

## ALLSTREAM CENTRE DESIGN

Within the footprint of the historic Automotive Building's 1929 façade, NORR has converted a 'bare-bones' exhibition hall into a state-of-the-art conference and exhibition facility.

The Allstream Centre will enhance Toronto's position as a key destination for the convention and conference industry, with a world class venue that demonstrates leadership in functionality and sustainability as well as design excellence and heritage conservation and restoration.

NORR was chosen to design the new centre because of their unique combination of LEED® expertise, and a strong track record in the design of convention, conference and special event buildings around the world. NORR's experience includes: the programming of the Ottawa Congress Centre, the renovation and expansion of the Toronto Congress Centre, Oshawa's General Motors Centre, the 257,000 sf South Okanagan Event Centre in British Columbia, the MotorCity Casino entertainment complex, hotel and convention centre in Detroit, as well as significant projects in the Middle East

NORR's assignment was to transform the existing exhibition hall into a ballroom and convention centre, creating a highly functional and efficient facility, retaining and restoring the heritage Art Deco components of the 1920's building, while incorporating the long term sustainability goals of Exhibition Place. The design solution celebrates the heritage character, restoring the exterior to its original glory, and using it as design inspiration for the new interior spaces.

### Flexible Venue

Increasingly, event organizers are seeking flexible tradeshow facilities-that combine both suitable exhibition space and multiple meeting rooms.

NORR has designed that flexibility into the new Allstream Centre. The heart of the new facility is a 45,000 square foot, column-free, 3,000-seat ballroom, which will be used for conferences, galas, weddings, receptions and exhibitions. Significant features include:

- Movable 30 ft high acoustic walls enabling subdivision for diverse meeting uses
- Floor port service outlets – power, data, communications, water
- Trade show and event power distribution
- Flexible event rigging points

On the second floor, a number of conference rooms of varying sizes can be configured for various types of breakout sessions.

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### **Structural Challenge:**

The ballroom, largest in Canada and second largest in North America, established a key design feature for the building and presented the chief structural challenge. The existing structure had a central, 2 storey high space surrounded on all sides by a mezzanine level. The roof of the central space was supported by rows of columns at the edge of the mezzanine and a row of columns running down the centre of the space.

The failing state of the original gypsum roof panels, combined with the desire to create a huge, column-free ballroom space led NORR to completely replace the roof structure with cost-effective, long-span joists, at 150 feet, the longest ever installed in Canada. This challenging task included:

- Removal of centre columns to create ballroom clear span of 150 feet
- New structure provides seismic bracing of entire building
- New central structure foundation on caissons to bedrock
- New joist capacity supports hung loads for events and shows
- New roof deck is acoustically perforated to reduce sound reverberation
- New joists carry 30 foot high acoustic track mounted partitions
- Infill floor bay at west end provides 4,500 sf of additional second floor space
- Replacement of centre slab on grade to accommodate show floor service

### **Historic Exterior Restoration**

In order to retain the character of the original building, the NORR team determined and directed an extensive masonry repair and restoration program:

- Complete rebuilding of the deteriorated central high parapet and setback parapets and new flashings
- Rebuilding of corner parapets
- Reproducing the original wall construction with improved structural anchoring
- Replacement of failed cast stone units on the face of the parapets
- Rebuilding two entrance columns at the North entrance
- Replacement of damaged carved stone features
- Masonry cleaning, brick replacement, mortar joint repointing
- Stitch repairs to major building corner cracks
- Localized reconstruction of the bond between the interior brick and the exterior cast stone with helical anchors and pressure grouting
- Re-support of Juliet balconies

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In addition, the building envelope upgrades also adhered to the heritage character:

- Removal of opaque insulated window infill panels
- Complete replacement of building exterior windows and doors with heritage inspired new thermally broken aluminium framing and sealed insulated vision glass units
- Removal and reinstallation of cast iron spandrel panels on new structural framing supports

### **Interior Restoration**

To recapture the dramatic arrival experience of the original building, there was extensive retention and restoration of heritage elements in both the North and South Lobbies, in addition to the removal of an unfortunate 1970s curtain wall and reinstatement of the original exterior entry porch:

- Art Deco heritage elements – coffered ceilings, decorative friezes, chamfered columns, light fixtures, terrazzo flooring and stair railings and handrails
- Restoration of walls and ceiling to their 1929 original appearance and colors using a traditional lime based plaster mix on gypsum lath
- Repairs to damaged pilasters, reconstruction of decorative panels
- Installation of terrazzo at North Lobby in accordance with original heritage drawings
- Extension and repair of terrazzo flooring at South Lobby
- Replacement of failing North and South Lobby stairs
- Extended stone base at the North Lobby due to lowered floor slab providing barrier free access
- Feature wall to preserve and expose evidence of the historical Don Valley Brick wall construction
- Heritage Interpretive Displays at feature wall
- Refurbishment of existing Art Deco lighting fixtures
- Re-use of heritage railings

### **Daylight Flooded Interiors**

The original 1929 building provided daylight to the major interior display space through glazed peaks along the roof trusses. Over the years, this approach fell out of fashion with event planners and the glazing was removed in preference to a black box approach to control event lighting. This major renovation provided the opportunity to retain event light control but re-introduce natural light to the main entry circulation North hall by creating a 3-storey foyer with clerestory windows. In addition, the East ballroom wall is retractable, permitting a flood of natural light into the main space.

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In addition, in the South corridor, by removing obsolete service rooms and positioning new meeting rooms on interior, NORR's designers created a sun-filled promenade and break-out space all along the south edge of the building, with views of the lawn and the lake beyond.

Throughout the interior transformation, new configurations and design details were selected to complement the old. Distinctive features such as the 40-foot high stone relief wall and the heritage handrail in the main hall and the Frank Lloyd Wright-inspired geometric design of the ceiling in the ballroom.

The corridors use an abundance of natural light, wooden portals and neutral colours to create a warm tone that serves as a backdrop to the human activity that will fill the spaces. The furniture was selected for its simple lines, but also for its practicality and portability.

### **Sustainable Design**

Environmental responsibility was another driving force for this project for which NORR employed a whole-building approach to sustainability

On-track for LEED® Silver certification, the Allstream Centre will be the first LEED® certified conference centre on Canada, based on such features as:

- Sustainable site selection
- Re-use of building
- Heat island reduction using a new, highly reflective roof, minimizing impact on microclimate
- Waste water reduction (30%), using low flow fixtures
- Elimination of CFCs, compounds with negative environmental effects including ozone depletion
- Low emitting and low VOC (volatile organic compound) materials
- Thermal comfort compliance and monitoring for maximum control of comfort performance and effectiveness
- Optimized energy performance
- Green power
- Measurement and verification
- Construction waste diversion (75%), using the 3 R's: reduce, reuse, and recycle to minimize the amount of construction debris sent to landfill
- Recycled content (15%)
- Best practice commissioning
- CO2 monitoring
- IAQ (internal air quality) monitoring / control during construction

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**NORR**

A member of the Ingenium Group of companies, NORR offers full-service architecture, engineering, planning and interior design, providing truly integrated solutions for a wide range of transportation, commercial, institutional and lifestyle projects. The NORR brand provides a well-honed balance of design, technology and management skills.

**Ingenium Group Inc.**

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For further information: Susanne Simic, Simic Public Relations for NORR Limited  
(416) 622-3358 [susanne.simic@sympatico.ca](mailto:susanne.simic@sympatico.ca)

## **NORR BACKGROUNDER**

A leader in architecture, interior design, engineering and planning, NORR is the flagship brand of the Ingenium Group of companies. NORR has a 71 year history of providing clients with the strengths of a global, multi-disciplinary company: capacity, knowledge, skills, experience and innovation. NORR has offices in Toronto, Kingston, Ottawa, Calgary, Vancouver, Detroit, Denver, Sacramento, Tampa, Dubai, Abu Dhabi, Moscow and New Delhi. NORR's worldwide growth is fuelled by an aggressive acquisition strategy, with significant acquisitions expected in the U.S. and Europe in the next 6 months.

As the legacy firm of John B. Parkin Associates, founded in 1938, NORR has a proud history of serving clients who demand design excellence and unique solutions to complex requirements. At various stages of its evolution, NORR has worked on some of Canada's most architecturally significant projects, including Toronto's City Hall and Nathan Phillips Square, the Toronto-Dominion Centre, IBM's headquarters in Don Mills, Ford of Canada Headquarters in Oakville and Toronto's Rogers Centre (SkyDome). More recently, the firm has been responsible for the award-winning, landmark new plaza at the Peace Bridge USA/Canada border crossing.

With respect to heritage architecture, NORR has completed the award winning heritage renovations for the John Sopinka Courthouse, Hamilton, Ontario and the Renfrew County Courthouse in Pembroke, Ontario. The firm is currently working on the renovation and restoration of the former Bank of Montreal and the Wellington Block that are both located across from the Parliament Buildings in Ottawa, and Union Station in Toronto. And now it has completed the redevelopment of the historic Automotive Building on the Canadian National Exhibition grounds into a state-of-the-art Allstream conference and exhibition facility.

In the UAE over the last 20 years, NORR has contributed numerous landmark projects to the skylines of both Dubai and Abu Dhabi. The firm is currently involved, as Architect of Record, with construction administration and project execution for the Burj Dubai, slated to be the tallest building in the world at completion. In Detroit, the NORR team's MotorCity Casino and Hotel is an eye-catching addition to that city's skyline and the local economy. Globally, NORR serves clients in the commercial, transportation, institutional and lifestyle arenas.

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### **Commercial**

NORR designers provide the intelligence needed to engage the global commercial economy competitively and creatively through new developments, retrofits, upgrades and renovation projects that focus on maximizing the client's return on investment.

### **Transportation**

With experience far beyond design and engineering, the reduction of carbon dioxide emissions, noise pollution and resolving other environmental issues are integral aspects of the firm's work. In addition, NORR offers insightful strategies for the management of facilities in a controlled and sustainable manner.

### **Public Buildings**

NORR is committed to designing timeless public architecture that responds to cultural, aesthetic and budgetary goals. The firm's rational, enduring, design solutions to complex issues result in exceptional buildings, important to the infrastructure of cities and townships.

### **Lifestyle**

Whether designing world-class resorts or community shopping centres, NORR focuses on the clients' business goals as well as the lifestyle and aspirations of the market being served. NORR's designs interpret and support these objectives.

For further information: Susanne Simic, Simic Public Relations for NORR Limited  
(416) 622-3358 [susanne.simic@sympatico.ca](mailto:susanne.simic@sympatico.ca)

## **ALLSTREAM CENTRE DESIGN TEAM LEADER BIOGRAPHIES**

### **DAVID CLUSIAU BES, B.Arch., OAA, MRAIC, LEED®** PRINCIPAL, ARCHITECTURAL DESIGN

Principal of NORR's design group since 2001, David oversees the majority of the firm's architectural and interior design activities. David has led design teams for both large international projects and small scale assignments, working with each client to develop creative and appropriate design solutions.

David's design approach is grounded in his commitment to the clients' goals, his ability to collaborate with complex teams, and always, his sense of public responsibility with respect to the project's place within the community.

David is a LEED® accredited professional (Leadership in Energy & Environmental Design) for the design and construction of green buildings. His expertise in sustainable building design became known as a result of the award-winning, light- and fresh-air filled SAS headquarters building on King Street East, one of Toronto's first LEED® Silver certified buildings.

A graduate of the University of Waterloo, David joined NORR as Design Manager in 1994, following increasingly responsible design positions at Toronto firms. He is a member of the Toronto Society of Architects, the Ontario Association of Architects and the Royal Architecture Institute of Canada.

### **EMON LOU B.F.A., ARIDO, ASID, IFMA, NCIDQ** MANAGER, INTERIOR DESIGN

A member of the NORR design team since 2006, Emon has more than 20 years of interior design expertise with a diverse range of client projects accounting for more than 4 million square feet of completed interiors.

Emon's strength lies in a highly effective balance of creativity and discipline, manifested in her skills in to planning, programming, concept development and implementation.

Emon graduated with a Bachelor of Fine Arts, Interior Design, from the University of San Francisco following achieving a BFA from Windsor College. Her ongoing education included studies in Building Code Compliance at Ryerson University. She is a member of Association for Registered Interior Designers of Ontario (ARIDO), the American Society of Interior Design (ASID), Interior Designers of Canada (IDC), and the International Facility Management Association (IFMA). Emon was National Council for Interior Design Qualification (NCIDQ) - certified in 1999.