Figure 1

The Carp River

This is a view of the Carp River, in the spring of 2008, looking south from Richardson Side Road.

Restoring the Carp River will create a functioning channel and floodplain area conducive to a healthy water system, vibrant fish and wildlife habitats and aesthetically pleasing recreational areas.

All about the Carp River

The Carp River watershed is located in the northwest portion of the City of Ottawa within the former townships of West Carleton and Goulbourn, and the City of Kanata.

The headwaters of the system originate in the upper portion of the watershed within the urban areas of Glen Cairn. It flows northward where it empties into the Ottawa River.

It is approximately 41 km in length and drains into an area of about 306 km^2
The Carp River's main tributaries include Poole, Feedmill, Huntley and Corkery Creeks.

The land use is predominantly urban at the headwaters and with the remainder of the watershed primarily rural

The rural villages of Carp, Kinburn, and Fitzroy Harbour are situated at various locations along the river within the former Township of West Carleton

Existing conditions of the Carp River and Floodplain

Over the years, the Carp River has been dredged—bottom sediments gathered up and disposed of at a different location—relocated and straightened.
The flood plain is partially disconnected from the low flow channel.
Bed grade of the river is very low resulting in slow flow velocities.
The existing flood plain is flat and shallow—extent of the flood plain is due to the flat topography, not the need to convey large flows
The velocities in the flood plain for the 100 year flood in the order of 0.1 metres per second
The increasing sediment in the river impacts conveyance capacity and flood levels could increase in the future
Mono-culture fish habitat

Restoration of the Carp River is non-negotiable

There is a misconception that stopping development in Kanata West is going to "save" the Carp River. This is not the case. The implementation of the Carp River Restoration Plan will restore the Carp River to its original purpose as a functioning channel and floodplain system.

In working with the City of Ottawa and the Kanata West Owners Group, MVC has ensured that the health and functionality of the Carp River has not been neglected in the development plans. Making the restoration plan an indelible condition of development in the flood fringe of the Carp River not only opens up the opportunity for restoration, it enables the Carp River to become a recreational and aesthetic benefit to the community.

The Carp River must be restored regardless of whether or not this land is developed. Neglecting the Carp River floodplain in an effort to "save" the Carp trivializes a complex technical situation.

The unique characteristics of the Carp River calls for the consideration of planning concepts that are not regularly used but still conform to provincial accepted floodplain management policies and address public safety issues.

What has become known as a two-zone concept with regard to Kanata West development is better described as the elevating of shallow flood fringe areas to raise them above 1:100 year peak flood before development occurs. The design also maintains the existing flood plain storage.

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The Carp River Watershed/Subwatershed Study

In 2004 the City of Ottawa, in partnership with Mississippi Valley Conservation, the Ministry of Natural Resources, Ministry of Agriculture and Rural Affairs and Ministry of Environment completed the Carp River Watershed/Sub-watershed Study. Watershed and Sub-watershed planning is a cooperative effort of stakeholders, municipalities and government agencies to create a long-term management plan for resources within the watershed. Community input and support is critical to success of the plan.

One of the key limitations within the watershed is a lack of baseflow—the portion of streamflow that comes from groundwater and not runoff—in the Carp River and many of its tributaries

One of the most serious problems observed within the Carp River and some of its tributaries is the accumulation of sediment. The watercourses do not have enough power to push sediment through the system

Over 80% of the Carp River is experiencing this condition, particularly evident in the Carp River upstream of the Village of Carp

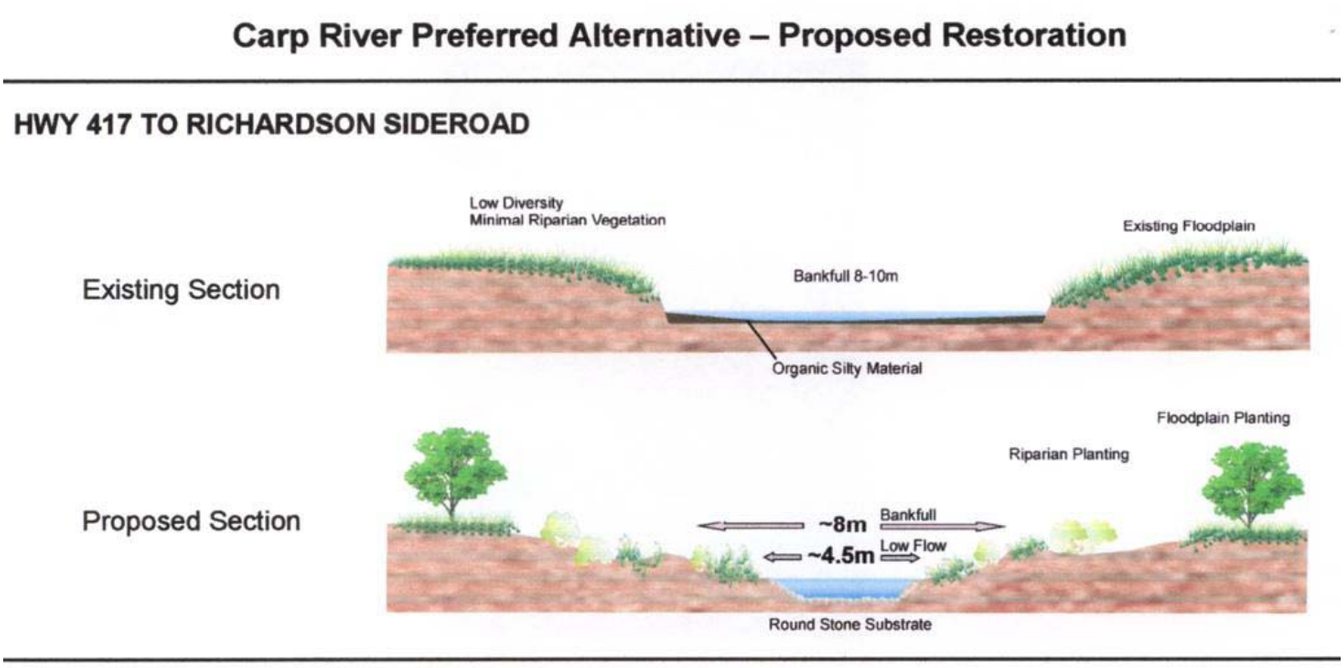
The stream adjusts to this condition by widening and straightening, further contributing to the sediment buildup.

Accumulated sediment contributes to degraded water quality, reduced conveyance capacity and degraded fish habitat

About the Restoration Plan

A conceptual restoration plan for the reach of the Carp River within the Kanata West area has been developed to solve the issues identified in the watershed/subwatershed study. The main objectives of the restoration plan are to maintain a sediment balance and to enhance and diversify fish habitat. The following bullets outline key points of the restoration concept:

- The restoration plan can be accommodated within a 100 metre corridor
- The estimated cost of project is $5 to $6 million
- 70% of restoration of costs are covered by the Kanata West Owners Group through contingencies built into the development process
- To assist in the implementation of the project of the City of Ottawa is proposing to employ the floodway/ flood fringe concept for the Carp River between Richardson Side Road and Hazeldean Road
- The restoration plan also results in a reconnected, functioning flood plain
- The floodway/flood fringe concept is being appropriately employed in a wide shallow flood plain in an urbanizing area
- Hydrological and hydraulic analysis was included in the Carp River watershed/subwatershed study



This illustration shows how the restoration process will narrow and deepen the Carp River to alleviate sedimentation problems through faster moving waters and deeper channels. The plan also allows for shoreline rehabilitation through riparian plantings.