

Canada's "Green Acceleration"

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The Department of Public Works and Government Services Canada (PWGSC) is custodian of 345 federal buildings and a number of other assets located in various cities and towns across Canada. Collectively, these assets have a considerable impact on the environment.

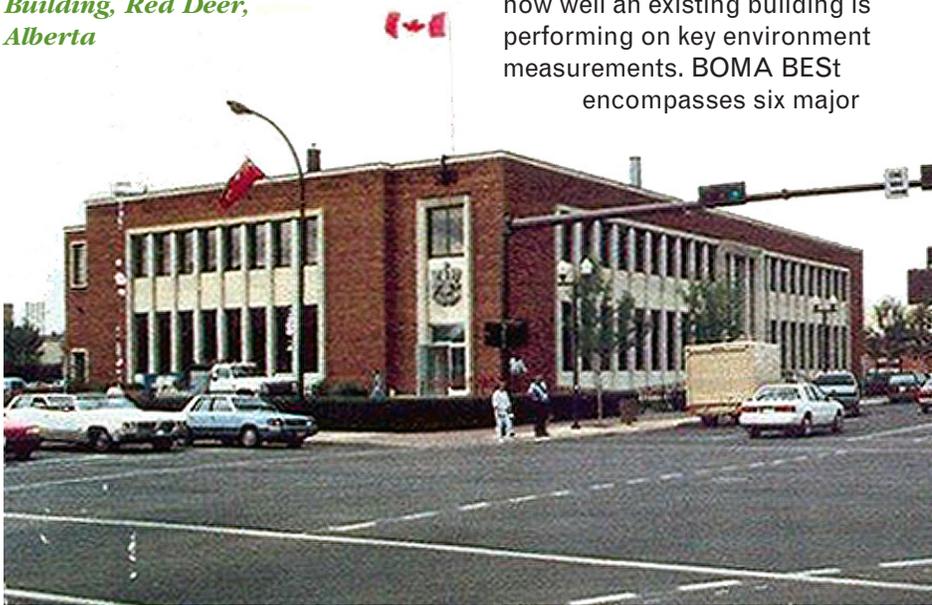
In recent years, the Department has embarked on an ambitious program to improve the environmental sustainability of its owned assets. In support of its greening efforts, PWGSC has adopted the Building Owners Management Association (BOMA) BEST Go Green Plus Program. The Program establishes a number of practices which can be employed as a yard stick to assess how well an existing building is performing on key environment measurements. BOMA BEST encompasses six major

categories with 33 environmental aspects relating to energy, water, waste reduction, emissions, effluents, indoor environment and environmental management.

Canada's Economic Action Plan (EAP) is giving PWGSC the opportunity to accelerate the greening of some of its assets. In all, 33 percent of EAP repair and renovation projects are improving PWGSC's environmental footprint in some way, somewhere in Canada. A number of these are aimed at making buildings more energy efficient, while the purpose of others is to eliminate or better control emissions and effluents that could harm the environment.

A case in point is the Government of Canada Building in Red Deer, Alberta, where an aging steam boiler heating system was replaced with a more energy efficient and environmentally friendly one. The replacement system has reduced the energy consumption of the building and has done away with the need for water treatment, removing the risk of dangerous chemicals finding their way into the local watershed. Nitro dioxide emissions, a harmful pollutant produced by the old system, were also entirely eliminated. The construction waste generated by the project was minimized and the contractors were able to recycle most of the discarded materials, leaving very little for landfill disposal. >>>

Government of Canada Building, Red Deer, Alberta



>>> In addition to its buildings, PWGSC is the custodian of a number of significant engineering assets, ranging from the Esquimalt Graving Dock in British Columbia to the JC Van Horne Bridge between Québec and New Brunswick. Many of these structures were erected at a time when environmental implications were not considered in the design or construction phases of a project. Often the building materials used interacted poorly with the surrounding environment and would not be acceptable by today's more environmentally conscious standards. About \$40 million in EAP funding is being used by PWGSC to accelerate the correction of some of these situations.

The Alexandra Bridge in Ottawa (the Capital of Canada) is one of four bridges benefitting from EAP funding. This project typifies the type of positive outcomes that can be obtained from a green based approach to rehabilitation.

The very decision to repair instead of replacing the Bridge exemplifies sound environmental logic. Repairing the bridge reduces the depletion of resources and the amount of energy that would be consumed to manufacture all the new components of a replacement structure. The amount of unsalvageable waste that would result from a complete tear down is also significantly reduced. This is good news for local landfill sites. The Alexandra project is being closely managed to maximize diversion from landfill through the recycling of all salvageable materials. For example, steel removed from the superstructure is being sent to mills for processing and reuse.

The pressure treated wood previously used in the bridge's

boardwalk is now being replaced by non-treated durable wood species. Removal and managed disposal of the pressure treated lumber will take away any chance of toxic chemicals like arsenic that could seep into the Ottawa River. Screw fasteners instead of the traditional nails to hold the planks in place are also being used. The screws will ensure that the wood will better survive the splintering and the bowing affects of the spring thaws. The result is fewer replacement boards required in the spring; reason enough to be hugged by a tree.

The EAP funded work will ensure that the Alexandra Bridge, built over 100 years ago, continues to be an important part of the National Capital Commission's (a Crown corporation that is the steward of federal lands and buildings in Canada's National Capital Region) official ceremonial route and a central link for motorists, pedestrians and cyclists for many more years to come. With the investment made, the bridge will now have a greener outlook in life.

Another instance of green acceleration is the rehabilitation of the LaSalle Causeway Bascule Bridge in downtown Kingston, Ontario. At the time of its construction, lead paint was used to protect the steel structure against corrosion. Although lead poisoning, sometimes known as the "painter's colic," is one of the oldest known work and environmental hazards, the modern understanding of the small amount of lead necessary to cause harm did not come about until the latter half of the 20th century. So far, no safe threshold for lead exposure has been discovered; that is, there is no known amount of lead that is too small to cause the human body some

harm if ingested.

Over the years, the bridge's lead based paint has peeled off and been carried away by the water and the wind. Many of these tainted paint chips were deposited in nearby soil and waterways, finding their way into plants and wildlife. Part of the bridge project is aimed at the removal and safe disposal of the old lead paint covering the bridge. In its place, a non-toxic and environmentally friendly product will be used. The new paint will work just as well in protecting the steel structure against the corrosive effects of the elements, without risking land or water contamination. This is a win-win scenario for local Kingston commuters, businesses, residents and Mother Nature.

The objective of the EAP is to accelerate infrastructure spending across all levels of government, stimulating the economy in order to ease the effects of the global recession on Canadians. Through prudent and sensible investments, PWGSC is meeting this objective and is increasing the overall worth of investments by securing, wherever possible, a green benefit. These benefits will no doubt last well beyond the life of the EAP, helping to reduce the environmental footprint of publicly owned assets for many years to come. ¶

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