Beaver Pond Dam Chronology 20101003

1960s *Kanata Standard* 8 Feb 1980
In the 1960‟s, Bill Teron ... had the idea of creating the **lake** as a focal point as part of the urban development of Kanata in that location

1965 May 20 Ottawa Citizen 20 May 1965 [ad]
A new town, absorbed in the landscape, offering the widest range of amenities: golf course, **lake for quiet canoeing**, riding stables ... 42 new Teron designs

1968 *Kanata Standard* 8 Feb 1980
In 1968, **Bill Teron diverted water from the golf course area of the Beaverbrook community to the vicinity of the Beaver Pond**.
This ditch runs near the riding stable and passed both Carr Crescent and Carmichael Court. In addition, **Teron removed trees (mainly dead) in order to clear out part of the swamp area and proceed to deepen it for a future lake.** Because his equipment started to sink in to the swamp area, this project was abandoned

1960s *Kanata Kourier Standard* 6 Aug 1993
... about 19 years ago ... the lake was called the old beaver pond; beavers lived there undisturbed
Even the old beaver pond was not always there. It was created by developer, Bill Teron in the 60s when water was pumped from Lismer to build homes ...

1970 Jan 1 *Kanata Standard* 8 Feb 1980
On January 1, 1970, Campeau took over the assets and liabilities of William Teron Ltd. One of the liabilities soon proved to be the diversion of the water from the golf course to the area near the Beaver Pond. There was a serious flooding problem in the vicinity of Atomic Energy because the culvert under Highway No 17 was not of sufficient size to carry the additional drainage diverted through the diversion ditch. As a result, Campeau was required to do something to improve the drainage in that area. **During construction of Carmichael Court, Campeau Corporation used material excavated from their basements to construct a dam adjacent to the Beaver Pond**. This dam included a sluice gate so that the swamp area could be closed off in the spring time and any run off held until any danger of flooding was passed. A rough road was put down to the dam in order that winter and spring maintenance could be carried out annually. Because of the deeper water permitted, increased beaver activity took place. **A registered trap line was approved by the Ministry of Natural Resources in the area of the Beaver Pond in the early 1970's**

1970 Jul 15 *Kanata Standard* 15 July 1970 pg 4
From Kanata Developments by Gary Kay
... new ownership ... Kanata Developments Limited ... operating company for the continued development of Kanata and is owned by Canadian Interurban Properties Ltd in Toronto, who r\are wholly owned by the Campeau Corporation, which in turn is owned by the Power Corporation in Montreal
Master Plan
We have appointed Project Planning Associates Ltd of Toronto to prepare a Master Concept Plan for Kanata. Unfortunately, the new ownership was left without any plan for future development of Kanata other than a very general block plan which was insufficient for us to proceed with development.
[report to be sent to Council Sep]
... intends to build a condominium development in Carmichael Court adjacent [to] ... Lismer Crescent

1970 Nov 13 *Kanata Standard* pg 1
... overall plan is in the process of being finalized for Kanata Developments Ltd to cover about **3,500 acres** ... in 15 years [population] 65 to 70,000

1971 Jan 15 *Kanata Standard* pg 1
Council News - New Development
Kanata Developments Limited ... finalized their overall plan for development of the remaining 2,600 acres
... Kanata Master Plan a Report from KDL ... presented ... Nov 1970 to ... Council

1971 Apr 16 *Kanata Standard* pg 1 to 2
Developer plans 2 communities
... being questioned in relation to the public presentation of the Kanata Master Concept Plan [problems]
... presented for approval to the March Township Planning Committee a drainage plan for the first phase of a new community directly west of Borduas and Carr, which will be named Marchwood
... lesser number of single family lots ... than in previous plans ... due to the extremely rugged topography and difficult soil conditions ... successful adaptation of single lots in this type of terrain can not be achieved except at extreme costs to the future homeowner and also at the detriment of the ecology. The existing trees and the natural rock outcrops will be earmarked for perpetuity

1971 Jun 17 *Kanata Standard* pg 2
March Township Planning Committee Activities
... unless the Master Plan for all of Kanata is available, no one part can be properly assessed, especially with regard to the services such as hydro, storm drainage, sewers, roads and water supply

1971 Dec 3 *Kanata Standard* pg 1
Kanata Master Plan presented [by] M Hancock, President of Project Planning Associates Ltd
... preparing a Master Plan for development of the Campeau Corporation‟s 2,615 acres surrounding the present town of Kanata
... envisages a town of 69,000 ... covering 3,275 acres
... open space comprising 12 % of the area

1972 Jun 16 *Ottawa Citizen*
Authority may have to resort to expropriation to build dam ... Bennett Lake
The authority must have the full support of land and cottage owners in the area ... the provincial government insists 100 per cent of the owners affected must give their consent before construction begins
The dam is the first one undertaken by the authority ...

1972 Dec 1 *Kanata Standard*
Township Topics – Trapping in Kanata
.... trappers are setting their beaver and racoon traps near the **“lake”** west of Richardson Side Road ... close to homes where children play
March Township Council
Attempt to Stop Trapping
... Council agreed ... Nov 27 ... setting of traps in the **lake (or swamp)** area west of Lismer Crescent should stop
... [the person] originally asked to do so by the Fire Chief a few years ago. The Chief had acted on behalf of Council which in turn had been responding to a request from William Teron. **Teron was concerned about rising water levels, caused by beaver dams, which had resulted in some flooding at the AECL plant**
... some argued that deeper water could be as hazardous as the traps
The request through the Fire Chief will be rescinded and **discussions held on other means of controlling the water level.** A letter has been sent to Kanata Developments requesting that trapping not be permitted on their land in this area

1973 Aug 23 *Kanata Standard* pg 1
Kanata: a town plan influenced by its citizens
... Campeau Corporation ... 2,600 acres ... 3 years ago
... Teron ... responsible for the 600 acres of original development

1973 Oct 10 *Ottawa Citizen*

To alleviate the problem of flooding, the authority has undertaken preliminary engineering of several dams of main tributaries of the Mississippi .... but one problem has arisen

Landowners have a direct say in the final stabilization water elevation where there was not a dam previously, several difficulties have arisen. On the other hand, where the authority is replacing an old dam or where a dam existed, approval of landowners is much easier to obtain

[did Campeau Corporation obtain the approval of William Teron and downstream landowners?]

1974 Oct 24 *The Record News*

... sod officially turned for Bennett Lake dam ... S. Hamilton, Deputy Regional Director, Ministry of Natural Resources, Kemptville, ... remarked on the cooperation between MNR and MVCA. He indicated that this was the first time the Ministry of Natural Resources had built a dam for a conservation authority .... once completed the dam will be owned by MVCA

1976 Feb *Environmental Study of the Marchwood area of Kanata* prepared by students of Sir Robert Borden High School under the direction of Mr. Hugh Gibson

The area was bounded as follows:

North the extensive west-east running beaver pond behind (west of) Lismer Crescent and Holgate Court of the Beaverbrook Community

Marchwood – A General Environmental Picture

The northern third ... Its northern limit, the **extensive beaver pond, has been severely disturbed in recent years by coarse rock dumping by the developer and by a man-controlled dam.** The area of dumping has been unused now for a few years. Forest regeneration and coarse weeds have come very close to obscuring this illconceived activity.

Sub-areas of Special Environmental Significance

Area 1.

This is the extensive beaver pond, that marks the northern limit of the Marchwood study area. The pond is very shallow and plant litter filled. Water depth only rarely exceeds 4 feet and over the majority of the area is less than 2 ½ feet deep. The pond bottom is composed of nutrient-rich organic sediment of considerable depth. The base rock of the pond area is Precambrian and supplies an impermeable bowl for this natural reservoir. If it is anticipated that this 12 acre pond is to be retained as a feature of future development, very careful study of water input/output and pond bottom examination must be considered. The pond presently has a beaver colony despite trapping efforts. Even if this colony is eliminated, it will be re-established within one season by a flourishing colony on area 2.

Area 2

If one refers to the drainage patterns included in the map display, it can be seen that a shallow lateral drainage valley feeds into the major northern beaver pond

(area 1) from the south. At present, this drainage pattern bears two open water areas that exist because of beaver dams and a third (the one closest to area 1) that, in the past, has been a beaver pond but presently is a willow swamp. The uppermost pond is beaver colonized. The small pond is not colonized – simply dammed to increase the safe habitat area of the beaver colony. It is from this colony and one just west of the Goulborn forced road that area 1 can be recognized continuously. The ponds and swamp of area 2 are organic litter filled. The ponds are very shallow (to 4 feet) and formed in a manner similar biologically and geologically to area 1. There is no clearly defined creek input or output from these reservoirs. The drainage is too generalized and insufficient to create a stream bed naturally. The Precambrian shores of these three water interest possibilities are abrupt and well forested
Priority 2
20 **willow and cattail swamp bearing drainage from west to the extensive beaver pond (note – there is an active beaver pond immediately west of the road at this point**

1977 Jun 20 *Kanata North Business Park Concept Plan*
Map A - Topography [excerpt showing Beaver Pond]

1978 Aug *A Review of Campeau Lands Within the Proposed South March Highlands Conservation Lands, Kanata, Ontario* by F.F. Slaney & Co Ltd. Aug 1978
Pg 12 The most significant area of Muck is found in the depression that separates the two eastern Precambrian bedrock ridges. Many of the open ponds in the Muck areas are intermittent, being created by beaver activity and disappearing once the dam deteriorates
Pg 15 G-2 tributary of Watts Creek ... West Branch of Watts Creek runs from the headwaters area at the west end of the study site through St Aubin Swamp ... a shallow pond on the west side of Goulbourn Forced Road
Pg 18 3.2 Drainage Beaver activity is the dominant drainage control in the areas presently occupied by swamp. This is particularly true for the area upstream from Kanata Pond

No record of stream flow discharges were found for Watts Creek or Shirley"s Brook. However, remnants of a V-notch measuring weir and water level recorder installation on the West Branch of Watts Creek, downstream from Kanata Pond indicate that flow data had been collected during the past (see photo 3.1). Summer flows for both streams are estimated as **100 to 150 litres per second (3.5 to 5.3 cubic feet per second).**

Pg 43 ... woodchucks ... among rocks by the **dam** at Kanata Pond ...

Pg 56 [provides the following photograph and refers to it as the **fill dam**]

Pg 57 The view of Kanata Pond ... from the fill dam at the east end may be considered to have reduced aesthetic value because of dead elms, shallow muck **shorelines**, and shallow waters

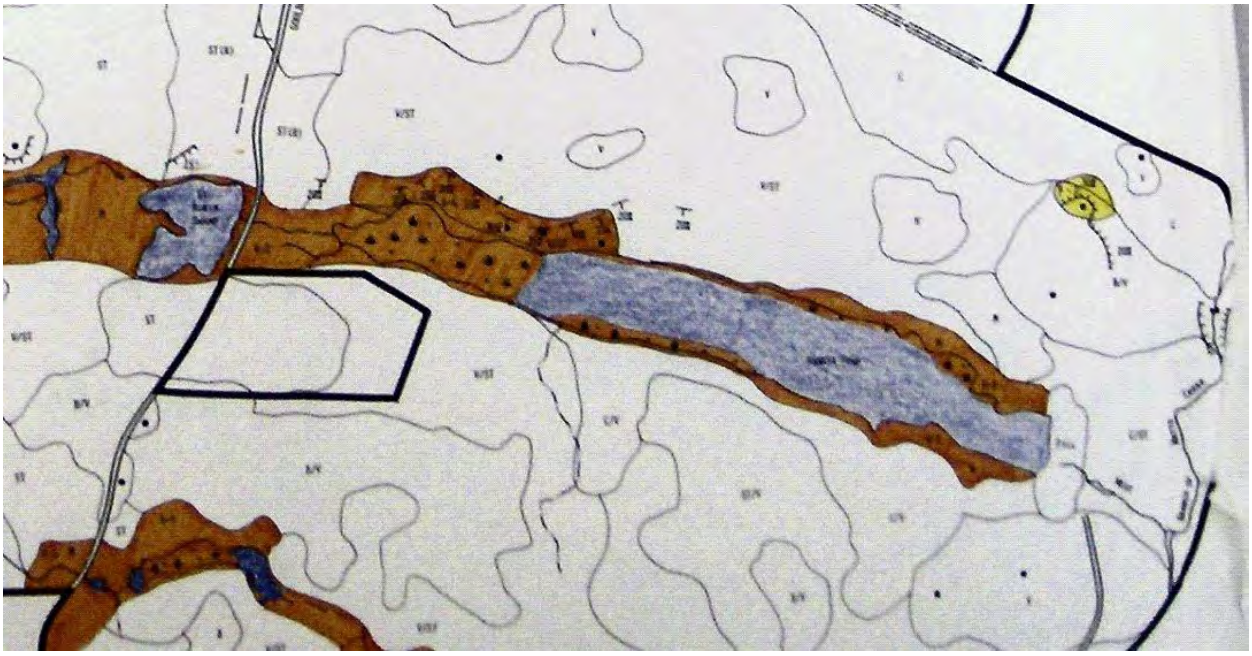
The pond surface in late July, 1978, varied from unvegetated muck to shallow water in the western end

Pg 59 At the present time, the west end of Kanata Pond which is inundated to a depth of 0.1 to 0.3 meters (4 to 12 inches) in the spring is vegetated ...

Pg 60 [discussing use for stormwater management]

It may be necessary to dredge the pond to a depth of 5 meters (16 feet). Blasting might be required because the bedrock is close to the surface

Map 1 Surficial Features



Map 4 Constraints

Red Significant Feature orange Physical constraint to development yellow buffer zone

1979 Dec 1 *Kanata Standard* 8 Feb 1980
On December 1st, 1979, Campeau surprised the city with a first birthday present. Campeau agreed to clear, flood and prepare a skating surface on the Beaver Pond with appropriate access and parking. No discussions took place with the City prior to this announcement ... The end result was the creation of a major skating facility on the Beaver Pond ... there is road

access down to the pond ... The temporary access road is simply a winter road which will be impassable when spring comes

1980 Feb 8 *Kanata Standard*

The Beaver Pond is basically a headwater swamp lying between the area drained by the Kizell drain to the Ottawa River and lands drained down to the Carp River. Because it is a headland swamp there is very little inflow of fresh water and the water area tends to have large amounts of stagnant water.

1980 Jun 20 *The Journal*

Kanata plan unveiled for posh new housing

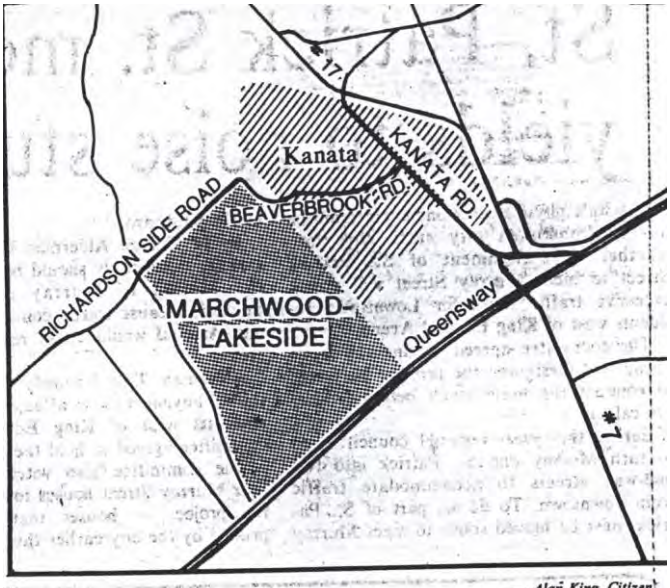
Campeau Corporation has unveiled plans ... to house more than 16,000 persons in an area dotted with ponds, parks and walkways

Almost 40 per cent of the entire development will be open space ...

One of the large swamps will be dredged and made into a lake

... the company hoped to turn the first sod next spring, starting to build the first of the 10 planned neighbourhoods along the borders of the existing golf course

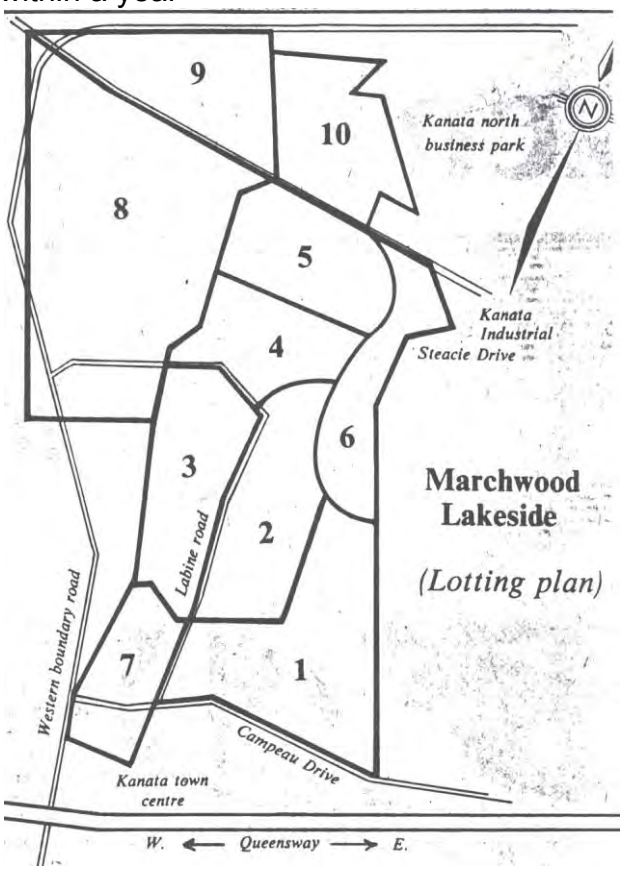
One hurdle which has yet to be cleared before construction can begin is regional approval of a substantial density reduction in the development



Map shows location of proposed community

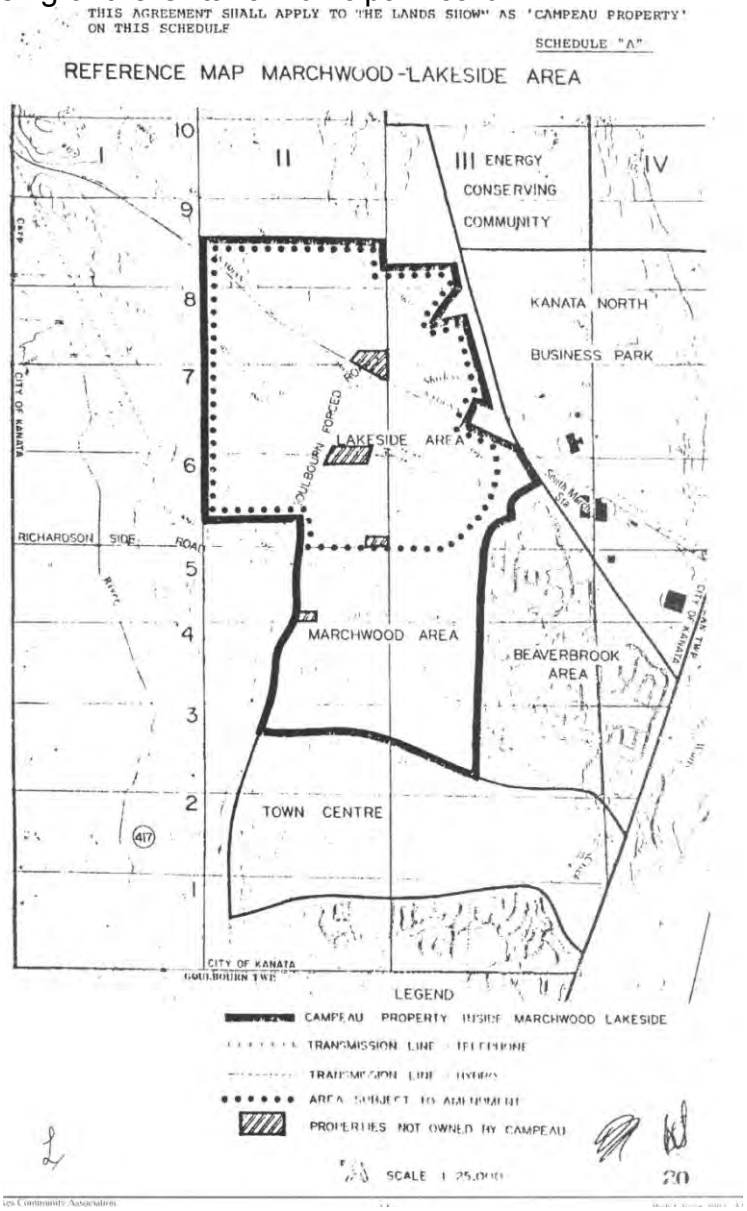
[note: this does not show land north of Richardson Side Road and some north of the Queensway belongs to the Town Centre]

1980 Jul 3 *Ottawa Citizen*
New Community Plan raises few objections
... plans for a 1,450-acre development that Campeau hopes to be building within a year



1981 May 26 Campeau – City of Kanata 40 % Open Space Agreement
Application to register notice of an agreement, the Land Titles Act 1974
Principle of provision of 40 % Open Space Areas
a) the proposed 18 hole golf course
b) the stormwater management area ...
4. (2) The lands set aside for the major storm water management area is shown generally as part of the Environmental Constraints Area on Schedule "2" of Official Plan Amendment No. 24, the exact boundaries of this area and the location and boundaries of the remainder of the storm water management system shall be mutually agreed between the parties [describes the stormwater management system as having 2 parts]
Methods of Protection
6. Campeau shall convey the lands set aside for the storm water management system to Kanata at no cost when the lands are capable of definition by Plans of Survey or Plans of Subdivision being developed in the vicinity of the storm water management system

11. This agreement shall be binding on the parties and have full force and effect when Official Plan Amendment No. 24 to the Official Plan of the Ottawa-Carleton Planning Area is approved by either the Minister of Housing or the Ontario Municipal Board



[Note: does not include the Richcraft ½ of KNL"s Phase 5 or land owned by other developers]

1981 May 29 *Kanata Standard* pg 4

Last Winter Campeau Corporation fenced the perimeters of some of their lands adjacent to Beaverbrook. The corporation decieded to put these areas to agricultural use in order to reduce their heavy tax burden ... Some areas, including the area surrounding the Beaver Pond will be used for cattle grazing

1981 Oct 16 *Kanata Standard* pg 2

Amendment 24 to the Region"s Official Plan is now being considered by Ontario"s Ministry of Housing and Municipal Affairs.

According to the developer"s plan, **the pond will be further dredged and the resulting lake will be the main feature of a new Kanata subdivision known as Lakeside**

... two public meetings ... Residents ,,, asked some very pointed questions about the consequences of disturbing the natural water table by dredging the pond

1981 Nov 27 *Kanata Standard* pg 24

William Teron always intended to develop the area around the beaver pond. “with the land formation, rock outcroppings, and other special features, we intended to use that land for low-density estate housing built around an enlarged beaver pond” Mr Teron said recently

Actually, where there is talk of natural environment, it should be realized that the beaver pond as we know it is not wholly natural, but is a result of water control to reduce flooding

“One year they forgot to remove the weir” said Mayor Marianne Wilkinson, “and there was the swamp enlarged into a pond”

1982 Mar 25 *Ottawa Citizen*

... developers Asselford-Martin and Campeau Corporation

Asselford-Martin ... up to 1000 homes ... on a 200 acre section south of Richardson Side Road between the proposed Western Boundary and Goulbourn Forced Road

There will also be a 50-acre wooded area surrounding a shallow pond – called “the beaver pond” – which will be preserved as natural conservation land. Plans also call for Campeau to expand the 9-hole Kanata Golf and Country Club to 18 holes and to situate homes around the courses

1983 Sep 2 *Ottawa Citizen*

[re] Galetta dam

Ontario Hydro and natural resources officials say they have no jurisdiction over operations at a privately-owned dam

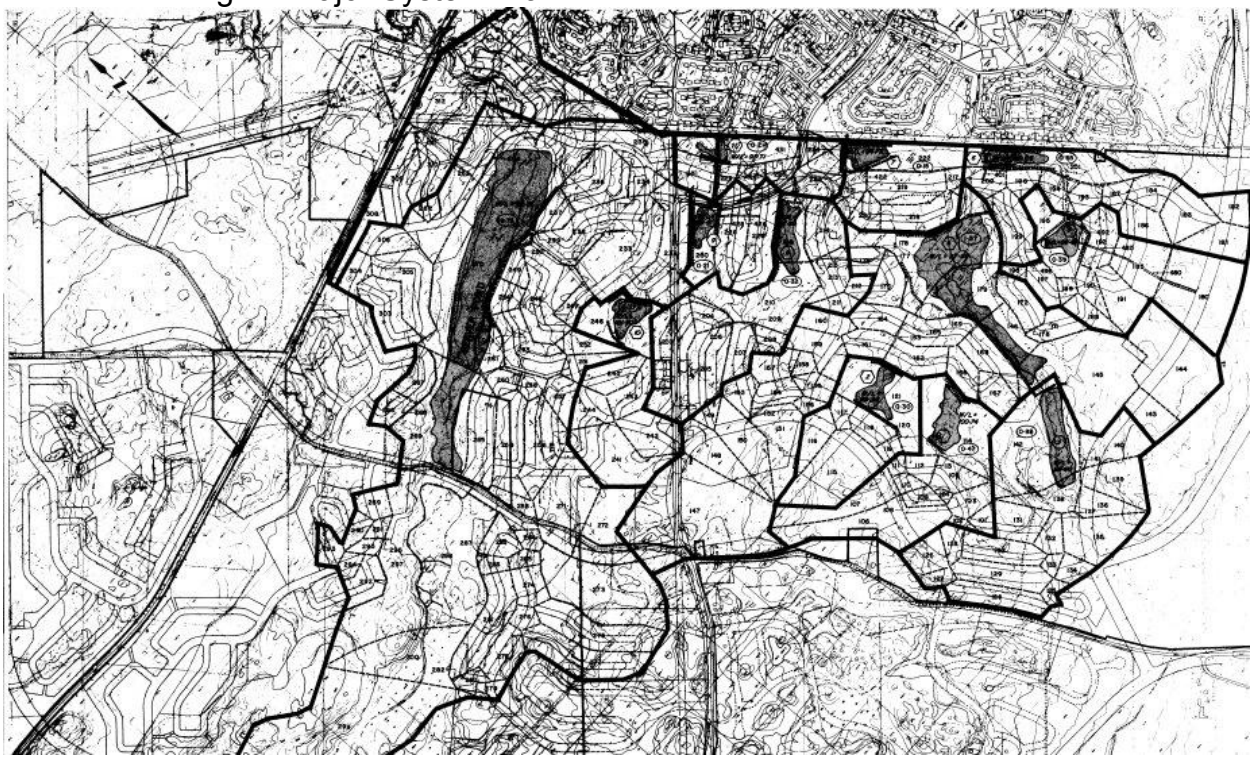
1983 Dec 2 [source missing]
8,000 unit housing development to double Kanata‟s population
... 1,600 acre housing development ... to double Kanata‟s population by 1993
Developers plan a kilometre-long lake, two conservation areas and an 18-hole golf course on the site
Campeau, which owns about 1,400 acres in Marchwood-Lakeside, plans to start installing municipal services, roads and 1,000 to 1,500 lots in March or April
Asselford-Martin Ltd, another construction firm, is the other major landowner

1984 Marchwood Lakeside Master Drainage Plan by Cumming Cockburn Limited
[not available for review]

1985 Feb *Amendment No 24 to the Official Plan of the City of Kanata Planning Area Marchwood-Lakeside* [deposited in Beaverbrook Library]
Pg 6 Marchwood 404 ha (1010 ac) from Campeau Drive to Kanata Pond NEA
Lakeside approx 280 ha (700 ac)
[totals = 684 ha = 1710 ac]
Pg 23 Stormwater Management System
Before construction, an engineering study shall be let by the owner-developer to establish a stormwater system for Marchwood-Lakeside. The engineering study shall identify the necessary provisions to ensure that drainage of adjacent lands is not interfered with. All drainage works and/or easements required for stormwater run-off, from adjacent lands through the Marchwood-Lakeside Communities, shall be provided for in the Stormwater Management System
Pg 24 Kanata Pond shall function as one of the major stormwater management facilities required for Marchwood-Lakeside.

1985 Apr 17 *Kanata Lakes: Storm Drainage Report, Campeau Corporation* by Oliver, Mangione, McCalla March 1985 approved 17 Apr 1985
Pg 5 Total catchment area of the proposed development within the Kizell Drain is 398 ha (984 ac) to the outlet of the Beaver Pond
Diversion of a portion of the Shirley‟s Brook watershed would drain an additional 319 ha (787 ac) into Beaver Pond
Downstream of the pond, local basin drainage covers 21 hectares (51 acres). This totals 738 hectares (1822 acres) of catchment area which would ultimately drain to the northern limit of the development.
Pg 7 *3.* STORM WATER MANAGEMENT CRITERIA

The "Master Drainage Plan - Storm Water Management Study for the Marchwood-Lakeside Community" has been reviewed and approved by regulatory agencies. From it, the following requirements are identified:
b. Post-development flows are to be controlled to that of predevelopment conditions. The maximum discharge on Kizell Drain, downstream of the Kanata Lakes development is 3.6 m3/s.
c. The Beaver Pond and distributed upstream detention are to be utilized for temporary storage of runoff arising due to major storm events.
d. The maximum outflow from the Beaver Pond is limited to 1.2 m3/s to provide flood proofing protection downstream
Pg 17 **Beaver Pond would return to its normal water level in 4 to 5 days**.
Pg 18 **The outflow from Beaver Pond will be controlled by a new dam and outlet structure**.
Pg 42 Major System Plan



[Note: 11 ponds were created and ICDs installed in the developed area which drained to the southerly diversion ditch which outlets to the Kizell Drain east of the Beaver Pond]

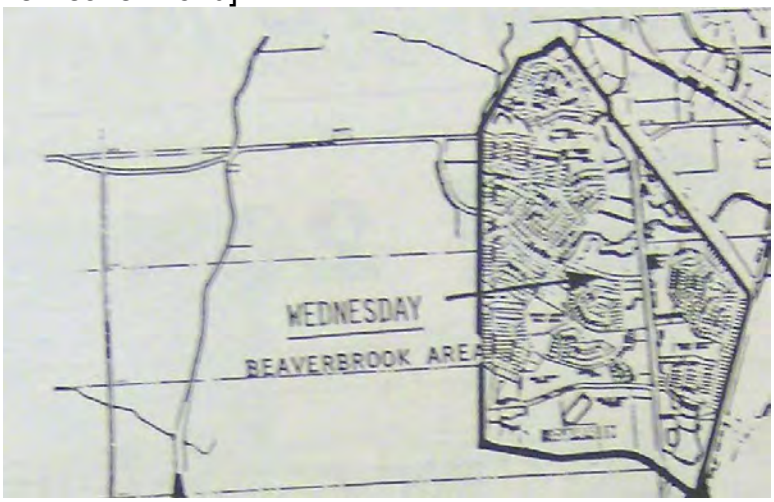
Pg 43 Minor System Plan [cropped]

[Note: the storm sewer 2700 mm inlet is further south than now exists; this map shows the outlet and the two tributaries, one going north, the other south]
Pg 45 [storm sewer pipe inlet to Beaver Pond is 2700 mm; words in 2 places on the Beaver Pond say “flooded land, inundee”]

1985 Jun 6 *Kanata Standard* pg 4
Campeau plans ... Kanata North Business Park ... treed boulevards and majestic swans ... on **artificial lakes**

1985 Jul 25 *Kanata Standard* pg 9
Construction starts ... Laurnic ... more than 65 single family some backing on the Kanata Golf Course
[ZBLA notice 18 July 1985 shows this as the Fairways subdivision backing on Beaverbrook between Carr and Tiffany]

1985 Sep 19 *Kanata Standard* pg 9
[garbage collection map shows the drainage ditch coming from the south to the Beaver Pond]



1985 Dec 5 *Kanata Standard* pg 1
Campeau wins concessions on Marchwood-Lakeside
... owns 1,445.36 acres [= 584.912 hectares]

1985 [Floodplain Mapping] by A. J. Robinson & Associates referenced in Shirley‟s Brook Watts Creek Subwatershed Study Sep 1999
3.8.8 Floodplain Mapping
“Floodplain mapping delineating the 100 year regulatory floodplain along portions of Shirley‟s Brook and Kizell Drain have been prepared in 1985 by the MVCA (A.J. Robinson & Associates, 1985) as well as Watts Creek (Chrysler & Lathem Ltd).
The mapping extends along Shirley‟s Brook from upstream of Goulbourn Forced Road to the outlet into the Ottawa River; **Kizell Drain from upstream of the Beaver Pond to its confluence with Watts Creek**;

1986 Mar 20 *Kanata Standard* pg 1
M-L plan given approval
The Ontario Municipal Board accepted a plan agreed to by all the parties involved with small modifications
... plan agreed to by Campeau Corporation and the City of Kanata on Dec 19, 1985
... provides for an estimated population of between 23-30,000
... Campeau is expected to have its concept plan for the development of the area ready for Mar 31

1986 May 29 *Kanata Standard* pg 8

A number of residents in the Coady Way and Varley Drive areas near the golf course experienced basement flooding last week after the heavy rains.

There may be some problem with the size or installation of the **drain behind the Beaverbrook Mansions**. However, from my limited observation of the situation I suspect basement flooding was due to the fact that the golf course storm water runoff has not been adequately controlled and that the drains are not large enough to handle the outflow. Prior to the installation of services by Campeau for the new Fairways and Marchwood homes, this **runoff water was carried by the ditch along Beaverbrook Road past the Riding Club stables and thence to the Kizell Drain near the outlet of the Beaver Pond**

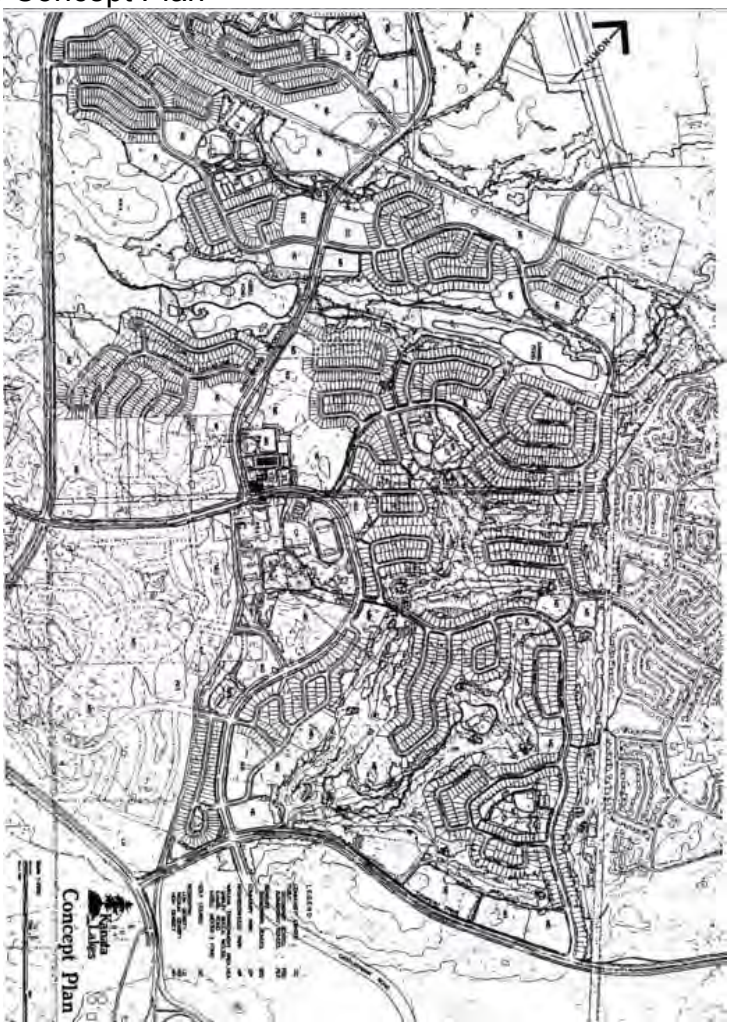
Until this storm water drainage problem is diagnosed and corrected, residents in the affected areas face the risk of repeated flooding after heavy rains and spring thaws. City engineering staff are working on this problem

1988 *Kanata Kourier Standard* 14 Nov 2003

The golf course that was described in the agreement has been built, some of the land has been developed, and an error was discovered in the description, leading to a **revised agreement in 1988 that also provided for the dredging of the Beaver Pond for use for stormwater management**

1988 *Official Plan, Zoning and Draft Plan of Subdivision – 300 Goulbourn Forced Road and 535 Goulbourn Forced Road. Report to Planning and Environment Committee and Council 13 Apr 2004*

1988 Concept Plan



1988 Feb 3 *Conservation Authorities Act R.R.O. 1990, Reg. 159, Sched. 11 Amended to O. Reg. 153/06 FILL, CONSTRUCTION AND ALTERATION TO WATERWAYS — THE MISSISSIPPI VALLEY*

Note: This Regulation was revoked on May 4, 2006.
See: O. Reg. 153/06, s. 13.
SCHEDULE 11 KIZELL DRAIN
That part of the watershed of the Kizell Drain extending from its headwaters in the City of Kanata to its mouth at Watts Creek in the City of Nepean in The Regional Municipality of Ottawa-Carleton affecting the lots described below as delineated by the fill line on **maps filed in the Regional Office of the Ministry of Natural Resources at Kemptville,**

Ontario as Map Nos. 1 to 10, and identified by a stamp of the Registrar of Regulations dated the 3rd day of February, 1988.

1. In the City of Kanata in The Regional Municipality of Ottawa-Carleton.

Concession		Lot
II	(March)	parts of 7
III	(M)	parts of 4 to 7 inclusive
IV	(M)	parts of 5 to 7 inclusive

2. In the City of Nepean in The Regional Municipality of Ottawa-Carleton.

Concession	Lot
A	parts of 1, 2 and 3
I	parts of 1, 2 and 3

1988 Dec 20 The 40 % Agreement Amendment between Campeau Corporation and the City of Kanata

... the agreement dated the 26th day of May, 1981 ... was registered against title to the lands ... on the 8th day of January, 1982 ...

AND WHEREAS lands in excess of the lands intended by the parties to be governed by the Forty Percent Agreement were include in the Original Lands due to unavailability of precise legal descriptions; ...

AND WHEREAS Campeau and the City have agreed that the Forty Percent Agreement should now only apply to the lands described in Schedule “A” hereto (the “Current Lands”); ...

AND WHEREAS the City, by Council Resolution has approved a concept plan submitted by Campeau ...

NOW Therefor ... the City and Campeau agree as follows:

1. Effective as of the date of execution hereof, the Forty Percent Agreement and this Agreement shall apply only to the Current Lands

2. Except as may be otherwise agreed pursuant to the subdivision approval process for the Current Lands, the Current Lands shall be developed in accordance with the Concept Plan, (including without limitation the 18 hole golf course, **stormwater management** and parks) and the land dedication and designation requirements of the Forty Percent Agreement and this Agreement shall be fulfilled in respect of the Current Lands in accordance with the Concept Plan

3. ... (the Excess Lands) the parties agree that Campeau has dedicated or designated or, in a separate subdivision agreement with the City agreed to dedicate or designate, open space lands as set out in Schedule “B” to this Agreement ...

[? did this include stormwater]

4. Of the Current Lands, the City agrees that the open space dedications and designations located approximately on the Concept Plan and as outlined by acreage on Schedule “C” annexed to this Agreement satisfy

the remaining open space obligations contained in the Forty Percent Agreement

[Note: changes were made to the Concept Plan]

6. Campeau agrees to complete the following works on the Current Lands:

(a) as part of Phase 1 as defined by the Official Plan for the Marchwood/Lakeside Community, **Kanata Pond Storm Water Management Works** as shown on Oliver, Mangione, McCalla & Associates Limited Drawing Nos: 84-4286-SPI, 84-4286-1 to 84-4286-11 inclusive, 84-4286-S1 and 84-4286-S2, 84-4286-D1 to 84-4286-D5 inclusive;

[Note: CCL 1994 report pg 9 has Fig 3 Beaver Pond with "reference OMM Feb 1987 Drawing 86-5143-SP1";

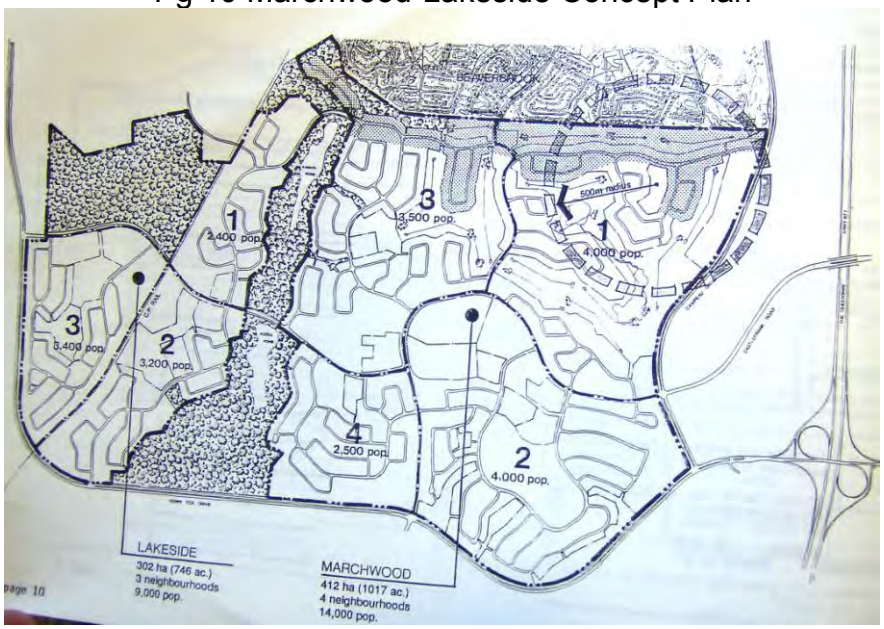
[Note: this drawing is not what currently exists]

(b) dredging of the Kanata Pond from its easterly end to Line 4 approximately; provided that Campeau may at its discretion dredge the pond to the Goulbourn Forced Road as shown on Drawing No. 84-4286-D6

[Note: this agreement is only for the Kanata Pond, not the Kizell Wetlands; no map was attached]

1989 Jul 4 *Open Space Master Plan Marchwood-Lakeside* by Torrance & Wright

Pg 10 Marchwood-Lakeside Concept Plan



[KNL"s Phase 5 development is Area 4 Marchwood;
Phase 9 development is Area 1 Lakeside
Kizell Wetland is between Area 2 Lakeside and 4 Marchwood
Beaver Pond is between Areas 1 Lakeside and 3 Marchwood]

Pg 60 Park 14 Existing Conditions [= Beaver Pond]

Size: park site **24.0 hectares** (59.3) acres

Type: Natural Environment Area

Current status:

Woods and marshland

Recent construction of man-made lake at east end along with adjacent roads and houses (1988)

Existing facilities:

Man-made lake and drainage structures

Established footpaths along each side of marsh

Existing Access

500 metre frontage on Walden Drive and Park 13

200 metre frontage on Goulbourn Forced Road and Park 15

Vegetation

60% tree cover

30% marshland [calculates as 7.2 ha]

Topography

Long east-west basin with standing water rising to high rocky ridge along north boundary. South edge is lower and wetter

Constraints

Site has large area of wet, non-traversible terrain

Pg 98 Park 14 Development Plan

Concept

The eastern end of Park 14 has recently been subjected to much construction activity. **What was once a beaver pond is now a man-made lake and forms part of a large stormwater management scheme**. **The new lake features boulders around its banks for erosion control. Water levels are controlled by wiers and large inflow and outflow structures.** The lake will be used for canoeing and boating activities in the summer and skating during the winter.

Much of the land surrounding the lake has been greatly disturbed by the construction activity. Care should be taken to ensure that the existing stands of forest to the north along Walden Drive are protected.

The development plan calls for much of the western end of the park to be preserved as it is. There are existing trails running along both sides of the park, which may be developed as paved recreational paths or as wood chip nature trails. A boardwalk has also been proposed to give access across the swamp and to provide interpretive opportunities.

It is anticipated that the development scheduled to occur around the park will have a high impact on its natural state. Measures should be taken to assure that existing woods are protected, particularly those on the north side of the site which are of high quality.

1980's late *Kanata Lakes, Beaver Pond Urban Stormwater Quality Control* by CCL 16 Nov 1994 Pg 2
Approximately one third of the proposed **dredging works** was implemented in the late 1980's

1990 Apr *Kanata Lakes Dam and Outlet Structure Operation & Maintenance Manual* by Oliver Mangione McCalla
[referenced in MOE Certificate of Approval issued 26 Nov 2008]

1990 Mar 7 *Kanata Standard* Pg 2
Genstar wants to put Kanata Lakes on regional map
... advertising campaign this spring
... 1200 acres community
Genstar‟s role as a land banker is to provide roads and services ... before selling its 5,500 individual lots to home builders
... now have a 9-hole golf course ... nine holes under construction ... will be green by fall
... first ads ... last January ... announcing the grand opening of Shaughnessy Village, Genstar‟s first subdivision in Kanata Lakes since purchasing the community from Campeau Corporation a year ago

1990 May 2 *Kanata Standard* Pg 19
... last week‟s meeting ... Jack Stirling, general manager of Genstar, presented a proposed new concept plan for Kanata Lakes

1990 May 9 *Kanata Standard* Pg 25
The community association has been working with Genstar to deal with concerns of the residents.
Last week, residents of Zokol Crescent met with Jack Stirling and Doug Smeathers of Genstar to discuss their concerns regarding the **ditches behind their houses** ... staff ... City Engineering Dept attended

1990 Jun 14 *Kanata Standard* Pg 16
Beaverpond Park Natural habitat for birds, Canada geese and beaver
... was home to at least one beaver this spring
It provided many amusing moments as it swam about entertaining onlookers from **shore**

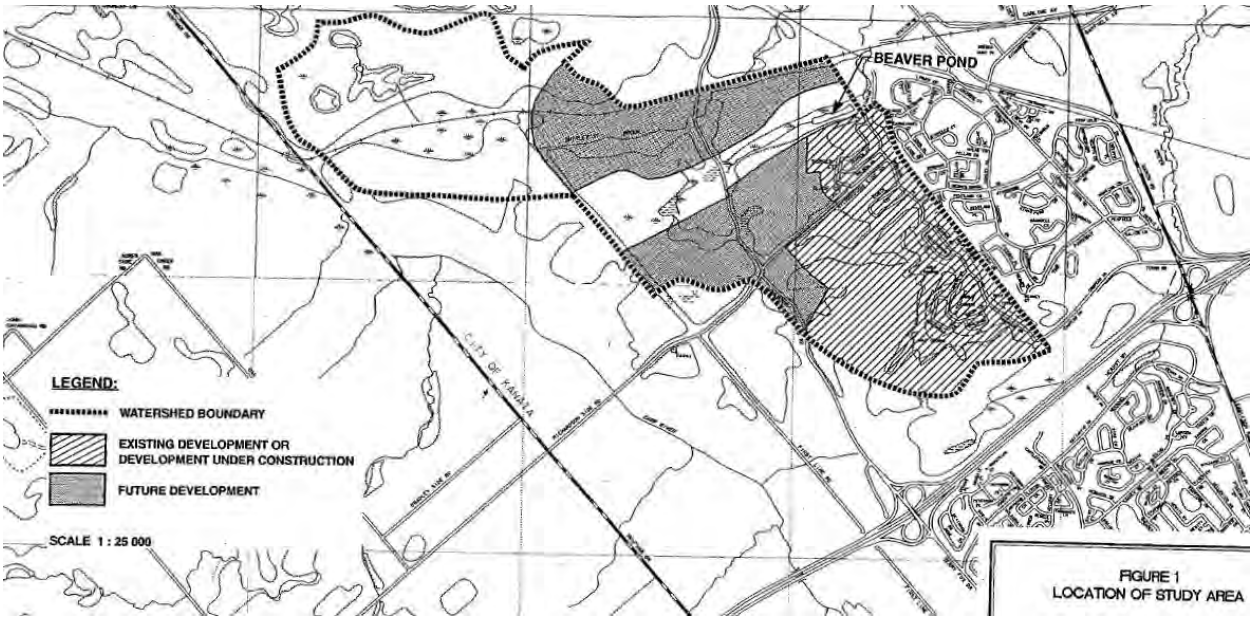
1990 Jun 21 *Kanata Standard* Pg 2
New name unacceptable: residents want Beaver Pond
Genstar Development Company‟s **decision to rename the Beaver Pond Lake Kanata** has left a bad taste in some resident‟s mouths.
... a new sign ... recently appeared identifying the pond as the Lake Kanata Recreation Site

... Jack Stirling of Genstar ... The name Lake Kanata was chosen “to reflect the community and the image we"re trying to portray out there”
“We"ve been using the name Lake Kanata in our marketing material”
Merle Nicholds, president of the Kanata Lakes Community Association, said she knew there had been some “strong feeling about the name change.” Because people have long identified the **lake** as the Beaver Pond
Ian Cumming, President of the Beaverbrook Community Association ... if people in his community were given a choice about what to call the **lake**. “they would prefer the name Beaver Pond”

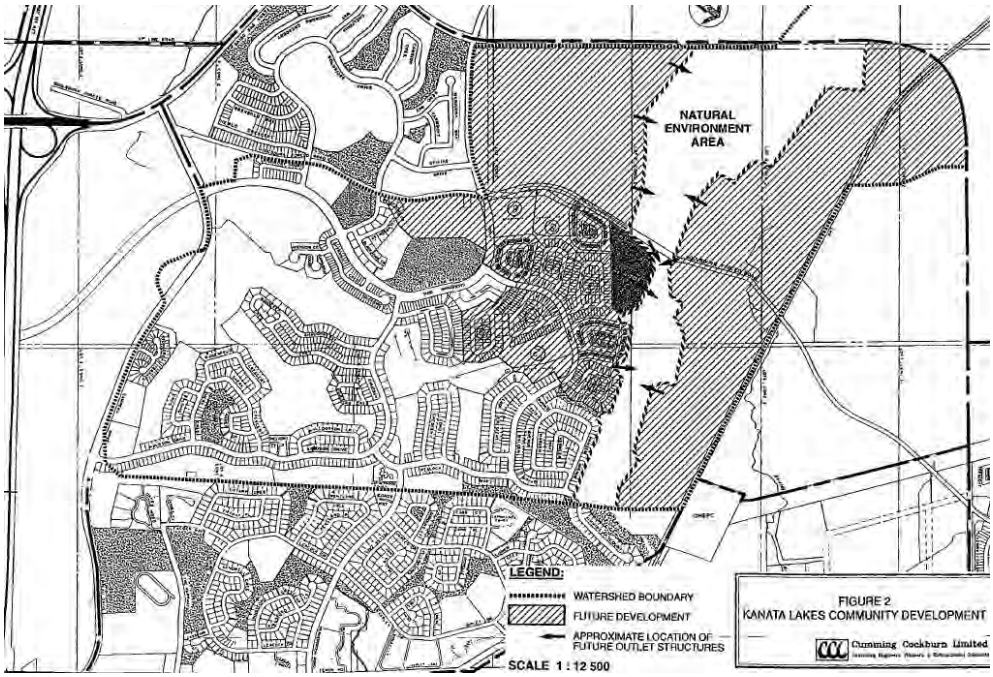
1990 Dec 12 Kanata Official Plan
Section 7 Municipal Services
7.1.11 Storm Water Management
Regional Council Deferral 9, December 12, 1990
Storm water management systems shall be designed and constructed to accommodate the 100 year storm standard. The developer shall be responsible for construction of any required storm water management system to the standard specified in the subdivision agreement. The works associated with the storm water management system shall be transferred to the City after Council has given its acceptance
7.1.12 Kanata Pond
Kanata Pond shall function as one of the major storm water management facilities required for Marchwood-Lakeside. Before the required **engineering work on Kanata Pond** can be initiated, the boundaries of the Natural Environment Area lands encircling Kanata Pond shall be defined on the Concept Plan and agreed to by the developer and Council. The subdivision agreement shall identify any environmental measures necessary to manage the inflow of pollutants into the Natural Environment Area and provide that the appropriate signs shall be posted by the developer to inform the residents of their nature and that swimming will not be permitted for health reasons
[Note: this only refers to Kanata Pond, not the Kizell Wetlands]

1994 Nov 16 *Kanata Lakes, Beaver Pond, Urban Stormwater Quality Contro*l by CCL
Pg 1 ... utilization of the Beaver Pond in Kizell Drain as a **flood control facility**
Pg 2 ... dredging ... late 1980s ... total volume of the created permanent pool is approximately 50,000 m3 at water surface elevation of 90.55mm
Pg 3 ... presently the urbanized portion of the watershed is about 220 hectares which represents approximately 30 percent of the total tributary area to the Beaver Pond. It is anticipated that the **urban area will increase in the future to about 420 hectares**

Pg 4 ... storm sewer outlets will be located adjacent to the free water surface of the pond ... each ... will be provided with a sediment forebay and energy dissipator ... The sediment forebays will be separated from the Beaver Pond by a permeable berm. This will serve as an energy dissipator
[existing forebay with 2700 mm inlet has no apparent berm]
In this particular case the required permanent pool volume would be equal to only 90 m3/ha x 420 = **37,800 m3. This suggests that no further dredging of the Beaver pond is required and therefore it is not recommended**
Pg 5 In summary, the above discussed analysis indicates that the Beaver Pond with a combination of the existing outlet structure and sediment forebays proposed at each sewer outlet would meet the MNR‟s general guidelines for the treatment of the urban runoff and the proposed system would ultimately accommodate approximately 420 hectares of development
Pg 7 [map of study area includes Shirley‟s Brook]

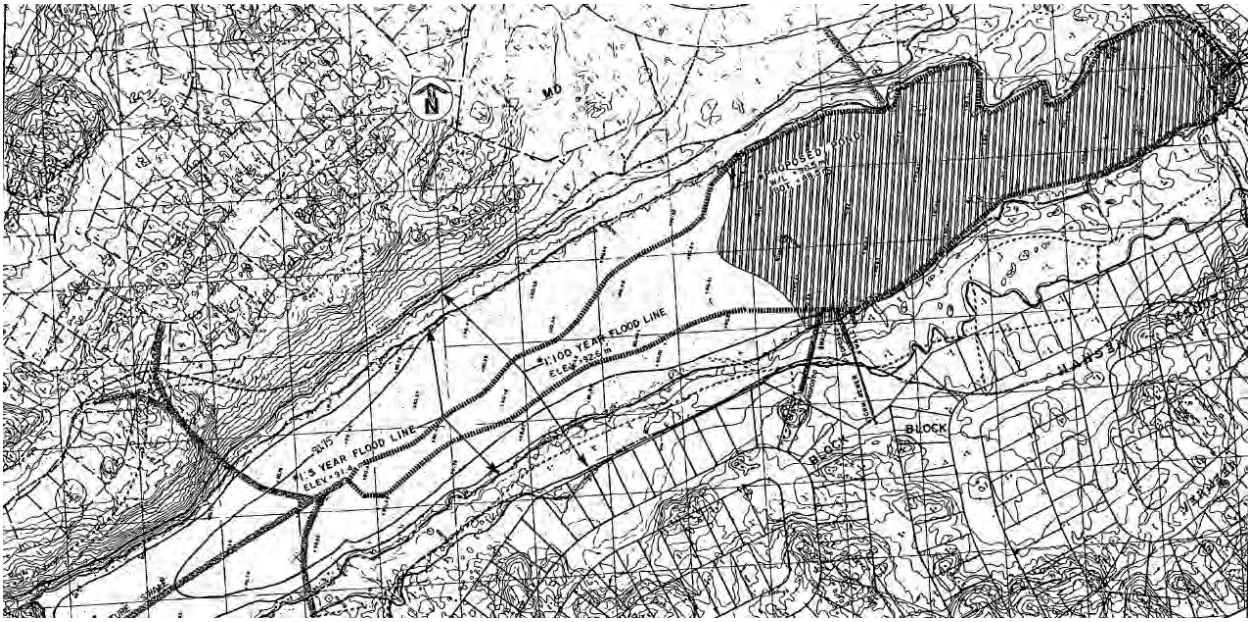


Pg 8



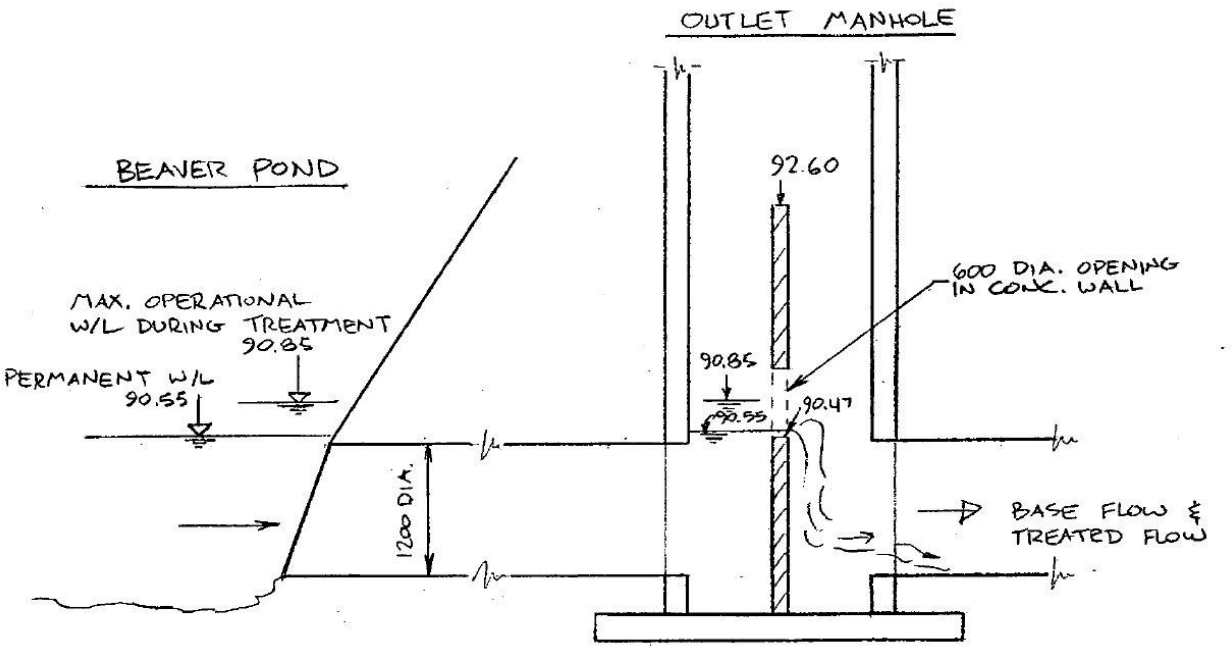
[Note: has 9 future outlets, including 2 for GFR drainage and one for the Kanata Rockeries, which exist now; the watershed boundary doesn‟t agree with SBWCSS or CRWSS]

Pg 9 [map is from a Feb 1987 OMM drawing and shows the dredged portion – this does not agree with what exists]



[Note: has no storm sewer at southeast end; proposed storm sewer at southwest of the dredged part was not built here; proposed swale at southwest of the dredged part was not built at this angle; proposed pond water level 90.5 bottom 88.5; map reference OMM Feb 1987 Drawing 86-5143-SP1]

Pg 10



1994 Nov 16 *Terry Fox Drive Extension (TFDE) ESR* by Dillon Oct 2000 page 8
[quotes the **1994** CCL report but these statements do not appear in the 16 Nov 1994 version – is there another version?]
Beaver Pond (Kizell Drain)
The Beaver Pond **functions as a stormwater quality control facility** for the Kanata lakes community
Broadleaf cattails were abundant at the north end of the pond ... The eastern side was lined with armourstone
Recent dredging and the creation of a sediment forebay have improved the water quality of the pond. However, ... field investigations occurred immediately following heavy rain, and therefore, the water was quite turbid. An unnamed wetland located at Goulbourn Forced Road, upstream of the Beaver Pond was also observed but access was not possible because of deep muck around the periphery.

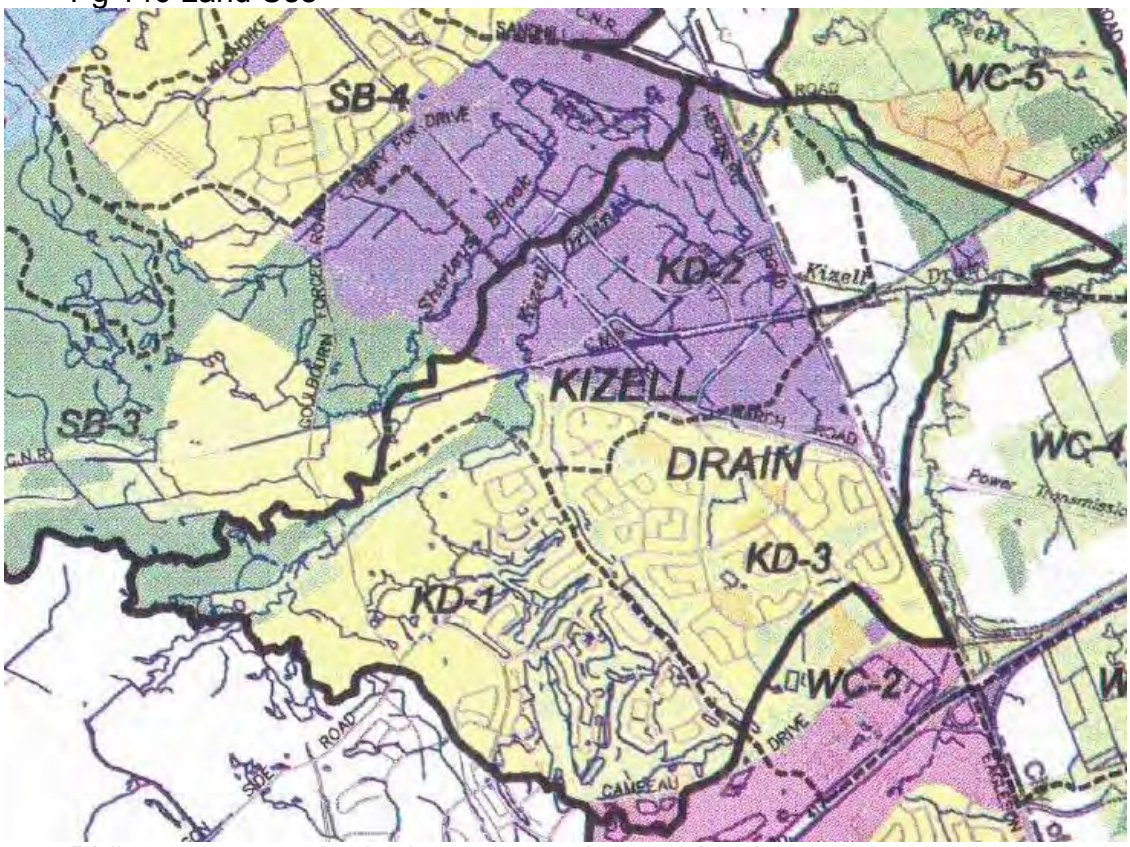
1994 Dec 5 MNR *Southern Ontario Wetland Evaluation, Data and Scoring Record* Mar 1993 signed 5 Dec 1994
[identifies the Kizell Drain Wetland Complex size as being 22.0 ha, a difference of 1.83 ha from May 2008]

1995 Mar 24 *Kanata Kourier Standard*
[poem] Giselle Bracucl Walking to the Beaver Pond
“Here is the **lake**

Still frozen and lonely...

1999 Aug 31 http://dcnonl.com/csp/15057
Kanata Lakes Phase IV - **Walden Ridge and Walden Drive**.
This is to certify that the contract for the following improvement: Rock Blasting Lot Grading, Watermains, **Storm and Sanitary Sewers** and Base Course Asphalt.
To the above premises was substantially performed on: August 31, 1999.
Date Certificate Signed: November 17, 1999.
Name of Owner: **Imasco Enterprises Inc**., c/o Genstar Development Company.

1999 Sep *Shirley's Brook Watt Creek Subwatershed Study (SBWSS)* by Dillon Sep 1999
Map KD-1 343 ha
[does not include much of the land north of the Beaver Pond; not referenced in MOE Certificate of Approval dated 26 Nov 2008; SBWBSS analysis was done only from the outlet of the Beaver Pond, not inside KD-1]
Pg 146 Land Use



[Yellow represents urbanized areas, green the natural environment areas
Goulbourn Forced Road starts just under the label KD-1]

Pg 235
It is expected that this next level of planning and design occur at or close to a catchment area level of detail. As it is likely that any one catchment area will involve more than one landowner, it is anticipated that collaboration will be required among developers in preparing a Stormwater Management Plan. Further details regarding expectations in developing the stormwater management plan for proposed developments are presented in Section 8.3.3"
Pg 284
Concurrent with the preparation of individual Storm Water Management Plans is the preparation of an erosion and sedimentation control strategy for the construction phase of each development. Any site specific erosion problems should be identified in the storm water management report, together with appropriate remedial works. Appendix I of this Report presents and describes several suitable measures which can be drawn from to formulate a control plan.
As part of the Environmental Management Plan and Servicing study, the consultant shall provide information on existing environmental conditions and **prepare constraint mapping to delineate the Regulatory Flood Plain,** valley slopes, land uses, hydrologic features, vegetation communities, habitat linkages and aquatic conditions
Pg 247
It is expected that the implementation of the Subwatershed Plan will extend over a number of years and in many respects **needs to be viewed as an ongoing long-term initiative. This includes regular updating of the Subwatershed Plan to ensure that it remains relevant"**
Pg 259
Initiative #4 – Revise/Update and Extend Flood Mapping
Recognizing the most recent changes in the subwatersheds, the MVCA is to embark on a program to update the floodplain mapping.
Additional floodplain mapping should be prepared for the upper reaches of the Shirley's Brook tributaries (i.e. 1 and 2) to identify potential flooding hazards upstream of March Road.
Action: Update and extend floodplain mapping for both Shirley's Brook and Watts Creek
Pg 265
Monitoring includes both seasonal, *annual* or long-term assessments as well as periodic re-evaluations of the overall Subwatershed Plan

2000 Jan 31 http://dcnonl.com/csp/17095
Kenins Crescent, Kanata Lakes Contract I - Parts A, B, C and D, Contract III, Parts A, B, C & D, Contract IV, Contract VI, Part A.

This is to certify that the contract for the following improvement: Blasting of basements, construction of storm & sanitary sewers, watermains, roads (base course asphalt) and utilities.
To the above premises was substantially performed on: January 31, 2000
Date Certificate Signed: February 9, 2000
Name of Owner: **Imasco Enterprises Inc**. (Genstar Development Company)

2000 Sep 19 *City of Kanata Minutes, Regular Council Meeting*
8. 179-09-00 Imasco Enterprises Inc., Subdivision Application, **Part Lot 6, Con. 2** (March Twp) North of Castlefrank Road, West of Walden Drive Extension and East of Goulbourn Forced Road, Marchwood Community Mr. Wayne Morris gave a presentation and was available to answer questions on this report. There were several **speakers from the public** on this item which included Mr. Chris Teron from **Teron Inc**. who presented a proposed amendment to the recommendations, Mr. Ray Watkins from **Genstar Developments** and Mr. Ted Phillips on behalf of **Richcraft and Urbandale ...**
MOVED by Mayor Nicholds TO EXTEND CARRIED
That the Draft Plan of subdivision filed by Mr. Don Kennedy on behalf of Imasco Enterprises Inc., Provincial File No. 06T-00005, for the creation of 143 lots and 8 blocks over Part of Lot 6, Concession 2, (March) within the Marchwood Community be approved subject to following conditions:
General Draft Plan Conditions:
29. That the Owner acknowledges and agrees to construct, at its sole cost and expense, Castlefrank Road, from the intersection of Walden Drive at the westerly limit of Plan 4M-741 to the intersection of the Goulbourn Forced Road ...
30. The Owner agrees to register the road allowance for entire Castlefrank Road at the time that Leverton Road within the abutting Plan of Subdivision is approved for registration. The Owner agrees to construct Castlefrank Road at the time that any development occurs within Block 151 or at such time as the abutting school site, being Block 2 on Plan 4M-917 is developed which ever occurs first or at any time that the Owner is directed to construct the road by Council.
31. That the Owner acknowledges and agrees to **pay 50% of the costs to construct the Goulbourn Forced Road**, commonly called the future Goulbourn Road, from Castlefrank Road to the north western limit of the Draft Plan of Subdivision ...
32. That the Owner acknowledges that as the future Goulbourn Road is a roadway that is to be developed in conjunction with the adjacent land owners, the Owner agrees to develop the roadway in conjunction with the adjacent land owners at a time which will be to the sole discretion and satisfaction of the City.
36. That the Owner shall, at it‟s sole cost and expense, prepare to the

satisfaction of the City of Kanata, the ROC, and the MVC, a **Storm Water Site Management Report** for the subject lands. The City of Kanata and the ROC will not approve the MOE sewer application until such time as the report has been submitted and approved. The report shall detail the storm water management requirements that are to be undertaken within the development, to provide any required control measures to prevent adverse effects on the environment, on any private properties and on any existing municipal infrastructure from Storm Water runoff from both the minor and major rainfall events throughout the development of the subdivision lands. Any changes to the design, of the Subdivision that are required due to requirements for control measures shall be undertaken at the Owner"s sole cost and expense.

44.That the Owner agrees to convey, at no cost to the City, all easements, reserves, road widenings, open space, pathway and park land blocks that are required at the discretion and satisfaction of the City, specifically:

I) Block 144 as a 6.0m Pathway Block;

II) Blocks 145 and 148 as 10.0m Pathway Blocks;

III) Block 149 as a 15.0m Pathway Block;

IV) A new 15.0m pathway block from Street No.1 to Castlefrank Road;

V) Block 146 and a **new Beaver Pond block (NEA area) as Park and Open Space**; and

VI) Block 152, 153 and 154 as a road widenings.

45. That the Owner acknowledges that at the time that the construction of Goulbourn Road is required, the Owner agrees to pay half of all legal and survey costs for the closure of the existing Goulbourn Forced Road and transference of the respective closed portions of the road to the Owner and abutting land owners.

46. That the Owner **agrees to provide at no cost or expense to the City an Open Space Block from the northern property line of the Draft Plan of Subdivision in the vicinity of Lots 134 and 135 and Block 144 to the northern limit of the lands described as the Natural Environment Area Park 14 within the Marchwood-Lakeside Open Space Master Plan and more commonly known as the "Beaver Pond"** and bounded by the Goulbourn Forced Road to the west and Block 43, Plan 4M-1051 to the east at the time of the first registration of a Plan of Subdivision.

47. That the Owner agrees not to sell or develop Lots 42 to 47 that back onto the existing Goulbourn Forced Road until such time as the final configuration of the future Goulbourn Road is determined and all land exchanges have occurred between the City and the Owner in order to extend the lots so that they back onto the future Goulbourn Road allowance to the satisfaction of the City.

CARRIED

[there is no mention of the 40% agreement]

2000 Sep 20 *Kanata Standard* 21 Sep 2000

"Urbandale and Richcraft struck a deal yesterday to buy 800 acres of prime residential land in the heart of Kanata Lakes ... expected 2,500 to 3,000 homes and 8,400 new residents within the decade

... will more than double the current size of Kanata Lakes which now has 2,400 homes strung around the 18-hole golf course

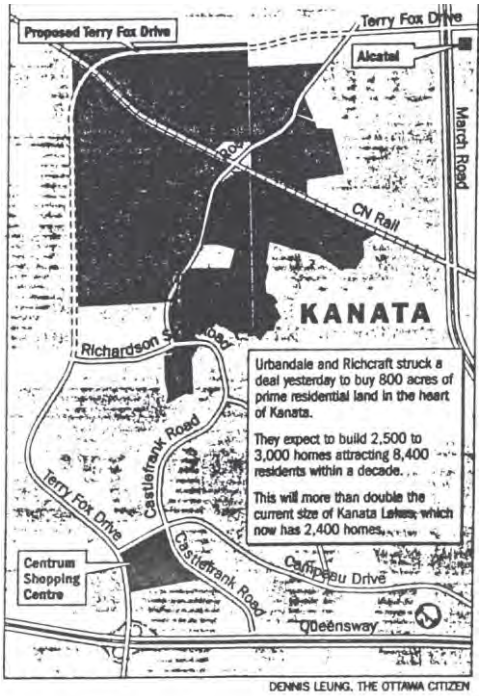
Preliminary plans call for 600 of the 800 acres to be devoted to homes, with the remaining lands reserved as wetlands, forests and walkways

[800 acres = 323.748 ha; 600 acres = 242.811 ha; difference 200 acres = 80.937 ha]

The two **will also sell land to Cardel ... Earlier this summer, Cardel had only a few lots left in its Kanata Lakes community of $500,000 homes in Walden Ridge**

[this is the Cecil Walden Ridge/Drive area east of The Kanata Rockeries adjacent to the south side of the Beaver Pond]

2000 Sep 21 *Ottawa Citizen*



[note: the Richcraft ½ of KNL"s Phase 5 is not included]

2000 Sep 23 *Kanata Standard?*

earlier this week Urbandale and Richcraft Homes ... bought 800 acres of prime residential land from Genstar in Kanata Lakes. Their major block of land is next door to Bill Teron"s Kanata Rockeries

By 1970, Mr Teron ... left with a hefty buyout and 13 acres of raw, rocky land in the deep depths of Kanata woodland

2000 Oct 4 http://www.environet.ene.gov.on.ca/instruments/7511-4PASYV-14.pdf
Site Location: **Walden Drive**
Lot 6, Concession 2 & 3
Kanata City, Regional Municipality Of Ottawa-Carleton, Ontario
You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:
sanitary and storm sewers to be constructed in the City of Kanata, in the Regional Municipality of Ottawa-Carleton, on **Walden Drive, Street No. 1, Street No. 2** and the easement from Street No.1, all in accordance with the application from **Genstar Development Company Limited**, dated June 6, 2000, including final plans and specifications prepared by Cumming Cockburn Limited, Consulting Engineers.

2001 May 5 *Ottawa Citizen* 5 May 2001
... Teron ... Kanata Rockeries ... has 6 firm deals for customized homes
A little to the east, a **trio of developers** led by Urbandale are watching the changing housing industry, but are still moving forward to build executive homes on the first phase of an expanded Kanata Lakes. Last September, Urbandale, with Richcraft and Cardel Homes, bought 800 acres of prime real estate from Genstar ... The three builders have run into delays to service the first phase ... but plans are going ahead to build a lineup of six upscale model homes by fall.

2001 May 18 http://www.environet.ene.gov.on.ca/instruments/8548-4WMRRB-14.pdf
Site Location: Walden Drive
Lot 6, Concession 2 and 3
Ottawa City, Ontario
You are hereby notified that I have amended Certificate of Approval No. 4305-4PSJNT issued on October 4, 2000 for sewage works, as follows:
The **name and address of the Company has changed:**
FROM: Genstar Development Company Limited
TO: KNL Developments Inc.
all in accordance with the facsimile, dated May 11, 2001 and attachments from André Lambert, P. Eng., Construction Manager, Urbandale Corporation, and facsimile, dated May 15, 2001 and attachment from Ray Watkins, on behalf of Genstar Development Company Ltd.
This Notice shall constitute part of the approval issued under Certificate of Approval No. 4305-4PSJNT dated October 4, 2000.

2001 Jul 31 http://dcnonl.com/csp/30926
Kanata Lakes Phase IV - **Walden Ridge and Walden Drive (Phase 2)**
Contract III Parts A, B, C, D, Contract IV Contract VI Parts A & B
This is to certify that the contract for the following improvement: **Rock Blasting, Lot Grading,** Watermains, **Storm and Sanitary Sewers** and Base Course Asphalt

To the above premises was substantially performed on: July 31, 2001
Date Certificate Signed: November 13, 2001
Name of Owner: Genstar Development Company

2001 Aug 29 http://dcnonl.com/csp/28434
Kanata Lakes - **Walden Drive** - Contracts I - Parts A, B, C & D Contract II, Contract III - Parts A, B, C & D, Contract IV, Contract VI - Parts A & B
This is to certify that the contract for the following improvement: Construct **storm and sanitary sewers**, watermains house services, roads to base course asphalt and utility plant
To the above premises was substantially performed on: July 31, 2001
Date Certificate Signed: August 29, 2001
Name of Owner: Genstar Development Company

2001 Aug 31 http://dcnonl.com/csp/30740
Kanata Lakes - **Charlesworth Lane** and **Witherspoon Crescent**, Contract I - Base Course Asphalt
This is to certify that the contract for the following improvement: Construct Roads to base course **asphalt** on the above streets
To the above premises was substantially performed on: August 31, 2001
Date Certificate Signed: November 19, 2001
Name of Owner: KNL Developments Inc.
Address for Service: c/o Urbandale Corporation

2001 Aug 31 http://dcnonl.com/csp/28720
Kanata Lakes - **Charlesworth Lane** and **Witherspoon Crescent**, Contract I - Parts A, B, C & D, Contract II, Contract III, Parts A, B, C & D
This is to certify that the contract for the following improvement: **Rock Blasting Site Grading and Granular Fill,** Construction of **storm and sanitary sewers**, service connections and watermains
To the above premises was substantially performed on: August 31, 2001
Date Certificate Signed: September 7, 2001
Name of Owner: KNL Developments Inc.
Address for Service: c/o Urbandale Corporation

[Note: the energy dissipator at the bottom of the path from Charlesworth would have been built around this time]

2001 Nov 16 http://www.environet.ene.gov.on.ca/instruments/0101-544SKW-14.pdf
Site Location: Block 76, 4M-1135
Kanata Lakes Subdivision
Lot 6, Concessions 2 and 3
Ottawa City, Regional Municipality Of Ottawa-Carleton, Ontario
You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

Sanitary sewers to be constructed in the Kanata Lake Subdivision, within Block 76 on Plan of Subdivision 4M-1135, City of Ottawa, **within the existing Goulbourn Forced Road** (future Goulbourn Road), all in accordance with the application from KNL Development Inc., dated August 2, 2001, including final plans and specifications prepared by Cumming Cockburn Limited, Consulting Engineers.

2002 City of Ottawa eMAP
[shows the Beaver Pond stormwater structures]

[The Pond with a storm inlet on the south side and riprap around the edges. The small white square at the east end is an access structure to a culvert which is just below the angled path at the east end. This outlet culvert goes under Walden Drive and flows to the culvert (the white rectangle at the top right, west of the second house) to Watts Creek which flows north to the railway line. It is possible that the "toe" of the Pond was created to function as a forebay, but there was no sign of a berm to separate it from the main Pond.
The tree clump (yellow/green) at the bottom is in a depressed ponding area and drains via a small CSP culvert into the Pond.
The angle of the inlet culvert is aligned with the area southeast east of Walden and drains the area south of Walden. The area west of Walden was built around 2001, but no MOE Certificate of Approval was located (the earliest in the database is 1999), and the new CofA issued in 2008 does not mention an earlier certificate]

2002 City of Ottawa eMAP

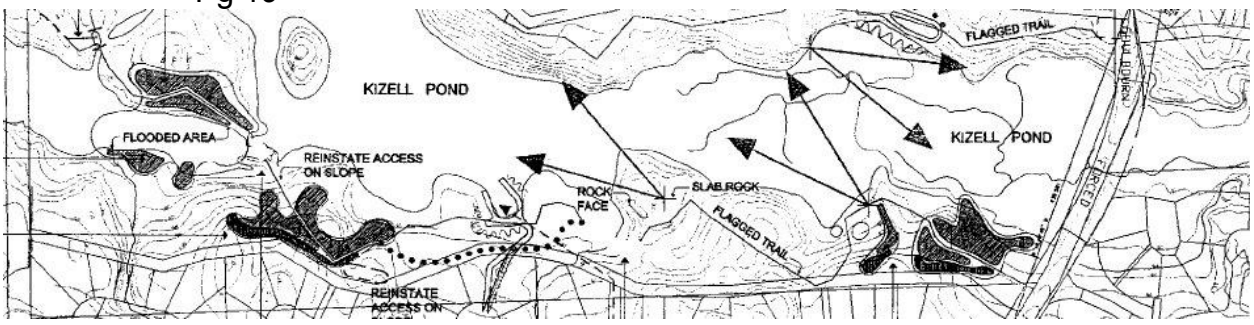
[There are at least 4 private SWMPs in the Rockeries. The Rockeries Parallel Channel, **part of William Teron's canal system**, begins just past the first cluster of old growth trees beside the pathway not far from Goulbourn Forced Road, and seems to end just past where The Rockeries property ends. This parallel channel varies in width with the widest part being about 3 feet, however, there are several pools along it where the width increases to roughly 5 to 8 feet.
One small CSP culvert was located about mid-way which outlets under the pathway into the Beaver Pond]

2002 Mar 27 http://dcnonl.com/csp/34053
Kanata Lakes - Trunk Sanitary Sewer - Beaver Pond - East of Goulbourn Force Road
This is to certify that the contract for the following improvement:
Construction of 525 mm dia. sanitary sewer and site grading
To the above premises was substantially performed on: March 27, 2002
Date Certificate Signed: March 27, 2002
Name of Owner: KNL Developments Incorporated
Address for Service: c/o Urbandale Corporation Limited
[Note: this may be the sewer constructed with the pathway in the Beaver Pond – the manholes covers are dated 2001 and are raised and bolted, with no holes]

2003 Apr Stormwater Site Management Plan and Erosion and Sediment Control Plan. Kanata Lakes North, City of Ottawa by CCL 8pp & append.
Servicing Study, Kanata Lakes North by CCL 3pp & append.
[referenced in Muncaster EIS; not available for review]

2003 Apr *Kanata Lakes North EIS* by Muncaster
Pg 4 ... area approximately 225 hectares
The lands west of Goulbourn Forced Road extend to the south to abut the Richcraft lands currently under review by the City
... also includes a former school block south of the Beaver Pond
Pg 5 [Note: shows Beaver Pond size and shape]

Pg 11 Blanding's turtle was observed in Kizell Pond during the 2002 field surveys and was reported by Brunton (2001) in the ponds along the First Line Road allowance
Pg 14 [identifies the Beaver Pond as fish habitat]
Pg 17 Stormwater Management
All minor system (storm sewers) for the study area drain into the Kizell and Beaver Ponds, as outlined in the recent servicing studies and 1984 Master Drainage Plan ...
[Note: the June 2006 Serviceability Study maps and models indicate that considerable amounts of major system flow will also be draining to this area]
A minimum of three storm outlets are proposed ... it is not necessary to construct full sediment bays for each outlet ... proposed to construct energy dissipaters
... adjacent development retaining walls and slope terracing ...
Pg 19

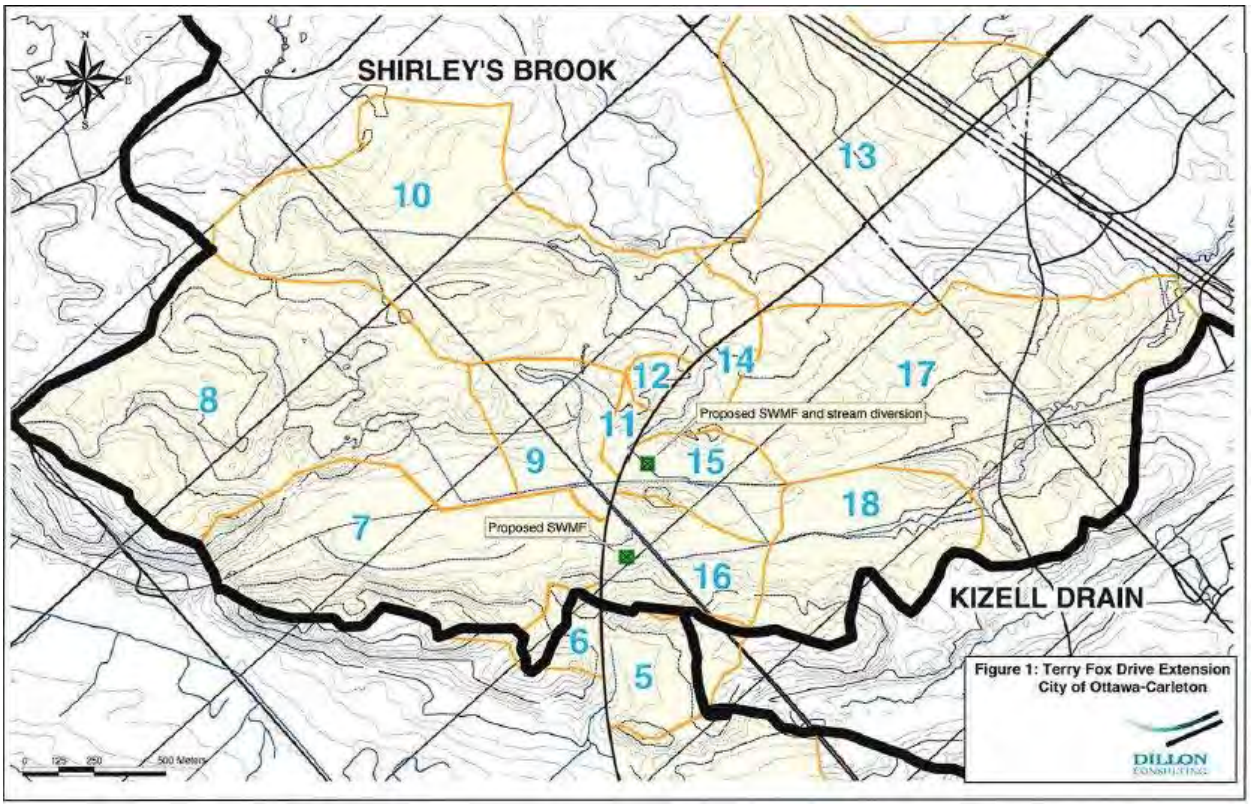


Pg 21 5.3 Servicing and Stormwater Requirement
... 3 stormwater outlets (total) will be constructed at the outer edges of the wetland areas associated with the Beaver and Kizell Ponds

Pg 29 Flows entering the energy dissipator will be the first flush flow up to the 25mm rainfall design flow. The balance of the storm flows will be diverted to an overflow channel

2003 May *OMB Decision/Order 2514 PL040841* 26 Sep 2005
Pg 5 ... applications to finalize the development plan for the land were submitted to the City of Ottawa in April 2003
City of Ottawa Council designated the Full Land Parcel in May 2003 following the amalgamation of the City of Kanata ...

2003 May *Position Paper, Shirley's Brook TFDE and Kanata Lakes North Drainage and Alignment* report by Dillon
Pg 12 3.3 Kanata Lakes North Stormwater Management
Much of the stormwater drainage from Kanata lakes North (Phase 1, 2, and 3), which comprises all or part of basins 15, 16, 17 and 18 on Figure 1, is presently being proposed to drain into Kizell Drain (a catchment within Watts Creek), as detailed in the Marchwood Lakeside Master Drainage Plan (Cumming Cockburn Limited, 1984).



Pg 12

Table 3-2 - Approximate Drainage Areas Contributing Flow to Kizell Drain (estimated by superimposing Figure 1 over Figure 4 from CCL 2002)

Development	DA[1]	Area[2]	%[3]	Subtotal
Phase 2	S-13	30.4	100%	30.4
	S-12	23.4	80%	18.7
	S-11	21.4	70%	15.0
Phase 3		68.2	100%	68.2
Phase 4	S-31	7.0	0%	0.00
	S-32	9.5	50%	4.75
	S-33	13.2	10%	1.32
	S-34	10.2	100%	10.2
	S-35	5.7	90%	5.13
Total Area draining to Outlet #1 and #2				**154 ha**

[1]drainage area number
[2]drainage area in hectares
[3]percent of area within Shirley's Brook

[Note: It is difficult to determine what the drainage area would be due to the use of different numbers for phases and areas. Given that the paper stated that "Phase 1, 2, and 3, which comprises all or part of basins 15, 16, 17 and 18 on Figure 1", at least 132.3 additional hectares, which is the subtotal for Phases 2 and 3 would drain to the Kizell Wetlands]

2003 Aug 16 *Ottawa Citizen* 16 Aug 2003
[Teron to move to Kanata Rockeries in 6 weeks]
... kept 15 acres of **lakefront property**, and now it"s divided into 20 estate lots

2003Sep 27 *Ottawa Citizen* 27 Sep 2003
... Teron ... is in the final stretch of building his own home surrounded by rock, trees and **extended canals** running off beaver ponds on the edge of Kanata Lakes

2004 Mar 31 *City of Ottawa Capital works-in-progress as of Mar 31, 2004*
902379 Kizell Pond Park Kanata budget 25,000 unspent 25,000
Developer obligation
902378 Beaverpond Park budget 25,000 actual 17,956
unspent 7,044
Under construction

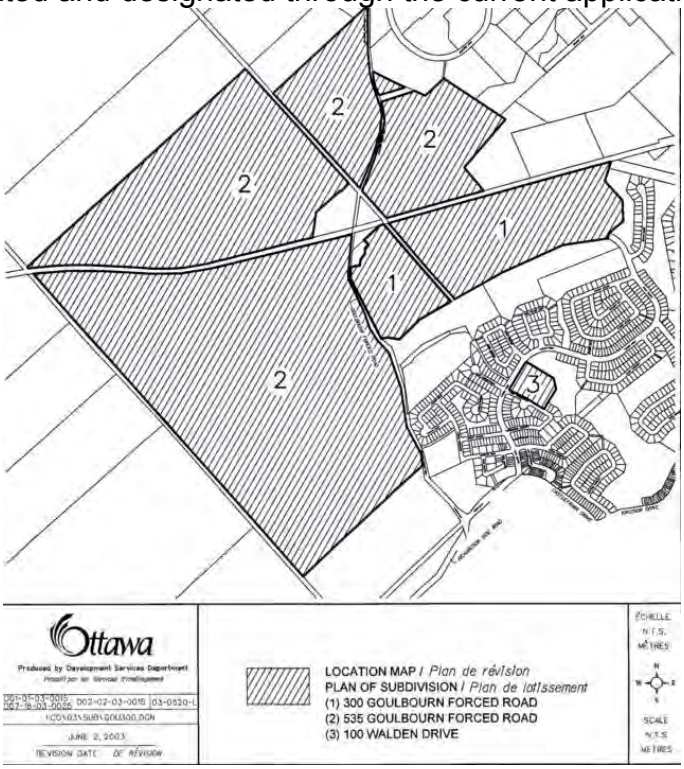
2004 Apr 13 *Official Plan, Zoning and Draft Plan of Subdivision – 300 Goulbourn Forced Road and 535 Goulbourn Forced Road. Report to Planning and Environment Committee and Council 13 Apr 2004*

The applications propose the layout of the remaining undeveloped land within the Marchwood-Lakeside Community, covering an area of approximately 269 hectares

The lands were designated for urban development by order of the Ontario Municipal Board in January, 1983

Based on a total land area of 566.5 hectares, the 40% agreement requires that a total of 226.6 hectares be allocated as “Open Space”.

To date, a Surveyor‟s Certificate certifies that 119.08 hectares of land have already been provided under the 40% agreement through registration of previous subdivisions, leaving 107.55 hectares to be dedicated and designated through the current applications.



[note: does not include the Richcraft ½ of KNL Phase 5]

DRAFT OFFICIAL PLAN AMENDMENT Document 3

Official Plan Amendment To the official plan of the former City of Kanata

The existing designations were set on the basis of a 1987 Concept Plan for the development of the Marchwood-Lakeside Community

CONSULTATION DETAILS; QUESTIONS AND ANWERS Document 6

Filling in of Kizell Pond

Planning Policy

Kizell Pond is designated in all Official Plans as a natural environment area worthy of protection. In the former Kanata Official Plan, Kizell Pond

is defined as part of the larger ecosystem of the Kanata Pond/Kizell Creek Drainage Area. It is designated Environmental Protection Area.
Policy 5.3.5.3 of the former Kanata Official Plan states:
—The Kanata Pond shall provide the focal point for the Lakeside Community. It shall be used as a recreation area and storm water management pond. It shall provide one part of the buffer between the two communities and shall be an important focal point for the total development area. The pond shall have both landscaped and natural edges linked by the sidewalk/pathway system. In accordance with Section 6.2 hereof, a Park Development Plan shall be prepared for the Kanata Pond area".
The preservation of Kizell Pond is consistent with all natural environment policies in the three effective Official Plans.
Mississippi Valley Conservation has taken the following position with respect to Kizell Pond:
"Approximately 200 metres upstream of Goulbourn Forced Road is within the fill regulated area of Kizell Drain under Ontario Regulation 159/90 (Fill, Construction and alteration to Waterways). Therefore, in addition to any approval from the City of Ottawa or any other agencies, a permit would be required from MVC before this filling could occur. Staff of MVC would not be in favour of this proposal. Our policies generally do not support the filling of natural riverine wetland areas. Among other functions, this wetland area temporarily stores water that then contributes to the base flow of Kizell Drain in dryer periods. Substantial sections of Shirley"s Brook dry up in the summer months. In comparison to Shirley"s Brook, Kizell Drain has a much steadier base flow due to the mitigative effects of the Beaver Pond and the upstream wetlands. Therefore, filling in these wetlands would have impacts for all of the Kizell Drain downstream of Goulbourn Forced Road. This area would also represent local fish habitat."
MVC further states:
"The area around Kizell Pond has been designated as a natural area (NEA in the Region"s Official Plan and Urban Natural Feature in the new City of Ottawa Plan) in various planning documents for almost 10 years. MVC believes this is an appropriate designation for this area."
For these reasons, it is inappropriate for the City to endorse filling in this natural feature. It is appropriate to preserve the environmental integrity and fish habitat of the pond as much as possible.

Servicing Limitations

The filling of Kizell Pond does not appear feasible from a stormwater perspective. Kizell Pond area is a designated storm water storage area for major storm events. This was identified in the Master Drainage Plan prepared for Kanata Lakes and is a basic assumption that has been incorporated into all the storm sewer construction completed to date. This use directly conflicts with any proposal to develop the Kizell Pond and

would require an alternative storage area for this storm water. There is no alternative storage area for stormwater for the entire drainage area as well as the “new” development area. This is a problem that will not easily be resolved given the significant increase in elevation of the surrounding area.

The western limit of the KNL ownership is also very close to the split in watersheds between the Kizell Drain and Carp River. The low lands to the west of Kizell Pond are not available as an alternative stormwater outlet as it would mean diverting drainage from one watershed to another.

Diversion of flows from one watershed to another is generally discouraged because of its negative environmental impacts on both watersheds. **This is reinforced in the Council approved *Shirley’s Brook/Watts Creek Subwatershed Study* which recommends that no diversion of drainage can be undertaken as it would have negative impacts on base flow and fisheries within Shirley’s Brook.**

Economic

The Kizell Pond area has been identified as an area to be left undeveloped since the original concept plan was prepared for Kanata Lakes in the 1980s and existing infrastructure has not been designed to support the development of this area. In order to develop Kizell Pond, environmental impacts aside, it would be necessary to remove the organic material from the pond area and fill the entire area with engineered fill above the 1:100 year flood levels of Kizell Pond. It would be cost prohibitive to develop this area in this manner.

An assessment was undertaken by a professional engineer to evaluate the cost of developing the south side of Kizell Pond. The lands under consideration covered an area of 7 hectares, with 950 metres of frontage along the south side of Kizell Pond. Cross sections of grade differences were provided. The depth of peat is estimated to be between 2 and 6 metres.

The report concludes that in order to build up to the extended limit of Kizell Pond, a five-metre high retaining wall would be required as well as approximately 100 cubic metres of engineered fill per lineal metre Costs would be incurred to remove and dispose of the peat and to dewater the excavation. Construction of the retaining wall and its required footings will add to the costs associated with developing Kizell Pond. In addition, the **sanitary sewer would need to be lowered** and the pedestrian pathway that is to run around the perimeter of Kizell Pond would be relocated, requiring the removal of peat and replacement with granular material. The costs for these works are estimated as follows:

Engineered fill	$4,750,000
Retaining wall	$2,375,000
Retaining wall footings	$ 950,000
Sanitary sewer overdepth	$ 190,000
Pathway base	$ 475,000

Total $8,740,000

The Engineering report concludes that based on additional development costs well in excess of $8 million, it is not feasible to develop this 7 hectare parcel of land. The aesthetics of a 5 metre high retaining wall is of concern to both the developer and City staff.

Q. How large an area is required for Kizell Pond to accommodate its stormwater management function?

A. From an environmental perspective, the wetland feature and functions would benefit from sustaining current volumes. Kizell Pond will be used as a stormwater management system, meaning the current hydrologic regime of the wetland will have both on-site and off-site benefits. Maintaining water volume within the wetland will improve the wetland‟s ability to remove impurities from the water. This wetland is the headwaters to Kizell Drain/Watts Creek. Maintaining the wetland and its hydrologic function will help to ensure that there is no negative impact on baseflow and subsequently aquatic habitat downstream. Wetlands have the ability to store water and slowly release it during dry periods when baseflow is very low. This helps to sustain fisheries within the watercourse during summer dry periods.

The actual **surface area required for the pond** depends on the total storage volume required. Preliminary modeling of the storm system has suggests that the **100 year storm elevation of the pond will follow the 94.3m contour interval**. This may change as the design evolves. Draft Plan conditions of subdivision approval will require that a final stormwater management plan be approved prior to registration of this phase of the subdivision.

CONDITIONS OF DRAFT PLAN OF SUBDIVISION APPROVAL

Document 7 File: D07-16-03-0025

CONDITIONS FOR FINAL APPROVAL, KNL DEVELOPMENTS LTD. LAKESIDE SUBDIVISION

Storm Water Management

55. Prior to commencement of construction, the Owner shall provide all Storm Water reports that may be required by the City for approval. The **reports shall be in accordance with the approved *Shirley's Brook and Watts Creek Subwatershed Study* prepared by Dillon Consulting and the *Carp River Subwatershed Study*,** as the study(ies) pertains to this subdivision and all City or Provincial standards, specifications and guidelines. The reports shall include but are not limited to, the provision of erosion and sedimentation control measures, implementation or phasing requirements, all storm water management measures have been constructed to the satisfaction of the City

56. The Owner agrees that the commencement of construction of any phase of this subdivision will not occur until such time as the storm water management facilities required for this subdivision **in accordance with the approved *Shirley's Brook Watt's Creek Subwatershed Study and***

Carp River Subwatershed Study **has been designed** and construction has been initiated in accordance with all municipal and agency requirements

57. Prior to the commencement of construction of any phase of this subdivision (roads, utilities, any off site work, etc.) the Owner shall:

1. Have an Erosion and Sediment Control Plan prepared by a Professional Engineer in accordance with Current Best Management Practices,
2. Have such a plan approved by the City of Ottawa, and provide certification to the City of Ottawa through a Professional Engineer that the plan has been implemented.

58. The Owner agrees that the storm water outlets to be contained within Blocks 447 (Beaver Pond) and 503 (Kizell Pond) shall be designed and constructed to ensure a minimal amount of disturbance to the wetlands as possible. The mitigation measures should be clearly documented in the Storm water Site Management Plan prepared for the subdivision

59. The Owner agrees that on completion of all storm water works, the Owner shall provide certification to the City of Ottawa through a Professional Engineer that all measures have been implemented in conformity with the Storm Water Management Plan.

OFFICIAL PLAN, ZONING AND DRAFT PLAN OF SUBDIVISION - 300 GOULBOURN FORCED ROAD AND 535 GOULBOURN FORCED ROAD ACS2004-DEV-APR-0054

Marianne Wilkinson, represented the Kanata Beaverbrook Community Association (KBCA), on behalf of Gordon Henderson (who could not attend).

A small part of Kizell is flood plain and most of the pond has been created by beavers since it flows into the Beaver Pond area. The other half of Kizell flows to Carp. Ms. Wilkinson urged the Committee to look at her suggestions.

Bob Wingate, Servicing Engineer, Cumming Cockburn Ltd (CCL), is the engineer of record since early 1980‟s. Mr. Wingate spoke to municipal servicing. This strategy started in **1984 with the approval of a Master Drainage Plan for all of Kanata Lakes and that plan identified the preferred alternative for stormwater management as the Beaver Pond and Kizell Pond to handle the run off from major storm events**. **Over $1 Million has been spent installing infrastructure, dredging the lower end of the Beaver Pond and putting control structure under Walden Drive.**

Filling along the south side of the Kizell Pond, north side of Phase 2 of the development - There was preliminary analysis since there has **never been any detailed geotechnical information taken on the depth of peat in the Kizell Pond since development had not been anticipated and the Master Drainage Plan attempts to maintain water levels so the natural wetland will remain as is and thrive.** There is peat in the order

of 4m deep and a significant grade change from the development shown in white and the levels of the existing ground along Kizell Pond. That grade change requires more than just sloping roads to make up that difference. The estimate is in excess of $8 Million using 2m of peat as a conservative number. There is also a significant amount of dewatering required. That does not make that proposal viable.
Subsequent to the presentation, the delegation responded to questions posed by the members of the Committee. A number of points of clarification were made and are summarized as follows:

- There will be grade blasting south of the Kizell Pond that removes the extremes from the topography to allow construction with appropriate slopes. There is a cut-fill balance and analysis to determine appropriate elevation to avoid a huge excess of construction material. That is the problem with the northern limit of the Kizell Pond, which would entail considerable excess material.

2004 May 14 *Kanata Kourier Standard*
Committee approves housing development around Beaver Pond
... housing development on 269 hectares of valuable green space

2004 June *Natural Environment Area Boundary in South March Highlands Special Study Area Final Report* by Brunton states:
Pg 46
Blanding's Turtles, considered Regionally Significant in the Region of Ottawa-Carleton in the preliminary list of Brownell & Blaney (1997), were observed basking on a log in a small pond along the First Line Road allowance in the Carp River watershed by the height-of-land with the Watts Creek watershed. This ± 40 m long pond exhibited an unusual diversity of turtles, with Painted, Snapping and Blanding's Turtles all being observed there on different occasions
Pg 17
... Watts Creek headwaters which commence immediately west of the First Line Road ROW in the southern half of the area and flows easterly through Kanata („Kizell Drain")
Pg 19-20
The mature maple swamp forest draining into the Carp River through Lot 7 constituting much of the 14.4 ha „Compensation Lands" area established as part of the mitigation for illegal forest clearing in parts of the KNL lands, is a Locally Significant, Class 4 Evaluated Wetland. This **Kizell Drain Wetland was evaluated as scoring 585 of a the required minimum of 600 points required to be considered a Provincially Significant Wetland** (Ontario 1994; S. Murphy, pers. comm.). **A review of this classification may or may not determine that PSW scores are achieved in this wetland, although it clearly is very closely to**

achieving that status. Protection of Locally Significant Wetlands is stated as a goal in the City of Ottawa‟s Official Plan
Pg 24-25
The KNL residential development area is transected by Kizell Pond Urban Natural Feature along Watts Creek
The KNL development plan dramatically reduces the existing area of ecological connectivity between the SSA and other significant natural areas of the South March Highlands (Brunton 1992a; 1992b; 2000). The remaining UNF west of Goulbourn Forced Road constitutes about 100 ac (40 ha) of upland and wetland habitat (S. Murphy, pers. comm.)”
[Note: If the turtle was found along First Line Road, it would have been in the Kizell Wetlands which extend west of First Line Road before joining the wetlands of the Carp River Watershed]

2005 Feb 25 Draft Plan of Subdivision application Condition 60
The Owner agrees that the commencement of construction of any phase of this subdivision will not occur until such time as the storm water management facilities required for this subdivision **in accordance with the approved Shirley's Brook Watt's Creek Subwatershed Study and Carp River Subwatershed Study has been designed** and construction has been initiated in accordance with all municipal and agency requirements

2005 Mar 1 Notice under Section 5 (37) of the Planning Act, KNL Developments Ltd Draft Plan of Subdivision
Pg 6 As a condition of development approval granted in 1983, the landowner was required to submit a concept plan of the entire development. This concept plan formed the basis of current Kanata Official Plan designations, which were adopted in 1990. The current proposal represents a relatively minor deviation from the 1988 concept plan.
Pg 13 ... the 1990 Kanata Official Plan had not considered the presence of Shirley‟s Brook

2005 Aug 18 *MDS Nordion: Application for the renewal of its Class IB Nuclear Substance Processing Facility Operating License*
http://www.cnsc-ccsn.gc.ca/eng/commission/pdf/2005-08-18-H-Decision-MDSNordion-e.pdf
Pg 19 Nordion plans to use the drainage creek ... to collect contaminated sprinkler water in case there is a fire. This is completely
Pg 20 unacceptable. The creek is called the Kizell Drain and it is an important part of the local watershed. It continues here or at least backwards to the ponds and it continues there to Watts Creek.
... the Kizell Pond ... and the Beaver Pond ... have recently been incorporated into the storm drainage for this new development. Water runoff will be much faster when this area has been paved and if a fire

would coincide with a rain storm, it will be impossible to contain any contaminated water in this part of the creek.
The black areas on the map ... are prone to flooding and you can see that there is some flood problem – potential flood problem in the MDS Nordion area too
Pg 23 An improved contaminated sprinkler water storage must be constructed. In my opinion, underground would be the best but the Kizell Drain cannot be used for this. I would even suggest that the Kizell Drain should be protected from contaminated water flowing into it to protect the watershed and by constructing two walls along the creek, not only would it prevent contaminated water from running into the watershed but it would protect MDS Nordion from flooding in the near future
Pg 26 ... the Kizell Drain area is also a very large basin and **we have the facility to**
Pg 27 **actually plug up the Kizell Drain if it's absolutely necessary**

2005 Sep 26 *OMB Decision/Order 2514 PL040841*
Pg 4 The full parcel of land, acquired by KNL in Sep 2000 and approved for urban development is 1,398.6 acres
... the previous owner of the land, Campeau Corporation, offered that 40 % of the land would be maintained as open space (559.9 acres)
After Campeau‟s and Kanata‟s 1987 plans, Kanata City Council defined the open space dedication requirements to be 557 acres, creating the new 40 % Agreement
Pg 5 ... to date some 440.9 acres have been residentially developed and 294.25 acres have been dedicated under the 40 % Agreement. The remaining 664.7 acres is the subject of the within Applications of which 265.75 acres remains to be dedicated as per the 40 % Agreement

2006 Feb 6 *OMB Decision/Order 0368 PL040841*
http://www.omb.gov.on.ca/e-decisions/pl040841_%230368.pdf
pg 5 Proposed OPA No. 77 to the Kanata Official Plan re-designates parts of the subject lands by shifting the boundaries of the current land-use designations dating back to the 1990 Kanata Official Plan, which were based on a 1987 concept Plan for the development of the Marchwood-Lakeside Community.
The Board finds ... that the Kanata and Regional official plans are superseded by the 2003 Ottawa Official Plan in terms of the :General Urban Area" policies and land use designation by virtue of City Council‟s adoption of OPA No. 28 in July 2005
Pg 6
With respect to the suggestion by the appellants that the Kizell Pond area be reduced, the evidence of Susan Murphy and Bernie Muncaster indicated that the **Mississippi Valley Conservation Authority would not allow Kizell Ponds to be filled in and that as a result of its**

identification as a possible fish habitat, the Federal Department of Fisheries and Oceans regulations would also require that this area be protected. Dredging of the pond is also not an option as it would destroy or lead to the loss of the cattails, which would further reduce the quality of the storm water draining into the pond

2006 Jun *Kanata Lakes North Serviceability Study* by IBI Group
Pg 2 [Table of Contents – does not itemize Kizell Pond]
4.1.3 Beaver Pond - End-of-Pipe Stormwater Management Facility
Pg 4 A total of 225 hectares of developable land is included in the study area
Phase 1 will proceed by extending the sanitary sewer from the recently constructed Beaver Pond trunk sanitary sewer and constructing a **storm outlet into the Kizell Pond.**
In Phase 2 ... Storm drainage is provided in an outlet constructed in the Beaver Pond stormwater management facility.
Pg 6 ... Phase 3 to service Phase 4 while a single **storm outlet will be constructed in the Kizell Pond** to service both Phases.
Pg 7 Phasing Plan [map Phase 1 = KNL Phase 5 including Richcraft; Phase 2 = north of Beaver Pond; Phase 3 = north of Kizell Wetlands; phase 4 = north of railway]
Pg 11 4.0 STORMWATER SYSTEMS
4.1 System Concept
The proposed stormwater system incorporates standard drainage and stormwater management features that can be summarized as follows:
a dual drainage concept on-site detention and **end of pipe stormwater management facility (Beaver Pond)**
[note: Kizell Pond has only storm outlets; only one end-of-pipe facility mentioned]
4.1.2. Major System - Overflow to Shirley's Brook and On-site Detention (Surface Ponding)
It is recommended, where possible, that portions of KNL lands have direct flow conveyance to the realigned Shirley's Brook. The minor flow will be captured by the storm sewers and discharged into the Beaver Pond. The flow split between the major and minor systems will be at 85 l/s/ha.
Pg 12

- The excess of the major flow (not trapped in the low points) will be routed and attenuated in the Beaver Pond and natural water courses (where possible).

With the on-site detention scenario, the majority of the total effective runoff is ultimately conveyed into the minor system, and to the Beaver Pond. This fact dictates that the volume of **the end-of-pipe facility** must also be sized to accommodate the total flow, both major and minor. This rationale was employed to confirm the operation of the Beaver Pond in relation to the surcharge of the proposed sewer system.

4.1.3. Beaver Pond - End-of-Pipe Stormwater Management Facility

The Beaver Pond is located in a ravine surrounding the upstream reaches of the Kizell Drain.

This pond was constructed in the late eighties, in accordance with the approved Master Drainage Plan prepared for Kanata Lakes (then Marchwood Lakeside). A detailed description of this facility is also provided in the report entitled "Kanata Lakes Storm Drainage Report, Campeau Corporation, Oliver Mangione McCalla and Associates Limited, September 1986".

This stormwater management facility was originally designed to satisfy the design criteria in place at the time of construction. These criteria required that the facility be designed to attenuate peak post development flows to peak pre-development levels (provide quantity control). Since the construction of the initial stormwater management pond design criteria has changed to include the requirement to provide water quality control in addition to water quantity control. In 1994, a

pg 13

report was prepared by Cumming Cockburn Limited entitled, "Kanata Lakes, Beaver Pond, Urban Stormwater Quality Control". This report demonstrated that the **Beaver Pond SWM facility** will operate as a quantity/quality facility for all new phases of development with separate connections to the pond, including Kanata Lakes North.

Initial discussions with staff at the City suggest that the City may be interested in upgrading the Beaver Pond facility so it is fully functional as a quantity/quality facility. If the City does proceed with this proposal it **can be carried out as a separate study** with the cost of the works distributed equally over the total urban drainage area tributary to the Beaver Pond Stormwater Management facility, including Kanata Lakes North.

Urbanization of Kanata Lakes North will result in the re-alignment of Shirley's Brook west of Goulbourn Forced Road and the redirection of some pre-development flow from Shirley's Brook

to the Kizell Drain via the Beaver Pond Stormwater Management Facility.

[Note: this is saying the diversion is to the Beaver Pond, not Kizell Wetlands, and Kizell Drain is downstream from the Beaver Pond]

The proposed concept plan recognizes the re-alignment of Shirley's Brook in a corridor which runs approximately parallel to the south side of the existing railway line. This corridor will allow the existing natural flow from the undeveloped tributary area west of Kanata Lakes North to pass through the proposed development in a naturalized channel without being contaminated by the untreated stormwater from the proposed urban area. The uncontaminated flow will re-enter existing Shirley's Brook at Goulbourn Forced Road.

Since the Beaver Pond SWM facility is currently designed to provide both water quality and water quantity control for the Kanata Lakes North lands

the analysis in this study is focused to ensure optimal interaction between the existing facility and the proposed internal dual drainage system in accordance with the required levels of service and stormwater quantity control criteria.
Pg 17
Analysis of the **whole Kanata Lakes North watershed** including the Beaver Pond and upstream Shirley's Brook watershed was based on the 24 hour Type II SCS design storm.
Since approximately half of the development has been constructed, the impact will result in the **re-design of the Beaver Pond outlet** and analysis of the HGL for the existing KNL area.
Pg 18
4.3.3 Hvdraulic lnput Parameters
The hydraulic performance of the Beaver Pond was evaluated using the XPSWMM Model. The hydraulic parameters of the Beaver Pond were based on the previous design and updated topographical information. These parameters are related to the hydraulic characteristics of the outlet structure, the stage/storage curve of the facility and the water surface boundary condition in the outlet channel. For this analysis, the water level in the outlet channel was set to a constant value equal to the normal depth during the **100** year peak release flow rate
Pg 18
The modeling results indicate that during the **1:100** year design storm event the trunk sewers connected into the Beaver Pond are partially submerged to about spring line and the minor system generally operates with full capacity and with no surcharge.
Pg 19
[diagram] Storm Drainage Areas Sep 2002 has] Major system emergency overflow to Goulbourn Forced Road [will flow downhill to the Kizell outlet crossing
No storm sewers shown on Richcraft‟s streets, has 1 stub to Urbandale‟s property; no overland flow arrows on Richcraft lands – will flow be down GFR to the Kizell Outlet crossing?]
Pg 20
In some cases the street low points will not provide the opportunity to store the target 141 m3/ha, which will cause some overflows. In this situation. the dual drainage system should be modeled on a catchment-by-catchment basis to determine the overflow rate. Easements should be designed to accommodate these overflows. It should be noted that the **overflows should be accommodated in the Beaver Pond or natural watercourses for the majority of the site**
4.4 Proposed Minor System (Storm Sewers)
Storm drainage from the Goulbourn Forced Road and a portion of Kanata Avenue have been included in the storm sewer design ...

The sewer trunks were generally designed to operate at full capacity with no surcharge. It is also proposed to maintain the partial submergence of the trunk outlets during the frequent storms to provide energy dissipation during treatment. The outlet manholes should be equipped by a **flow splitter to direct flows up to 25 mm rainfall event into the energy dissipaters and the balance of flow directly to the Beaver Pond.**
Energy dissipaters should be long enough to slow down the velocity of the jet at the edge of the pond to 0.5 mls. Due to the recreational value of the Beaver Pond as a natural area, the **City does not wish to construct forebays to full MOE standards**, but to use energy dissipaters combined with the extensive natural wet area to meet the forebay criteria.
Flows diverted from the energy dissipaters during more infrequent rainfall events over 25 mm will pass through a bypass pipe or channel with erosion protection provided by a splash pad with large rocks. Design and layout of the energy dissipater and bypass channels will incorporate the recreational pathway system.
7.0 CONCLUSIONS AND RECOMMENDATIONS
7.2 Stormwater System
A dual drainage concept of stormwater conveyance with flexibility for future refinement has been defined in this report. The stormwater trunk sewers have been developed to effectively cover the Beaver Pond catchment areas and has been aligned with the sanitary trunks where possible.
Major system flows are evenly routed along streets to discharge points on the Beaver Pond, park areas and other natural drainage features. Routing is respective of the natural topography so that no extreme grading measures are required to efficiently and effectively complete the major system.
Pg 31 [report is not signed by the 3 engineers]
Pg 35 **APPENDIX B**
SWM Design Parameters
Pg 39 [table] Hydrological Parameters, Urban Subwatersheds
[area 1 to 7 = older + adjacent to BP
Areas 1 to 15 subtotal is 552.2 – this is the total in the model
Area 16 240.0 ha – flows into Shirley‟s Brook through KNL lands
This table and the model use different area numbers than the map on pg 139]
Pg 41+ Appendix C SWMM Computer Outputs
Beaver Pond – D/S Cell (max Stage = 92.587)
Beaver Pond – U/S Cell (Max Stage = 94.279)

SWMHYMO printouts
SCS Type II 24 hr 12 minute 100 year storm
Total flow to 2700 mm storm sewer 214.0 ha QPeak 13.163
[= area north of Campeau & Knudson to 2700 mm storm sewer]
Total flow to Beaver Pond 548.3 ha QPeak 45.415
[Note: Difference between SBWCSS and this 548.3 – 343 = 205.3 ha]

2007 Oct *Goulbourn Forced Road Environmental Study Report. Final Report*
Pg 18 Grade separated pedestrian crossing of the pond complex. Consider an option for an enlarged culvert suitable for cyclists, pedestrians (and possibly wild life) at the pond crossing
This option was discussed at the July 4, 2007 Transportation Committee, where it was indicated that the third option (which was described as two culverts – one for hydraulic flow of water and one for pedestrian cyclists‟ wildlife passage) **would drive an increase in the elevation of the centreline profile of GFR and, therefore, would increase the footprint of GFR through the pond and across the front of the Rockeries**, causing property impacts on condominium. **The culvert cannot be enlarged, as strict controls are required on the flow of water between the ponds, and these are maintained by a smaller culvert**. A second multi-purpose culvert beside the pond complex would have to be designed to City of Ottawa design practices – minimum 3m high by 5m wide – to ensure adequate maintenance access and personal security for users. As well, an at-grade pedestrian crossing would have to be maintained for users unwilling to use a pedestrian underpass. Based on this analysis, the two-culvert option was not preferred to the one-culvert option
Pg 47 [diagram]
10+820 Regulatory flood level (Beaver and Kizell Pond) 93.3 m
Pg 48 Hydrological Design Criteria for Pond Complex

Design Element	Design Criteria	Source for Criteria
Upstream cell 100 year water level	94.30	IBI/CCL
Downstream cell 100 year water level	92.60	IBI/CCL
Crest of berm elevation upstream cell	94.10	IBI/CCL
Invert of culvert in upstream cell berm	93.30	IBI/CCL
Approx size of culvert in upstream cell berm	600 mm	IBI/CCL
Peak discharge from upstream cell	6.2 m3/s	IBI/CCL (includes flow over berm and through culvert

Pg 52 6.6.5 Causeway/Culvert Option
Three culvert combinations were examined to convey flows under the proposed causeway. Following are the design parameters that were used to select the three culvert options:

- Peak flow = 7.5 m3/s (100 year flow of 6.2 m3/s plus 20% for blockage);

- Downstream water elevation = 92.60 m (100 year level downstream cell);
- Culvert length = 45 m: and
- Maximum allowable upstream water level = 93.80 m (below upstream cell discharge culvert obvert elevation of 93.90 m and berm elevation of 94.10 m)

There are three culvert combinations that will convey the above flow based on the design criteria:

- Option A - 3000 x 1200 mm box culvert
- Option B – 1800 x 900 mm box culverts
- Option C – 1200 mm CSPs with mitred ends

Figure 14 illustrates the three culvert design options for the causeway/culvert crossing.
There are no differences in the plan and profile implications on GFR associated with these three alternatives; therefore the selection of the preferred culvert configuration could be made during detailed design
[note: These statements disagree with the one on page 18 which says the culvert cannot be enlarged]
Pg [?] Figure 29A [diagram]
Circular culvert 1400 mm
[HGL between 10+800 and 10+840] 93.12 m 95.881 m

2007 Jun 6 *Report to the Transportation Committee - Goulbourn Forced Road (GFR)*
The Culvert Option will remove 0.5 ha of Terrestrial Habitat and 0.7 ha of Wetlands within UNF lands. The areas of loss are considered to be equivalent

2007 Jun 30 *Active List Report City of Ottawa Capital works-in-progress*
902379 Kizell Pond Park Kanata budget 25,000 unspent 25,000
[Note: also appears in 31 Aug 2006 and 31 Mar 2007 reports]

2007 Aug 9 http://www.environet.ene.gov.on.ca/instruments/7083-75UP9V-14.pdf
Site Location: **Castlefrank Subdivision**
1495 Richardson Side Rd, Part of Lot 5 & 6, Concession 2, and part of the road allowance between Lots 5 and 6, Concession 4, Geographic Township of March, now in the City of Ottawa (Ward 4 Kanata)
You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:
storm and sanitary sewers to be constructed in the City of Ottawa on **Kilmar Crescent, Akenhead Crescent, Keyrock Drive, Remnor Avenue, Badgeley Avenue, Brunskill Avenue, Fletcher Circle, Torbec Avenue**, Blocks 200, 205, 211 and 230;
all in accordance with the application from Richcraft Homes Ltd., dated May 24, 2007, including final plans and specifications prepared by Stantec Consulting Ltd..

[Note: This is the south ½ of KNL‟s Phase 5 west of GFR. This area was not in the Kanata Lakes Concept Plan of 1988. It may not have been included in the 2003 Report. The recent 467 TFD development application consistently refers to the 2 developments as being separate. KNL and Richcraft had different consultants for Phase 5]

2007 Sep 18 http://www.environet.ene.gov.on.ca/instruments/7677-772NMQ-14.pdf
Site Location: Kanata Lakes Subdivision
Part of 2 and 3, Concessions 2 and 3, Township of March, now Ward 4 Coty of Ottawa
You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:
storm and sanitary sewers to be constructed on **Keyrock Drive, Laughlin Circle, Panisset Avenue, Katnick Way, Miro Drive, Doyon Avenue, Lamontagne Court, Overend Crescent, Ottenbrite Crescent, Keora Circle, Goulbourn Forced Road,**
Blocks 255, 278, 288, 290 and 291, in the City of Ottawa;
all in accordance with the application from KNL Developments Inc., dated July 16, 2007, including final plans and specifications prepared by IBI Group.
[Note: this is Urbandale‟s ½ of the Phase 5 development. The concessions are incorrect; this was revoked]

2007 Oct 31 http://dcnonl.com/csp/86810
Kanata Lakes North - (KNL5) **Keyrock Drive**
This is to certify that the contract for the following improvement: **Clearing and Grubbing**
To the above premises was substantially performed on: October 31, 2007
Date Certificate Signed: November 7, 2007
Name of Owner: KNL Developments Incorporated

2008 Jan 30 http://dcnonl.com/csp/90000
Castlefrank Subdivision - Phase 1, Site Service; Stantec Contract No. 06-00124-01
To the above premises was substantially performed on: January 30, 2008
Date Certificate Signed: February 7, 2008
Name of Owner: Richcraft Homes

2008 May 28 MNR Letter
[The loss of wetland size is documented in the MNR letter which cites the April 2008 SOLARIS satellite mapping results for Kizell Drain Wetland Complex as having decreased by 7.7% from 21.85 ha (Jan 2008) to 20.17 ha (May 2008)]

2008 Jun 11 Ottawa City Council Meeting Minutes
http://ottawa.ca/calendar/ottawa/citycouncil/occ/2008/06-11/minutes38.htm
2008- 236 A by-law of the City of Ottawa to designate 1495 Richardson Side Road, as being exempt from Part Lot Control. CARRIED

2008 Aug 28 [Note: this is the only one which had conditions]
http://www.environet.ene.gov.on.ca/instruments/6383-7E9PP7-14.pdf
Site Location: Kanata Lakes Subdivision - Phase 5
Former Township of March
Lot 2 and 3, Concession 2 and 3 [Note: error in concession #]
Ottawa City,
You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:
- ***storm*** and ***sanitary sewers*** to be constructed on **Keyrock Drive, Laughlin Circle, Panisset Avenue, Katnick Way, Miro Drive, Doyon Avenue, Mancuso Court formerly Lamontagne Court, Nettleship Court formerly Overend Crescent, Ottenbrite Crescent, Tischart Crescent formerly Keora Circle, Goulbourn Forced Road**, Blocks 255, 240 formerly 278, 249 formerly 288, 251 formerly 290 and 252 formerly 291, as part of Kanata Lakes Subdivision Phase 5 in the City of Ottawa;
all in accordance with the following:
1. Application from KNL Developments Inc., dated July 16, 2007, including final plans and specifications prepared by IBI Group; and
2. Application dated April 30, 2008 and received May 02, 2008, including final plans and specifications prepared by IBI Group, Ontario.
TERMS AND CONDITIONS
1. GENERAL CONDITIONS
1.1 The *Owner* shall ensure that any person authorized to carry out work on or operate any aspect of the *Works* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
1.2 Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Certificate*, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this *Certificate*.
1.3 Where there is a conflict between a provision of any submitted document referred to in this *Certificate* and the Conditions of this *Certificate*, the Conditions in this *Certificate* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
1.4 Where there is a conflict between the listed submitted documents, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

1.5 The requirements of this *Certificate* are severable. If any requirement of this *Certificate*, or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to other circumstances and the remainder of this *Certificate* shall not be affected thereby.

2. EXPIRY OF APPROVAL

2.1 The approval issued by this *Certificate* will cease to apply to those parts of the *Works* which have not been constructed within five (5) years of the date of this *Certificate*.

3. OPERATION

3.1 **The *Owner* shall direct the sewage from the *Works* to a stormwater management facility that has a valid Certificate of Approval issued under Section 53 of the *Ontario Water Resources Act.***

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the *Works* are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the *Certificate* and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this *Certificate* the existence of this *Certificate*.

2. Condition 2 is included to ensure that, when the *Works* are constructed, the *Works* will meet the standards that apply at the time of construction to ensure the ongoing protection of the environment.

3. **Condition 3 is included to ensure that, the receiving stormwater management facility is adequately designed to handle the sewage from the *Works* and has a valid approval.**

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 6453-775SBH issued on September 18, 2007.

31 Oct 2008 http://www.dailycommercialnews.com/csp/96802

Kanata Lakes North, KNL 5, Keyrock Drive, Nettleship Court, Mancuso Court, Katnick Way, Tischart Crescent, Doyon Avenue, Miro Way, Energy Dissipater Phase 1 Parts A, B, C, D, E, F, G & H

This is to certify that the contract for the following improvement: Supply and Place Watermains, Storm and Sanitary Sewers, House Services, Roads to Granular Base, Energy Dissipater, Site Grading and Blasting

To the above premises was substantially performed on: October 31, 2008

Date Certificate Signed: November 6, 2008

Name of Owner: KNL Developments

[Note: the Energy Dissipator was approved one month after it was completed]

2008 Nov 26 MOE Certificate of Approval (C of A)
http://www.environet.ene.gov.on.ca/instruments/5246-7KNNBN-14.pdf
Site Location: Kanata Lakes Stormwater Management Facility
Kizell Cell
a stormwater management wet pond, located west of Goulbourn Forced Road, having a minimum liquid retention volume of approximately 10,271 cubic metres at an elevation of 93.30 metres, and a maximum active retention volume of approximately 89,825 cubic metres at an elevation of 94.28 metres for the 100 year storm event, complete with two **(2) energy dissipaters** at the storm inlets to the cell, and one (1) outlet berm, discharging at a controlled flow rate of 1.16 cubic metres per second for the 100 year storm event to the downstream Beaver Cell
Beaver Cell
a stormwater management wet pond, located east of Goulbourn Forced Road, having a minimum liquid retention volume of approximately 41,042 cubic metres at an elevation of 90.47 metres, and a maximum active volume of approximately 236,696 cubic metres at an elevation of 92.60 metres for the 100 year storm event, complete with three (3) storm inlets to the cell, two (2) with energy dissipaters, and one (1) outlet structure consists of a 600 millimetre diameter orifice at an invert elevation of 90.47 metres and an overflow weir set at an invert elevation of 92.60 metres, discharging at a controlled flow rate of 0.96 cubic metre per second for the 100 year storm event via an 80 metre long 1200 millimetre diameter culvert to Kizell Drain
[Note: no previous C of A mentioned; Phase 5 is being implemented without construction to meet these specifications; older storm outlets are not mentioned and have no apparent approval]

2008 Nov 30 http://dcnonl.com/csp/98656
Kanata Lakes North - KNL 5, Construction of Asphalt works
This is to certify that the contract for the following improvement: Supply and Place Base Court **Asphalt** at the following Locations: **Keyrock Drive, Nettleship Court, Mancuso Court, Tischart Crescent, Katnick Way, Doyon Avenue and Miro Way**
To the above premises was substantially performed on: November 30, 2008
Date Certificate Signed: December 17, 2008
Name of Owner: KNL Developments

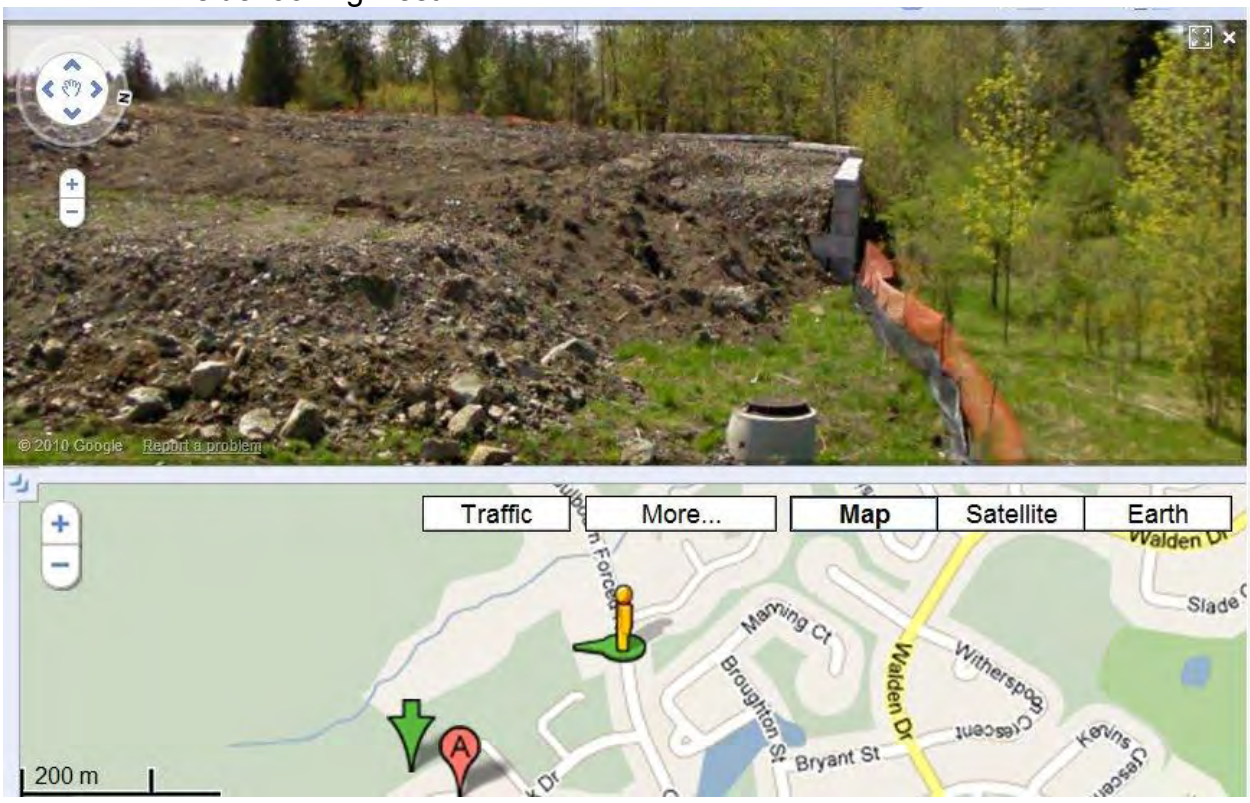
2008 Nov 30 http://dcnonl.com/csp/98610
Castlefrank Subdivision - Phase 2
This is to certify that the contract for the following improvement: Castlefrank Subdivision - Phase 2, Site Services; Stantec Contract No. 06-00124-01

To the above premises was substantially performed on: November 30, 2008
Date Certificate Signed: December 12, 2008
Name of Owner: Richcraft Homes

2008 Dec 17 http://www.dailycommercialnews.com/csp/98656
Kanata Lakes North - KNL 5, Construction of Asphalt works
This is to certify that the contract for the following improvement: Supply and Place Base Court **Asphalt** at the following Locations: **Keyrock Drive, Nettleship Court, Mancuso Court, Tischart Crescent, Katnick Way, Doyon Avenue and Miro Way**
To the above premises was substantially performed on: November 30, 2008
Date Certificate Signed: December 17, 2008
Name of Owner: KNL Developments

2009 *Public Meeting re KNL Phase 9* 15 July 2010 pg 5
http://www.mariannewilkinson.com/media.php?mid=571
Draft Plan Approval extended for KNL lands
Phase 5 subdivision registered

2009 Spring Google Streetview – Goulbourn Forced Road at Kizell Wetlands south side looking west



2009 May 31 http://dcnonl.com/csp/103015
Kanata Lakes North - KNL 5
Laughlin Circle, Panisset Avenue, Ottenbrite Crescent, Phase 2 - Parts A, B, C, D, E, F & H
This is to certify that the contract for the following improvement: Supply and Place Watermains, Storm and Sanitary Sewers, House Services, Roads to Granular Base, Site Grading and Blasting
To the above premises was substantially performed on: May 31, 2009
Date Certificate Signed: June 11, 2009
Name of Owner: KNL Developments

2009 Jun 30 http://dcnonl.com/csp/103751
Kanata Lakes North - KNL 5
Construction of Asphalt Works
This is to certify that the contract for the following improvement: Supply and place base course **asphalt** at the following locations: **Ottenbrite Crescent, Laughlin Circle and Panisset Avenue**
To the above premises was substantially performed on: June 30, 2009
Date Certificate Signed: July 7, 2009
Name of Owner: KNL Developments

2009 Jul 24 Beaver Pond overflowed the pathway and damaged the sidewalks in the 24 July 2009 rain event

2009 Dec 10 MOE Certificate of Approval (C of A)
http://www.environet.ene.gov.on.ca/instruments/1249-7Y6R93-14.pdf
Site Location: **Goulbourn Forced Road (between Kanata Avenue and Keyrock Drive) and Kanata Avenue (between Richardson Side Road and Keyrock Drive)**
City of Ottawa
You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:
storm sewers to be constructed in the City of Ottawa, **on Goulbourn Forced Road and Kanata Avenue**; all in accordance with the application from the City of Ottawa, dated November 20, 2009, including final plans and specifications prepared by Robinson Consultants.

2010 Beaver Pond was observed overflowing pathways in the spring, as well as in recent minor storm events

2010 Apr Beaver Pond water level and shores taken from the top of the dam

Source: Jessica Alleyn Facebook Group I Want to Save the Beaver Pond # 110

2010 April **2010 July 15** Public Meeting re KNL Phase 9 15 July 2010 pg 5
http://www.mariannewilkinson.com/media.php?mid=571
Initiation of approvals to register KNL Phase 9

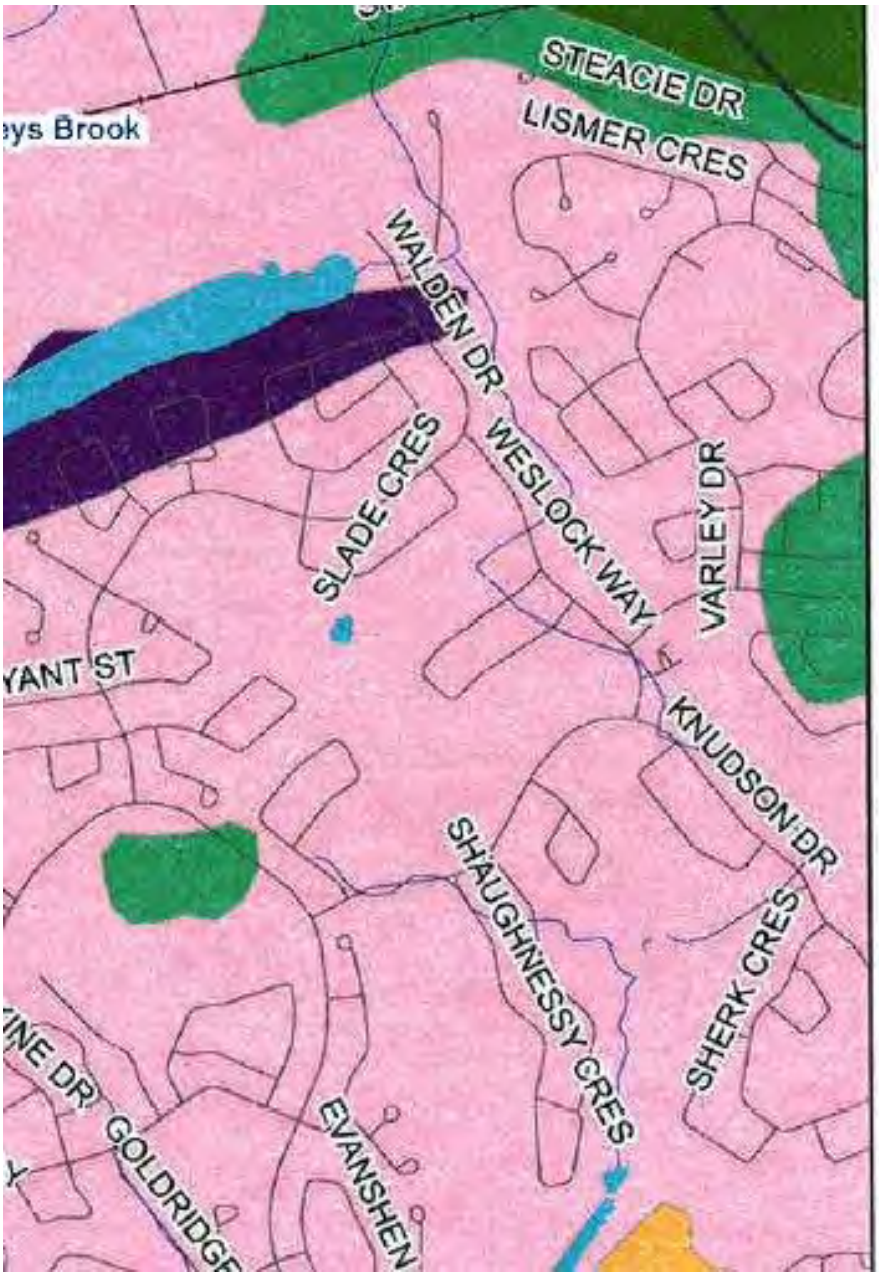
2010 Apr 14 The *Blanding's Turtle Avoidance and Mitigation Plan* by Dillon:
Pg 4
Potential Blanding's turtle habitat in the TFD study area constitutes all major wetland communities within the limits of the South March Highland Candidate ANSI, including the South March PSW Complex and Kizel Drain evaluated, non-provincially significant wetland complex as well as the watercourse and ecological linkages between these significant wetland areas
pg 5
The MNR has recently (March 26, 2010) indicated that the nearby Kizell Drain Wetland Complex is probable habitat for Blanding's turtle
During the initial period of the detailed design stage, **once it was realized that Species at Risk may be encountered in the wetlands, the City eliminated SWM Ponds 4A & 4B to reduce the amount of infrastructure in the wetlands and reduce the likelihood of aggressive flora and fauna from entering the natural habitats.**
The major wetland communities would include the Beaver Pond Wetlands and Beaver Pond, as well as the East and West Shirley‟s Brook watercourses.

2010 Apr 29 *Agreement Under S.23 of O.Reg. 242/08 Made Under the Endangered Species Act 2007 between MNR and the City of Ottawa* for the TFDE
Pg 19 [map from the Kemptville MNR NRVIS database 2010 shows that the Kizell Drain Wetlands Complex has been evaluated a considerable distance west of First Line Road. It also shows that the Beaver Pond and Beaver Pond Wetlands have not been included, as well as an unnamed wetland on the East Shirley‟s Brook branch north of the railway line.

The green lines show evaluated wetlands; the yellow lines show unevaluated wetlands]

2010 May *Kanata North News* by Marianne Wilkinson
... first phase, Kanata Estates, is nearing completion ... north of the Beaver Pond is phase 2
[Kanata Estates, Richcraft land is south of the KNL lands shown on the yet is being included in Phase 5 {west of Goulbourn Forced Road, south of the Kizell wetland]

2010 May 4 TFDE Permit To Take Water
[Note: Watts Creek South Tributary is east and south of the Beaver Pond It was not visible from the intersection of Walden and Kimmins Court as much of the area has been paved. This map on page 73 from the TFDE Permit by Golder shows the path. The tributary was created by Campeau to remove stormwater from the golf course (see earlier references)]



2010 Jun 22 Direction from Planning and Environment Committee (Marianne Wilkinson‟s website)
... public meeting prior to commencing construction of **Phase 6** of the draft approved Plan of Subdivision
[? Should this be Phase 9]

2010 Jul 14 City Council Disposition
[conditions] **SWM Plan consistent with the Subwatershed Study**
CARRIED

2010 July 15 Public Meeting re KNL Phase 9
http://www.mariannewilkinson.com/media.php?mid=571
Pg 6 [map] Draft Plan of Subdivision (Phase 9) [shows full Lakeside development but excludes Richcraft‟s ½ of KNLs Phase 5 development]
Pg 11 [map] Proposed Plan of Subdivision (Phase 9)
[is of the land north of the Beaver Pond, east of Goulbourn Forced Road; Shirley‟s Brook is in the top left hand corner. Most of this land belongs in SB-3 and KD-2]

2010 Jul 29 The following photo shows the existing GFR culvert, which is the main outlet for Kizell Wetland.

The water level was very low on 29 July 2010, however water marks on the insides indicated that the water level would normally be a few inches higher, reducing the culvert‟s capacity for extreme wet weather flow. It is not known whether the culvert was laid flat to be able to use its full capacity. This is an extremely small culvert considering the amount of water upstream, and it drastically restricts the flow between the two wetlands.

There is not much difference between the wetland water levels and the GFR roadway, making it highly possible that Kizell Wetland could overflow the road to the Beaver Wetland, or that the Beaver Pond Wetland could backflow to the Kizell Wetland.

This photo shows the 29 July 2010 water level in the Kizell Wetland in comparison to the GFR road level, and also the amount of open water in Kizell Wetland..

2010 Aug 13 Email reply from Guy Bourgon to Marianne Wilkinson
Subject: SWM Issues Documented Regarding Kizell Wetland & Beaver Pond
Staff have reviewed Mr. Renaud‟s report and are pleased to respond to his recommendations as requested at our meeting of August 9, 2010:
Recommendation 1
In November 2008, the Ministry of the Environment (MoE) issued a Certificate of Approval (C of A) for the existing Kanata Lakes Stormwater Management Facility consisting of the Kizell Cell and the Beaver Cell which was constructed in the late 1980‟s. At that time, the pond was designed to accommodate all of the lands that naturally drained to the Kizell as well as lands which the developer proposed to be diverted. The 2008 C of A only speaks to all of the 397 ha of tributary lands which will be allowed to proceed based on the Ministerial approval. With respect to the proposed diversion, the City is initiating an investigation following the Municipal Class Environmental Assessment format to review the merits of whether a diversion is to occur or not. This investigation will inform staff as to the preferred storm water solution for the lands not tributary to the Kizell and determine whether a Schedule „B‟ or „C‟ undertaking is warranted. This investigation should be completed within the next six months.
Recommendation 2

The Beaver Pond did not flood during the event of July 24, 2009, and performed as expected. It should be noted that the pathways around the pond are constructed above the 5 year event water levels but below the 100 year event water levels. The pond is inspected yearly and was inspected on July 16, 2009, and found to be operating properly.
Recommendation 3
The City will not be considering the development of any lands requiring the proposed diversion until such time as the above-mentioned investigation has been completed. Non-diverted lands have a Provincially-approved Storm Water Management Facility in place and will be allowed to proceed.
Recommendation 4
The previously mentioned City led investigation will inform staff of the requirement for any updates or additional studies which need to be considered.
Recommendation 5
The existing storm water pond has a valid C of A issued November 2008 issued by the Province of Ontario. The City sees no basis for this recommendation.
Recommendation 7
The storm water facility has existed since the late 1980"s, and was designed to accommodate all of the lands within the draft plan of subdivision. As such it is the City"s position that no conflict exists that requires resolution.
Recommendation 9
The Kanata Ave. and GFR Class EA received two Part II orders, which were denied by the MOE after a review. The EA was then cleared and has proceeded to construction. The project is currently under construction and is proceeding according to the approved EA.

2010 Sep 13 Email reply from Rick Watchorn, Area Supervisor, MNR, Kemptville to Faith Blacquiere
Our search of records in Kemptville District did not indicate an approval or authorization of a dam in this area for any time period. There are currently no instruments issued under the *Lakes and Rivers Improvement Act* that apply to the area you describe

2010 Sep 17 Email reply from Rick Watchorn, Area Supervisor, MNR, Kemptville to Paul Renaud
1- Can you confirm that the MNR issued approvals during the 1980s for the construction of this dam in accordance with the LRIA?
MNR has not issued any approvals under LRIA in the area you describe.
2- How can the City be operating a dam without knowing the freeboard for it?

This is a storm water management system authorized by a municipal planning process and regulated by Ministry of the Environment under a Certificate of Approval.
3- Has the City applied for an MNR permit to raise the water level behind this dam?
No.
4- Has KNL/Urbandale applied for an MBR permit for this planned removal of trees and vegetation in accordance with LRIA?
No.
Storm water management is subject to municipal planning approvals and authorizations by Ministry of the Environment. MNR is not involved in the approval process for these types of systems. I encourage you to contact the Ottawa office of Ministry of the Environment at (613) 521-3450 to discuss the Certificate of Approval for this system and the City of Ottawa to discuss municipal planning approvals for this development. Please contact me should you require further information or explanation of MNR‟s role in this development property.

Compiled by
Faith Blacquiere
Kanata