

# Consultancy Services Proposal

August, 2007



ISO 9001 : 2000 CERTIFIED



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# 1. GENIVAR

## 1.1 Company Profile

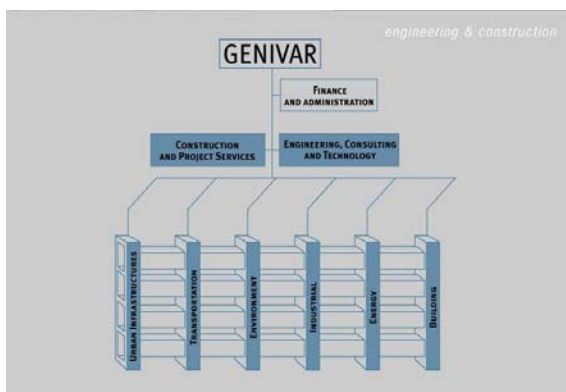
GENIVAR is one of North America's leading professional multidisciplinary companies with **over 2000 specialists** in project and construction management, engineering, and management consulting providing a wide range of services to both private and public sector clients in over 30 countries throughout Canada, the Caribbean, Latin America, South America, Europe, Africa and Asia.

GENIVAR is a quality assured company (ISO 9002) driven by the concept of excellence. Our enthusiastic commitment to quality of the built environment is matched by vigorous monitoring of the services provided. Uncompromising quality of project management engineering and construction services is the key element required for the success of our projects and business.

The expertise of our employees makes GENIVAR a leader in providing solutions through integrated project delivery drawing **on four decades of experience in:**

Project and construction management,

- Engineering services and studies
- Project development and financing
- Construction
- Strategic consulting services



### 1.1.1 Firm philosophy and Methodology

GENIVAR's proposed methodology is structured to control the time, cost and quality of the project, thus enhancing the success of the project and thereby increasing Client's satisfaction. This is achieved by the systematic application of development and management tools, to determine the optimum development plan, project management systems, construction, commissioning, and operation and maintenance processes.

GENIVAR will be accountable for ensuring that the allocated resources are used appropriately to complete the project. A variety of stakeholders will be involved including the Client, policy makers, administrators, financial advisors, accountants and legal advisors, designers, contractors, specialty consultants tenants and social groups. We will work to understand and respect the project goals and requirements of each of the team members, while focusing on completing the project within budget and on schedule.

GENIVAR will put in place the necessary resources to ensure that interests of the Client are protected at every stage and that a superior quality project is delivered.

The following is a detailed list of activities included in the management services by stages:

#### **Pre-construction stage**

- Prepare Project Brief
- Select and manage Design team
- Prepare Consultants' contracts
- Mobilize Project Management and Professional teams
- Attend project coordination meetings with the Client, Consultants and project stakeholders
- Prepare detailed Project programme
- Identify all project stakeholders
- Prepare communication protocols, including project specific web site

- Provide input on issues of constructability and construction related issues
- Prepare detailed Project budget
- Provide and maintain project cash flow for work packages
- Review the client's master schedule and provide comments
- Prepare a cost estimate during the design stage
- Identify construction packages
- Identify long delivery items
- Participate in value engineering sessions and provide comments and recommendations
- Set criteria to prequalify contractors
- Liaison and communicate with Authorities having Jurisdiction
- Issue monthly reports
- Participate in partnering sessions
- Establish cost control program and cash flow for construction stage
- Commence Government Applications Process
- Negotiate works contracts
- Provide recommendations regarding Project Insurance

### Contract Document stage

- Attend all project coordination meetings
- Review construction documents for constructability, bid ability, and coordination
- Prepare and update project schedule
- Provide advice on alternatives to systems and procedures to improve schedule or reduce budget
- Provide advice and identify long delivery items that may require pre-tendering
- Review consultant cost estimates
- Prepare independent cost estimates at project milestones including detailed work sheets
- Advise and assist the client on developing pre-qualification criteria
- Provide Monthly Progress reports including Cost Schedule reports
- Identify required permits, licenses and approvals

### Tender stage

- Provide comments and advice on the tender schedule and tender packages
- Review final tender documents and make recommendations on bid-ability
- Provide advice, assistance and recommendation on the pre-qualification criteria
- Attend tender briefings and assist the Consultants in the preparation of addenda
- Attend job showings and assist the clarification of site issues
- Assist the client as requested in bid analysis
- Provide the client with cost information, as requested, prior to negotiations with any bidders
- Liaise and communicate with authorities having jurisdiction
- File for notice of project with appropriate Local Government Authorities
- Provide advice on any packages that are required to be re-tendered
- Liaise and communicate with Authorities



### Construction stage

- Maintain a daily log
- Submit monthly written reports including budget and scheduling information
- Provide ongoing administration support
- Maintain complete and updated project files, drawing and specifications
- Provide construction supervision to perform defined activities



- Conduct ongoing site safety orientation sessions for all persons entering the site
- Chair joint health and safety committee meetings
- Evaluate trade contractors for compliance with health and safety policies
- Monitor and inspect all General Contractor's work
- Assign a health and Safety Supervisor
- Provide a monthly Health & Safety performance report
- Identify and report project risks
- Plan and manage site security
- Establish procedures for tracking shop drawing and samples
- Review change notices and forward independent estimates to the Client
- Maintain detailed log of changes
- Review regulations to identify and monitor permits, licenses and approvals
- Recommend payment of Contractor invoices
- Monitor requests for information from Contractors and responses from Consultant team
- Inspect and determine that all shop drawings, site instructions, and samples are complete
- Maintain daily site reports
- Assist in the resolution of disputes
- Manage and maintain record of changes and anticipated changes to the project
- Produce monthly progress reports
- Participate in partnering sessions
- Project record keeping
- Post Construction stage
- Provide advice and recommendations on all aspects of commissioning
- Manage record drawings and specifications
- Assist in the interim and final inspections
- Expedite the completion of deficiencies
- Confirm accuracy of warranties and transfer to the Client prior to final certificate
- Continue with the implementation and management of the Commissioning Plan
- Manage all maintenance manuals, operating instructions and turn over to the Client

- Conduct 11 months inspection prior to the expiration of any warranty
- Prepare post construction evaluation and cost analysis report
- Establish the certification of total performance
- Arrange for the issuing of substantial completion certificates and holdback releases
- Produce a final report on the project



Specific activities that will be performed during the execution of the above listed services will include the following:

#### 1.1.2 Design Review

GENIVAR's integrated structure allows us to excel in our ability to provide design review services. Led by our senior design architects and engineers, our team will first review the existing studies, requirements and concept proposal and then develop with the Client the development components of the project and a Statement of Owner's Requirements. These documents will serve as the basis of design for the Project, and eventually for the preparation of working drawings to carry out the works.

Drawings and specifications will be reviewed as to completeness and conformity to the approved preliminary drawings, prevailing codes, regulations and other statutory requirements.

All reviews will take into consideration our strategy to favour local economic benefit, defining packages in such a way as to allow

for as much participation as possible by local contractors, suppliers and labour, and to maximize the transfer of state of the art construction technology.

Under the direction of GENIVAR's professional team, we will assist the Client in the determination of a short-list of appropriate designers, contractors, and speciality consultants.

### 1.1.3 Scheduling and Time Control Processes

The schedule is a critical management tool used for programming the execution of the project and to communicate expectations to the entire project team. GENIVAR will take a proactive approach to ensure that the project schedule is up to date and that corrective action is taken when needed to ensure the Client's required delivery dates are respected. GENIVAR will implement the following activities regarding the schedule and time control process:

- Confirm, as soon as possible, time allocated for applications to public utilities, permitting and other authorities having jurisdiction.
- Make allocations for each package to be given out separately in order to start the project immediately (demolition and site preparation activities).
- Incorporate all future tenant related fit up work in the master schedule.
- Incorporate all infrastructure works (public utilities, access road, etc.) related to the project.
- Review execution schedule submitted by Contractors for conformity with the master schedule and contract documents.
- Notify the Client of any deviations from the authorized master schedule and make recommendations for services and approvals.
- Expand the master schedule to include detailed activities of design, construction and post-construction phases, incorporating the Works Contractors approved schedules.

- Continuously monitor project progress. Implement acceleration alternatives when project delays appear that do not impact on overall project budget.
- Regularly review the progress of the work on site and in fabrication shops relative to the project schedule
- Identify actual or potential variances between the work on site and the project schedule and take action to eliminate the risk of delay to the schedule
- Obtain and analyse monthly updates from Work Contractors, adjust the master schedule and discuss with any corrective action to be taken when required.
- Prepare for the monthly project report a written narrative based on the authorized schedule and the progress of the work to date. The report will include mitigation strategies taken to address any schedule delays that may arise.



### 1.1.4 Risk Management

GENIVAR firmly believes that one of its principal responsibilities to clients is to manage the risks associated with the design and construction process. To this end, GENIVAR develops and implement a customized risk management programme for each Project.

As risks can appear at any stage of a project, and evolve as a project moves forward, the risk management programme must be in place from the award of mandate through to the completion of deficiencies. The purpose of the programme is to manage risks until they no longer exist, and in cases where a

particular risk cannot be eliminated, to minimize the potential negative impact it poses to the project.

Taking into consideration the breadth, the complexity and the length of a project, a formal and disciplined process is essential to achieve, with success, control of a project as well as to ensure that a project is managed pro-actively rather than reactively. A formal, ongoing and repetitive process, the risk management programme established by GENIVAR consists of 4 main steps:

- **Identification of Risks**  
Potential issues or occurrences that can have a negative impact on a project’s cost, schedule, quality, safety, environment, communication, insurance and bonding are identified. Occurring at the very outset of a project, the identification of risks continues throughout the duration of a project.
- **Evaluation of Risks**  
Potential risks identified are evaluated in terms of their size and scale and probability of impact. This step includes the ranking of

the potential risks so that risk management effort can be focused on the most threatening.

- **Mitigation and Containment of Risks**  
Risk mitigation strategies are put in place to reduce the probability of an occurrence, and containment strategies are put in place to minimize the impact of an occurrence.
- **Follow-up of Risks**  
Involves periodic review of a given risk to evaluate the effectiveness of the reduction and containment strategies. If the risk management measures appear to be deteriorating in their effectiveness, the action strategies are reviewed, modified and corrected.

**Example of Responsibility Matrix for Risk Management Committee**

Title	Cost	Schedule	Quality	Security	Environment	Interaction	Insurance & Bonding
Senior Project Manager	√	√	√	√	√	√	√
Project Manager	√	√	√	√	√	√	√
Estimator	√						
Schedule Control		√				√	
Environmental Specialist					√		
Design Review Team			√				
Health & Safety				√			

### 1.1.5 Cost Planning, Monitoring and Control Methodology

To ensure cost certainty, GENIVAR implements an estimate centric approach requiring that the project's design, procurement, construction, and maintenance activities are performed in strict accordance with the estimate and its approved changes. This work practice enforces discipline and accountability for the cost and delivery of both services and materials throughout the project by:

- Establishing a detailed estimate early in the project
- Continuously monitoring each project work activity and decision against the function, scope, cost, and schedule in the estimate
- Reviewing the current project scope, cost, and schedule against the estimate on a continuous basis and at milestones during the project
- Providing a proactive change management process for accommodating approved exceptions to the estimate. Our experience in Construction Management, Build-Own-Operate-Transfer, Design-Build-Operate-Maintain and Design-Build projects makes this proactive approach possible.
- Establish milestone payment procedures with contractors. Elements of work are only paid when 100% complete.

### 1.1.6 Site Health and Safety

GENIVAR can oversee Works Contractors, as well as other parties, to ensure compliance with all governing legislation and codes. GENIVAR will at all times exercise its authority to cease work if it deems there is a contravention or a threat to any part of the health and safety regulations.

Prior to the beginning of a project we will ensure that all required safety systems are in place. This includes systems to prevent occupational injuries and illness during site activities. An overall site-specific hazard

assessment and site-specific safety plan is developed that incorporates legislative requirements, site access, training, traffic coordination, and the Client's Health & Safety policies.

The Management Plan shall address:

- Methods of communication and chain of command.
- Structure and functions of the health and safety committees.
- Establish and implement a safety orientation and training procedure for each Works Contractor.
- Establish and implement a safety orientation plan for visitors to the site.
- Establish and maintain a health and safety web site.
- Ongoing monitoring to ensure compliance with site safety strategy.
- Review and assessment of safety information submitted by the Works Contractors.
- Evaluate and submit health and safety reports to Client.
- Recommendation for improvement of health and safety procedures where required.
- Provide and maintain a health and safety information board.

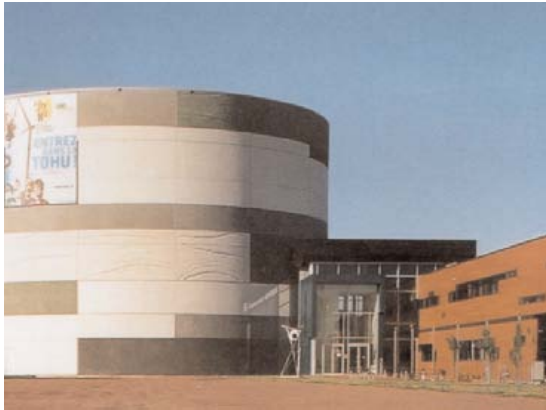
In order to ensure full compliance, GENIVAR tours the site daily and makes recommendations where required. We hold weekly official inspections of the site with the Works Contractors and:

- Identify conditions that require corrective action and follow up.
- Follow up on previous deficiencies.
- Keep a record of all problem area and recommendations.
- Post a copy of the weekly inspection.
- Provide a copy of the report to the Client.
- Provide a copy to the Works Contractor.

Should a Design-Build alternative be selected, the responsibility for implementation and management of the



Health and Safety plan transfers to the Design-Build Contractor. We would review and approve the Design-Build Contractors Health and Safety Plan, and GENIVAR will monitor health and safety operation on site. GENIVAR will continue to exercise its authority to cease work if it is determined that there is a contravention or a threat to any workers or the public.



#### 1.1.7 Application of appropriate technology

##### **Project Management Tools**

GENIVAR uses Expedition, a commercial project management software tool that facilitates change management, follow-up of action items from project meetings and other deliverables, and document management.

#### 1.1.8 Commissioning methodology and post-construction services

The commissioning process continues through all phases of the project. During the pre-construction phase, GENIVAR will provide advice and recommendations to the project team on issues that could impact the final operations of the Project.

GENIVAR looks at commissioning as the most critical end user interface. A good commissioning process will facilitate transfer of the building to its operating group efficiently and will reduce the building operating cost, through a comprehensive

process of verifications, start-up procedures and functional tests during the construction phase.

GENIVAR's commissioning practices begin by confirming that all commissioning related activities are properly identified and scheduled. Our commissioning process is based on the following:

##### **General**

Commissioning includes all of the activities required in order to assure that:

- The equipment, systems and networks operate with maximum efficiency under all load conditions.
- The equipment, systems and networks conform, for each locale, to the occupation parameters established in the contractual documents.
- Personnel receive the training and information required to adequately operate the systems and equipment.
- The commissioning process includes all equipment, systems and networks and mechanical, electrical, functional and operational components as well as all movable equipment identified in the programme of needs.

GENIVAR will assure the full cooperation and involvement of professionals, work contractors and suppliers throughout the commissioning process.

##### **Commissioning Stages**

The commissioning process must be realized for each sector to be accorded provisional acceptance and must include the following five stages:

- Stage 1: Verify installation of equipment, systems and primary networks
- Stage 2: Start up of equipment, systems, and primary and secondary networks
- Stage 3: Verification of performances and functioning

- Stage 4: Training and documentation
- Stage 5: Post occupancy adjusting, tuning and monitoring performance

### Training and Documentation

GENIVAR will facilitate the training of operating personnel to assure full knowledge of building and systems and full operational autonomy of systems and equipment and prepare and present documentation and reports on commissioning.

### Final Report on Commissioning

Upon completion of the provisional acceptance of the project, GENIVAR will present to the Client a final report on commissioning. The final reports will include the following elements:

- Summary of the approach to commissioning
- Summary of the systems, subsystems, components and equipment verified and tested and the results obtained, identifying the conditions and means of maintenance to ensure optimal conditions for efficiency and performance
- A summary of the areas verified and the results obtained, identifying the conditions and means to be maintained to ensure optimal conditions for efficiency and performance
- Notes and comments with regard to available excess capacity
- Identification of tests and verifications to be performed after delivery of the building to maintain optimal conditions for efficiency and performance.
- Identification of possible improvements to efficiency and performance

### Operating and Maintenance Manuals

GENIVAR will ensure that contractors prepare and submit operating and maintenance manuals that shall include:

- An index to allow quick and easy retrieval of the information required including a table of contents, a list of systems, a list of equipment in each system, etc.
- A document for emergency situations must include all the information required in case of major failure or emergency situation. This document must be easy to understand by technical and non-technical personnel.

### As-built Documents

GENIVAR ensures that as-built drawings in both hard and electronic versions are provided by the contractors and coordinated by the Consultants team prior to being verified by GENIVAR's Design Review team for submission to the Client.

#### 1.1.9 Summary

As the Project Manager GENIVAR endeavours a strong team spirit that will ensure that the best interests of the Client are at the forefront of every decision. Although our approach to each challenge is unique, the approach is designed to always achieve the client's objectives. All of GENIVAR's strategies have one single common denominator: **Client Satisfaction.**



## 1.2 Company Information

Name of Company :	<b>GENIVAR Limited Partnership</b>
Registered Address of Main Office :	<b>5858, chemin de la Côte-des-Neiges, 4<sup>e</sup> étage Montréal (Québec)</b>
Postal code:	<b>H3S 1Z1</b>
Telephone :	<b>(514) 340-0046</b>
Fax :	<b>(514) 340-2847</b>
Internet :	<b>www.genivar.com</b>
Type of Organisation :	<b>Limited Partnership</b>
Years since Establishment :	<b>48 years</b>

## 1.3 Financial Information

### 1.3.1 Revenue

YEAR	2002	2003	2004	2005	2006
REVENUE	<b>123,5 M\$</b>	<b>119,7 M\$</b>	<b>121,4 M\$</b>	<b>111,5 M\$</b>	<b>176,1M\$</b>

The revenues presented here above represent GENIVAR's Fees.

We are currently managing a portfolio of projects totalling more than US\$1 billion.

## 2. PROJECTS EXPERIENCE

GENIVAR has an extensive project management expertise in a wide range of fields:

- Building
- Urban Infrastructure
- Transportation
- Industrial
- Environment
- Power...

The following details some of the relevant projects undertaken by GENIVAR in the past 5 years in Canada and Internationally.





T r i n i d a d & T o b a g o

# Port of Spain Waterfront

## RELEVANT PROJECT FEATURES

- Development Manager and Owner's Advocate for US\$300 million design-build project.
- First project in Trinidad and Tobago that had Early Contractor Involvement (ECI), introduced by GENIVAR.
- Comprised of: 2, 26 storeys class A office towers, 885,000 sq. ft., 428 rooms 4+ star Hotel (Hyatt), 20 storeys, 55,000 sq. ft. of conference facilities, 30,000 sq. ft. of retail space, 1200 space parking structure.

Included commercial viability, financial and planning analysis to determine best use of space and scale of development.

GENIVAR's role as Development Manager included initial commercial and planning studies and analysis to determine the optimal size and type of facilities to develop on the site, along with analysis and recommendation as to delivery method.

Rather than executing the works on traditional design-bid-build basis as originally conceived, UDeCott agreed to implement GENIVAR's recommendation to deliver the project on a design-build basis and include Early Contractor Involvement (ECI). GENIVAR was instrumental in establishing ECI on large scale commercial projects in Trinidad and Tobago.

GENIVAR subsequently developed the design-build request for proposal, including outline performance specifications, code requirements, contract conditions and terms, commissioning, quality control and quality assurance requirements, etc.

- Client | Urban Development Corporation of Trinidad & Tobago Ltd.
- Location | Port-of-Spain
- Years | 2004-2007
- Cost | US\$300 M



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Trinidad & Tobago  
Port of Spain Waterfront  
Page 2

Currently under execution, GENIVAR provides the services of Project Manager and Owner's Advocate, managing the delivery of the contract by the design-builder. GENIVAR is defined as the "Engineer" in accordance with the FIDIC standard design-build contract which forms the basis of the Design-Build Agreement. GENIVAR performs technical design review services, on site review, quality control and quality assurance, review of health, safety and environmental procedures and implementation, budget review and control.

In addition to the new components of this development, GENIVAR was awarded an additional mandate to design and manage the construction of new facilities to which the existing Port Authority on-site facilities could relocate to, prior to the delivery of the site to the design-builder. These facilities include the New Cruise Ship Terminal, Port Security Building, Transshipment Shed, and the Telecommunications Switchgear Hub for the Port Authority of Trinidad and Tobago. GENIVAR managed a team of both local and foreign architects and engineers to undertake the design, and then provided construction management services through execution by local trade contractors.







M o n t r e a l

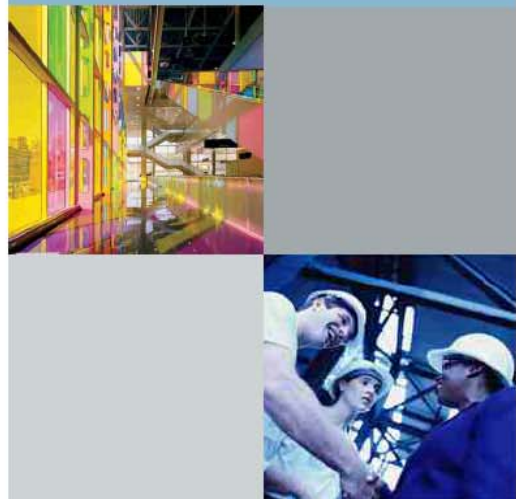
# Montreal Convention Centre

As part of the design-built project to expand the Montreal Convention Centre (MCC), GENIVAR formed a consortium, GENIVAR/AECON/Divco, which included renowned architectural, engineering and construction firms.

The convention centre is located between downtown and Old Montreal. The project doubled the centre's meeting, convention and service spaces (floor space increase from 69,617 to 125,436 square metres). The project includes the following major steps and activities, carried out consecutively or concurrently:

- Preparatory work, most notably archeological digs;
- Covering the Ville-Marie Autoroute for 300 metres to maintain pedestrian flow;
- Five “user-friendly” walkways, two outside and three inside, ensure pedestrians do not have to detour around the site;

→ Client | Société immobilière du Québec  
→ Location | Montreal  
→ Years | 1999-2003  
→ Cost | \$210 M



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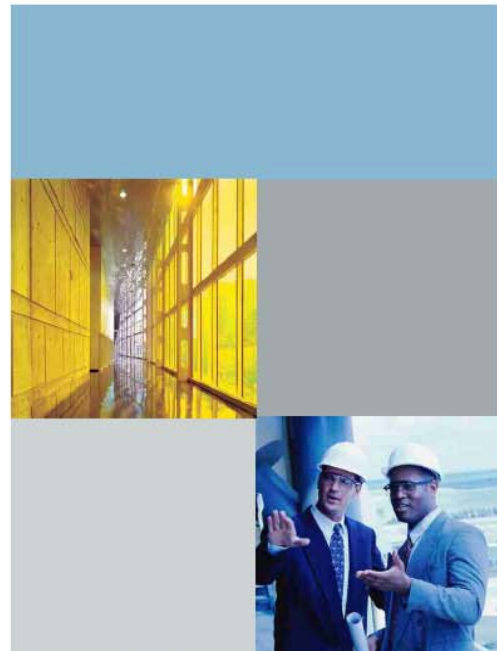
## M o n t r e a l Montreal Convention Centre

Page 2

- Expansion southward along Saint-Antoine Street, the expansion integrated three of the block's most significant large buildings;
- Expansion of the west side, which entailed the demolition of existing buildings;
- Construction of an underground car park with 1,200 parking spaces on five levels.

### PARTICULARITIES

This complex project presents several significant challenges due to: Space restrictions, since the MCC is located in an urban setting and part of it is built over a heavy traffic expressway between downtown and Old Montreal. The need to integrate the facades of a historic building and two other buildings of historical merit. The integration of various elements such as the parking, access for heavy vehicles, administration buildings and exhibition halls. The proposed structural concepts had to meet the requirements related to all these elements, despite the fact that the element had different occupation conditions.



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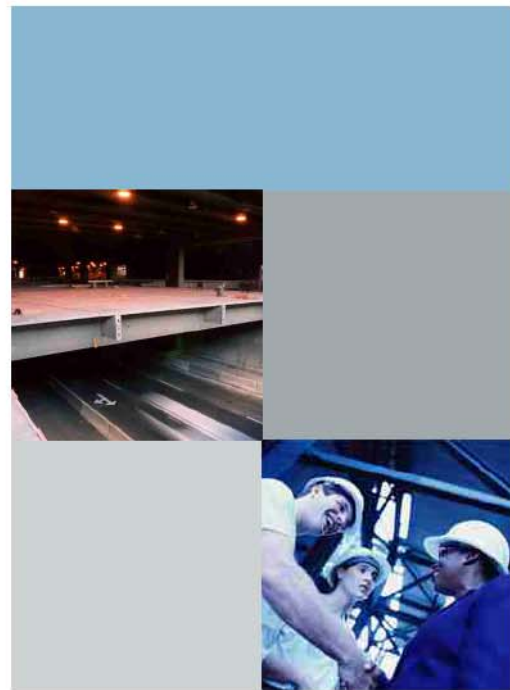
## M o n t r e a l Montreal Convention Centre

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This major turnkey project was carried out on a fast-track schedule when MCC was in full operation. This has required extensive coordination with municipal and government authorities as well as other parties. During several months, traffic on the Ville-Marie Tunnel, one of downtown Montreal's busiest arteries, was reduced during daytime hours to allow construction work to proceed. The tunnel was also closed several times during nights and days. The consortium's mandate included traffic management in cooperation with the Quebec Ministry of Transportation.

The project clearly demonstrates GENIVAR's ability to form partnerships with top firms.

The GENIVAR/AECON/Divco consortium was able to propose an optimal solution from every standpoint: functional, technical, operational, architectural and urban.



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M o n t r e a l

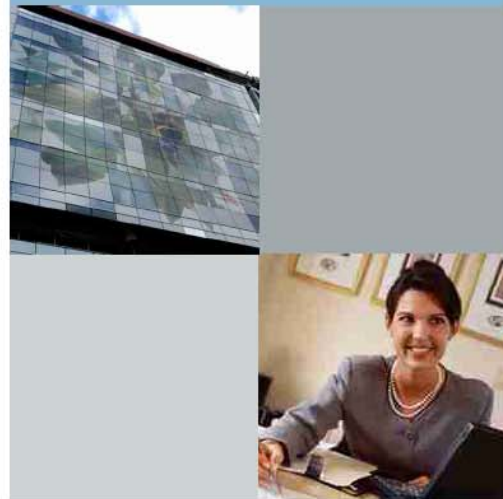
## Concordia University Faculty of Engineering, Computer Science and Visual Arts

In the midst of a major building campaign, Concordia University is giving a new profile to several of its faculties. That is certainly the case for new Engineering, Computer Science and Visual Arts complex on the northwest corner of Guy and Sainte-Catherine Streets in downtown Montreal. The 17-storey building consolidates all research and teaching activities under a single roof. It is also considered a project of major importance for the revitalization of the area.

The 55,000-square metre complex houses the offices of the dean and the entire teaching staff. State-of-the-art research facilities contains engineering equipment and heavy, wet and clean laboratories as well as computer rooms. Environmental testing facilities were also installed.

The building also houses the Visual Arts Faculty's Institute for Emerging Digital Arts (IEDA). With cutting-edge research equipment and applications, including the so-called "black box" technology, the IEDA occupies 6,500 square metre of the building. A 13,000-square metre addition to the Visual Arts facilities is to be constructed during phase B.

- Client | Concordia University
- Location | Montreal
- Years | 2002-2005
- Cost | \$175 M





O t t a w a

# New Canadian War Museum

The Canadian War Museum has moved to a new facility in Ottawa's LeBreton Flats district, alongside the Ottawa River.

Some 440,000 square feet in area, the museum houses a research centre (including a library and archives), classrooms, permanent exhibit spaces, an auditorium and educational installations. A gathering area, with space for historical reenactments and demonstrations, provides a location for official events in addition to the indoor and outdoor exhibit spaces. Access to the museum is enhanced by a 310 space underground parking facility.

The official inauguration of the museum on May 8, 2005, commemorated the 60<sup>th</sup> anniversary of the end of World War II. Dedicated to documenting and preserving Canada's military heritage, the War Museum also celebrated its 125<sup>th</sup> anniversary in 2005.

- Client | Canadian Museum of Civilisation Corporation
- Location | Ottawa
- Years | 2001-2005
- Cost | \$137.5 M





O t t a w a

# New Canadian War Museum

The Canadian War Museum (CWM) has received the Award for Excellence in Urban Sustainability at the GLOBE 2006 Awards Gala in Vancouver.

The Globe Awards are considered the most recognized and respected national awards of their kind. They are presented to extraordinary companies and industry groups who have managed to balance competitive business strategies and sustainable development. The Award for Excellence in Urban Sustainability is a prize awarded for developing and applying outstanding urban sustainability principles.

"The Museum is proud of this award. We are now recognized as a leader in our commitment to sustainability" said Mr. J. (Joe) Geurts, Director and CEO of the CWM. "The architects and our staff were able to incorporate many environmental features into Canada's newest national museum."

The Museum's energy-efficient features, the use of recycled materials, and green roof, are just some of the ways its architectural theme of Regeneration have been realized throughout the construction project. The result is a building that embraces the harsh reality of war, yet offers hope that, like the regenerating landscape, Canadians will choose a future that heals rather than destroys.

The selection of building materials also reflects the Museum's sustainable design. From the copper taken from the roof of the Library of Parliament to the Museum's carpets, recycled materials were used as much as possible. Perhaps the Museum's most interesting environmental feature is its green roof — at 10,684 square meters, one of the largest of its kind in North America. Covered in the same tall-grass species that grow along the Ottawa River, the roof is actually a self-sustaining ecosystem that requires minimal maintenance.

Designed in a joint venture by Moriyama & Teshima Architects of Toronto and Griffiths Rankin Cook Architects of Ottawa, the Museum has already received a number of design and construction awards, and has been featured in architecture and design magazines both in Canada and across the world.

The Canadian War Museum is Canada's National Museum of military history. It introduces visitors to the role and importance of the military in the development of Canada both at home, and on the world stage. The Museum opened at its new location on the LeBreton Flats site in downtown Ottawa on May 8, 2005.



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O t t a w a

# LeBreton Flats

## *Development*

GENIVAR carried out construction management services for the LeBreton Flats which were the site of a major urban development that includes residential neighbourhoods, offices, retail businesses and cultural and institutional facilities, most notably the Canadian War Museum. The construction of parks and recreational also took place, not to mention soil decontamination and a complete overhaul of the road and underground infrastructures including streets, bridges and public utilities. Public transit links provide residents and visitors with easy access to downtown.

Overlooking the Ottawa River, the 35 hectare tract is surrounded by several prestigious government institutions including the Supreme Court, Parliament Hill, the National Archives of Canada and the National Gallery of Canada. Special care was taken to integrate LeBreton Flats with the nearby architecture.

- Client | National Capital Commission
- Location | Ottawa
- Years | 2001-2006
- Cost | \$100 M



### LE VISTAL

Location: Nun's Island  
Client: Proment Corporation  
Completion: 2006-2007  
Expected cost: \$100 million  
Number of units: 320  
Number of floors: two 25-storey towers

*This residential complex will be built in accordance with LEED certification criteria – the most rigorous international green building standards.*

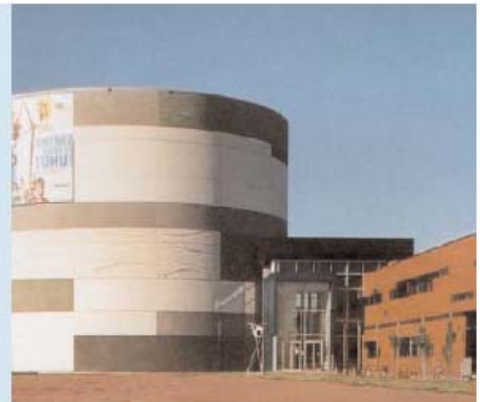
*Le Vistal consists of two 25-storey condominium towers, each with approximately 160 residential units. The complex is set in a prime location adjacent to the St. Lawrence River near a nature park and a proposed golf course. Glass features prominently in the design of these elegant and contemporary high-rise buildings.*



### TOHU CHAPITEAU DES ARTS

Location: Montreal  
Client: Cité des Arts du Cirque  
Completion: 2004  
Cost: \$12 million

*This project involved the construction of a 900-seat circular theatre offering a wide range of entertainment activities. This LEED Gold certified building has been nominated for various design prizes.*



### E-COMMERCE PLACE

Location: Downtown Montreal  
Client: E-Commerce Place  
Completion: 2003  
Cost: \$200 million

*This vast office complex was built as a two-phase project. The main building has a floor area of 665,000 sq. ft. with 30 storeys. The other measures 577,000 sq. ft. with 20 storeys and 5 basement levels.*







Port-au-Prince, Haiti

## Haiti Republic Bank

To provide Haiti with a modern financial institution fully in compliance with international standards, a six-storey building was built on a block belonging to the Banque de la République d'Haïti (BRH). The project also involved renovating and integrating all the buildings on the block in which BRH offices are located.

Located in downtown Port-au-Prince, the 11,000 m<sup>2</sup> building includes a vault, administrative offices, information systems and state-of-the-art security and surveillance systems as well as kitchens and dining rooms for employees. The building will also house a museum with exhibits that trace the history of Haiti's currency since the country's independence in 1804.

Due to the city's frequent blackouts, the building is equipped with an independent generating system built around three generator sets that instantly kick in when the public power supply is cut and provide 100% of the power required.

A fourth generator set supplying nearby buildings is managed by a sophisticated synchronizing system. All seismic standards have been complied with, making the BRH a highly earthquake resistant building.

- Client | Banque de la République d'Haïti
- Location | Port-au-Prince, Haiti
- Years | 2000-2002
- Cost | US\$19.5 M

