The Sopranature System:
1) Vegetation
2) Sopraflor growing medium
3) Soprafiltre
4) Sopradrain
5) Cement curb
6) Gravel (omitted at MEC)
7) Sopralene Flam Jardin
8) Sopralene Flam 180
9) Base sheet with primer
11) Rubber spacer (Sopramat)
(Soprema, 1998)

The installed system shown below:
Vegetation
Lightweight growing medium
Root barrier
Expanded polystyrene drain board
Modified bitumen roofing

A. Storm Water
The Toronto MEC store is equipped with a sophisticated multi-layer green roof system called SopraNature, manufactured by Soprema. The layers both reduce and slow storm water, though no monitoring equipment is in place to quantify this benefit. The system provides a delicate balance between retaining too much water (which would lead to ponding and drowning of plant roots) and too little water (which would require excessive irrigation and compromise the storm water retention benefits of the roof). Occasional irrigation with sprinklers is necessary to maintain the roof during dry weather.

### B. Energy

The green roof at MEC surrounds a central roof monitor that provides natural light to the retail floor below. Windows linked to a temperature sensor open automatically to vent hot air from the space using the stack effect. The green roof’s main energy benefit is the reduction of air temperature at the roof surface, which translates to reduced temperatures at the roof membrane. Unfortunately, no instrumentation is presently installed to record these reduced temperatures.
E. Compliance

In accordance with MEC’s philosophy, the design of the Toronto store endeavored to “Reduce, Reuse, Recycle and Rethink” the ways in which a building is built. The façade was constructed from logs recovered from the bottom of the Ottawa River, while the supports of the roof monitor were salvaged from the demolished Marconi Radio Building in Montreal. Where possible, interior finishes were eliminated or made of recycled materials. The green roof was envisioned as an urban meadow to host migratory birds, butterflies and other insects (MEC, 2004).