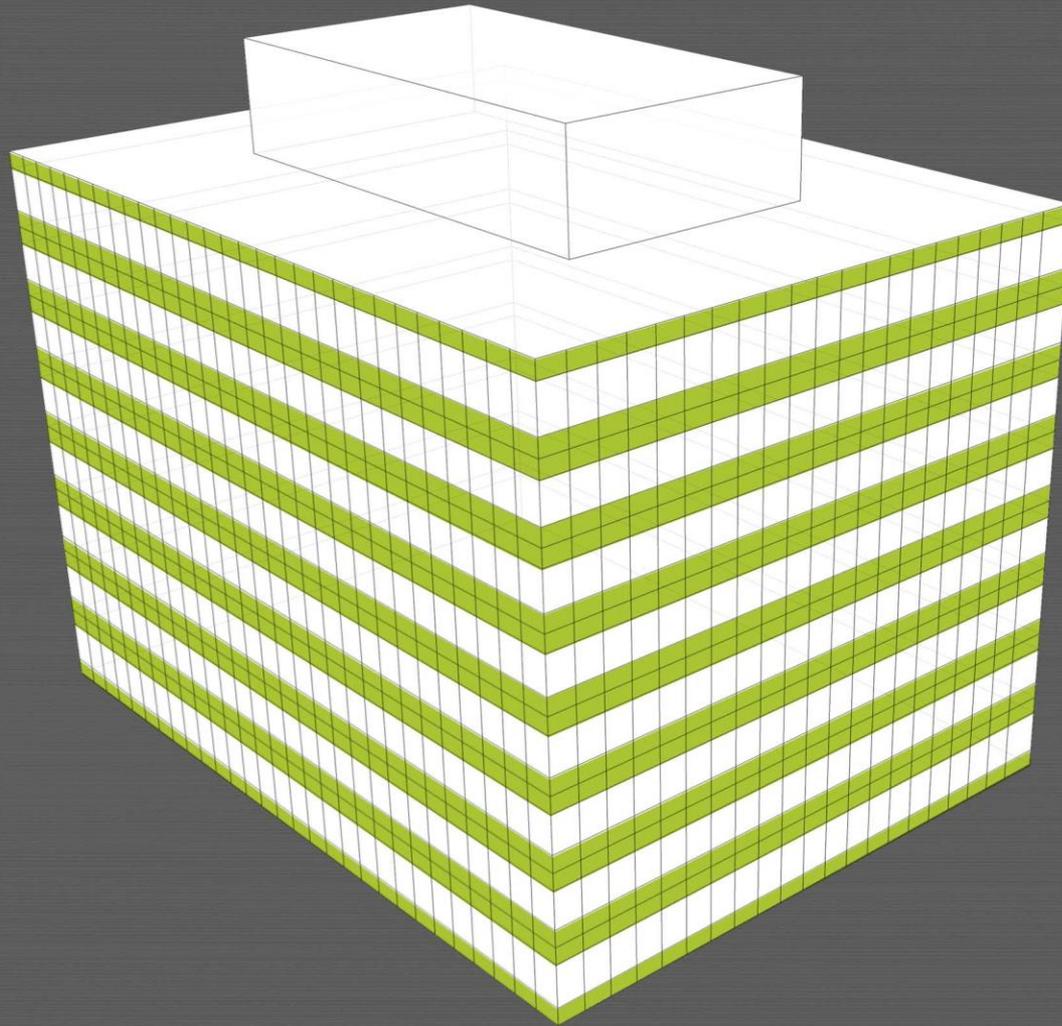
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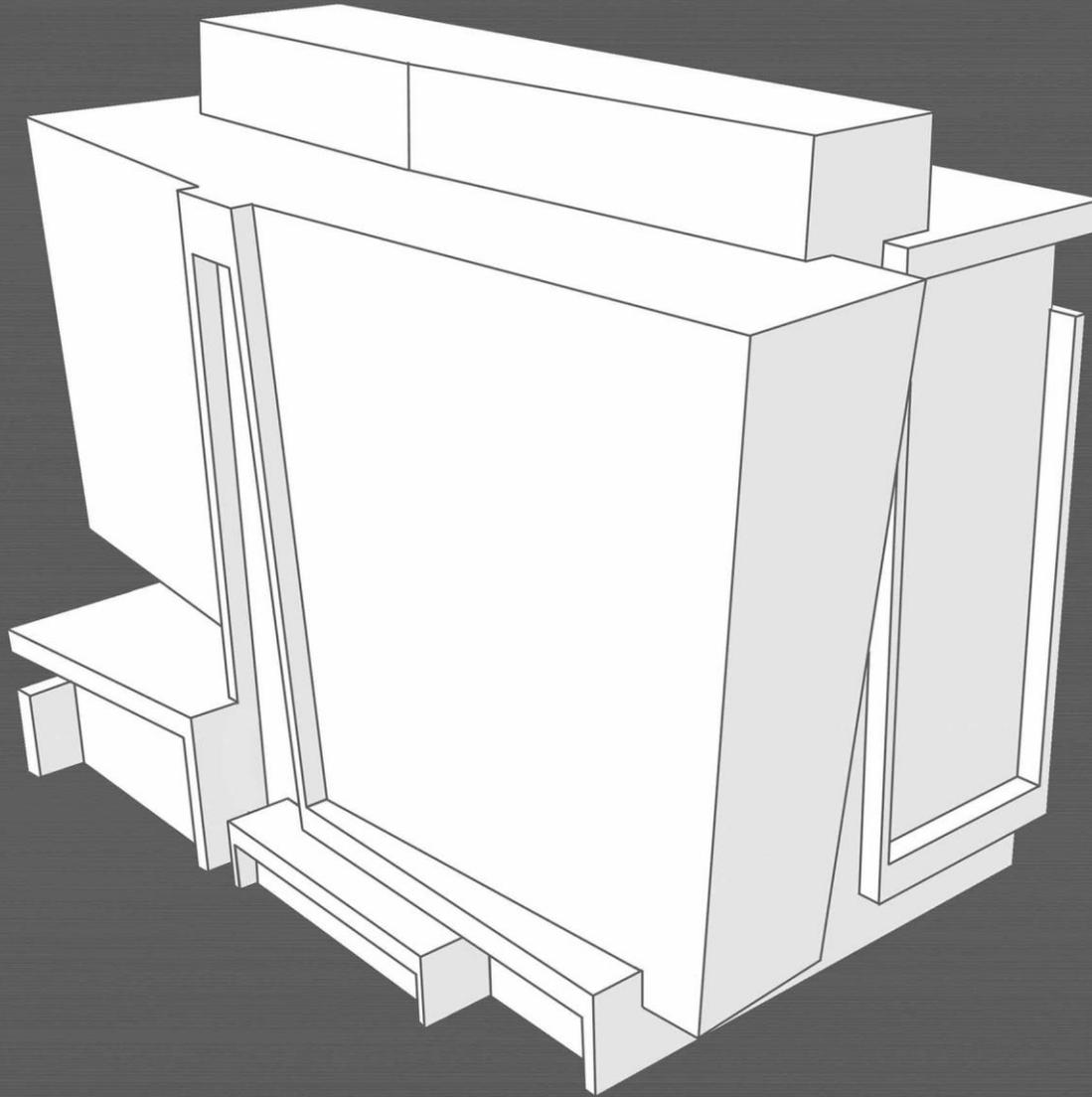
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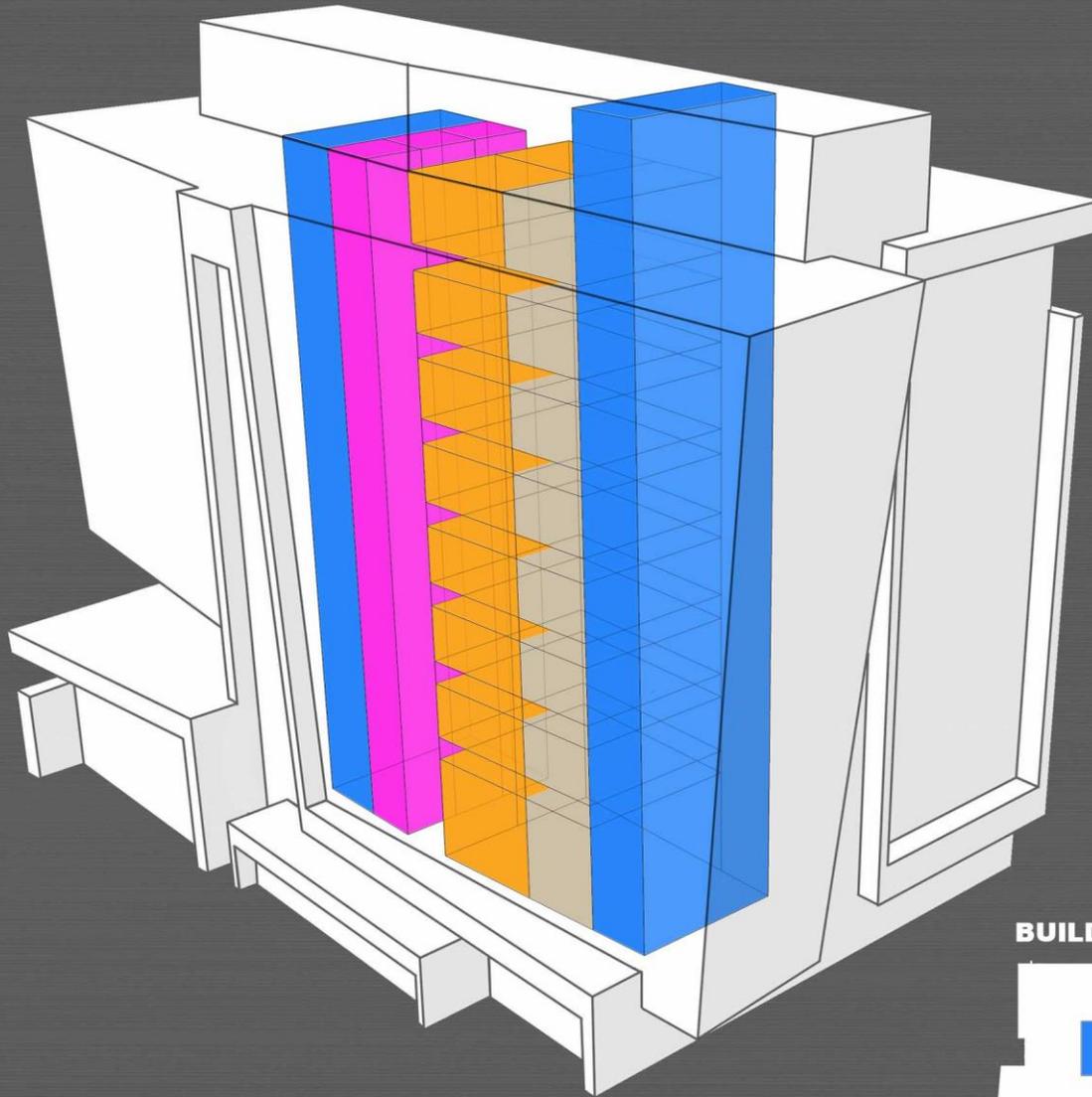


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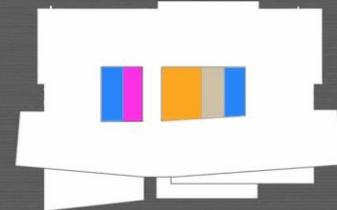


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BUILDING CORE

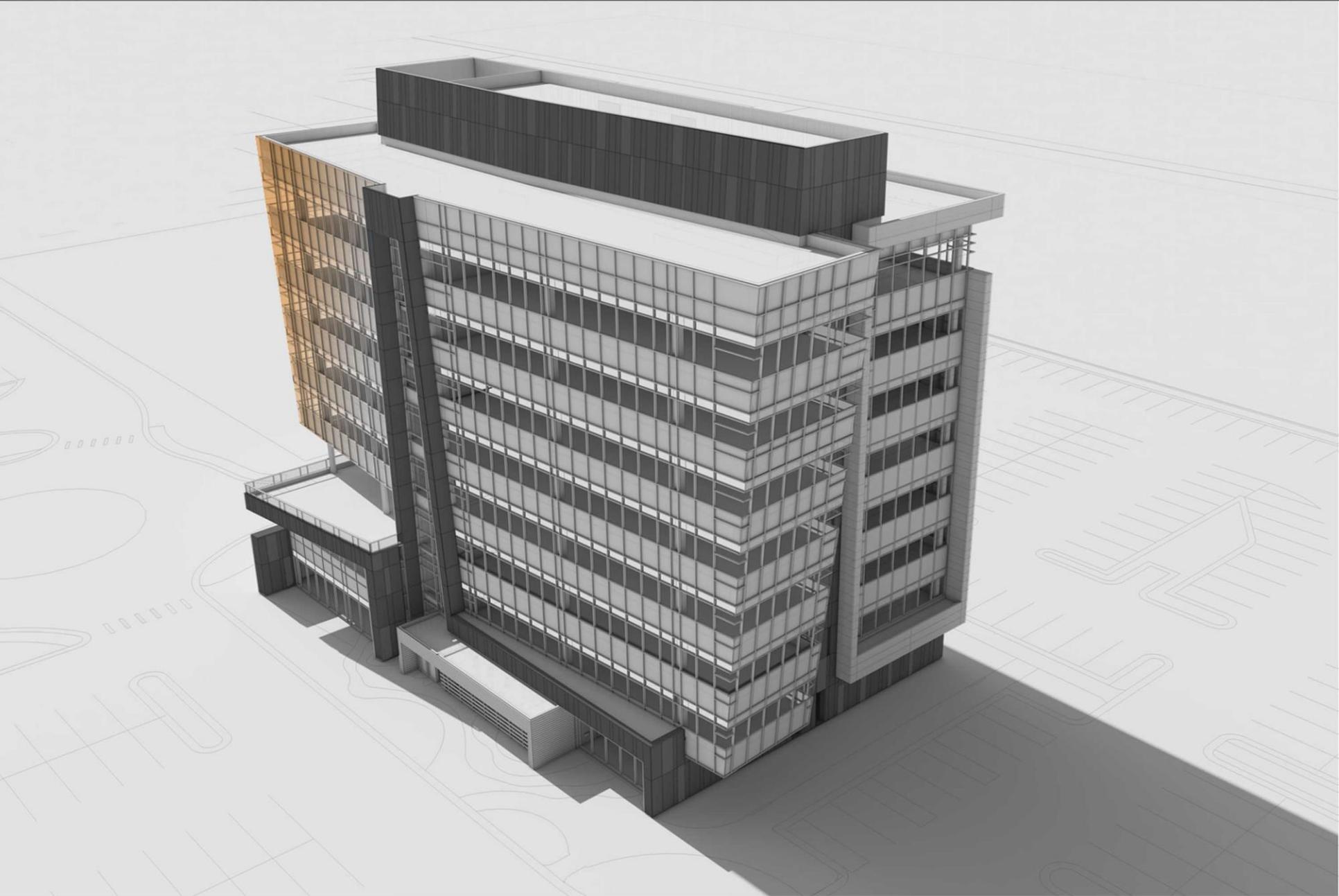




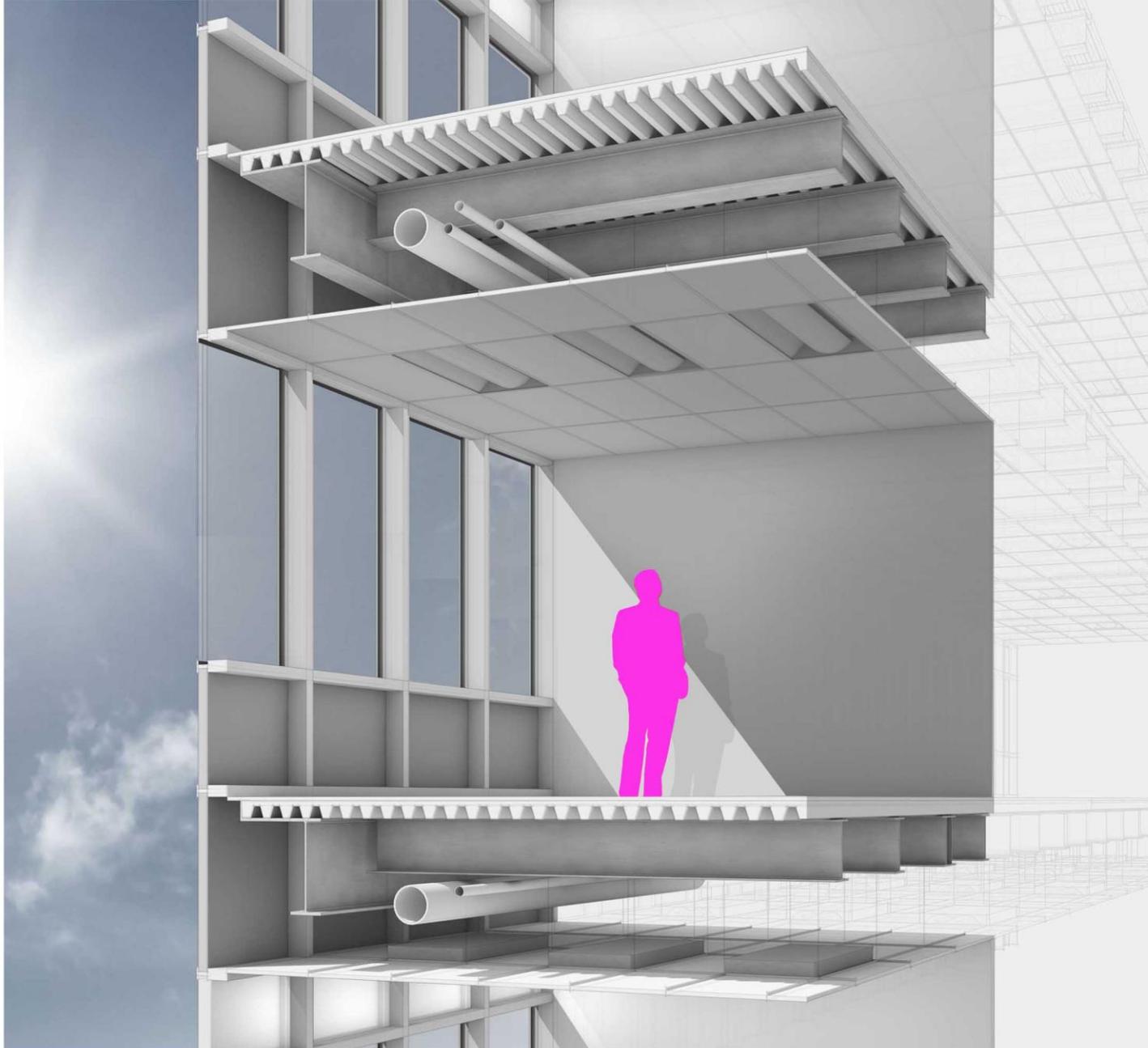
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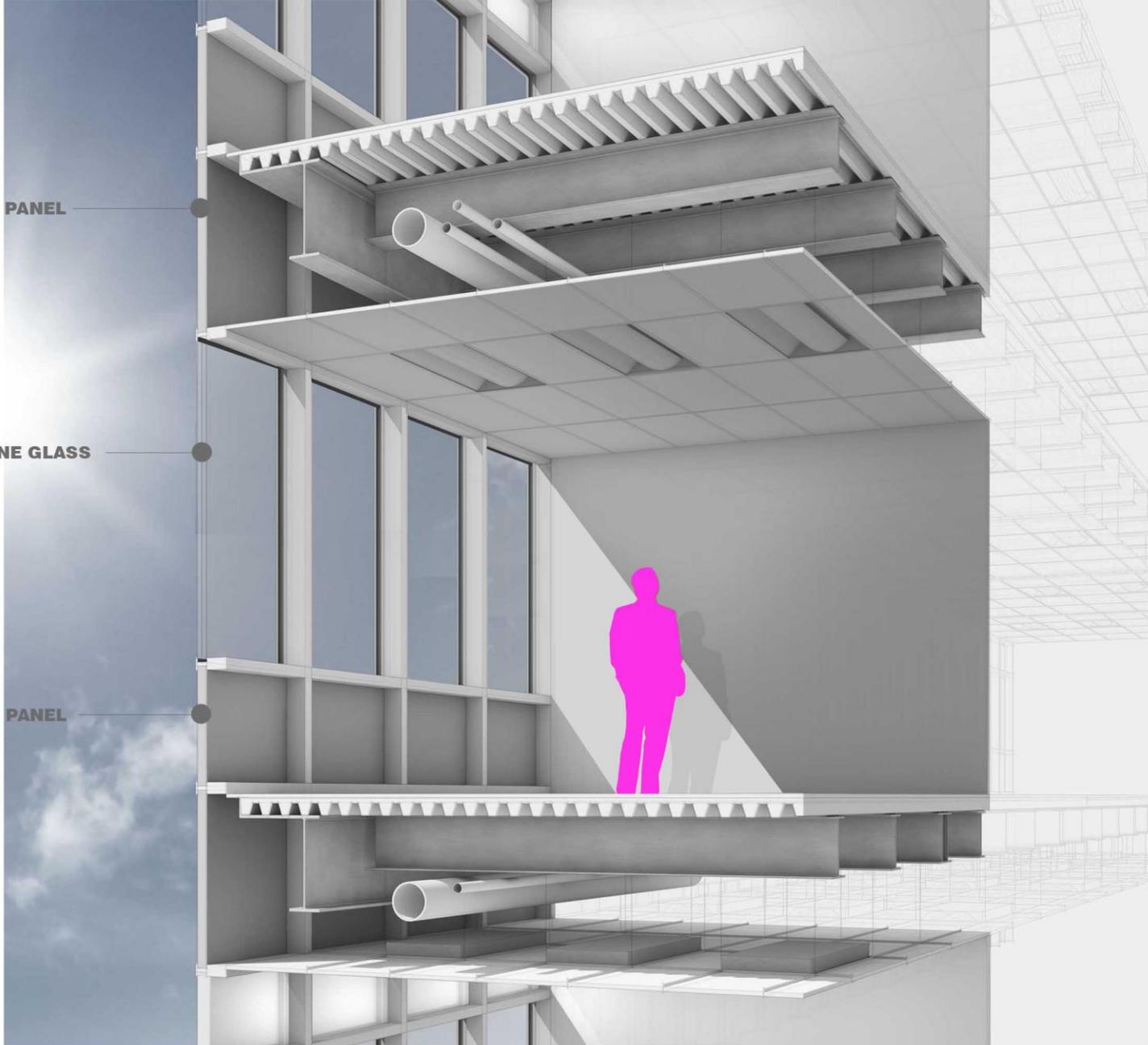
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SPANDREL PANEL

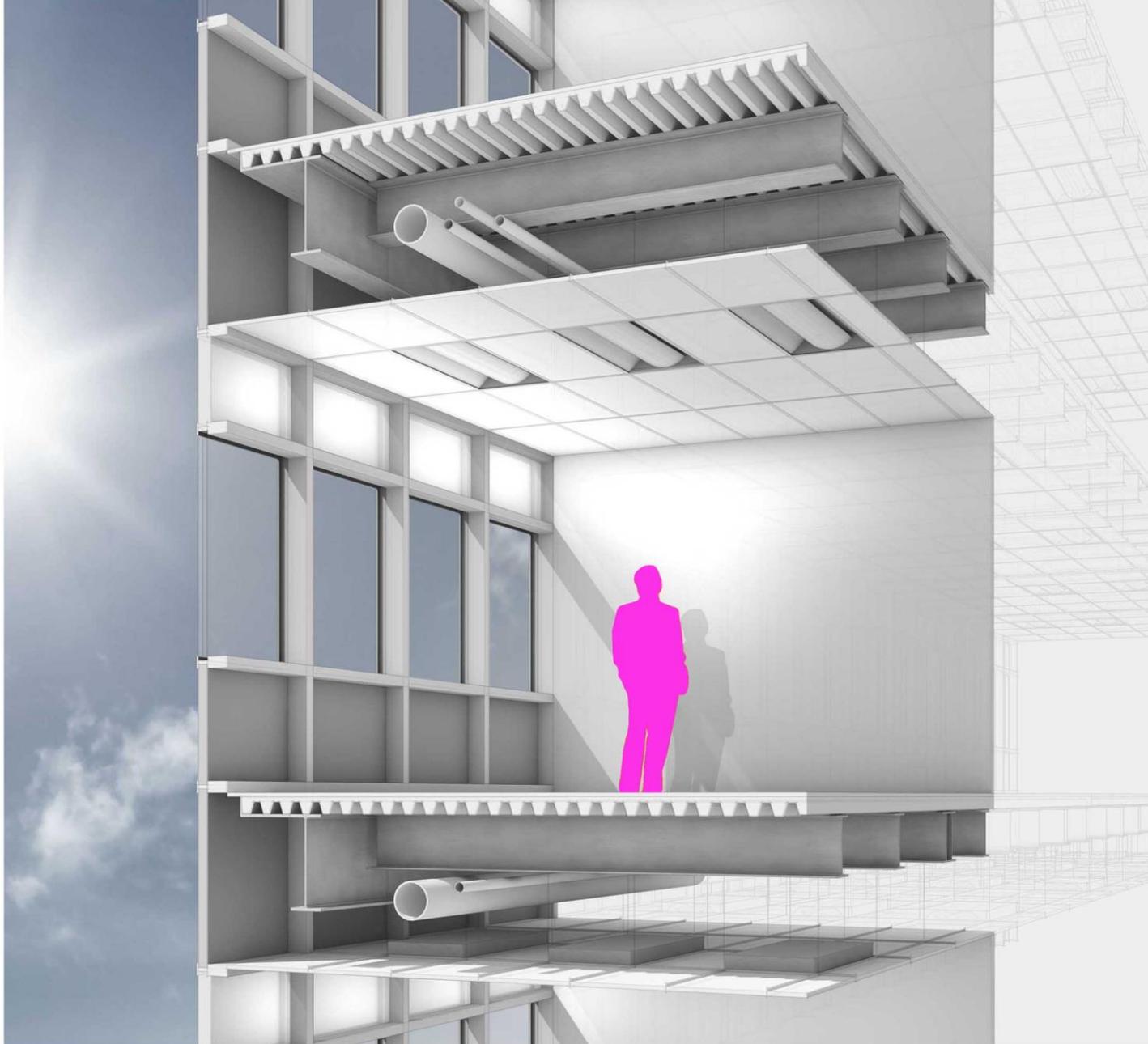
TRIPLE PANE GLASS

SPANDREL PANEL





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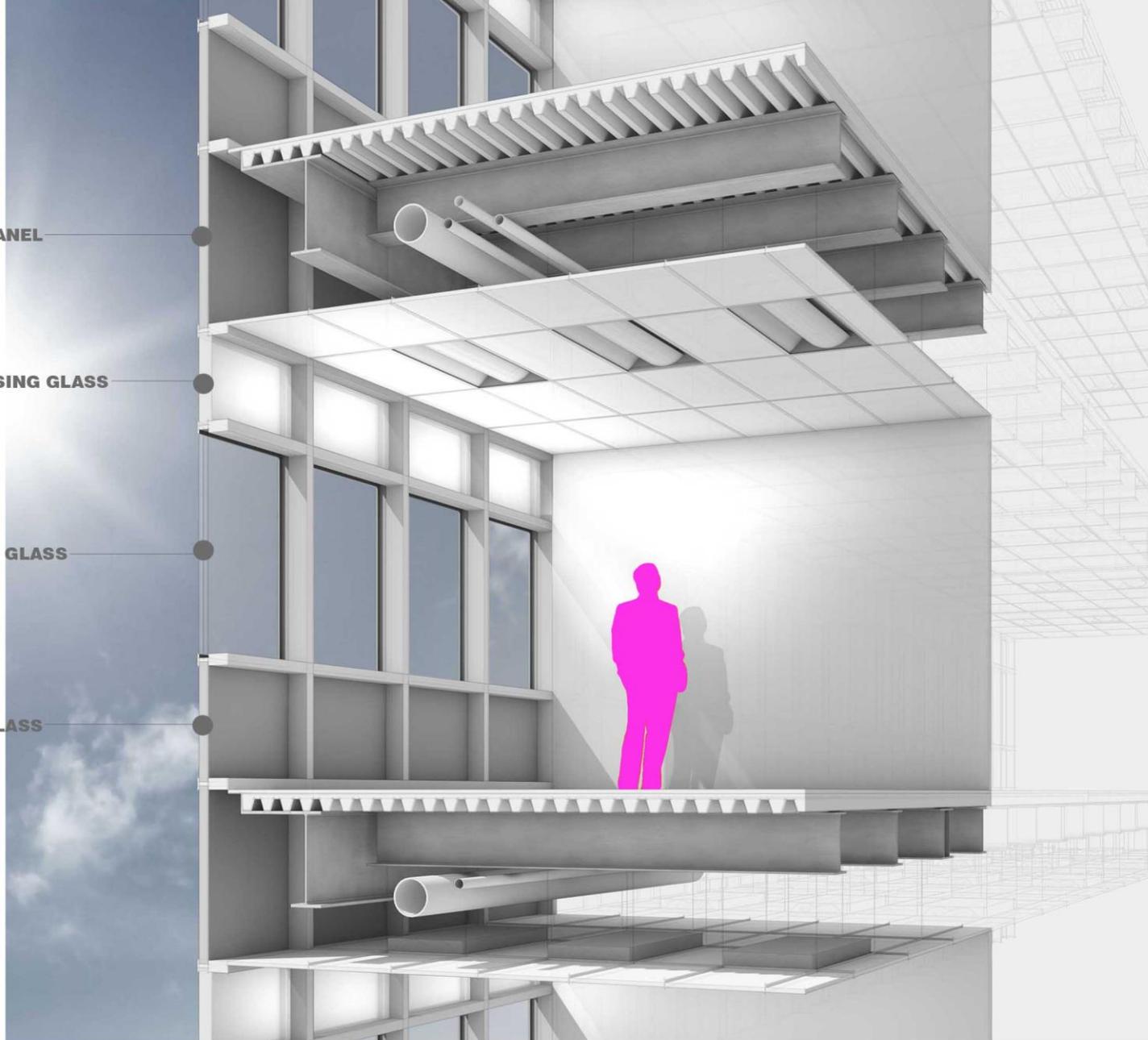


SPANDREL PANEL

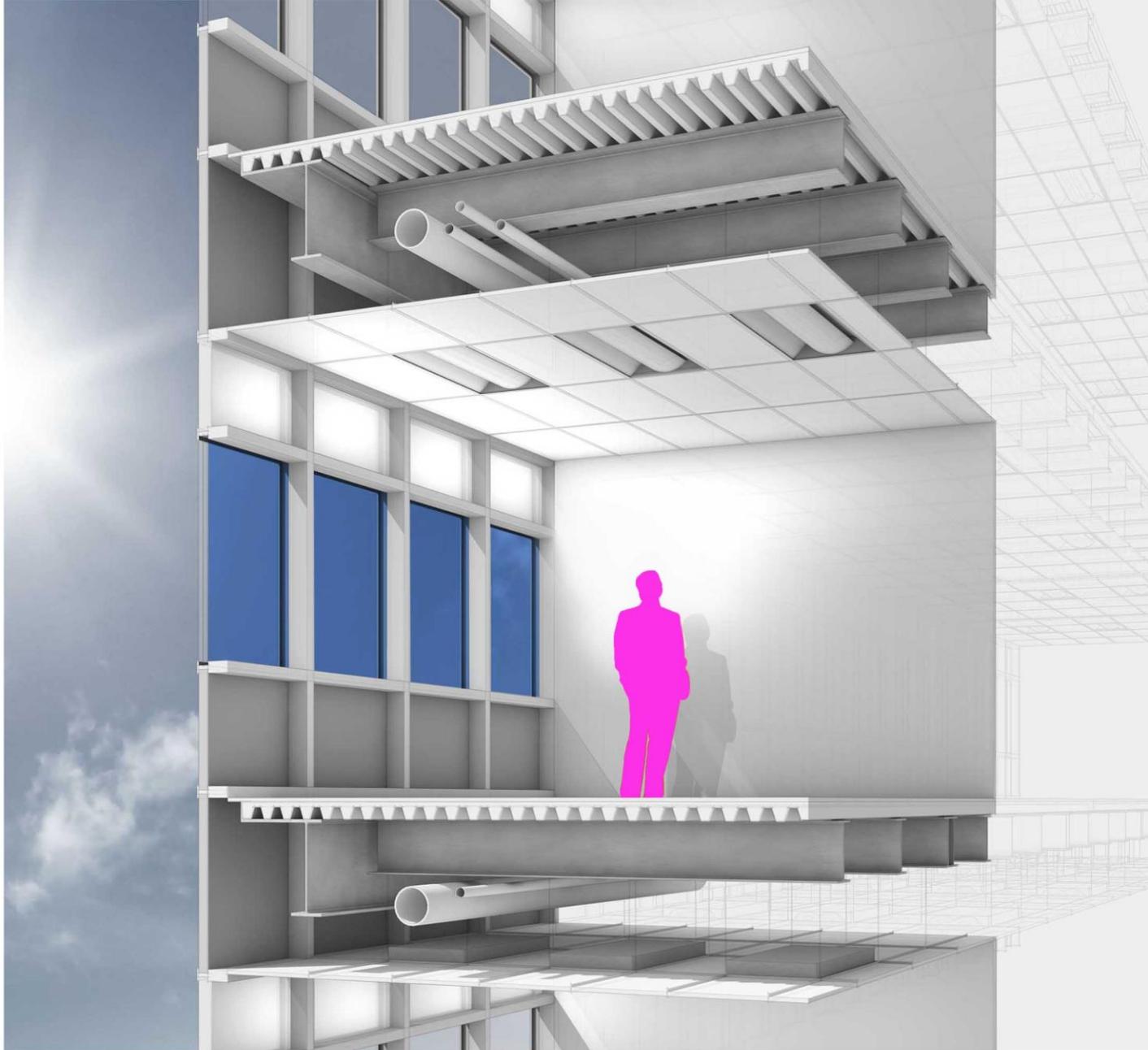
LIGHT DIFFUSING GLASS

TRIPLE PANE GLASS

SPANDREL GLASS



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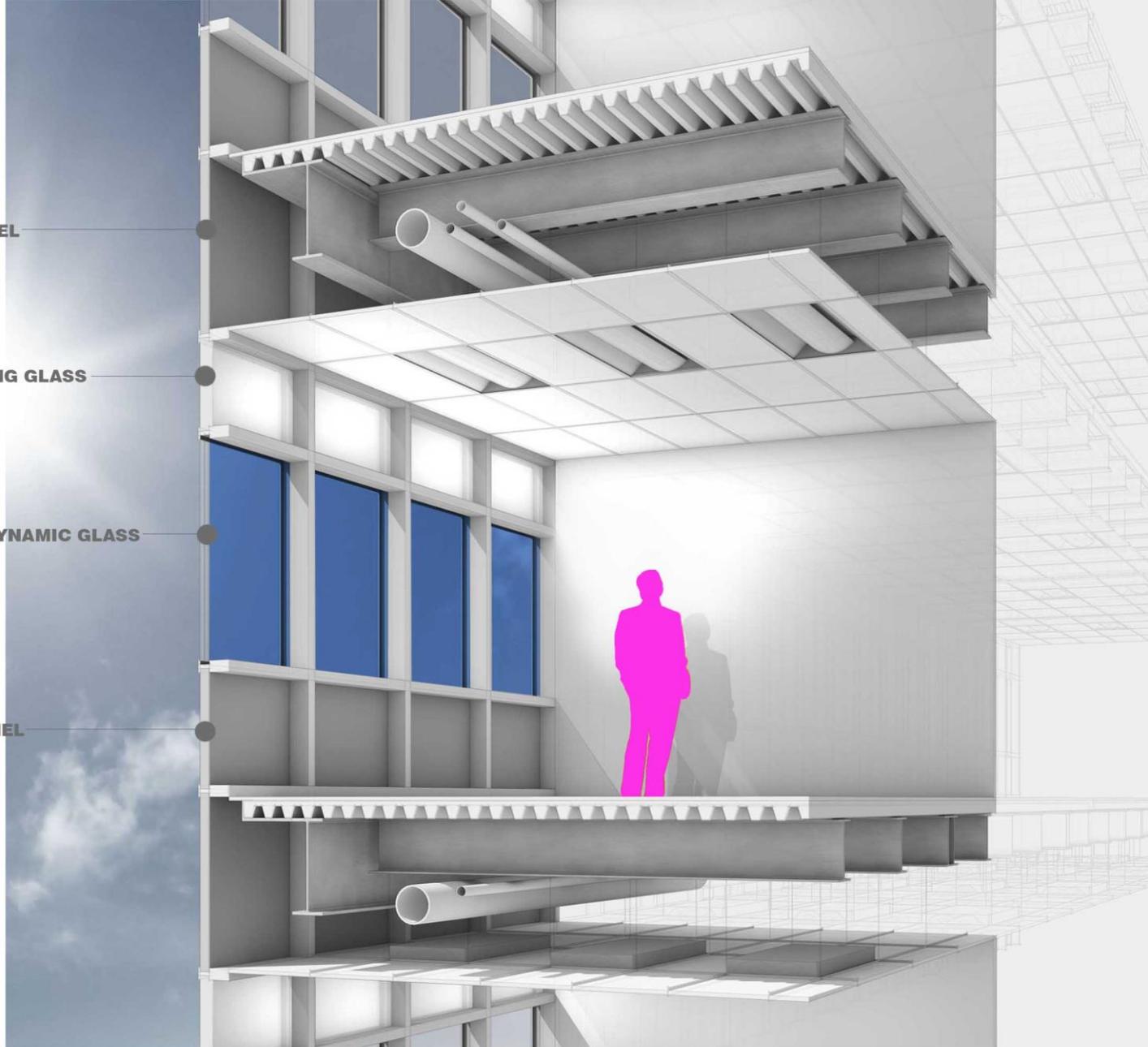
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SPANDREL PANEL

LIGHT DIFFUSING GLASS

TRIPLE PANE DYNAMIC GLASS

SPANDREL PANEL



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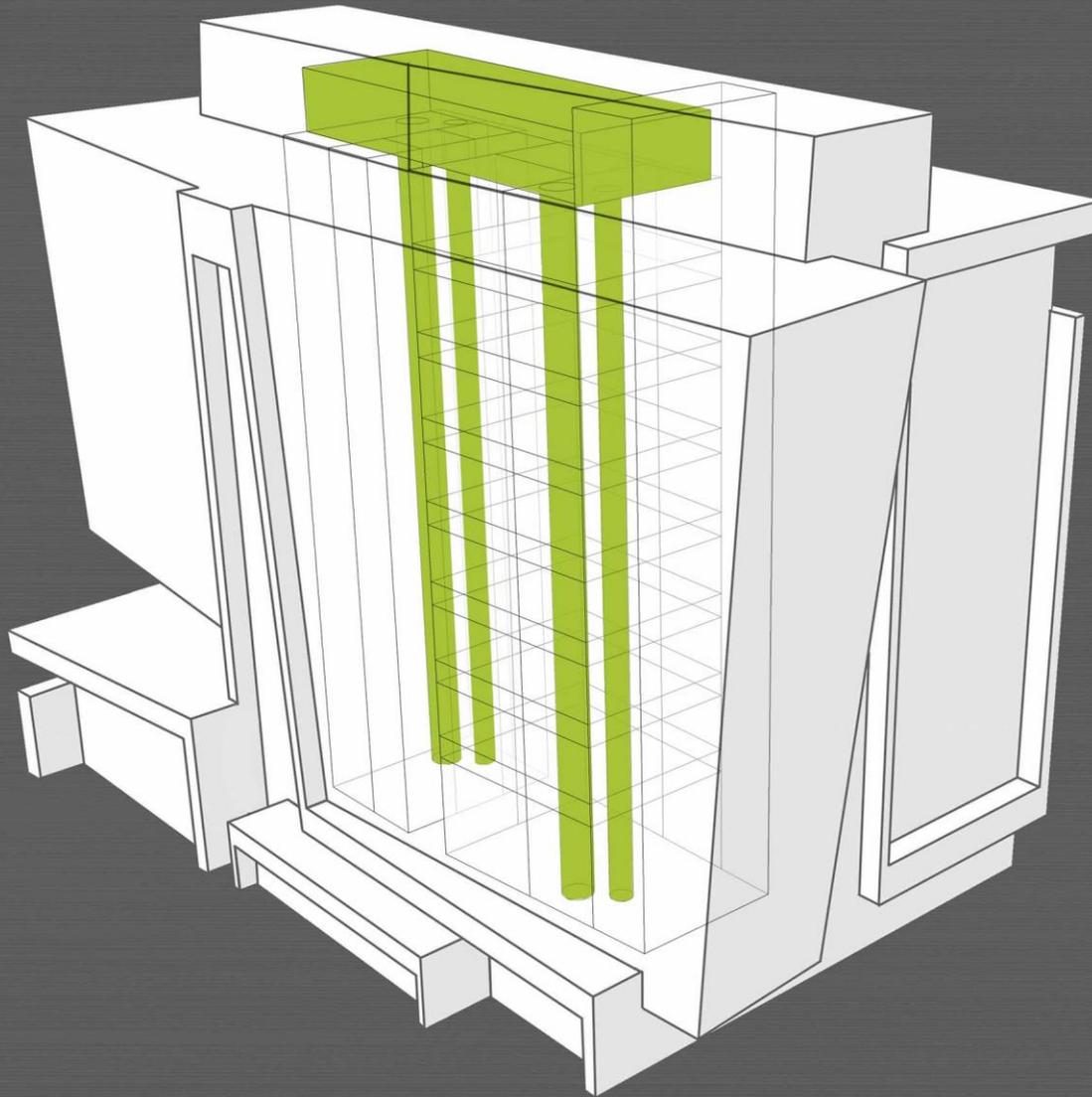


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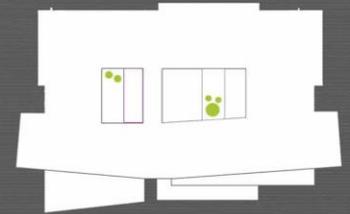
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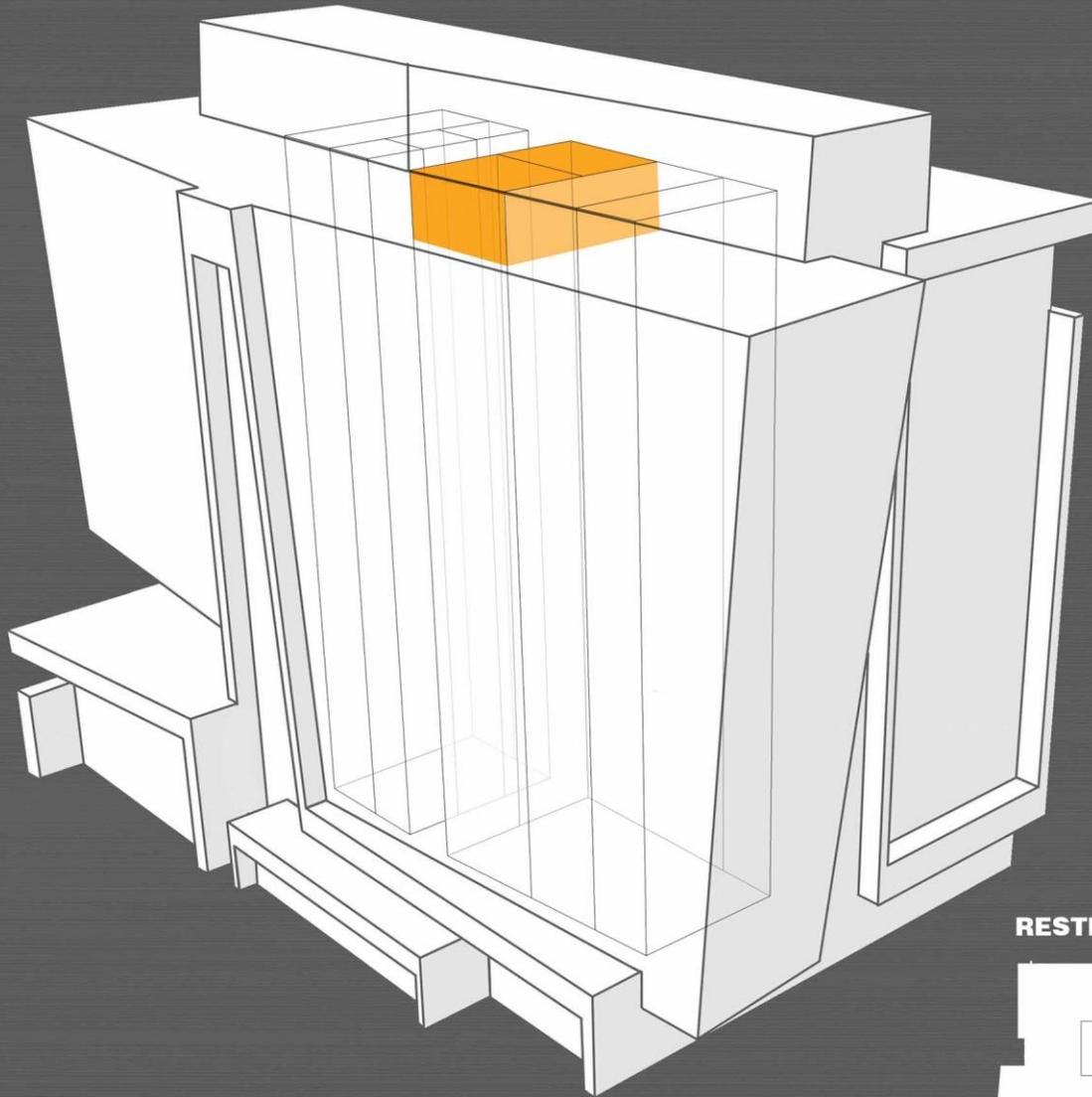
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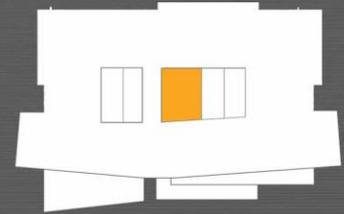
VERTICAL SHAFTS



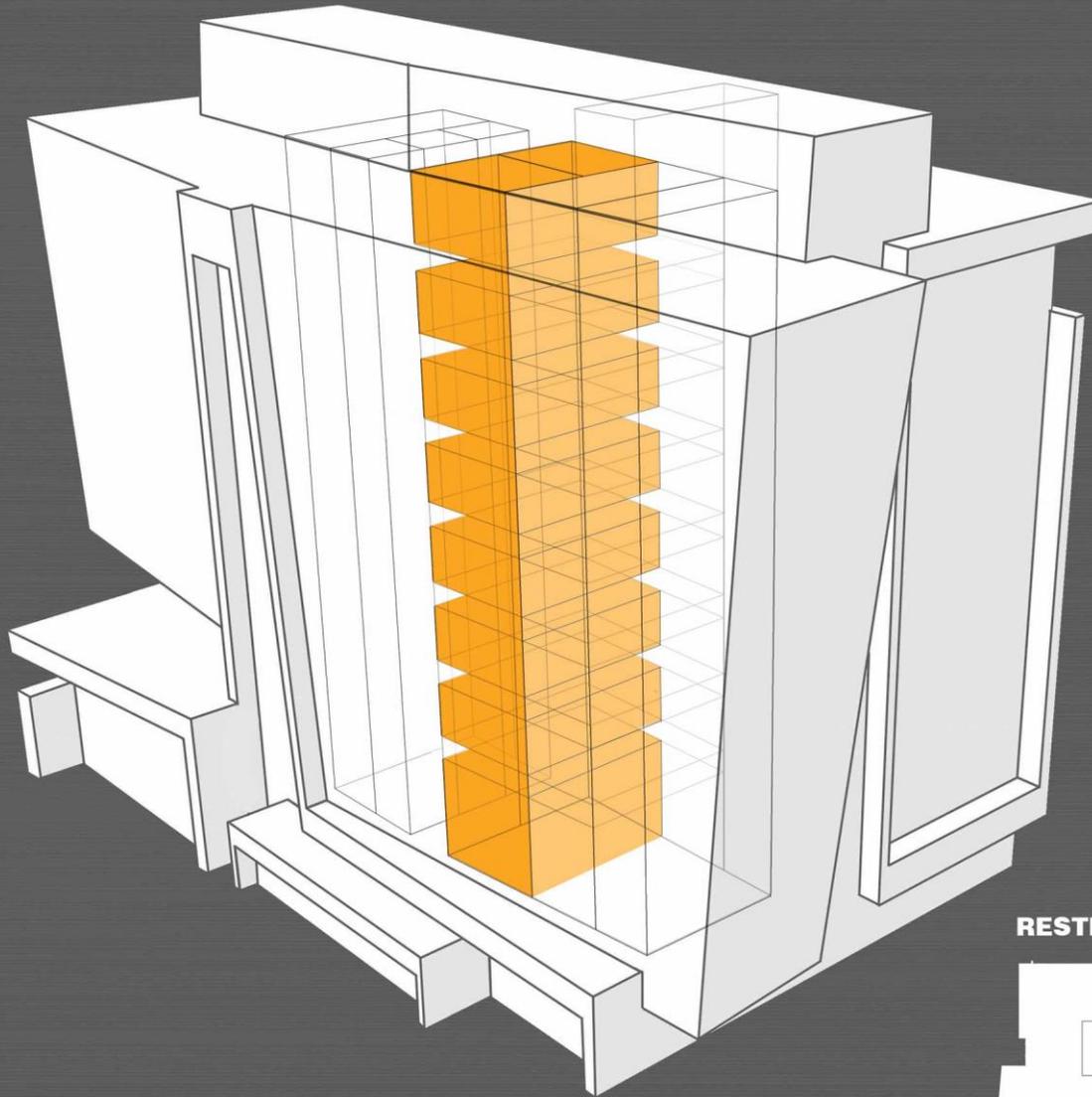
- New Slide Showing Solar Collector on Roof



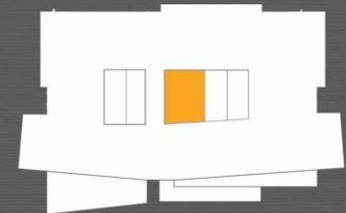
RESTROOMS

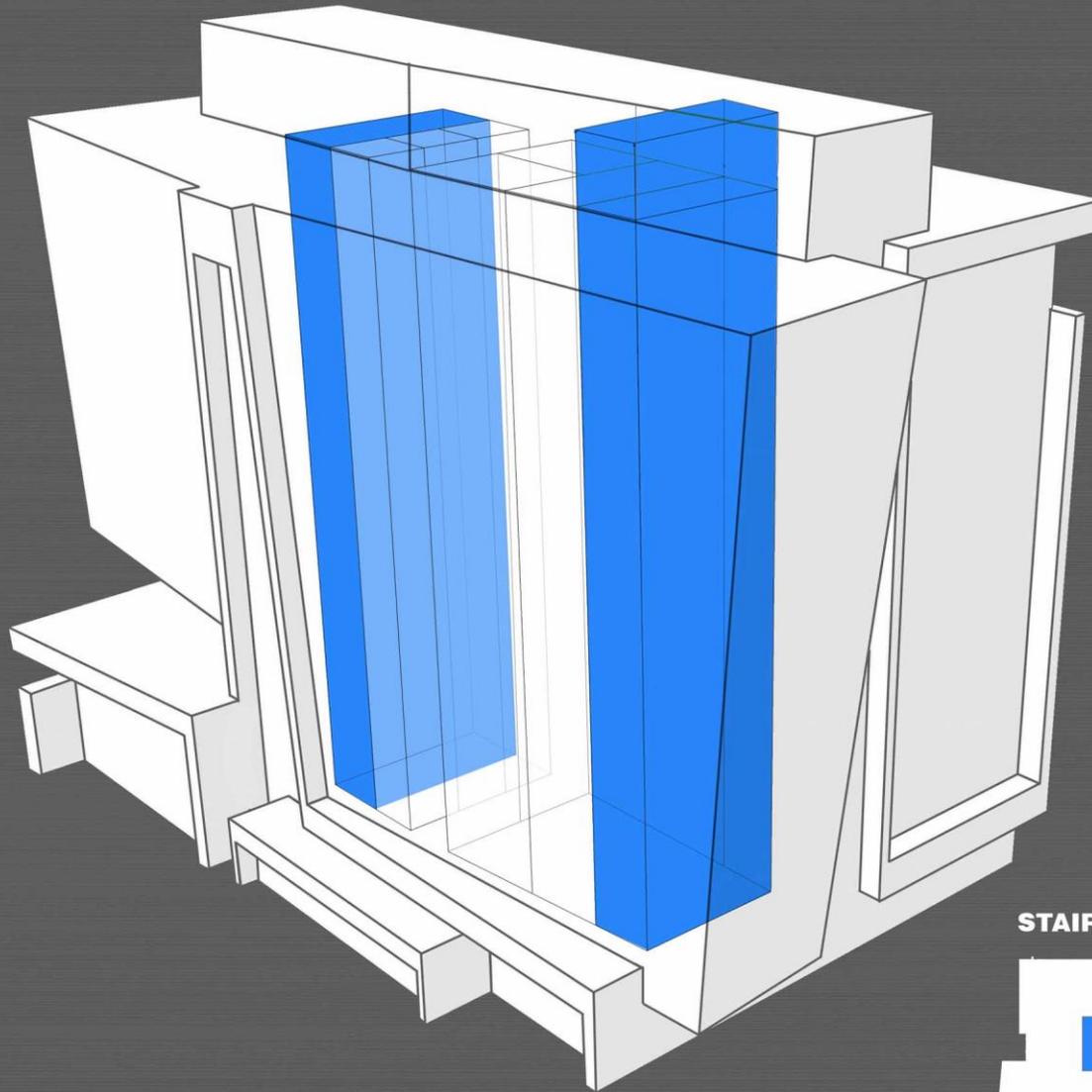


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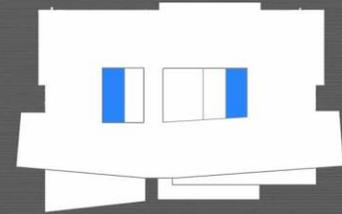


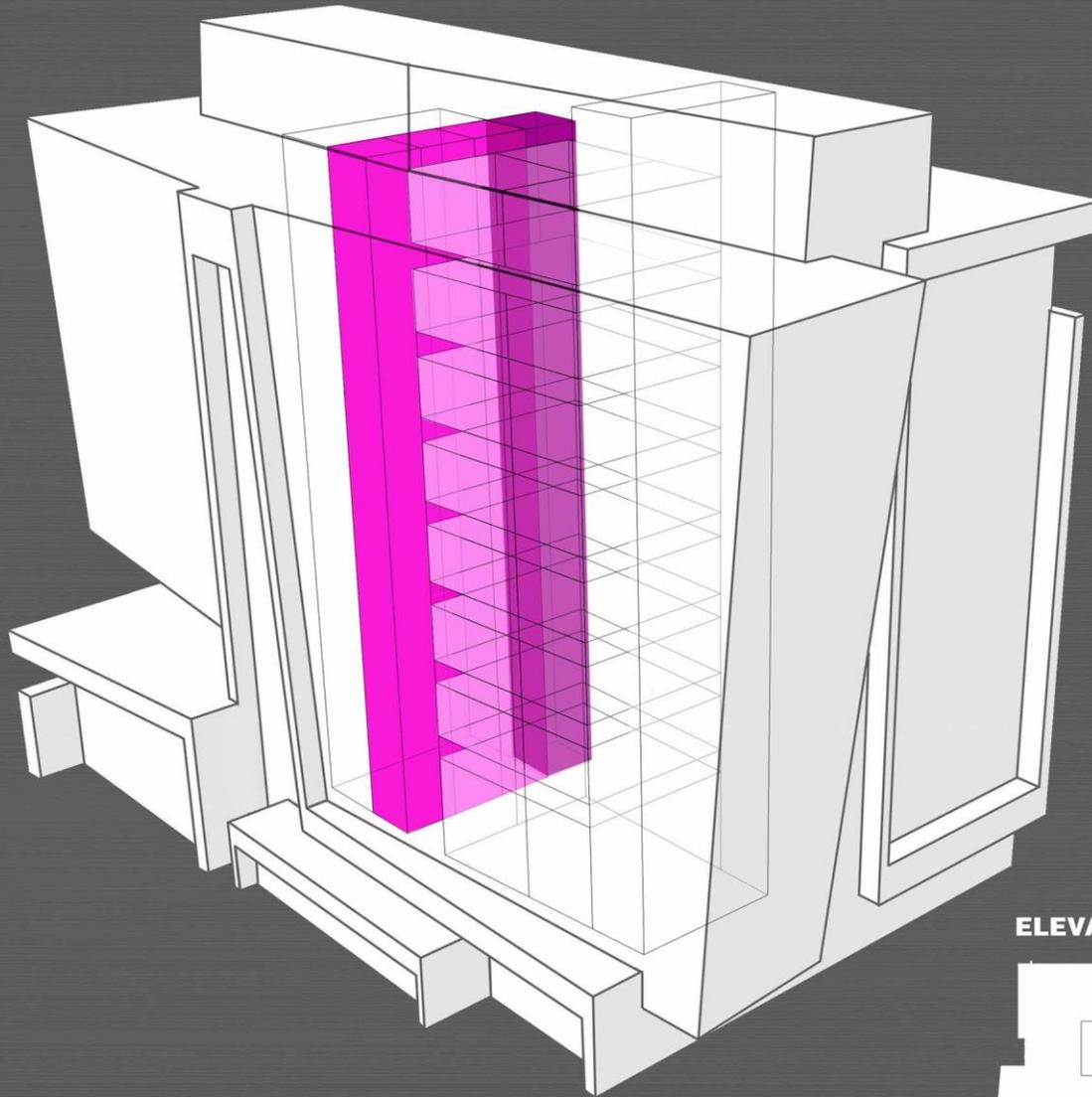
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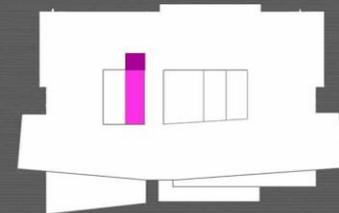


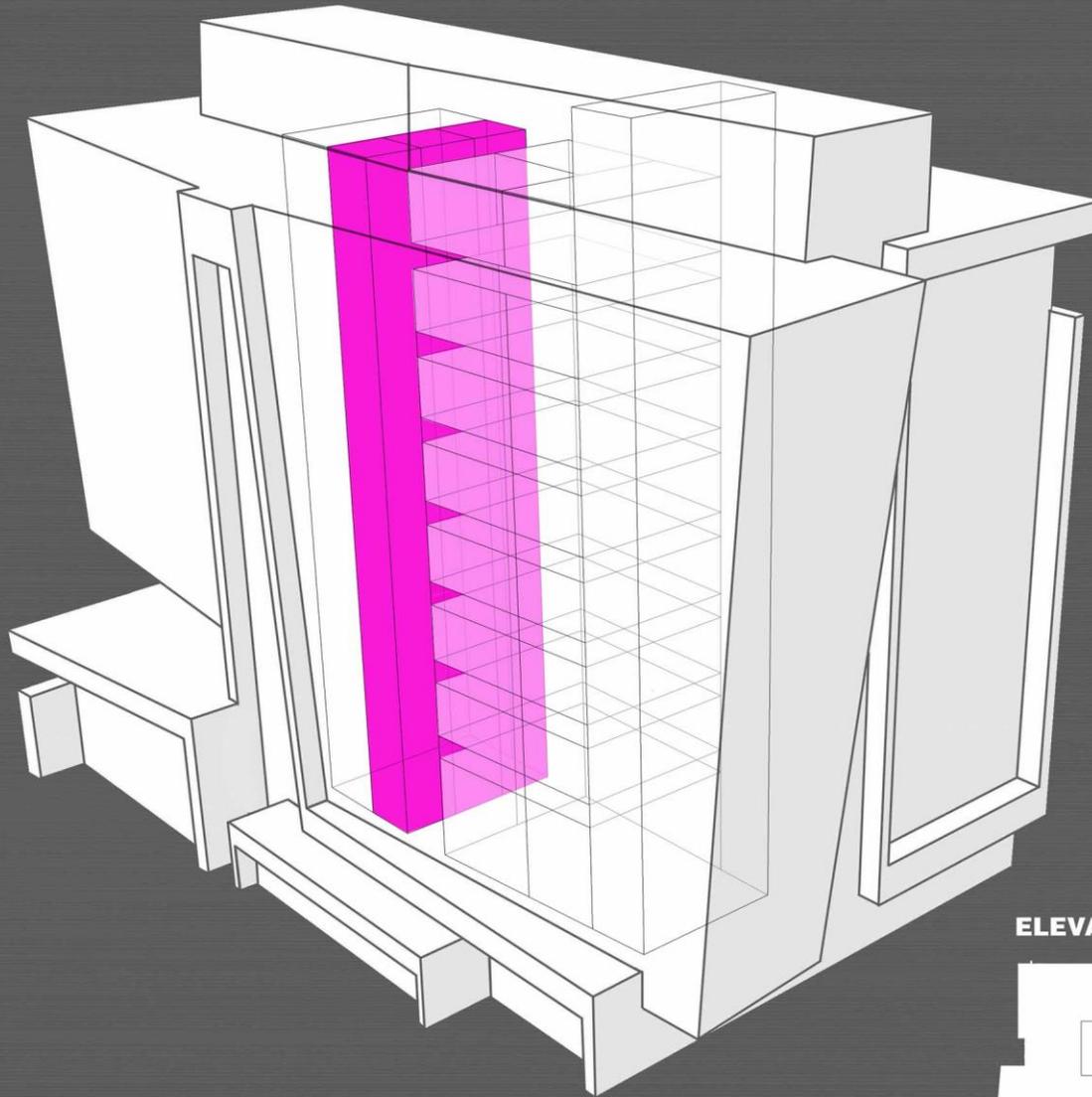
STAIRS



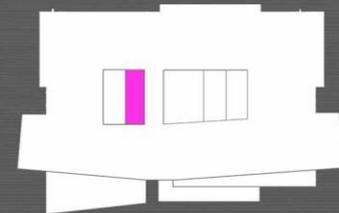


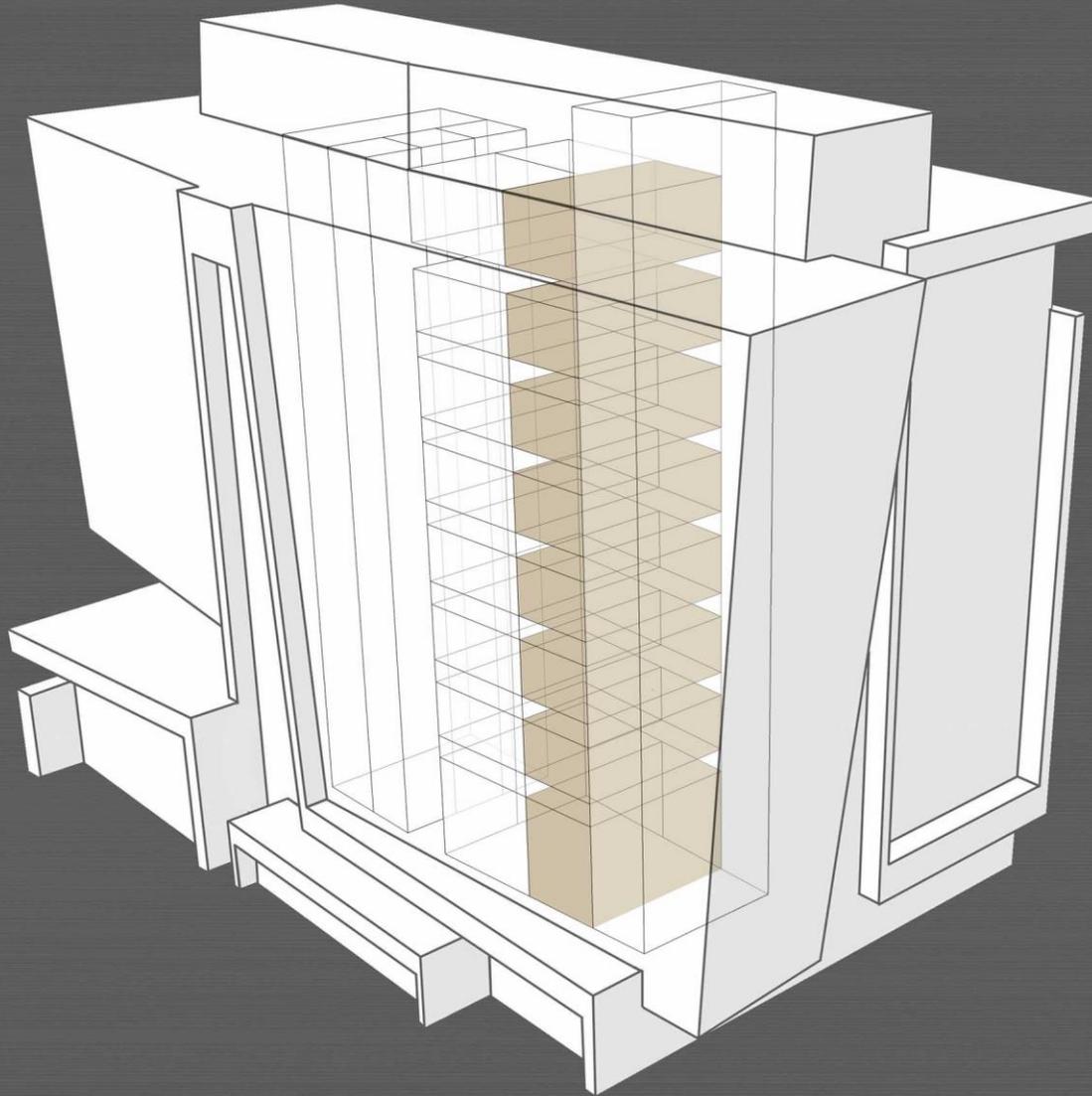
ELEVATORS



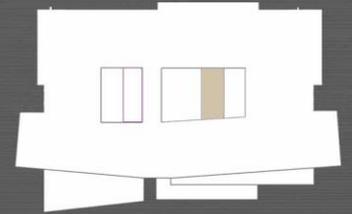


ELEVATORS

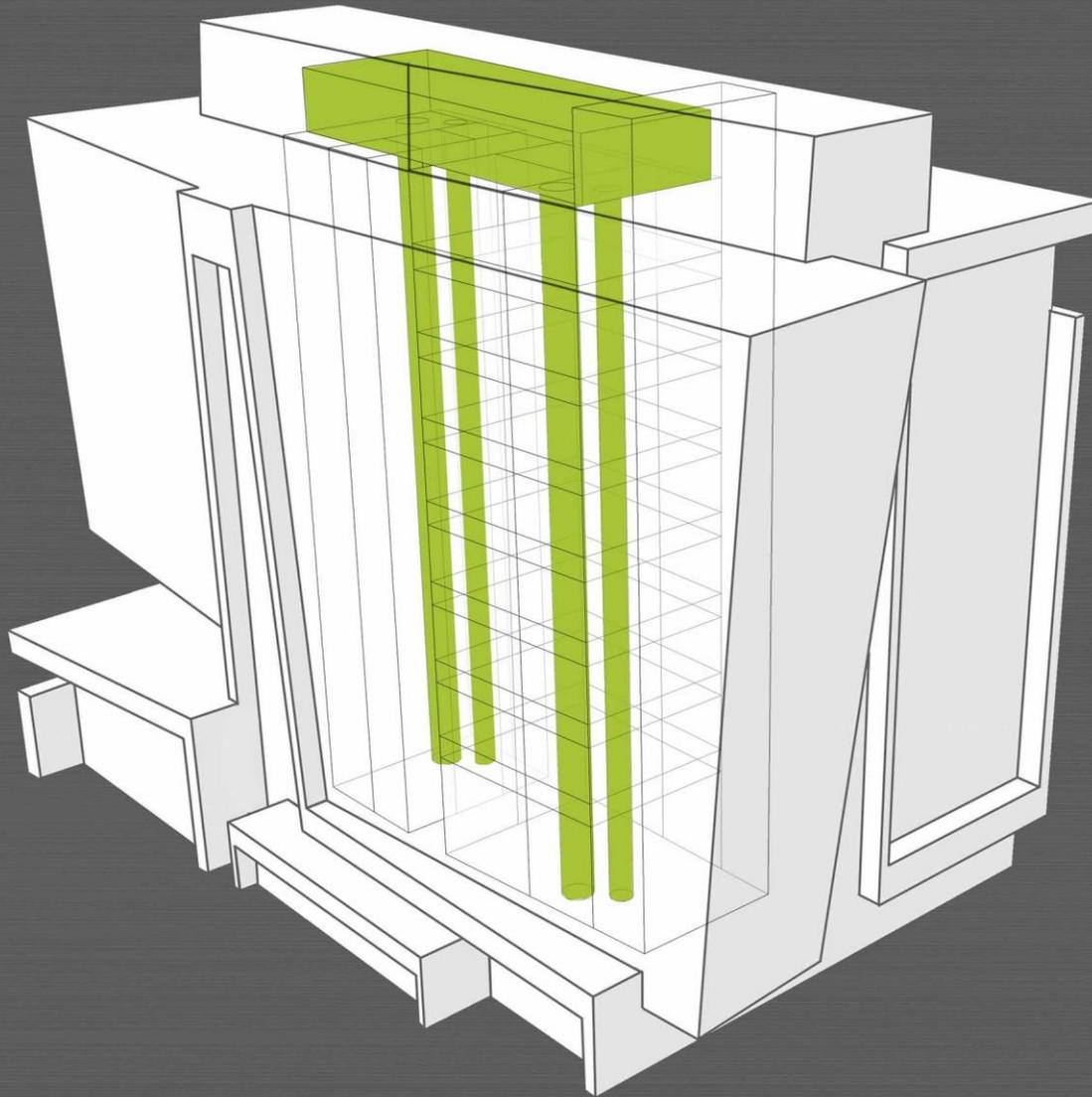




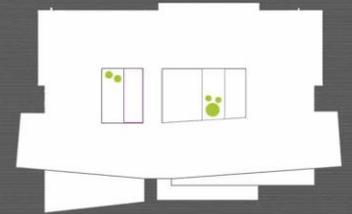
MECH/ELECTRICAL

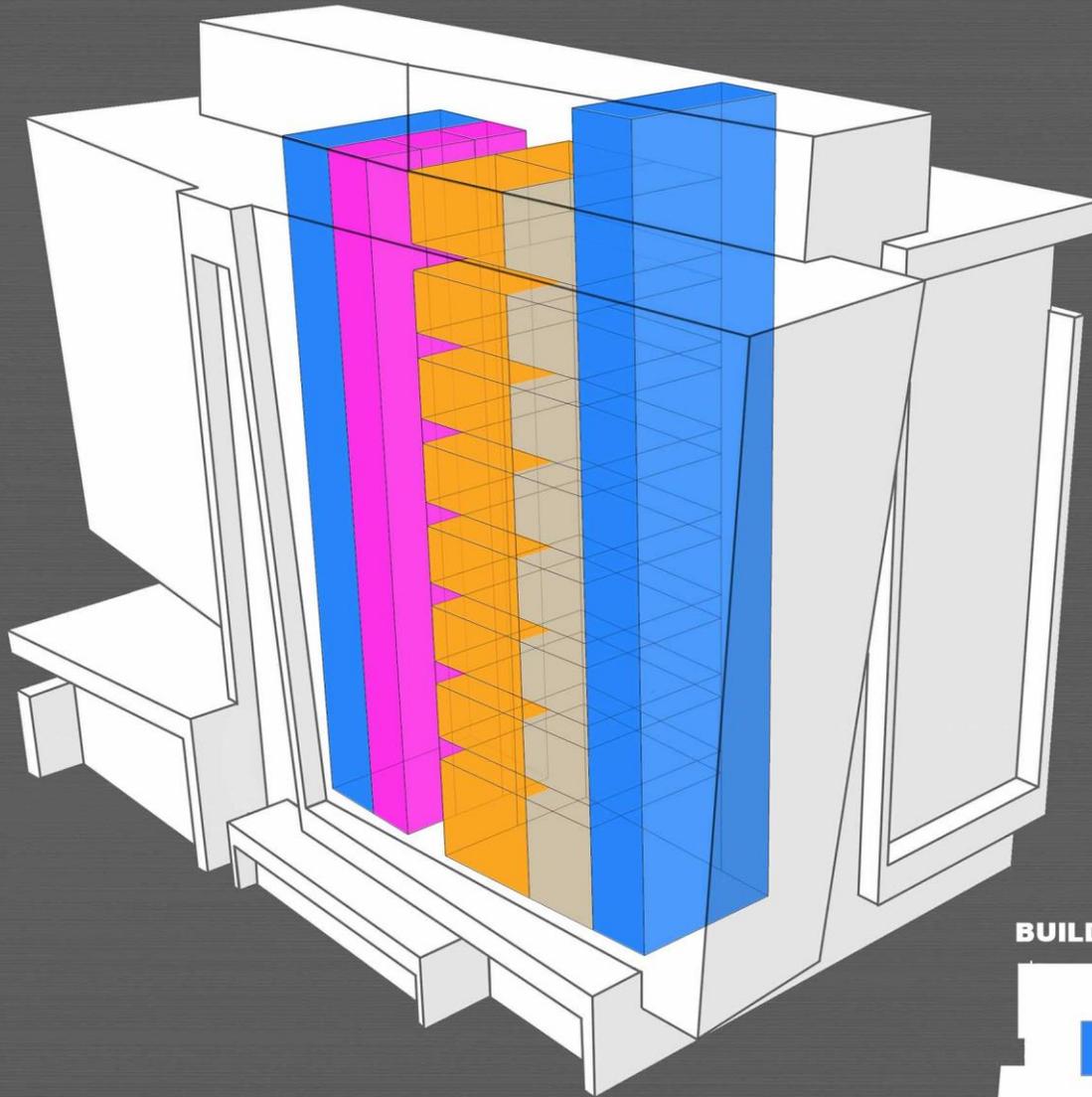


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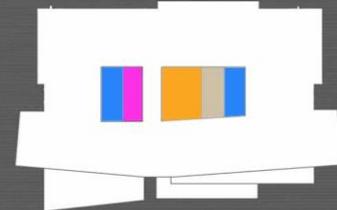


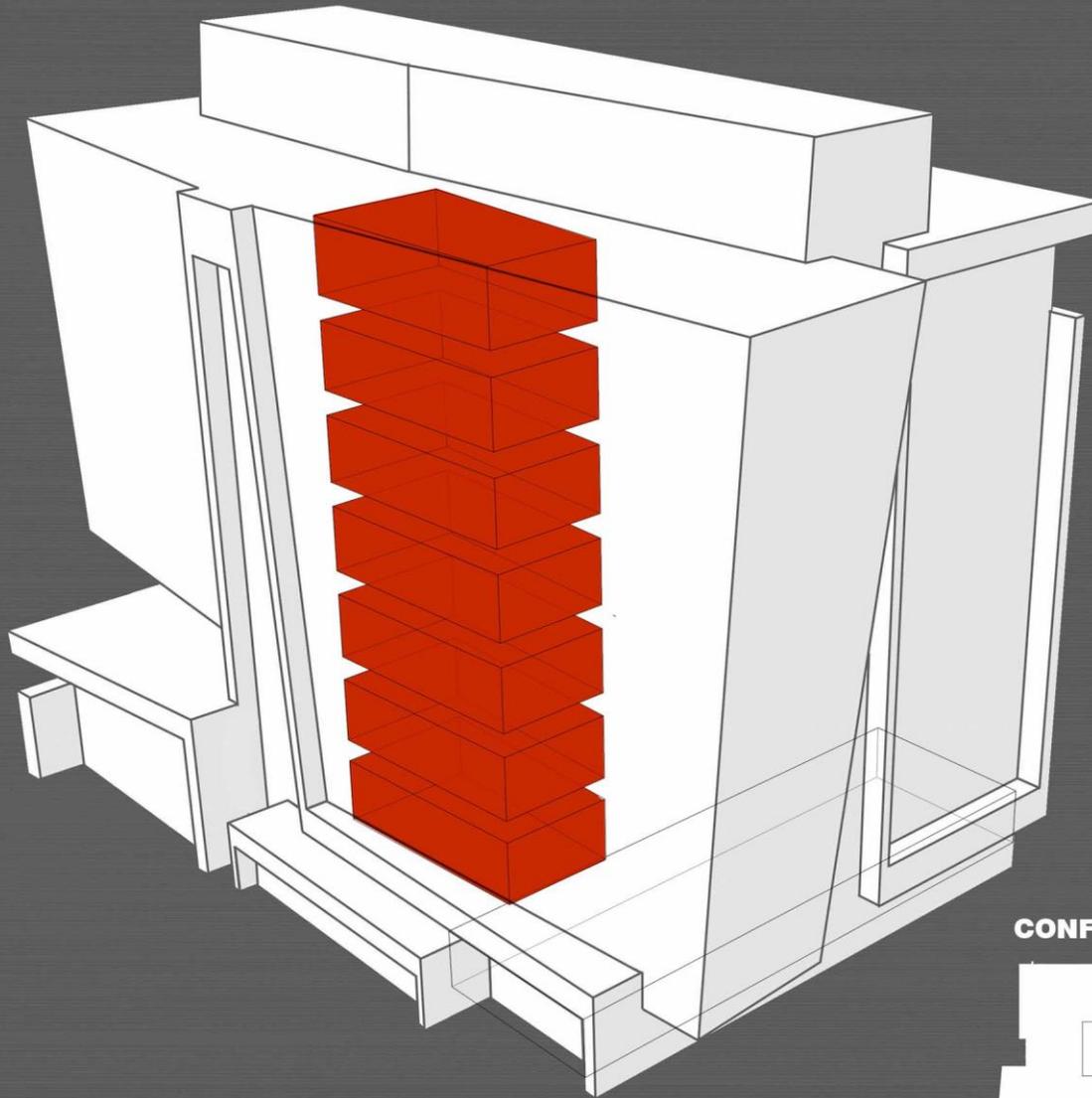
VERTICAL SHAFTS



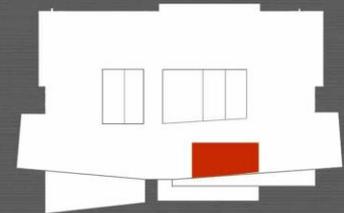


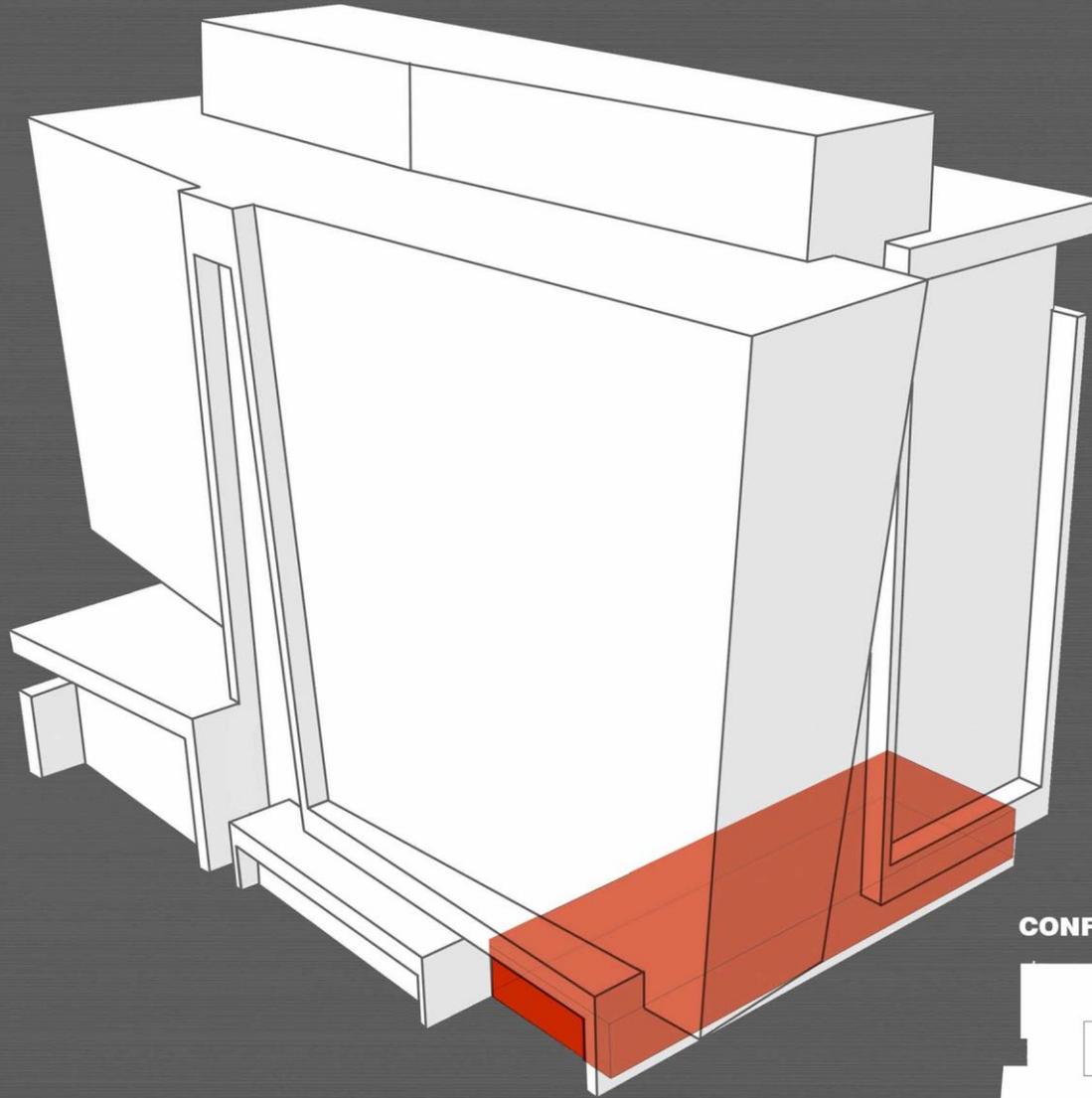
BUILDING CORE



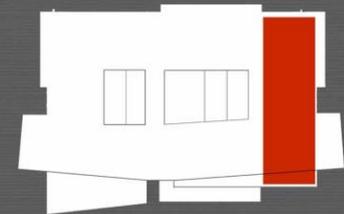


CONFERENCE ROOMS

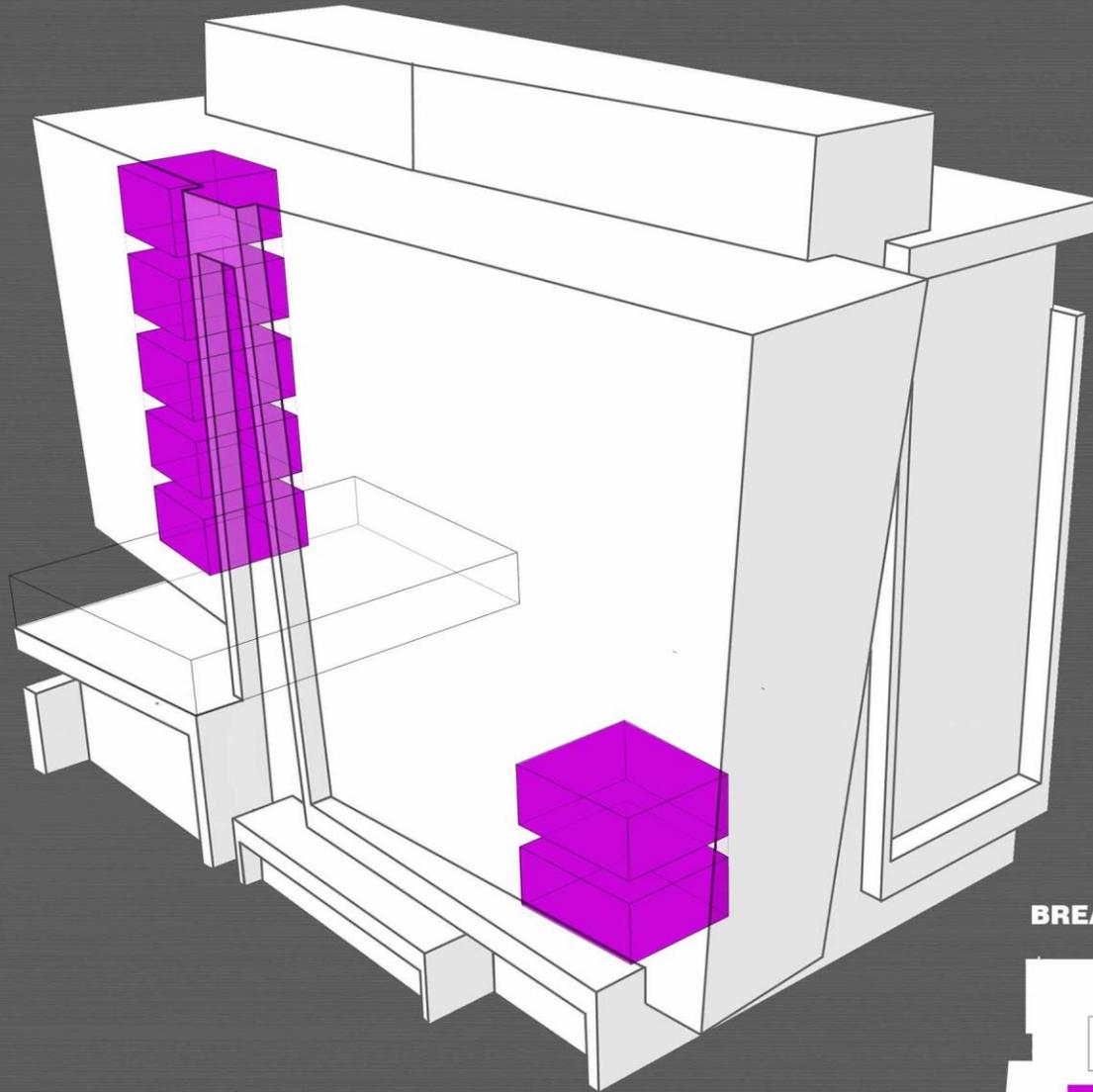




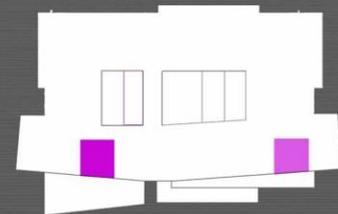
CONFERENCE CENTER

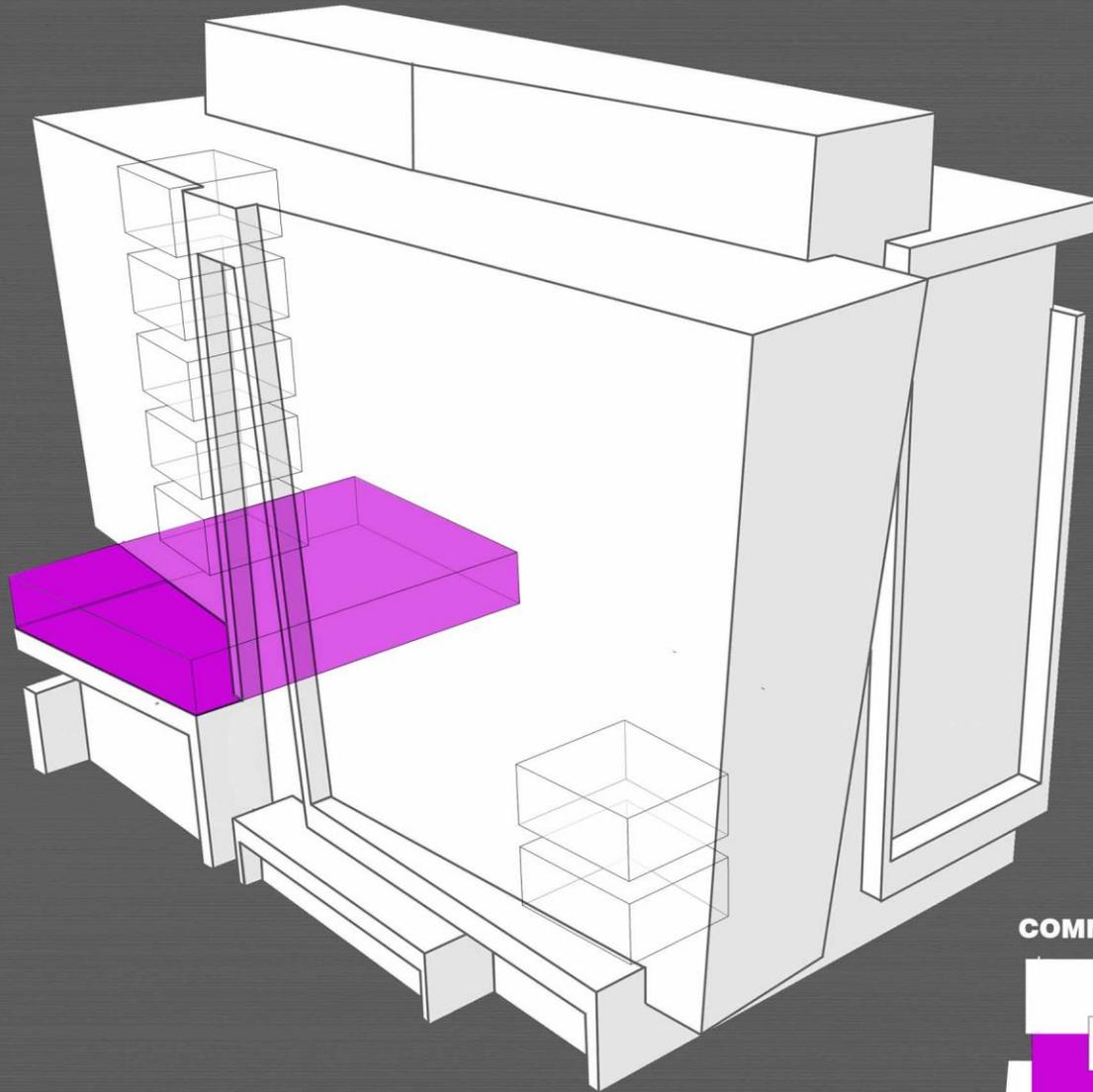


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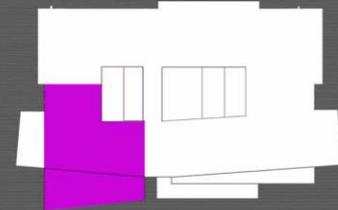


BREAK ROOMS





COMMON BREAK SPACE





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Building Performance Metrics:

- ENERGY STAR 'Designed to Earn' score: 99 out of 100
- ENERGY STAR calculated Carbon Emissions: 524 metric tons/year (76% reduction from ENERGY STAR median for our climate zone)

- Projected electricity use: 841,621 kWh (22.63% reduction from baseline ASHRAE 90.1-2007)
- Projected natural gas use: 715,900 kBtu (69.94 % reduction from baseline ASHRAE 90.1-2007)
- Projected Total energy use savings: 41.12%

- Projected electricity cost savings: 23.22%
- Projected natural gas cost savings: 56.07%
- Estimated Total energy cost savings: 27.11%

- Energy Use Intensity, EUI (kWh/sf)
- Project Total building EUI: 32.9
- Median building EUI, our climate zone: 98

