

PROJECT SUMMARY

Project High Performance Research Greenhouse Complex, Faculty of Agriculture and Faculty of Forestry, Université Laval, Quebec City, Quebec, Canada

Description 27,270 sq.ft. of new research greenhouses and commercial greenhouses, built on 3 different sites, for total of 24 research zones and 9 corridors, BL-1P, BL-2P and BL 2+P and commercial facility. Full occupancy at end of 2007.

Completion Date from 2004 (programming) to 2007 (commissioning).

Overall Project Schedule

HIGH PERFORMANCE GREENHOUSES	2004	2005	2006	2007
LAVAL UNIVERSITY				
1- Programming				
2- Design, Drawings & Specs				
3- Construction				

Construction Value \$ 10,000,000

Our Role

As part of Greenhouse Engineering who was the greenhouse specialist for the Research and commercial greenhouses, responsible for design services for the greenhouse structure, contained equipment, mechanical and electrical work and greenhouse computer control system. Coordination with MEP engineers of the main building. Construction phase services included shop drawing review, all site meetings, review for payment certification, general review, final inspection and deficiency inspections and reports.

Design Challenges Recirculation water systems, high light level system. Rain water collection, level 2P+ achievement, feature of insulation, flexible crops (flexibility for pots on floor). Vegetable greenhouse crops advanced technology demonstration and evaluation functions. Meeting a fixed budget and tight schedule, including a re-design to meet the fixed budget.

Innovative Design and technical advances

Intensive commissioning. Innovative greenhouse air tightness measurements. Intensive light (natural en artificial) measurements. Use of high performance stainless steel evaporative cooler units. Irrigation system using 3 different water sources (city, rain, recirculated). New ventilation strategies and components.



BL2P and BL2P+ greenhouses



Forestry greenhouses



Applied research greenhouses

References

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