

# IIBEC Announces Its Year Three EBEC Award Winners

IIBEC'S third annual Excellence in Building Enclosure Consulting (EBEC) Awards presents the winning entries—in the words of the consultants who submitted them—across four categories: Roofing, Waterproofing, Exterior Wall, and Building Enclosure.

## ROOFING

**Title: Roof Recovery & Embodied Carbon Material Selection**  
**Submitted by: Milirsan Pugalendiran, RRO, of WSP Canada Inc.**



Milirsan Pugalendiran, RRO

### Project Description and Background:

The facility at 255 Chrysler Drive is a one-story industrial warehouse with two office pods, totaling approximately 1,075,610 ft<sup>2</sup> (99,927 m<sup>2</sup>), managed by Oxford Properties Group. The original built-up roofing (BUR) system had reached the end of its service life, with multiple leaks. Oxford sought a solution that would extend roof performance, reduce cost and waste, and minimize embodied carbon—while maintaining operations in a high-traffic logistics environment.

Oxford has partnered with WSP for over 5 years on national building enclosure consulting services. WSP was selected as building envelope consultant for this project based on its delivery of over 30 successful roofing projects and a highly technical team with multiple IIBEC designation holders and active committee participation.

For previous Oxford projects, WSP implemented roof recovery strategies—preserving serviceable layers such as cover board, insulation, and air/vapor barriers instead of full tear-offs. This approach reduces cost, waste, and disruption while maintaining performance.

**Project Scope:** To address Oxford's budget, schedule, and sustainability objectives, WSP was tasked with assessing existing conditions and developing design options that balanced performance, cost, and environmental impact.

Given the client's operational constraints and corporate carbon reduction goals, WSP focused on roof recovery strategies rather than a full tear-off and replacement. Roof recovery allows for the salvage of serviceable layers—including cover board, insulation, and air/vapor barrier—minimizing waste and cost while reducing embodied carbon. Although this approach presents unique challenges, WSP's extensive experience with similar projects positioned us to deliver an optimized solution tailored to Oxford's needs. The strategy also aligned with Oxford's broader environmental, social, and governance commitments and operational continuity requirements.

**Project Solution:** While roof recovery offers significant sustainability and cost benefits, it also introduces unique risks. WSP implemented a series of measures to mitigate these risks and ensure long-term performance.

### Selected Solution and Results

The chosen design of three scenarios presented—Enhanced Embodied-Carbon Recovery—was selected for its balanced performance, constructability, and sustainability profile, validated through diagnostics and life-cycle assessment.

**Project Value:** The involvement of WSP as the building envelope consultant was instrumental in delivering a solution that balanced performance, cost, and sustainability while

meeting Oxford Properties' operational and corporate objectives. Our team's expertise and innovation added value in the following ways:

- 1. Breaking the Cost Barrier for Low-Carbon Design.** A common misconception in the industry is that sustainable design inherently increases costs. Through rigorous embodied carbon analysis and cost benchmarking, WSP demonstrated that employing recovery strategies coupled with strategic material substitutions—such as gypsum overlay boards and laminated base sheet panels—can significantly reduce embodied carbon without increasing overall project costs.
- 2. Driving Industry Awareness and Innovation.** This project challenges the status quo by proving that embodied carbon strategies are not limited to new construction.
- 3. Aligning with Client Sustainability Goals.** Oxford has ambitious landfill diversion and carbon reduction targets aligned with global Net Zero 2050 commitments. Our approach directly supported these goals while maintaining roof durability and energy performance.
- 4. Demonstrating Scalability and Impact.** The methodology developed for this project is highly scalable. With Oxford alone, WSP's cumulative impact on past roof recovery projects is significant.
- 5. Importance of IIBEC Member Involvement.** The technical rigor and innovation required for this project were made possible by a team of IIBEC-certified professionals actively engaged in industry committees.



## WATERPROOFING

### Title: Park Place on Peachtree Plaza Redevelopment

Submitted by: Christopher Giffin, F-IIBEC, RRC, AIA, of Wiss, Janney, Elstner Associates Inc.



Christopher Giffin, F-IIBEC, RRC, AIA



### Project Description and Background:

Park Place on Peachtree is a 40-story concrete structure condominium building constructed in 1987. Designed by architect Ted Levy, the building is located in the Buckhead area of Atlanta, Georgia, and was the city's first modern

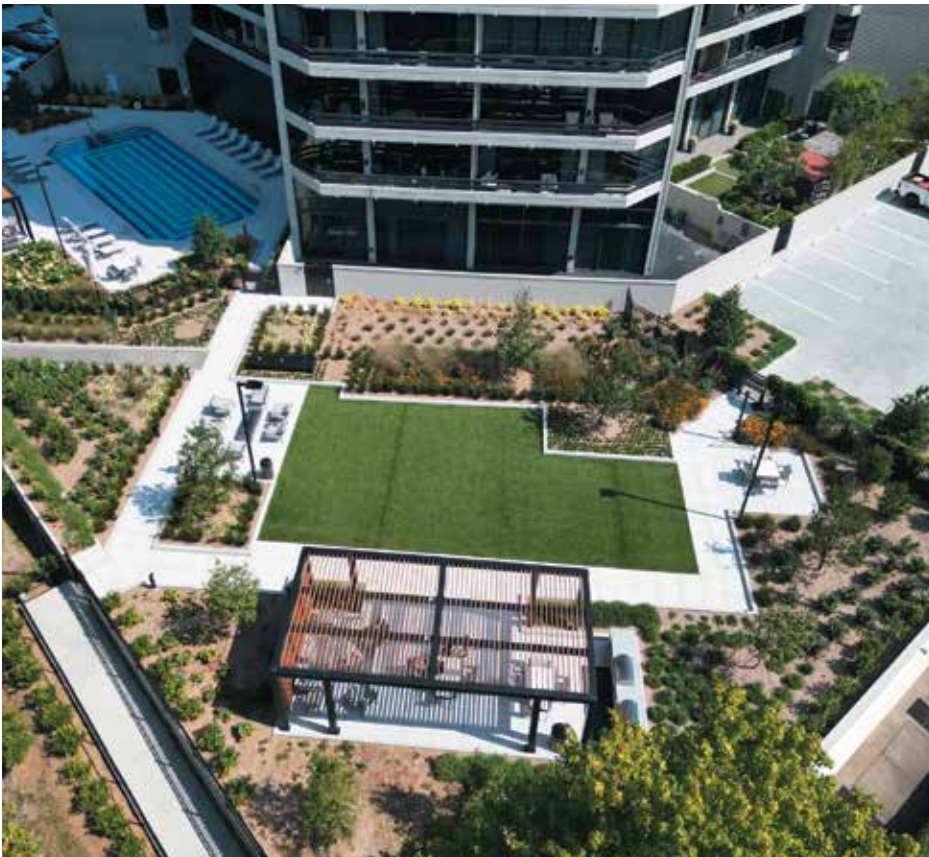
luxury high-rise. Well-known occupants have included Coretta Scott King and Sir Elton John, the latter of whom famously combined six condominium units into one 13,000 ft<sup>2</sup> (1210 m<sup>2</sup>) residence. The brutalist-style tower is octagonal in plan and sits atop a two-story below-grade parking structure. The roof of the parking structure is a plaza deck containing residential amenity spaces, a pool, and parking around the central tower. WJE was retained to address the water leakage into the parking structure that had been occurring for an extended period of time and to address site access and parking and to improve the amenity spaces.

**Project Scope:** Prior to the renovation project, WJE performed an assessment of the plaza and parking structure, which included identification of multiple leak sources through the plaza to the garage below. The homeowner's association elected to address these leaks by removing the existing plaza overburden to install a new waterproofing system and repurpose the plaza spaces. WJE was retained as the lead architect/engineer for the plaza renovation project, which included design of the new waterproofing and overburden assembly as well as design of new structural elements on the plaza.

**Project Solution:** During the demolition process, it was discovered that the original

construction details did not match the field conditions, the concrete topping slab was lightweight instead of normalweight, and the topping slab thickness varied from 4 in. to 16 in. (100 mm to 406 mm) across the deck. As a result, additional structural analysis was performed to confirm the existing structure was capable of sustaining the new loading plan of landscaping, trees, parking areas, etc. As part of this analysis, the parking area assembly was redesigned to include lightweight aggregate and polystyrene fill to ensure additional dead load was not added to the structure. The modified assembly was designed to not interfere with the established finished elevations of the parking areas and also maintain the established structural sloping plan to promote positive drainage at the waterproofing membrane level.

**Project Value:** As the initial water leakage investigation progressed into a full renovation of the plaza deck, WJE transitioned from the owner's building enclosure consultant to the lead designer of record for the structural and waterproofing components of the project. Our familiarity with the building and leakage history allowed WJE's multidisciplinary project team to provide a comprehensive plan to address the ongoing leakage and also accommodate the design features of the newly planned amenity spaces.



## EXTERIOR WALL

**Title: Raymond Desmarais Manor  
Deep Energy Retrofit**  
**Submitted by: Jennifer Hogan,  
REWC, CBECxP, RRO, LEED AP,  
Certified Passive House Consultant,  
of Pretium Engineering Inc.**



Jennifer Hogan, REWC, CBECxP, RRO, LEED AP,  
Certified Passive House Consultant



**Project Description and Background:**  
In 2018, Raymond Desmarais Manor was a 43-year-old through-the-wall brick building that both looked and performed its age. With significant capital expenditures on the horizon to maintain the building, Hans Kogel (then chief development and regeneration officer) at the Windsor Essex Community Housing Corp. (WECHC) saw an opportunity to make substantial changes to improve the building performance and increase resident comfort. From that point on, this 20-story, 300-unit high-rise nonprofit housing building began its transformation guided

by the EnerPHit standard. Pretium Engineering Inc. was retained as the prime consultant to guide this process from feasibility through construction, bringing building enclosure expertise and a team of highly skilled subconsultants, including Passive House Consultants and mechanical and electrical engineers.

**Project Scope:** Pretium's scope of services covered the full life cycle of enclosure consulting, from feasibility through design, tendering, and construction review and contract administration. A brief description of some of the key tasks and outcomes of each phase is provided below:

### Feasibility and Design Development

- Conducted a comprehensive condition assessment and energy-performance feasibility study.
- Worked with the team to develop and model 18 retrofit scenarios in the Passive House Planning Package, testing different combinations of cladding, balconies, roofing, foundation insulation, ventilation, domestic hot water, and lighting.
- Narrowed the options by evaluating performance, cost, constructability, and resident impact, producing an optimized solution aligned with EnerPHit.

### Specification and Tender Preparation

- Prepared detailed specifications, construction drawings, and permit documentation. Including completing the following additional design detail modeling:
  - Modeled envelope transitions and penetrations using THERM and WUFI to assess

condensation risk and minimize thermal bridging.

- Evaluated the impact of mechanical fasteners on exterior insulation and finish system performance and recommended a thermally broken fastener system with insulation plugs to reduce thermal bridging.
- Updated the feasibility stage modeling to reflect the final design, confirming projected 65% reduction in energy use and 282 tCO<sub>2</sub>e (311 ton tCO<sub>2</sub>e) savings annually.

### Construction Review and Contract Administration

- Reviewed mock-ups for the installation of each major system.
- Visited the site at minimum weekly for the duration of construction to review the progress of work and compliance with the project specifications.
- Conducted compartment airtightness testing, including tracer gas diagnostics to identify and address leakage pathways early.

**Project Solution:** This project demonstrates how rigorous enclosure consulting can drive innovation, sustainability, and aesthetics simultaneously, setting a precedent for deep energy retrofits in Canadian affordable housing.

**Project Value:** The Raymond Desmarais Manor deep energy retrofit is a strong example of how IIBEC professionals add measurable value to complex projects. At the heart of this success was Jennifer Hogan, project principal at Pretium Engineering Inc., who applied Pretium's evidence-based standards to balance performance, constructability, cost, and resident comfort.



## BUILDING ENCLOSURE

**Title:** Atrium on Commonwealth  
**Submitted by:** Christopher Grey,  
**RRC, REWC, PE, Simpson Gumpertz  
& Heger (SGH)**



Christopher Grey, RRC, REWC, PE



**Project Description and Background:** The Atrium on Commonwealth Avenue is a four-story concrete building constructed in the early 20th century as home to the Packard Motor Car Company in Boston, Massachusetts. The building served this original purpose for decades until car showrooms began moving into less expensive and less crowded suburban regions during the mid-20th century. The Packard building was converted to residential apartments during that transition, serving as one of the early examples of many adaptive reuse projects in Boston. The facade underwent a renovation in the 1980s with exterior insulation and finish system (EIFS) cladding, and after that point, it remained unchanged for decades.

Our work began in 2019 with an initial condition assessment and make-safe work,

and our efforts grew into parking garage and roof replacement projects, followed by a \$100,000,000 multi-year, phased reclad coordinated with an interior gut renovation that required a coordinated effort between many firms involved throughout the project. SGH acted as the prime consultant for the project, managing several sub-consultants through the assessment, design, and construction phases.

**Project Scope:** The project spans between 2019 and 2026 and involved the following scope:

- 2019–2020—Condition Assessment: The building owner requested that SGH perform a condition assessment of the garage, facade, balconies, and roofing to develop rehabilitation options to extend the useful life of the building.
- 2020–2021—Option Evaluations: We developed rehabilitation alternatives for the owner that included localized repairs, a full-building reclad, or a new building. We then worked with the owner and local contractors to review these options, provide order-of-magnitude pricing estimates, and assist the owner in selecting an option and a phasing approach.
- 2020–2021—Roof Replacement and Garage Repairs: We performed design, bidding, and construction administration services for roof replacement and garage repairs.
- 2021–2026+—Facade Reclad: We performed design, bidding, and construction administration services for the facade recladding. SGH was the prime consultant, and we engaged the services of a local architect to provide aesthetic design services and coordinated with the interior design architect and mechanical engineer, who were engaged directly with the building owner, who was also acting as the general contractor.

### Project Solution:

- **Roof Replacement:** Remove and replace the existing low-slope membrane roof systems with a new single-ply polyvinyl chloride membrane roofing system, including a self-adhered vapor retarder, rigid insulation, and cover board. Mechanical systems were also replaced in kind, and we worked with the mechanical engineer to raise the new units to provide higher flashing heights.
- **Garage Repairs:** Garage repairs generally consisted of localized concrete repairs and the installation of a new vehicular traffic-bearing coating system on the trafficable elements and an acrylic coating on all other surfaces in the garages.
- **Facade Reclad:** The facade reclad included the removal of the existing enclosure systems, which included EIFS, brick veneer, miscellaneous structural steel elements, punched windows back to the cast-in-place concrete structural frame, and reconstructing a new enclosure. The new enclosure consisted of light-gauge metal framing, gypsum sheathing, a self-adhered air, vapor, and water barrier, exterior insulation, and composite metal panels.

**Project Value:** Due to the size of this project, a single consultant cannot be credited. All consultants needed to work collaboratively with each other, the owner, and the contractors to execute this complex project. The value we brought to the project was being able to handle most of the issues that were raised in-house. Our structural and enclosure groups worked collaboratively through all phases of the project to identify, discuss, present options, and execute the work together.

