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Roofing

THE INDUSTRY'S VOICE

Super-Flexible Spaces

Versatile Venues Top Chicago's Ace Hotel

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Super-Flexible Spaces

At the Ace Hotel, Versatile Rooftop Terraces Capture the Imagination

The Ace Hotel is located in Chicago's Fulton Market Historic District. It features 159 guestrooms and amenities including rooftop event spaces with stunning views of the city. The complex features several vegetative roofs, including a large fifth-floor

terrace and a seventh-floor rooftop bar. The fifth-floor terrace incorporates a sculpture that visitors can climb on and areas that can easily adapt to host a variety of events, from corporate meetings to yoga classes.

The team at site design group ltd., the Chicago landscape architect on the

project, worked closely with the lead architect, GREC Architects, and the Ace Hotel team to determine the key design goals for the rooftop spaces. Hana Ishikawa, design principal at site design group, notes the client was looking for an understated design. "In this project, what they really wanted was a prairie



Located in Chicago's Fulton Market Historic District, the Ace Hotel features several vegetative roofs and a rooftop bar.

that kind of got left on the roof," she says "So, that's where the project got started."

On the fifth-floor terrace, the materials and plants chosen are meant to evoke a natural prairie landscape, while a section topped with pavers serves as a versatile event space. "We were really

focused on creating a space that was super flexible," Ishikawa says. "You'll notice there's a really large pavement area in the front, and they hold all kinds of interesting events there. That's used pretty frequently, whether it be yoga or the little markets they hold up there. One of the primary functions we

needed was a lot of flexibility, and that area works well for that."

Other roof sections that were not open to the public had different needs. It took a talented team of design, manufacturing and construction professionals to turn the vision for the hotel's rooftop spaces into reality – and provide the single-source warranty the architect and owner desired.

A VERSATILE ROOF SYSTEM

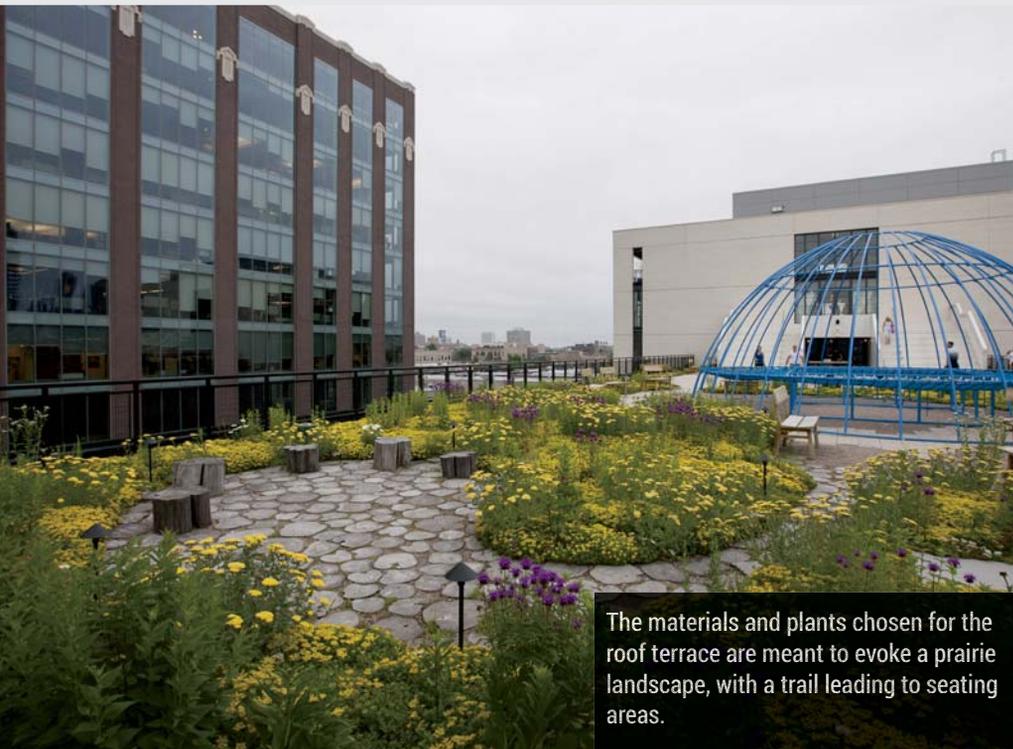
The roof system specified for every roof level was a variation of Hydrotech's protected membrane roof (PMR) assembly. According to Dennis Yanez, American Hydrotech's national marketing manager, the foundation of the PMR assembly consists of Hydrotech's Monolithic Membrane 6125, a hot fluid-applied rubberized asphalt membrane, which is applied directly to the deck and topped with Dow Styrofoam insulation. The system can then incorporate a variety of options including pavers, ballast, and extensive and intensive roof gardens. "The basics – the roofing/waterproofing membrane and the Dow Styrofoam – don't change," Yanez says. "One of the advantages of this system is once you apply the membrane and insulation in the field, you can mix and match all of these options and you aren't changing the integrity of keeping that structure watertight."

Kevin Serena, Hydrotech's garden roofing technical sales coordinator for the central region, worked with the building owner and design team to select the products and systems for each rooftop section.

"They have a few different roof levels, and there was a different design intent for each area," Serena says. "There are a few upper roofs that only the occupants of adjacent buildings will see, so what they wanted there was low-maintenance vegetation with good coverage. They went with a sedum mat material. It's pre-grown outside for over a year, so it's a very hardy material, and once it becomes established it needs little to no maintenance. That was a goal of theirs for those upper roofs since not a lot of people would be accessing those areas."



The fifth-floor terrace incorporates a sculpture created by artist Jonathan Nesci that visitors can climb on. An area topped with pavers is used to host a variety of events.



The materials and plants chosen for the roof terrace are meant to evoke a prairie landscape, with a trail leading to seating areas.

For the large podium deck that was open to the public, the owners wanted to add more interesting vegetation along with other features. “They integrated stone walkways, and they used a more expansive plant palette,” Serena notes. “They used the same sedum carpet as a base planting, and then added some different perennials and grasses throughout the mat to give it some vertical interest and add some biodiversity to the roof.”

Serena also worked closely with the roof system installer, Bennett &

Brosseau Roofing Inc., of Romeoville, Illinois, an authorized Hydrotech applicator. “Bennett and Brosseau is one of the best contractors in the area,” Serena says. “They have taken a real interest in doing not only the membrane but all the way up through the growing media and vegetation. They are really into doing the green roof, so they are exciting to work with. They really like doing this type of work, and they do a great job.”

THE INSTALLATION

Bennett & Brosseau Roofing installed

all of the roof systems on the project, as well as the material for the garden roofs. The company also fabricated and installed four custom colors of sheet metal on the project.

“We had grade-level to roof-level waterproofing on this project,” notes Jim Brosseau, CEO and owner of Bennett & Brosseau Roofing. “On the grade level, we installed pavers and drainage components. We also planted plants and trees in the planters on the plaza and at the grade level as well.”

The hotel was constructed at the site of a former cheese-making factory in the Fulton Market District. A part of the existing building was retained, including a wall with a historic mural, but the majority of the project was new construction with a concrete roof deck. “It was in a tight area where access was very limited at the jobsite,” Brosseau notes. “All of the roofs were new, but the owner wanted to tie into an existing wall for historical value.”

Bennett & Brosseau Roofing worked closely with Hydrotech to coordinate material deliveries, and access to the jobsite was eased by a couple of fortuitous events. “One of our vendors actually had some property behind the jobsite, so we were able to stage some material there,” Brosseau recalls. “They also closed the street for some work at a building across the street, so we took advantage of that and were able to stage some material on the street and lift it up with our hoists.”

Elevators did not reach every level, complicating the logistics. “Safety was a challenge,” Brosseau says. “They had elevators at certain levels, but the rest we had to stage a second time for a double hoist. We had to have certified riggers and an approved lift plan. Every pallet is marked, and Hydrotech does an excellent job packaging material, so that helps the process.”

Crews installed fall-protection barriers, which included the company’s own engineered bracket system with two-by-fours, as well as a Garlock safety rail system. Roofing work began on the penthouse roofs and the tops of the elevator shafts. “All of the roofs received Hydrotech’s hot fluid-applied

rubber,” says Brosseau.

The membrane is installed in two coats. The first coat is 90 mils with fabric reinforcement on top. The second coat is 125 mils, for a total of 215 mils. The hot rubberized asphalt, which is heated to 350-375 degrees, cools as a solid, forming a monolithic membrane. “The membrane is adhered directly to the deck, and it forms one contiguous layer from parapet to parapet,” Yanez says. “They basically make a bathtub up on top of that roof, and then with all of the other design elements, you can do structural construction on top of the Styrofoam. It’s a much simpler, easier system, and the reality is there are fewer opportunities for it to fail because it’s a very simplistic approach.”

“Hydrotech’s system is easy to work with,” Brosseau notes. “The liquid is a very good product to work with on tough details. Another big advantage of the Hydrotech system, especially in this case, is that it isn’t temperature sensitive.”

LIVING ROOFS

Sections of the roof with limited access were topped with an extensive vegetative system featuring Hydrotech’s InstaGreen sedum mat. River rock was applied as a perimeter border. “We’d get them watertight, and then we’d come back and install the garden systems after the other trades were done on the roof,” Brosseau explains.

On the fifth-floor terrace, Bennett & Brosseau installed pavers, wood steppers and wood benches made from reclaimed Robinia. “We put down granite for pathways,” Brosseau notes. “We had ballast, intensive garden, extensive garden, pavers, logs and the granite walkway. On Level 5, we had a lot going on.”

The material changes and the ground changes were designed to represent an actual prairie, according to Ishikawa. “There is a little trail that goes off and creates a little circle of seating,” she notes.

Native grasses were chosen to provide visual interest and survive Chicago’s tough winters. These plants

were plugged into the sedum mat to ensure the living roof would have complete coverage at the outset. “That was important to us so that the area wouldn’t be trampled while the native grasses and flora were emerging,” says Ishikawa.

Brosseau credits the support of the manufacturer before and during the project as the key to navigating all of the many details. “We regularly consult with Hydrotech’s technical department on non-standard details,” he says. “We’ll brainstorm to determine what the best solution is. There is also a value beyond that, and that is it helps the owner and the general contractor to see Hydrotech come out and recommend different ways to attack a problem.”

Bennett & Brosseau also installed edge metal, beam wraps, expansion joints, scuppers and downspouts. “The sheet metal was probably the most difficult part of it,” Brosseau says, “We custom fabricated everything in our shop. No two details were the same. For the bar area on Level 7, we fabricated a stainless-steel bar top for them as well.”

IT’S A JUNGLE GYM OUT THERE

Crowning the fifth-floor roof area is a Nesci dome, a climbable sculpture created by artist Jonathan Nesci that has been likened to an “adult jungle gym.” According to Ishikawa, the blue metal design was inspired in part by the Louis Comfort Tiffany Dome in Chicago’s Cultural Center. “That one is an absolutely gorgeous Tiffany Dome with mosaic tile and glass,” Ishikawa notes. “This one is about the exact size and shape, so it’s kind of a reference of that cultural institution on top of the Ace Hotel. It’s meant to be a climbable, playful structure.”

“This roof is really exciting to us because it’s a very playful design,” Ishikawa continues. “Our firm in general believes that playful design also makes really loved landscapes. We were very excited to work on that part of it.”

Yanez points to the versatility and

durability of the roof system as the key to a successful project that provides a long service life and the peace of mind of a single-source warranty. “We are happy to be able to give the market what it wants, and a lot of that hinges on the design creativity and pushing the envelope that the architects do,” he says, “We are very good at adapting to that and offering them a rock-solid assembly that, if applied correctly, should last the lifetime of that structure.” **R**

ACE HOTEL CHICAGO, ILLINOIS

TEAM

LEAD ARCHITECT: GREC Architects, Chicago, Illinois, <http://grecstudio.com>

LANDSCAPE ARCHITECT: site design group ltd., Chicago, Illinois, www.site-design.com

GENERAL CONTRACTOR: Power Construction Company, Chicago, Illinois, www.powerconstruction.net

ROOFING AND WATERPROOFING CONTRACTOR: Bennett & Brosseau Roofing Inc., Romeoville, Illinois, www.bennettandbrosseau.com

MATERIALS

ROOF MEMBRANE: Monolithic Membrane 6125-EV, Hydrotech, www.hydrotechusa.com

MEMBRANE REINFORCEMENT: Hydroflex RB II-Hydrotech

INSULATION: 60 PSI Extruded Polystyrene Insulation, Hydrotech/Dow, www.dow.com

DRAINAGE MATERIAL: GR30 Water Retention and System Filter, Hydrotech

FLASHING: Flex-Flash MB Granulated Flashing, Hydrotech

GROWTH MEDIA: Litetop Intensive Media, Hydrotech

VEGETATION: InstaGreen Sedum Carpet, Hydrotech