

LEED Project Showcase



LEED Project Showcase

- Describe the top, overarching goals and objectives of the project related to sustainability, health & wellness, resilience, and equity.
- Compare and contrast the most notable strategies from the projects that contributed to achieving the project goals and LEED certification.
- Link lessons learned from these projects with an emphasis on health and human experience, and how the project teams approach things differently under different versions of the LEED Rating System.
- Discuss how projects' performance outcomes added value, and how ongoing performance is being measured against LEED v4.1 O+M recertification guidance



Heather Henriksen

Chief Sustainability Officer

Harvard University



MGM Springfield

Springfield, Massachusetts

Presented by:

- Chris Klehm, Energy & Environmental Solutions (e2)
 - Project LEED Consultant

Project Team:

- Blue Tarp ReDevelopment LLC(Owner)
- Friedmutter Group (Architect)
- Tishman Construction (Construction)
- Todd McGrath (Owner's Representative)
- Soden Sustainability (LEED Consultant)
- Giovanetti Shulman Associates (Engineer)
- Copley Wolff Design (Landscape Arch)
- Colliers International(Cx Authority)



LEED 2009 BD+C
Certified in 2019
Resort and Casino
2,005,895 SQF

MGM Springfield, which opened in August 2018, is the Company’s highest rated development. Working closely with state and city officials, as well as the local community, MGM Resorts committed to designing and building a property that exemplifies the Company’s values in support of environmental sustainability and positive social impact while honoring local history and architecture. It was and is the only casino resort in the US to ever achieve LEED Platinum. At \$950 million and over 2 million SF, the MGM Springfield is one of the largest LEED Platinum projects in the US.

Project Goals

For Building

- LEED Gold (Achieved Platinum)
- Enhance Human Health
- Visible Green Technologies
- Certified Green Materials
- Reuse Historic Buildings and Fabric

For Neighborhood

- LEED Gold (LEED-ND)
- Influence Zoning Regulations
- Seamless Access from Project to Neighborhood



From the start of the project, MGM expressed that they wanted to achieve LEED Gold on the project, not just for the building, but for the Campus, as well as pursue LEED-ND for the entire development. The focus was providing outstanding indoor air quality to the project, overcoming the stigma of smoky casinos. MGM wanted to be sure that all building materials carried some sort of environmental certification. MGM has had a long history in developing significant green building and LEED Projects including Project City Center in Las Vegas, the Largest LEED Development in the US and National Harbor in DC.

The design of the project needed to be in keeping with the historical building in the neighborhood. The scale of the building was altered to reflect a historic urban development. Historical buildings that survived the tornado that swept through the area were re-purposed. One, the church shown above, was moved to a better location on site and redeveloped as a retail center. Several existing building façades were preserved with new construction filling behind it. The building also connected well to the existing street and pedestrian patterns, allowing easy pedestrian access to and from the project to the commercial district and neighborhood.

Top Highlights

- Infill Urban Site – Tornado damaged buildings
- Historic Restoration
- On-Site Energy Generation: 450 kW CHP System and 1 mW Solar Canopy on Garage
- 100% Rainwater Collection and Reuse
- 96.1% Waste Diversion
- 46.52% Water Use Reduction
- 32.26% of Materials sourced within 500-mile radius of the Project
- Clean-air Healthy Interiors
- Public Park Created on site
- 38% Reduction in Energy Use
- 89.45% of Wood FSC Certified
- 100% Materials Zero Formaldehyde
- Material Ingredient Reporting in LEED 2009



A significant enabler of the LEED Platinum rating is the property's new solar array, which will supply renewable electricity to the facility. In partnership with GE Solar, a subsidiary of General Electric that is based in Massachusetts, MGM Springfield will install a 1.13MW solar canopy on the 8th floor, on top of the MGM Springfield garage. This array is expected to generate more than 1,600 megawatt hours of electricity, helping reduce the property's annual carbon footprint by approximately 410 metric tons of CO₂e (carbon dioxide equivalent). As a side note, last summer MGM opened its 100 megawatt Solar Array in Nevada. The array's clean energy now produces up to 90% of MGM Resorts' Las Vegas daytime power needs, spanning 65 million square feet of buildings across 13 properties and more than 36,000 rooms on the Las Vegas Strip, including Bellagio, ARIA, Mandalay Bay, MGM Grand and The Mirage, among others.

Working with community partners, the MGM Springfield development project includes multiple buildings within the city of Springfield, including a daycare facility, entertainment venues etc. All aspects of this project have achieved a LEED Gold certification.

Project Features - Hotel



Guest Room Green Building Features
and Strategies being developed

Project Features - Casino



Casino Green Building Features and
Strategies being developed

Project Features – Retail Area



Retail Area Green Building Features and Strategies being developed

Project Features – Site



Project Site Green Building Features and Strategies being developed

- Campus Submission
- LEED ND Development
- Comprehensive Materials Planning and Review
- Continuous Contractor Training
- Building Green Capacity of Local Subcontractors and Service Providers
- Wholistic View of Water
- Enhanced Connections to Pedestrian Traffic in and out of the Project and Site
- Bike Share Program
- Existing Building Reuse and New Construction

MGM Springfield Resort

Project ID 1000079326
 Rating system & version LEED NC
 Project registration date 04/05/2016

Platinum Certified

CERTIFIED: 44-48, SILVER: 50-59, GOLD: 60-79,
 PLATINUM: 80+

LEED 2009 NEW CONSTRUCTION

ATTEMPTED: 64, DENIED: 0, PENDING: 0, AWARDED: 80 OF 110 POINTS

4. SUSTAINABLE SITES	20 OF 26	5. MATERIALS AND RESOURCES	7 OF 16
4.1 Construction Activity Pollution Prevention		5.1.1 Sourcing of Construction Materials	
4.1.1 Site Selection	1/1	MR1: Utilizing Recycled or Locally Sourced Floors and Roof	0/3
4.1.2 On-site Erosion Control and Community Connectivity	0/1	MR2: Recycled Interiors - Flooring, Wall, or Ceiling Materials in Permanent	0/3
4.1.3 Brownfield Redevelopment	0/1	MR3: Credits in Waste Management	0/3
4.1.4 On-site Erosion Control and Community Connectivity	0/1	MR4: Water and Air Quality	0/1
4.1.5 Alternative Transportation and/or Storage and Charging of Bicycles	0/1	MR4.1 Recycle of Construction	0/2
4.1.6 Alternative Transportation and/or Storage and Charging of Bicycles	0/1	MR4.2 Recycle of Construction Materials	0/2
4.1.7 Alternative Transportation and/or Storage and Charging of Bicycles	0/1	MR5: Apply Recycled Materials	0/1
4.1.8 Alternative Transportation and/or Storage and Charging of Bicycles	0/1	MR6: Certified wood	0/1
4.1.9 Alternative Transportation and/or Storage and Charging of Bicycles	0/1		
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4.1.59 Alternative			

MGM Springfield is the first private-sector hospitality development to earn LEED Neighborhood Development certification at the site level.

The sustainable design and development elements that helped MGM Springfield receive the LEED New Construction Platinum certification include:

- Redeveloped and revitalized a tornado impacted site in South Springfield, Mass.
- Integrated smart energy infrastructure and submeters through the facility to help monitor and control the property's electrical and mechanical systems to support year-round energy efficiency.
- Designed for significant onsite electricity generation, including a 1.13MW solar canopy and a 450kw microturbine, Combined Heat and Power (CHP) central plant.
- Installed 50 electric vehicle (EV) charging stations and 140 low-emitting-fuel efficient (LEFE) vehicle parking spaces in some of the most preferable locations of our guest and employee garages, to encourage the use of more environmentally preferable modes of transportation.
- Diverted more than 95% of construction and demolition waste by weight, from landfills during construction.
- Selected products from manufacturers that disclose information about the ingredients in their products, allowing us to make better-informed environmental, economic, and social decisions.
- Used interior finishes such as paints, sealants, coatings, adhesives, carpeting, and composite wood products with low / no volatile organic chemicals and free of urea-formaldehyde, helping to create healthier spaces for our guests and employees.
- Created a rainwater harvesting system and underground cistern to capture, store and treat rainwater onsite, allowing 100% of water for landscaping to come from this source.

Process & Synergies

- Early Shoebox Energy Modeling and ongoing use of model to inform decision-making
- Development of Material
- Working with City of Springfield to Enhance Overall Neighborhood
- Campus Development: Gold and Platinum on every Project



Discussion of Energy Modeling Process and testing and implementation of energy efficiency measures – Coming from Engineers

- Water-side economizers on chilled water system

Process & Synergies

Energy Systems

- Early Shoebox Energy Modeling and ongoing use of model to inform decision-making
- Early engagement of Commissioning Agent
- Collaboration and Communication
- Testing of Energy Efficiency Measures
- Development of PV System



- MGM Springfield’s commitment to minimize the property’s environmental footprint and maximize energy-use efficiency includes the use and incorporation of onsite energy sources. • The resort's garage has been designed with a solar array anticipated to capture and produce 1 megawatt (MW) of electricity contributing 1,500 MW hours annually for use on the property. • MGM Springfield generates electricity using cogeneration, combined heat and power (CHP) production, a system that provides building heating water from waste heat off a natural gas generator. • The project has achieved a predicted energy cost reduction of 38.2% compared to a code-compliant building and a 34.7% or 2,080 metric ton of carbon reduction.

Process & Synergies

Materials Selections

- Looking at the project as a Core-And-Shell and Fit-Out from a materials perspective
- Collaboration between the Specifications Writer, Interiors Designer and LEED Consultant
- Development of Materials Requirements
- Pre-submission of Materials Selections from Design Team
- Development of HPD Materials for Contractors
- Working with Waste Management Hauler and General Contractor to increase capabilities to recycle more materials
- Materials Submission Process and Material Tracking



MGM Resorts International - MGM Springfield Project
Corporate Sustainability Division
Interior Design Specification Sustainability Guidelines

MGM Project Goal:
MGM has a goal of reaching, at a minimum, a LEED Gold rating under LEED for New Construction, version 2009 and a LEED Gold rating under LEED for Neighborhood Development.

MGM Sustainability Vision:
Design strategies selected for projects must be both environmentally and economically justified and support and enhance human health and well-being. Projects make a statement of our responsibility and commitment to the environment, outwardly expressing MGM Resorts' sustainable design ethic. Green technologies can be visible and celebrated through design.

Interior designers should use criteria below as a framework to continue showcasing sustainability throughout our resorts in designer selections. Sustainability considerations should go beyond the LEED system criteria to pursue the most environmentally appropriate response for design choices.

Designers' Task:
MGM Resort projects will use sustainability tools and guidelines as a framework for identifying, implementing, and measuring green building, neighborhood design, construction, operations, and maintenance. MGM Corporate Sustainability Division is providing recommendations and requirements to guide design choices that comply with MGM sustainability goals.

Key Interior Designer Considerations
The design categories of Carpet, Hard Surface Flooring and Wood Materials are significantly affected by important design considerations. Designer recommendations and requirements for sustainability criteria are described below. Please review essential and basic requirements listed here with more detailed requirements in design categories later in this document.



FloorScore® certification program: All hard surface flooring must be certified as compliant with the FloorScore® standard. Grouts and adhesives shall not exceed 50 g/L (see adhesives and sealants table). [FloorScore Information Link](#)

FSC Certified Wood: FSC content wood products must provide documentation that states the content mix ratio of the product. (FSC Pure, FSC Mix, or FSC Mix 100). All subcontractors fabricating wood products using off the shelf materials (plywood, veneers, etc) are required to have a Chain of Custody (CoC) Certification with FSC. If a product is ordered from a fabricator by a subcontractor and installed on the site by the subcontractor, then only the fabricator needs to possess a CoC certification. [FSC Information Link](#)

No Added Urea-formaldehyde (NAUF) content of products: All composite wood and aggrifiber products used on the interior of the building (defined as inside weatherproofing system) shall contain no added urea-formaldehyde (NAUF) resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and aggrifiber assemblies shall contain no added urea-formaldehyde resins.

Carpet and Rug Institute (CRI) Green Label Plus: All carpet must meet or exceed the Carpet and Rug Institute (CRI) Green Label Plus performance requirements. [CRI Information Link](#)

Carpet and Rug Institute (CRI) Green Label performance: All carpet cushion and adhesives must meet or exceed the Carpet and Rug Institute (CRI) Green Label performance requirements; Carpet adhesives shall not exceed 50 g/L (see adhesives and sealants requirements)

Material selection on any project is critical, especially if you want to have a high level of IAQ. I have spent much of my life as a general contractor and I can tell you that contractor’s are not known for their creative skills for finding environmentally friendly materials. They do what is in the specifications. By developing the specifications from a core-and-shell and interior fit-out perspective, we were able to get the project moving by specifying core-and-shell materials that are usually either locally manufactured, such as concrete, or have a high level of recycled content, such as steel, or both, such as rebar. This got the project moving while we developed the interiors materials. There was a great deal of collaboration between the Specifications Writer, the Interiors Designers and us, serving as overall LEED Consultant. Rather than having the interiors group develop materials that we could respond to, we developed an 8-page Designer Intro that outlined the criterial for all materials selections and submittal requirements from the Designer that needed to accompany all design boards. By the time came to submit the materials from the subcontractors, the material requirements had already been evaluated for recycled content, VOC’s, and location of extraction and manufacture.

To assist the general and subcontractors, we developed a list of materials that we knew met the requirements for HPD’s and EPD’s that could be purchased without an increase of cost for items such as drywall, mud, backer-board, ceiling tile, etc. We broke it down into specifications sections so that it would be easy for the contractor to locate. As materials were bought, we kept a running list that was reviewed at the weekly project meetings and made part of the meeting minutes so that we knew where we were for compliance at any time.

MGM SPRINGFIELD MA										Initial Release: 8/12/16									
SERIES 4000/ 95 STATE STREET & BOH										Revised:									
Manufacturer		Product			Location		Recycled Content		Transparency			Wood			Carpet				
Manufacturer	Item Type	Item	Product Name	Product Code	Manufacturer Location (zip code)	% Postconsumer	% Preconsumer	Cradle 2 Cradle Certified	Declare	Health Product Declaration (HPD)	Environmental Product Code (EPC)	SC Wood	SC Type	Percentage	No Added Urea Formaldehyde (NAUF)	2016 Green Label	2016 Green Label Plus		
Armstrong	AC	Acoustical Ctg. Tile	Calla	AC-4001	Hilliard, OH 43076	9%	72.60%	YES	YES	YES	YES	N/A	N/A	N/A	N/A	N/A	N/A		
Armstrong	AC	Acoustical Ctg. Tile	Ultima	AC-4002	Marietta, PA 17547	1%	54.90%	YES	N/A	YES	YES	N/A	N/A	N/A	N/A	N/A	N/A		
Milliken	CPT	Carpet	Lyceum-Aristotle	CPT-4001	Spartanburg, SC 29303	0%	35.90%	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A	YES		
Milliken	CPT	Carpet	Fahrenheit-Wave	CPT-4002	Spartanburg, SC 29303	0%	39.30%	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A	YES		
Milliken	CPT	Carpet	Fahrenheit-Front	CPT-4003	Spartanburg, SC 29303	0%	39.30%	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A	YES		
Milliken	CPT	Carpet	Lyceum-Plato	CPT-4004	Spartanburg, SC 29303	0%	35.90%	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A	YES		
Milliken	CPT	Carpet	Lyceum-Plato	CPT-4005	Spartanburg, SC 29303	0%	35.90%	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A	YES		
Milliken	CPT	Carpet	Lyceum-Plato	CPT-4006	Spartanburg, SC 29303	0%	35.90%	N/A	YES	N/A	YES	N/A	N/A	N/A	N/A	N/A	YES		
Stonepeak	CT	Ceramic Tile	Simply Modern	CT-4001	Crossville, TN 38555	0%	40%	N/A	N/A	N/A	YES	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Elevare	CT-4002	Monterrey, MX	1.50%	32.50%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Natural Hues	CT-4003	Spokane, WA 99202	0%	53%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Natural Hues	CT-4004	Spokane, WA 99202	0%	53%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Natural Hues	CT-4005	Spokane, WA 99202	0%	53%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Natural Hues	CT-4006	Spokane, WA 99202	0%	53%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Natural Hues	CT-4007	Spokane, WA 99202	0%	53%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dal Tile	CT	Ceramic Tile	Natural Hues	CT-4008	Spokane, WA 99202	0%	53%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Schuler	CT	Tile Trim	Charley K	CT-4009	Plattsburgh, NY 12901	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Schuler	CT	Tile Trim	Oliver Arch	CT-4010	Plattsburgh, NY 12901	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Liberty	HD	Hardware	P01D13-55-C	HD-4001	Winston-Salem, NC 27107	0%	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Formica	LP	Plastic Laminate	Amber Maple	LP-4001	Cincinnati, OH 45241	0%	9%	N/A	N/A	N/A	N/A	YES	MX	N/A	N/A	N/A	N/A		
Chemetall	LP	Plastic Laminate	353 Alu Medium	LP-4002	Easthampton, MA 01027	0%	85%	N/A	N/A	N/A	N/A	YES	MX	N/A	N/A	N/A	N/A		
Formica	LP	Plastic Laminate	Esq	LP-4003	Cincinnati, OH 45241	0%	9%	N/A	N/A	N/A	N/A	YES	MX	N/A	N/A	N/A	N/A		
Benjamin Moore	P	Paint	Ultra Spec 500	P-4001	Montvale, NJ 07645	0%	0%	N/A	N/A	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Benjamin Moore	P	Paint	Ultra Spec 500	P-4002	Montvale, NJ 07645	0%	0%	N/A	N/A	YES	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Product	Location	Recycled Content		Transparency			Wood		Carpet	Flooring	Plumbing	Wx	Salvaged/Reuse						
Product Code	Manufacturer Location (zip code)	% Postconsumer	% Preconsumer	Cradle 2 Cradle Certified	Declare	Health Product Declaration (HPD)	Environmental Product Code (EPC)	SC Wood	SC Type	Percentage	No Added Urea Formaldehyde (NAUF)	2016 Green Label	2016 Green Label Plus						
										Fluoroc <15 GPM Shower <1.68PM FGR & 1.6 BGR Flooring <1.25 GPM Below LEED limit?									

MGM Springfield and their LEED Consultant reviewed and evaluated building materials that have gone through the transparency process and been verified through third-party certification standards. MGM is committed to helping the green building industry in expanding the transparency movement.

All materials used on the interior of the building went through the same evaluations as shown here. The designers did much of the evaluation prior to the materials being specified. This was key.

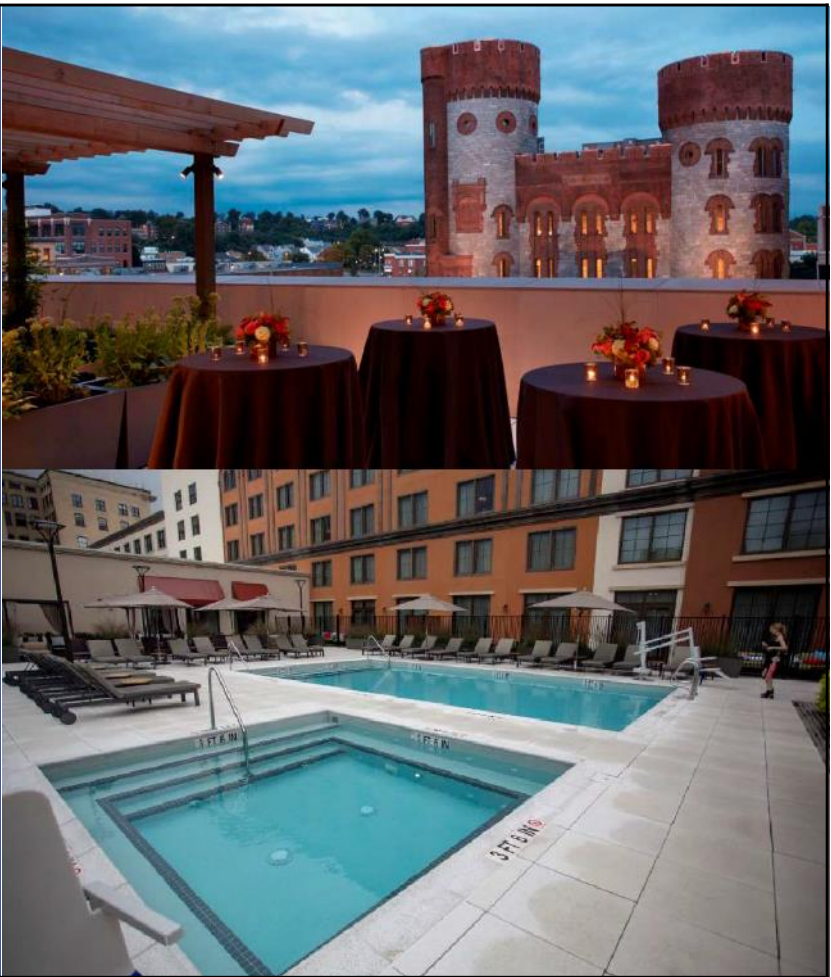


The project began after a June 2011 Tornado tore through the city of Springfield and destroyed major buildings on the site.

Process & Synergies

Site Development

- Location in a Historic District that had been badly damaged by a tornado
- Integration with the existing city grid, traffic and pedestrian patterns
- Designing at a scale appropriate to the historical district
- LEED ND and Campus Strategies
- Rainwater collection and reuse for irrigation
- Reflective Site and Roof Materials
- Active Park Area for relaxation, entertainment and interaction with the public
- Parking Under Cover
- Bikeshare Program



Development of Campus Credits - The MGM Springfield site was submitted as a Master Site and many of the Sustainable Site credits have been shared through the LEED projects, helping to streamline the certification process. The MGM Springfield project was designed to incorporate aspects of the LEED Neighborhood Development program throughout the project.

The MGM Springfield team was very intentional in its selection of the resort site. The project is built on approximately 13 acres of land that was a previously developed, tornado damaged, and a contaminated site. The site also included historical buildings and elements that were reincorporated throughout the project.

The MGM Springfield site included four properties listed on the State and National Registers of Historic Places [French Congregational Church, State Armory, United Electric Company Building, WCA Boarding House]. Two additional properties were included in the Inventory of Historic and Archeological Assets of the Commonwealth [Howard Street Primary School and Union House/ Chandler Hotel]. The MGM Springfield development team worked closely with historic entities and stakeholders, as well as contractors and demolition teams to ensure historic property reuse, renovation, partial renovation, façade incorporation, and material reuse.

In partnership with the City of Springfield, MGM Springfield committed to creating Da Vinci Park onsite. This park provides access to both green space and local artwork for guests and locals to utilize and view

n partnership MGM Springfield has located a bikeshare program on site to provide transportation to access to surrounding areas of Springfield for guests and locals
The Project has taken the concept of water as a precious resource very seriously throughout its design, construction and operations. To help preserve and improve the water quality in the Downtown Springfield watershed and Connecticut River, much of the stormwater that drops on the MGM Springfield site is captured and either slowly released into the local system to help with flood control or used for onsite landscaping purposes.

<div>Performance</div> <div>Currently Gathering Current</div> <div>Performance Information</div> <ul style="list-style-type: none">• Lorem ipsum dolor sit amet• Consectetur adipiscing elit• Aliquam nec viverra ante• Pellentesque posuere mauris vel arcu consectetur bibendum.• Proin quis velit elementum nunc placerat euismod.• Morbi et enim arcu. Suspendisse potenti.• Curabitur quis ante tortor. Nunc imperdiet	
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Currently awaiting performance information from MGM

- Overview of performance
- What were the most important long- and short-term value-add strategies and what returns on investment (ROI) have been experienced or anticipated?
- How is occupant behavior impacting the project’s sustainability?
- Beyond the project, what impacts have the LEED and green strategies had?

Lessons Learned

- Communication
- Pro-Active Approach to Materials Selection
- Contractor Training
- Constant Documentation and Updates
- Connecting the Project to the Neighborhood and Area



- What project challenges became important lessons learned?
- What key moments adjusted the project's direction or outcomes?
- How has this project influenced your approach to other projects?



Chris Klehm, LEED® Fellow, LEED Faculty

President – Energy & Environmental Solutions

Jendoco Construction Corporation



Emma Van Lieshout

Sustainability Engineer

The RMR Group

The RMR Group Newton, MA



Presented by:

- Emma Van Lieshout, P.E., CEM, LEED AP BD+C, O&M
Energy & Sustainability Engineer, The RMR Group

Project Team:

- The RMR Group



75 Pleasant St

- LEED v4.1 O&M
- Certified in 2021
- Office Building
- 125,520 SQF

Two Newton Place

- LEED v4.1 O&M
- Certified in 2021
- Office Building
- 109,910 SQF



Project Goals

- Align policies, procedures and practices with LEED standards
- Benchmark properties against similar building types
- Identify areas of improvement
- Discover opportunities to reduce carbon emissions and environmental impact
- Integrate property teams into process, empower them to invest in sustainable building operations



Top Highlights: Two Newton Place

- Real-time Energy Monitoring
- 233 kW Solar PV
- Early development and implementation of COVID protocols
- Managed and occupied by The RMR Group
 - highly engaged tenant
- High-efficiency HVAC system



Top Highlights: 75 Pleasant

- Real-time Energy Monitoring
- High-efficiency HVAC Equipment
- Urban location and small parking lot
- Early development and implementation of COVID protocols



Key Success: Occupant Education

Location & Transportation

LEED encourages the use of conveniently located mass transit and alternative transportation when possible to reduce carbon emissions from cars.

Two Newton has covered bike racks and locker rooms with showers for those who choose to bike or walk.

There is a bike share station within 2 blocks, and a bus stop serving 8 routes within 1 block of the building.



DO YOUR PART!

- Take advantage of the local amenities and local businesses.
- You will be asked to participate in a LEED survey to describe your commuting patterns.



Water & Energy

Water is conserved through the use of low-flow water fixtures.

Electricity is conserved through the use of high-efficiency LED lighting and occupancy controls.

Heating and cooling equipment is energy-efficient and usage is minimized when the building is not occupied.

Electricity consumption is tracked and monitored in real-time to identify opportunities to reduce usage and increase efficiency.

Solar panels on the roof reduce grid electricity consumption and greenhouse gas emissions.



DO YOUR PART!

- Turn off task lighting when leaving your workspace.
- Use window blinds to reduce energy used for cooling your space.



Materials & Resources

Paper towels and toilet paper contain recycled paper products to reduce the use of raw materials in our everyday activities.

Recycling bins are provided for proper dispensing of clean paper, plastic, and metal products.



DO YOUR PART!

- Reduce the amount of printer paper used by reviewing and editing documents on screen.
- Consider using reusable mugs, cups, and utensils to reduce landfill waste.



Indoor Environmental Quality

Janitorial cleaning services employ the use of green cleaning practices and products to avoid use of harmful chemicals.

Clean, filtered fresh air is provided to the building through the ventilation system to improve air quality.

Pests are managed through the use of environmentally friendly techniques, avoiding use of harmful chemicals.



DO YOUR PART!

- Do not smoke within the building or nearby exterior doors to prevent others' exposure to smoke.
- You will be asked to participate in a LEED survey to evaluate your indoor environment.



Key Success: Occupant Education

Help Us Achieve

LEED Platinum

We are pursuing LEED Platinum certification of Two Newton before the end of 2021. These are some things you are already doing to help us achieve LEED certification:

- Turning off lights when you leave a room.
- Practicing daylighting by working by daylight instead of using lights.
- Tilting your blinds to regulate temperature.
- Notifying a facility manager when you spot energy or water waste.
- Minimizing use of space heaters.
- Properly disposing of recycling and trash.
- Using reusable dishes and utensils.
- Watering plants with your extra water.



LEED is the most widely used and well recognized green building rating system around the world. It signifies that a building is healthy, highly efficient, and saves money, improving environmental performance from carbon footprint to indoor environmental quality.

**YOU WILL ALSO BE
ASKED TO TAKE A
TRANSPORTATION
AND OCCUPANT
COMFORT SURVEY.**

We'd love your support to answer the survey and to keep doing all the great things you are doing to help make Two Newton a high-performing green building.

Project Features: Ongoing Retro Commissioning with Real-Time Energy Monitoring

Key Strategy

Continuous engagement with stakeholders to drive energy performance

DATA FLOW

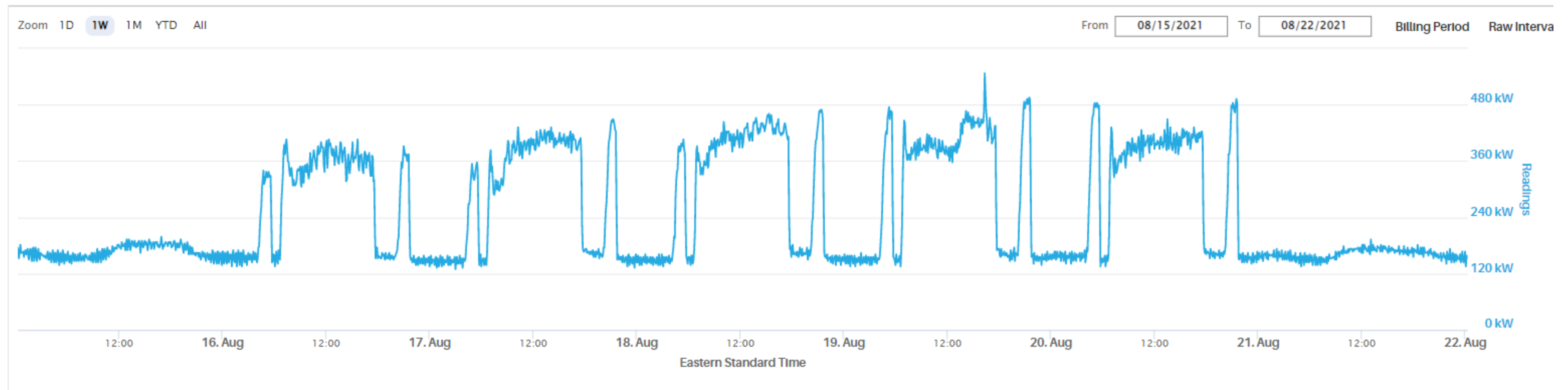
Integration

RMR's Platform Architecture



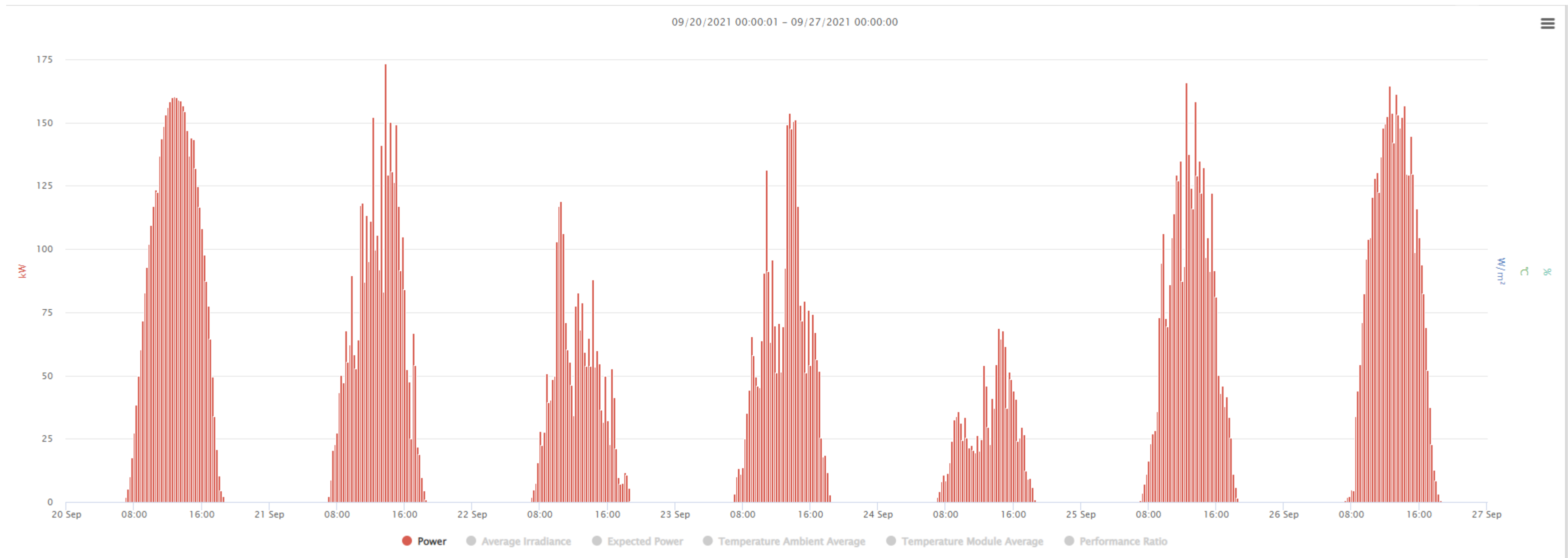
Key Success: Saving Energy through Real-Time Energy Monitoring

75 Pleasant

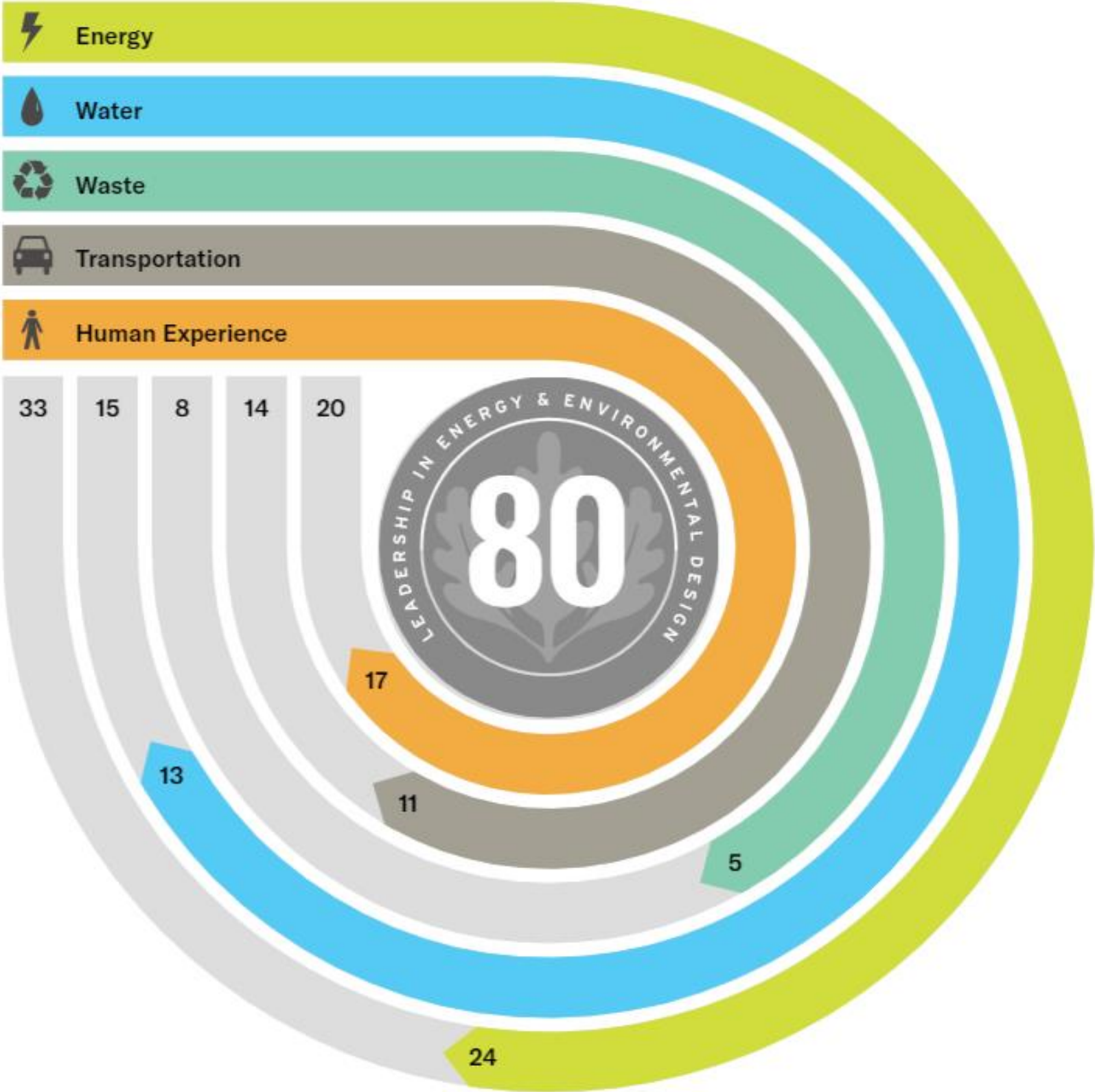


Key Success: Saving Energy through Real-Time Energy Monitoring

Two Newton Place



LEED Strategy: Two Newton Place



1000146843, Newton, Massachusetts
171016 - Two Newton Place
LEED O+M: Existing Buildings (v4.1)

PLATINUM, AWARDED DEC 2021



SUSTAINABLE SITES

AWARDED: 3 / 4

Credit	Rainwater Mgmt	0 / 1
Credit	Heat Island Reduction	1 / 1
Credit	Light Pollution Reduction	1 / 1
Credit	Site Mgmt	1 / 1



WATER EFFICIENCY

AWARDED: 13 / 15

Credit	Water Performance	13 / 15
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ENERGY & ATMOSPHERE

AWARDED: 26 / 35

Prereq	Energy Efficiency Best Mgmt Practices	0 / 0
Prereq	Fundamental Refrigerant Mgmt	0 / 0
Credit	Energy Performance	24 / 33
Credit	Enhanced Refrigerant Mgmt	1 / 1
Credit	Grid Harmonization	1 / 1



MATERIAL & RESOURCES

AWARDED: 5 / 9

Prereq	Purchasing Policy	0 / 0
Prereq	Facility Maintenance and Renovations Policy	0 / 0
Credit	Waste Performance	5 / 8
Credit	Purchasing	0 / 1



INDOOR ENVIRONMENTAL QUALITY

AWARDED: 19 / 22

Prereq	Minimum IAQ	0 / 0
Prereq	Environmental Tobacco Smoke Control	0 / 0
Prereq	Green Cleaning Policy	0 / 0
Credit	Indoor Environmental Quality Performance	17 / 20
Credit	Integrated Pest Mgmt	1 / 1
Credit	Green Cleaning	1 / 1
Prereq	ETS Control for Projects in Japan	REQUIRED



INNOVATION

AWARDED: 4 / 1

Credit	Innovation	4 / 1
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LOCATION & TRANSPORTATION

AWARDED: 11 / 14

Credit	Transportation Performance	11 / 14
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INTEGRATIVE PROCESS CREDITS

AWARDED: 0 / 2

Prereq	Social equity within the community	REQUIRED
Prereq	Social equity within the operations and maintenance staff	REQUIRED

TOTAL

81 / 110

40-49 Points
CERTIFIED

50-59 Points
SILVER

60-79 Points
GOLD

80+ Points
PLATINUM

LEED Strategy:

75 Pleasant



1000142899, Malden, Massachusetts
700390 - 75 Pleasant Street
LEED O+M: Existing Buildings (v4.1)

PLATINUM, AWARDED DEC 2021



SUSTAINABLE SITES

AWARDED: 2 / 4

Credit	Rainwater Mgmt	0 / 1
Credit	Heat Island Reduction	1 / 1
Credit	Light Pollution Reduction	1 / 1
Credit	Site Mgmt	0 / 1



WATER EFFICIENCY

AWARDED: 13 / 15

Credit	Water Performance	13 / 15
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ENERGY & ATMOSPHERE

AWARDED: 26 / 35

Prereq	Energy Efficiency Best Mgmt Practices	0 / 0
Prereq	Fundamental Refrigerant Mgmt	0 / 0
Credit	Energy Performance	25 / 33
Credit	Enhanced Refrigerant Mgmt	0 / 1
Credit	Grid Harmonization	1 / 1



MATERIAL & RESOURCES

AWARDED: 5 / 9

Prereq	Purchasing Policy	0 / 0
Prereq	Facility Maintenance and Renovations Policy	0 / 0
Credit	Waste Performance	5 / 8
Credit	Purchasing	0 / 1



INDOOR ENVIRONMENTAL QUALITY

AWARDED: 19 / 22

Prereq	Minimum IAQ	0 / 0
Prereq	Environmental Tobacco Smoke Control	0 / 0
Prereq	Green Cleaning Policy	0 / 0
Credit	Indoor Environmental Quality Performance	17 / 20
Credit	Integrated Pest Mgmt	1 / 1
Credit	Green Cleaning	1 / 1
Prereq	ETS Control for Projects in Japan	REQUIRED



INNOVATION

AWARDED: 2 / 1

Credit	Innovation	2 / 1
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LOCATION & TRANSPORTATION

AWARDED: 13 / 14

Credit	Transportation Performance	13 / 14
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INTEGRATIVE PROCESS CREDITS

AWARDED: 0 / 2

Prereq	Social equity within the community	REQUIRED
Prereq	Social equity within the operations and maintenance staff	REQUIRED

TOTAL 80 / 110

40-49 Points CERTIFIED	50-59 Points SILVER	60-79 Points GOLD	80+ Points PLATINUM
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Lessons Learned

- Review policies in-depth with property teams and identify any areas of concern or difficulty early on
- Identify time-intensive credits and attack those first
- Encourage participation in Location & Transportation survey through an occupant engagement event with focus on LEED building operations
- Where possible, align all policies across portfolio with LEED for ease of future certification





Alan Steel
President & CEO
Javits Center



Robert Svedberg, FAIA

Principal

TVS Design

REIMAGINING AN ICON

TRANSFORMING THE JAVITS CENTER INTO A MODEL OF
SUSTAINABILITY

NEW YORK, NY

4.5.22

PRESENTED BY:

ALAN STEEL, PRESIDENT + CEO, JAVITS CENTER
ROBERT SVEDBERG, FAIA, PRINCIPAL, TVS

THE PROJECT

- A 1.2 MILLION SQ. FT. EXPANSION OF THE JAVITS CENTER
DESIGNED TO INCREASE ECONOMIC ACTIVITY + MINIMIZE ITS IMPACT
ON MANHATTAN'S WEST SIDE



LEED Certified in 2021

THE TEAM

- NEW YORK CONVENTION CENTER DEVELOPMENT CORPORATION (OWNER)
NEW YORK CONVENTION CENTER OPERATING CORPORATION (OPERATOR)
LENDLEASE + TURNER CONSTRUCTION (CONTRACTORS)
TVS (LEAD ARCHITECT)
MOODY NOLAN (ARCHITECT)
WXY STUDIO (ARCHITECT)
STANTEC (ARCHITECT)

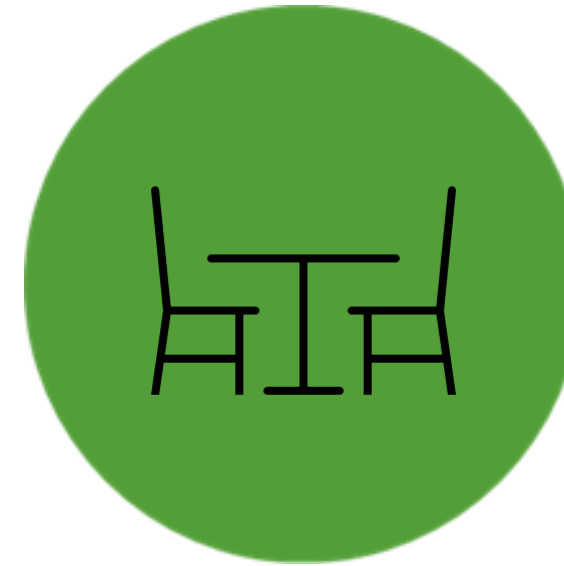
PROJECT GOALS

- MAXIMIZE ECONOMIC IMPACT OF THE JAVITS CENTER
UP TO \$2 BILLION IN ANNUAL ECONOMIC ACTIVITY FOR REGION
- INCREASE DIVERSITY OF ITS EVENT OPERATIONS
MORE EVENTS AT ONE TIME = GREATER ECONOMIC ACTIVITY
- REDUCE ITS IMPACT ON THE SURROUNDING COMMUNITY
RELOCATING EVENT TRUCKS OFF LOCAL STREETS
- BUILD ON SUCCESSFUL RENOVATION (2009-2014) WITH BRUCE FOWLE + BARBARA LAMPEN
LARGEST GREEN ROOF IN NEW YORK + HOME TO 35 BIRD SPECIES, 5 BAT SPECIES
- ACHIEVE LEED GOLD CERTIFICATION
SERVE AS AN INSPIRATION FOR OTHER VENUES

PROJECT HIGHLIGHTS



54,000 SQ. FT. SPECIAL
EVENT SPACE



500,000 SQ. FT. OF CONTIGUOUS
EXHIBITION SPACE



ROOFTOP PAVILION
+ TERRACE



ONE-ACRE
ROOFTOP FARM



4-LEVEL TRUCK
MARSHALING FACILITY

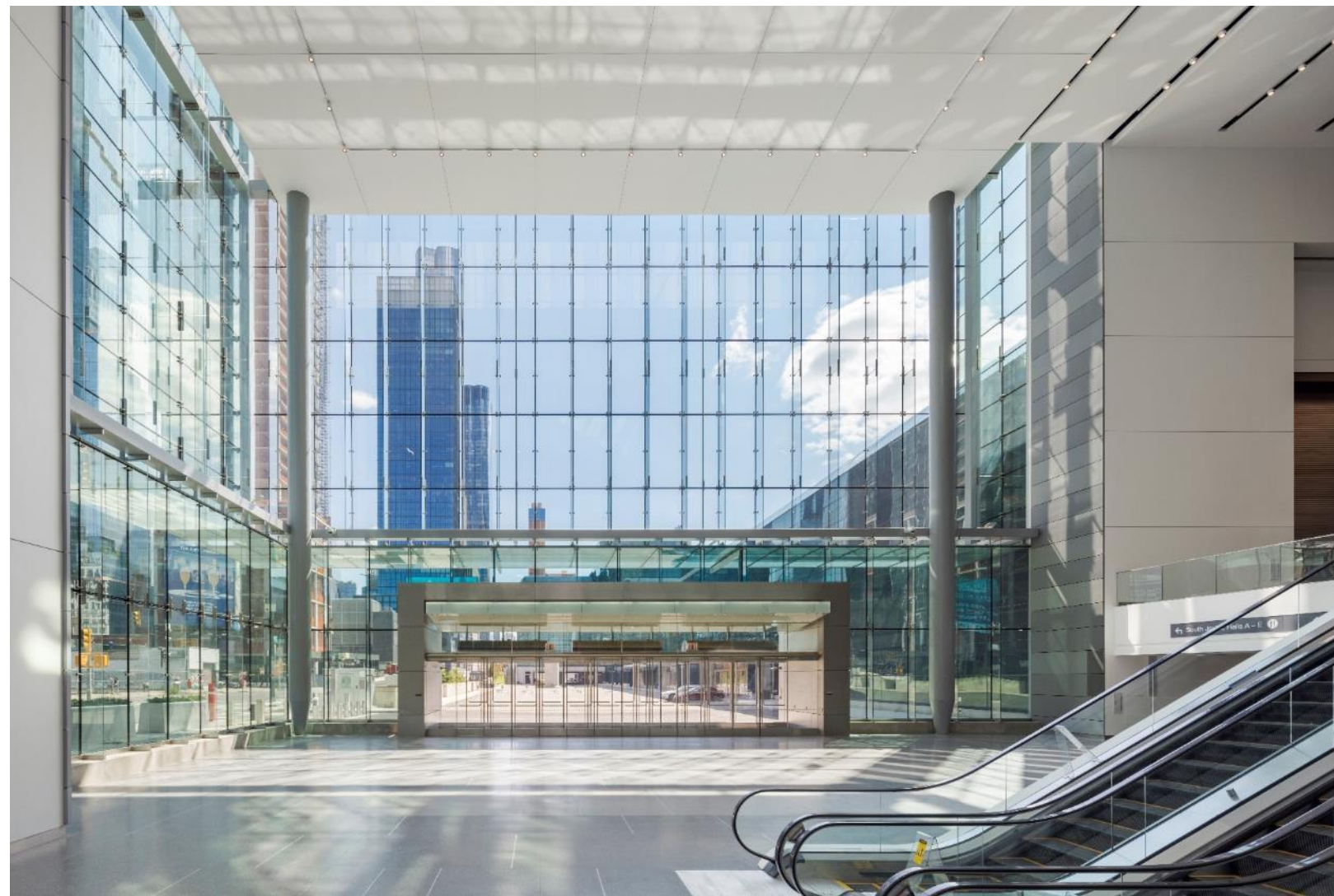


ENERGY CONSERVATION
SYSTEMS

PROJECT FEATURES



PROJECT FEATURES



PROJECT FEATURES



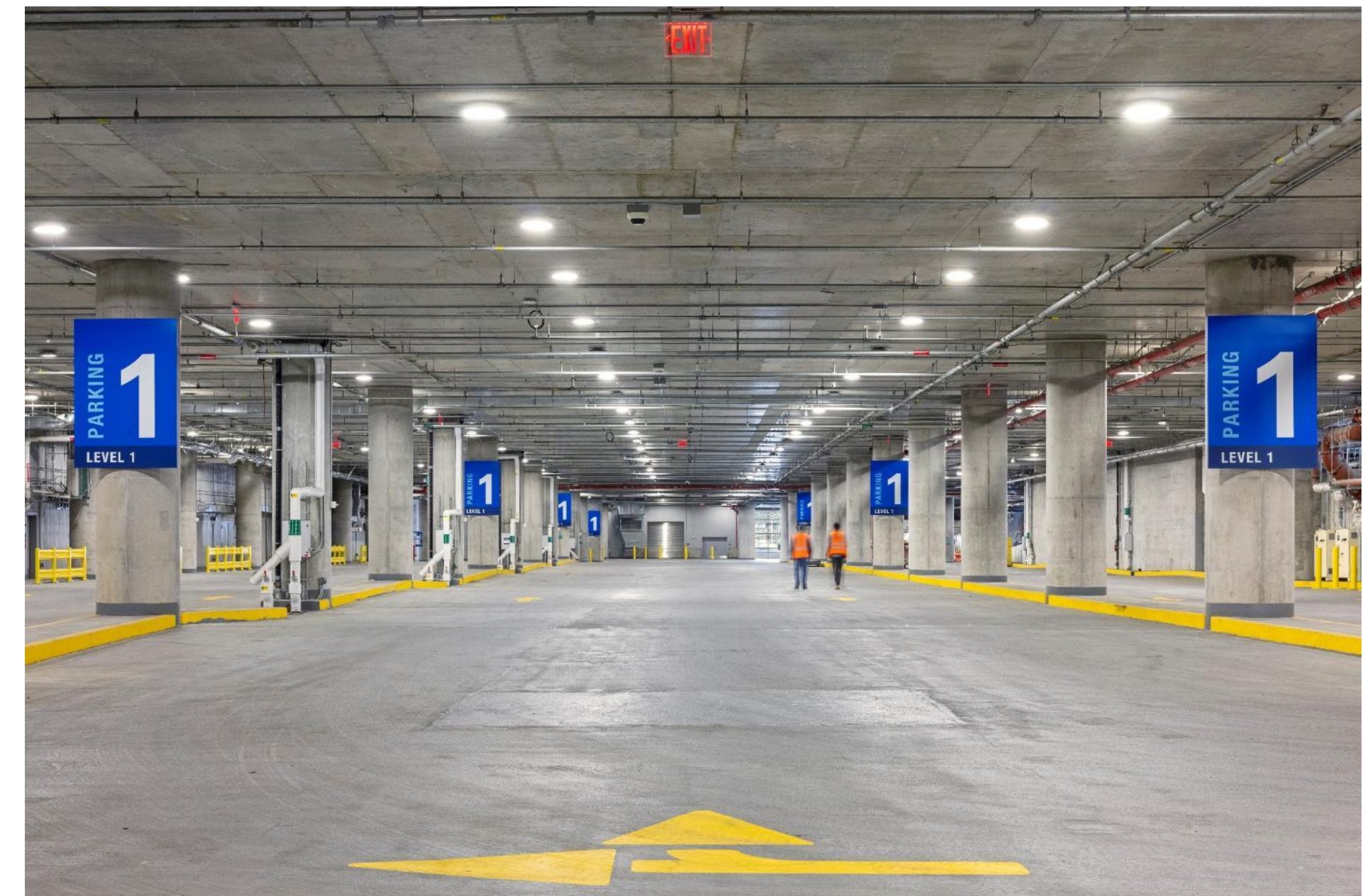


DESIGN APPROACH

- INCREASE EFFICIENCY – TRUCK MARSHALING FACILITY
- REGENERATE HABITAT – BIRD FRIENDLY GLASS
- PRODUCE FOOD – ROOFTOP GREENHOUSE + FARM
- RE-USE WATER – WATER RECYCLING
- CREATE OPEN, OUTDOOR SPACE – PAVILION + TERRACE

INCREASE EFFICIENCY—TRUCK MARSHALING FACILITY

- PRIOR TO EXPANSION, EVENT TRUCKS IDLED ON LOCAL ROADS WAITING FOR DOCK SPACE; 20,000 TO 30,000 TRUCKS ANNUALLY
- NEW TRUCK FACILITY CONTAINS:
 - ✓ 4 LEVELS
 - ✓ MORE THAN 600,000 SQ. FT.
 - ✓ 27 NEW LOADING DOCKS
 - ✓ 7,000 CUBIC YARDS OF CONCRETE PER LEVEL
 - ✓ 200 NEW TRAILER STALLS
- REDUCES CONGESTION + POLLUTION
- INCREASES PEDESTRIAN + VEHICLE SAFETY



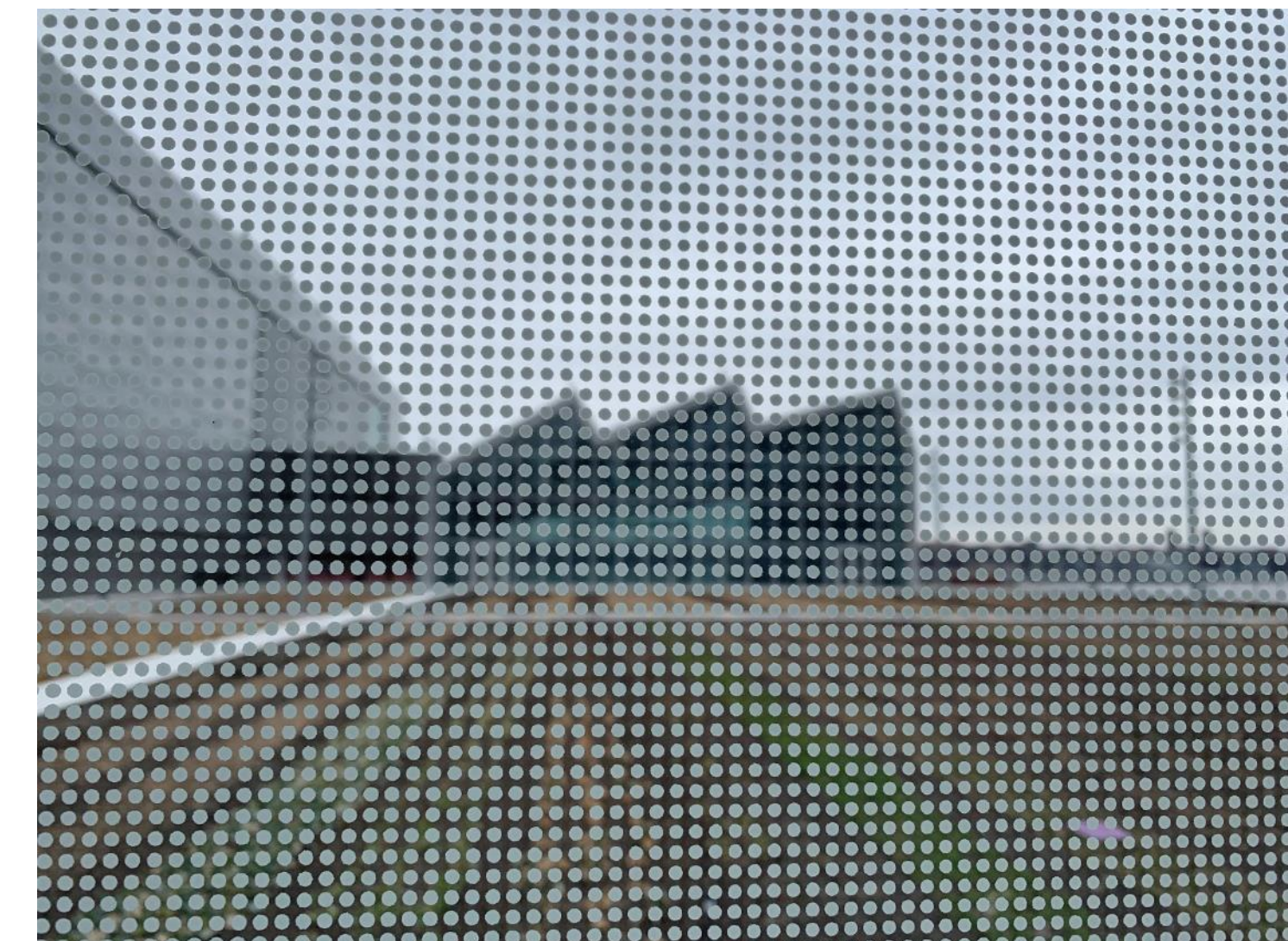
REGENERATE HABITAT – BIRD FRIENDLY GLASS

- PRIOR TO 2009 RENOVATION, JAVITS CENTER WAS THE #1 BIRD KILLER IN NEW YORK CITY
- AS PART OF A 5-YEAR RENOVATION, MORE THAN 6,000 BIRD-SAFE PANELS WERE INSTALLED, ALONG WITH A 6.75-ACRE GREEN ROOF
- RENOVATION LED BY ARCHITECT BRUCE FOWLE OF FXCOLLABORATIVE + BARBARA LAMPEN OF AECOM
- BIRD COLLISIONS DECREASED MORE THAN 90%



REGENERATE HABITAT – BIRD FRIENDLY GLASS

- TVS, LENDLEASE + TURNER CONTINUED PROGRESS WITH MORE THAN 50,000 SQ. FT. OF BIRD-SAFE GLASS INSTALLED AT EXPANSION
- ATRIUM IS COMBINATION OF 2 GLASS TYPES: FRITTED + LOW IRON IGU (SOUTH SIDE)
- ATRIUM OUTSIDE WALLS + ROOF ARE MADE ENTIRELY FROM STRUCTURAL GLASS, MANUFACTURED BY PILKINGTON
- GLASS MET CRITERIA IN THE NYC AUDUBON + AMERICAN BIRD CONSERVANCY BIRD-FRIENDLY BUILDING DESIGN GUIDE



PRODUCE FOOD – ROOFTOP FARM + GREENHOUSE

- FULL 1-ACRE FARM ABOVE TRUCK MARSHALING FACILITY WITH 1' OF SOIL
- MORE THAN 50 CROPS PLANTED WITH ABILITY TO PRODUCE UP TO 40,000 POUNDS OF ORGANIC FRUITS + VEGETABLES
- PRODUCE INCORPORATED INTO MEALS, CREATING TRUE ROOF-TO-TABLE EXPERIENCE
- ON-SITE KITCHENS + PROCESSING FACILITY REDUCES OVERALL CARBON FOOTPRINT OF PACKAGING + TRANSPORTATION

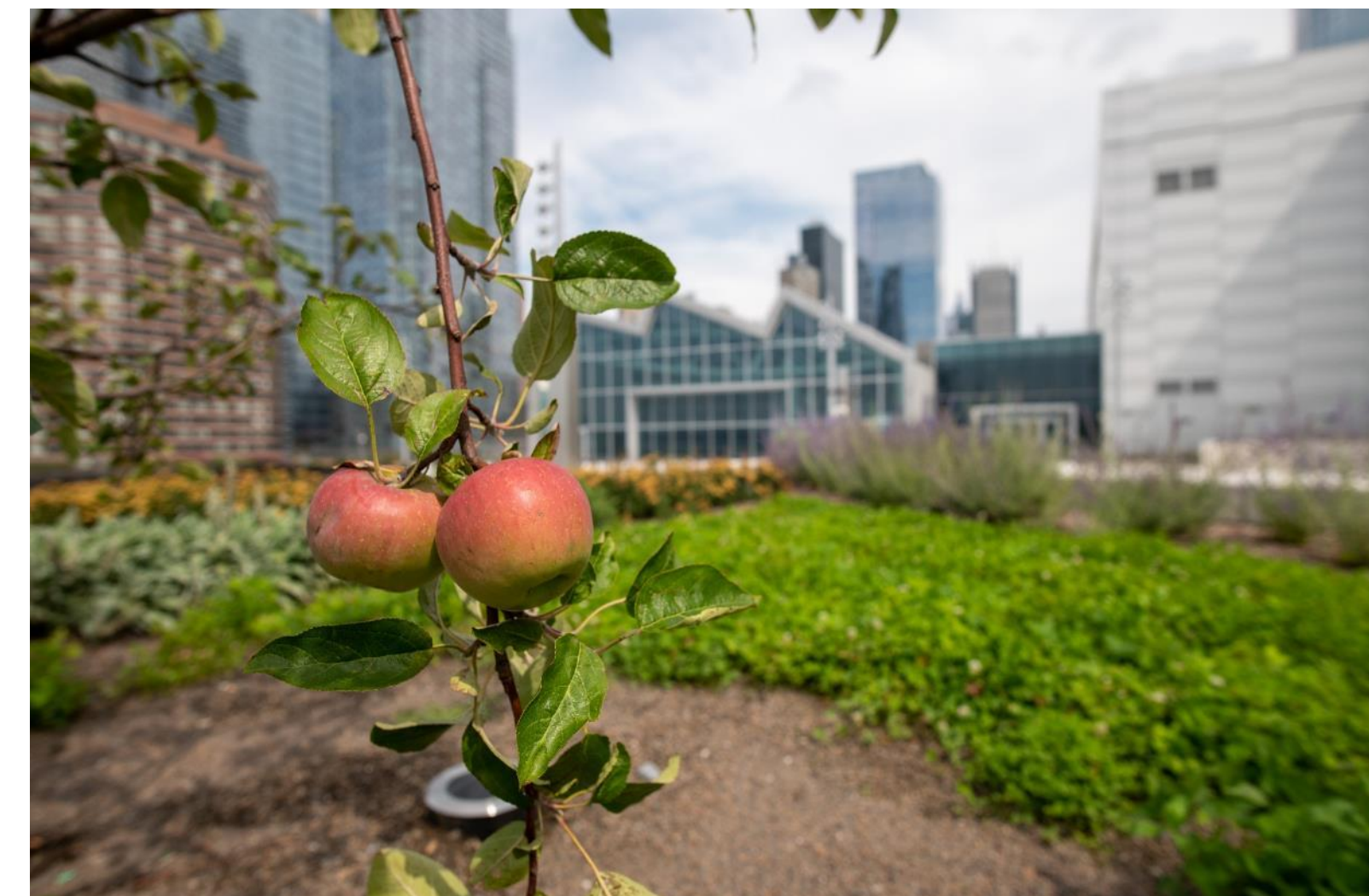
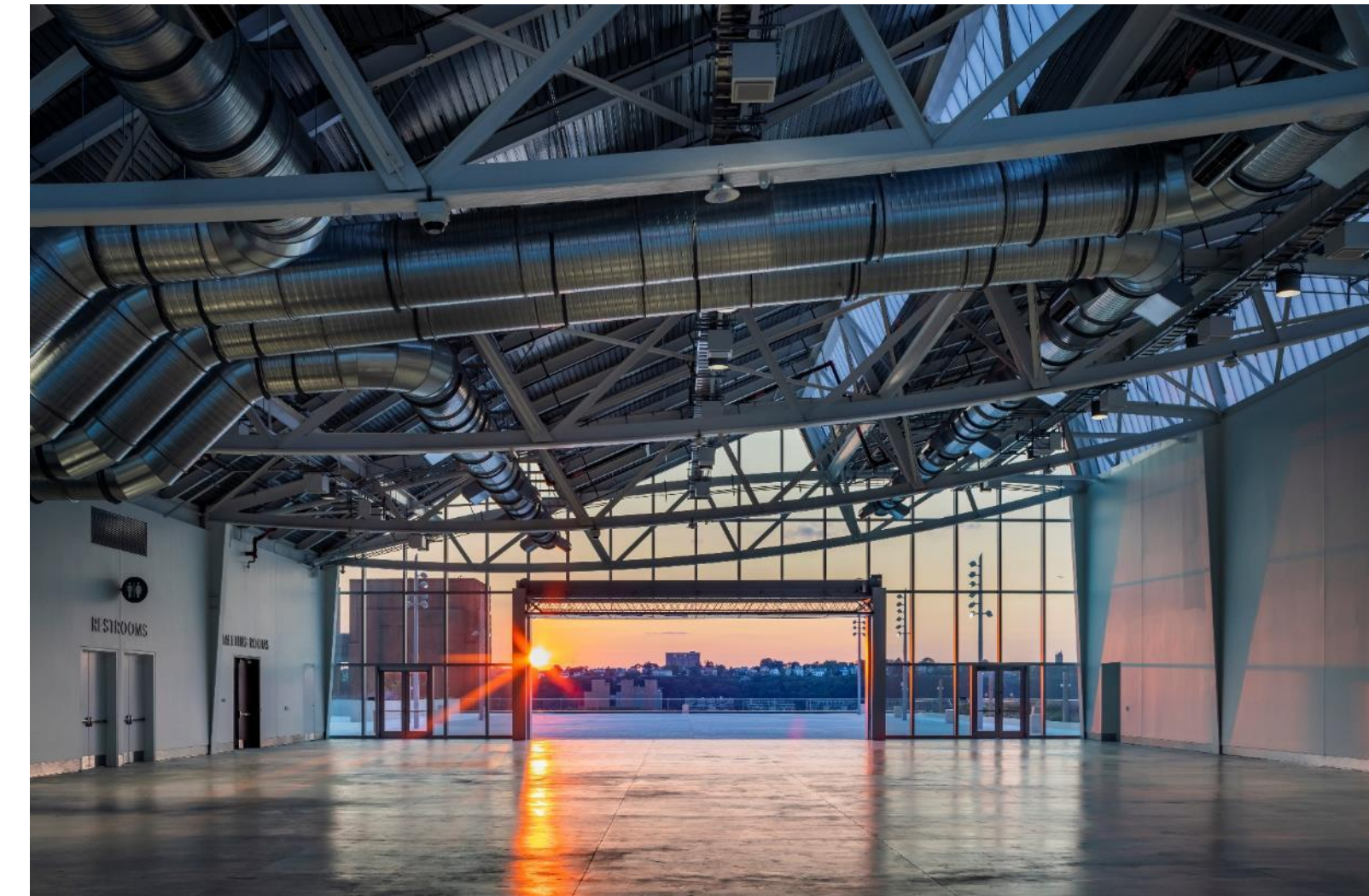


RE-USE WATER – WATER RECYCLING

- 2 UNDERGROUND CISTERNS BELOW ROOFTOP FARM
- WATER TREATMENT SYSTEM ALLOWS FOR TREATED RAINWATER TO BE REUSED FOR IRRIGATION
- THE FARM ITSELF IS DESIGNED TO HOLD WATER – FARM + TRUCK FACILITY BELOW IT ARE MADE FROM CAST-IN-PLACE CONCRETE
- BUILDS ON SUCCESS OF GREEN ROOF WHICH:
 - ✓ ABSORBS UP TO 7 MILLION GALLONS OF STORM-WATER RUNOFF ANNUALLY
 - ✓ REDUCES HEAT GAIN – REDUCED ANNUAL ENERGY CONSUMPTION BY 26%

CREATE OPEN, OUTDOOR SPACE – PAVILION + TERRACE

- 200,000 SQ. FT. ROOFTOP OVERLOOKING HUDSON RIVER
- ACCOMMODATING UP TO 1,500 PEOPLE WITH RETRACTABLE 41' WIDE X 17' TALL DOOR
- ENABLE GUESTS TO ENGAGE WITH INNOVATIVE SUSTAINABLE INITIATIVES
- OUTDOOR TERRACE HOME TO ONE OF WORLD'S LARGEST ROOFTOP ORCHARDS
 - ✓ 32 APPLE TREES
 - ✓ 6 PEAR TREES



LESSONS LEARNED

- EXPANDING (ENVIRONMENTALLY) IS POSSIBLE
- PROPER PLANNING CAN MITIGATE COSTS
- SUSTAINABLE IMPROVEMENTS CREATE NEW OPPORTUNITIES
- EMPLOYEES EMPOWERED TO FIND INEFFICIENCIES
- PREPARE FOR AN ACCEPTABLE COST
- AN ENDLESS JOURNEY

REIMAGINING AN ICON

TRANSFORMING THE JAVITS CENTER INTO A MODEL OF
SUSTAINABILITY

NEW YORK, NY

4.5.22

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