

PROJECT PROFILE



ZAS Architects

**BILL CROTHERS SECONDARY SCHOOL,
MARKHAM, ONTARIO**

The building was designed to address the needs of the future high performance athlete and students wishing to pursue a health active lifestyle with environmental sustainability in mind. The students attending this school will be supported by extensive athletic facilities that include three double gymnasiums, varsity calibre training facilities, plyometrics and aerobic studios, coaching centre, and physiology labs. Exterior facilities will include an 8-lane synthetic surface track, two artificial turf football soccer fields capable of hosting provincial calibre events within the 30-acre site. The "Healthy" mandate goes beyond simply physical activity and includes a concern for environmental quality - thus a LEED silver rating is being targeted for this project. The community and school board's mandate was an energy efficient green building.

The mandate was to develop a design that supports the needs of the local community and the regional municipality of which it is part without compromising the activities of either.



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Statistics:

Gross Floor Area
20,603 m² (222,000 sf)

Construction Cost
Total \$ 39,000,000.00
Mechanical \$6,000,000.00
Electrical \$2,650,000.00

Reference

York Region District School Board
Mr. Michael Ferreira
Assistant Manager,
New construction
905.727.0022 x3368

**GOAL: LEED NC
Certified Silver**

- Artificial turf is being used on two sports fields to reduce the use of herbicides and pesticides.
- The new building was oriented to take advantage of natural daylighting.
- A storage pipe has been installed to store rain water for irrigation.
- The School takes advantages of the adjoining river valley creating a park like setting.
- Students are provided with a learning context that is more than picturesque, it is a 'living laboratory' of natural process and landscape

HVAC systems installed include:

- The building's heating and cooling systems are being supplied by Markham District Energy, a central plant, thus reducing operating and maintenance costs to the Board.
- Variable speed air-handling units and variable speed pumps have been specified to reduce energy loading on the building.
- Minimum ventilation rates are maintained efficiently through the use of heat reclaim wheels (on assembly spaces) and tilting coils (on classroom spaces) on the air moving equipment to recover energy lost from exhaust air.
- Occupancy sensors have been specified for all classrooms to reduce the lighting load, when rooms are not in use.

CFMS CONSULTING INC.

CFMS are the commissioning consultant engaged to assist the design team to achieve the Best Practise credit, EAc3 toward LEED certification. Our services included:

- Review of the contract documents.
- Development of the commissioning plan.
- Tender and manage the air and water balancer.
- Verification of DDC system and BAS.
- 100% performance testing of HVAC systems.
- Co-ordination of mechanical and electrical equipment and systems training, including video-recording.
- Preparation and presentation of systems re-commissioning manual.
- Seasonal performance testing of HVAC systems.