

Clause 7 in Report No. 1 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on January 21, 2016.

7

King's Riding Golf Club Water Supply

Committee of the Whole recommends adoption of the following recommendation contained in the report dated December 15, 2015 from the Commissioner of Environmental Services:

1. Recommendation

It is recommended that:

1. Council authorize the Commissioner of Environmental Services to execute termination of the agreement between Granada Investments Limited and the Region, which restricts the use of the deep aquifer for irrigation purposes at King's Riding Golf Club, and all necessary documents required to complete the transaction.

2. Purpose

This report requests that Council authorize termination of the 1990 agreement between Granada Investments Limited (former landowner of King's Riding Golf Club) and the Region, which restricts King's Riding Golf Club (King's Riding) from using the deep aquifer for irrigation purposes. Regional staff no longer object to the use of the deep aquifer at King's Riding for irrigation.

3. Background

In 1989 Regional Engineering staff expressed concern regarding use of the deep aquifer for irrigation

Through the planning approval process in 1989, Regional Engineering staff expressed concern about using the deep aquifer for irrigation of the King's Riding Golf Club. At the time, staff was concerned that irrigation water taken from the deep groundwater aquifer might impair the use of the municipal groundwater supply wells in Newmarket and Aurora. Regional Engineering requested, in a 1989 report (*Report No. 12 of the Regional Planning Committee*), that the irrigation supply for the golf course be provided through the use of surface water detention ponds.

Region has no operating or regulatory requirements associated with the existing or proposed water taking system

An agreement between Granada (former landowner of King's Riding, which is now owned by ClubLink Corporation ULC) and the Regional Municipality of York, dated June 25, 1990, and registered on title to King's Riding on September 1, 1990, specified that the owner would not use water from the deep aquifer for irrigation. Per the 1990 agreement, water for irrigation would be taken only from a storm water retention system or from existing surface water sources to address the concern raised by Regional staff.

ClubLink Corporation ULC has requested termination of the agreement restricting the use of the deep aquifer for irrigation purposes

Based on the 1990 agreement, King's Riding currently secures water from three sources (1) King's Riding Pond Network, (2) King's Riding Club House Well, and (3) the Highland Gate Pond Network. ClubLink Corporation ULC is now seeking to use the deep aquifer to replace the water from the Highland Gate Pond Network (Attachment 1). The 1990 agreement precludes this use.

In order for ClubLink Corporation ULC to use the deep aquifer, the 1990 agreement with the Region is required to be terminated and removed from title to the King's Riding lands. In addition, ClubLink will require a Permit to Take Water for the water taking from the Ministry of the Environment and Climate Change (MOECC).

4. Analysis and Options

No adverse impacts are expected at Region groundwater supply wells from deep aquifer takings proposed at King's Riding Golf Club

Improved understanding in groundwater science since 1989

Since 1989, the Region has implemented a number of programs and projects to improve understanding of the groundwater systems and sustainable groundwater management. Groundwater remains an important source of drinking water supplies in the Region, including groundwater supply wells located in the Town of Aurora approximately three kilometers northeast of the King's Riding Golf Club (Attachment 2).

The Region has expanded its groundwater monitoring network from less than 20 monitoring wells in the mid-1980's to over 170 monitoring wells currently being monitored throughout the Region. Expansion of this monitoring network has improved understanding of available groundwater resources and influence from the Region's groundwater takings.

Through participation in initiatives such as the Oak Ridges Moraine Groundwater Program, the Region has an improved understanding of local groundwater systems. The groundwater program established in 2001, to help protect and manage groundwater resources, is a partnership that includes: The Regional Municipalities of York, Peel, Durham and the City of Toronto. The program has developed comprehensive databases for long-term effective groundwater management, leading to development of numerical groundwater flow models to simulate the system.

Decisions on use of groundwater better informed based on program advances

In support of ongoing source water protection initiatives and obligations under the *Clean Water Act, 2006*, the Region has developed an integrated surface and groundwater flow model, referred to as the Tier 3 model. The Tier 3 model has been used to assess water budgets in the Region and availability of groundwater resources. The Tier 3 model was used in evaluating the proposed King's Riding Golf Club supply.

These programs and tools provide more information regarding groundwater withdrawals and potential impacts compared to 1989, when the original concerns were expressed.

King's Riding Golf Club Water Supply

Evaluation of deep aquifer irrigation supply included both field testing and predictive groundwater flow modelling

ClubLink Corporation ULC constructed an irrigation well, referred to as Well 2, in the summer of 2015 at King's Riding Golf Club. The well was constructed to evaluate available groundwater resources onsite and assess potential impacts of groundwater taking. If results were positive, Well 2 would serve as a permanent irrigation supply. Region staff has been communicating with the ClubLink consultant throughout the construction and evaluation phases of this work.

A groundwater evaluation memo was provided by Clublink Corporation ULC to Regional staff on October 23, 2015. This evaluation included both field and desktop modelling assessments of the proposed water taking. The field evaluation included a three day pumping test at Well 2 to assess water level responses in various aquifer units including the deep aquifer. Water level monitoring included Region monitoring wells located in the area. No water level response was observed at Region monitoring wells. Testing data indicated that water taking at King's Riding would not negatively impact Region supply wells. In addition, use of Region supply wells at permitted capacities is not expected to adversely impact the ability of Well 2 to provide the required irrigation supply.

Proposed taking has negligible impact on Region's supply wells

Field evaluations were supported by a groundwater modelling analysis using the Region's Tier 3 model. Irrigation water taking from the deep aquifer was simulated to assess water level responses beyond those that could be assessed over the three day pumping test. Model results indicated that the potential long term water level influence of water taking from Well 2, on the nearest Region municipal wells in Aurora (approximately 3.1 km away, as shown in Attachment 2), would be less than 0.15 m, and less at Newmarket supply wells. This amount of potential water level influence is negligible and would not impact rates of withdrawal from these supply wells.

The field testing and groundwater flow modeling results indicate the proposed taking at King's Riding is sustainable in conjunction with the Region extracting groundwater at maximum permitted rates.

Proposed deep aquifer taking requires approval from the Ministry of the Environment and Climate Change

Terminating the agreement and removing it from title to the property, as well as an approved Permit to Take Water from the MOECC, would permit use of the deep aquifer for irrigation at King's Riding.

King's Riding Golf Club Water Supply

In accordance with the *Ontario Water Resources Act*, ClubLink Corporation ULC has submitted a Permit to Take Water Application to the MOECC. The Permit to Take Water Application and supporting documentation is reviewed by MOECC in determining whether to issue a Permit to Take Water to ClubLink Corporation ULC. ClubLink Corporation ULC has requested a maximum taking from Well 2 of 1,270 m³/day for a total of 180 days per year, corresponding with the typical irrigation season. In comparison, the Region is permitted to take a maximum of 22,258 m³/day from the nearest production wells in Aurora, or 87,656 m³/day from all Region wells located along the Yonge Street corridor during peak demand periods.

The MOECC approval process is intended to protect existing uses of the local water resource, and will ensure the proposed deep aquifer taking will not adversely affect existing groundwater users including the Region, or the natural environment.

Region staff have communicated with the MOECC during construction and testing of Well 2 and will continue to do so through the permitting process.

Link to key Council-approved plans

The change in water supply source to groundwater is supported by Vision 2051 goals of Protecting Vital Water Systems including protecting water system health and maintaining natural hydrological function of streams from Lake Simcoe to Lake Ontario. It is expected that removal of the on-line pond network at Highland Gate, currently used as an irrigation source at King's Riding Golf Club, will improve water quality and aquatic habitat in Tannery Creek.

5. Financial Implications

There are no financial implications associated with this report.

6. Local Municipal Impact

Based on improved understanding of groundwater resources over the years and a detailed evaluation of changing the water supply source to the deep aquifer for seasonal irrigation at King's Riding Golf Club, no adverse impacts are expected on the municipal drinking water supply.

King's Riding Golf Club Water Supply

7. Conclusion

The available evidence supports that a deep aquifer water supply from Well 2 at King's Riding Golf Club for irrigation will not affect the ability of the Region to use its groundwater supply wells located in the Town of Aurora. In addition, use of Region supply wells at permitted capacities is not expected to adversely impact the ability of Well 2 to provide the required irrigation supply. As a result, staff are supportive of the Clublink Corporation ULC request to terminate the existing agreement precluding the use of the deep aquifer for irrigation. These conclusions are based on field testing evaluations, monitoring data and results of predictive flow modelling.

For more information on this report, please contact Laura McDowell, Director, Environmental Promotion and Protection at ext. 75077.

The Senior Management Group has reviewed this report.

December 15, 2015

Attachments (2)

6513095

Accessible formats or communication supports are available upon request



October 23, 2015

Mr. Mike Fairbanks, P. Geo
Program Manager, Water Resources Monitoring
Environmental Services
Water Resources
Regional Municipality of York
17250 Yonge Street
Newmarket, ON L3Y 6Z1

Dear Mr. Fairbanks:

Re: Approval of Subsurface Water Supply for King's Riding Golf Course

Further to recent discussions with Golder Associates Ltd. (Golder) regarding use of groundwater for irrigation supply, please find attached their Technical Memorandum, dated October 22, 2015. The memorandum confirms that the implementation of a well on the King's Riding Golf Course as a subsurface water supply for irrigation purposes will not have a negative impact nor affect the ability of the Region of York wells to continue to meet the supply requirements of the Region, and will supply sufficient irrigation water to King's Riding to replace surface irrigation water now supplied from the former Highland Gate Golf Course. The Golder memorandum is based on the results of a conservative groundwater model simulation and the pump test completed by Golder.

The Agreement between Granada (former landowner of King's Riding, which is now owned by ClubLink Corporation ULC) and the Region of York, dated June 25, 1990, and registered on title to King's Riding on September 1, 1990 (Certificate of Registration No. 551335) specified that the owner would not use water from the deep aquifer for irrigation purposes for its golf course operations (the "1990 Agreement"). In the 1990 Agreement, water for irrigation purposes would be taken only from the stormwater retention system or from an existing surface water service. A copy of the 1990 Agreement is attached.

Based on the requirements outlined in the 1990 Agreement, King's Riding currently secures water from three sources: (1) King's Riding Pond Network, (2) King's Riding Clubhouse Well, and (3) the Highland Gate Pond Network. Working with the LSRCA and Town of Aurora, there is a desire to eliminate the on-line Highland Gate Pond Network as part of the Highland Gate redevelopment proposal. This results in an overall net benefit to the ecological integrity of the site and creates the need for a new irrigation water source for King's Riding, namely the new King's Riding groundwater Well 2 referenced in the attached Golder memorandum. The removal of the online ponds will improve water quality and aquatic habitat of the watercourse by removing the stagnating conditions of the current ponds.

As set out in Golder memorandum, the results confirm that an additional taking of groundwater from the Scarborough Aquifer Complex for irrigation at King's Riding will not affect the ability of the Region of York wells to continue to provide water to its residents and there is sufficient supply available to meet the irrigation needs of King's Riding without the transfer of water from Highland Gate. Given the results of the groundwater model and pump test for King's Riding Well 2, we request that the Region release and discharge the 1990 Agreement.

We trust this will satisfy the requirements as discussed. Please advise if this letter and the Golder memorandum requires further circulation to the Region.

Yours very truly,

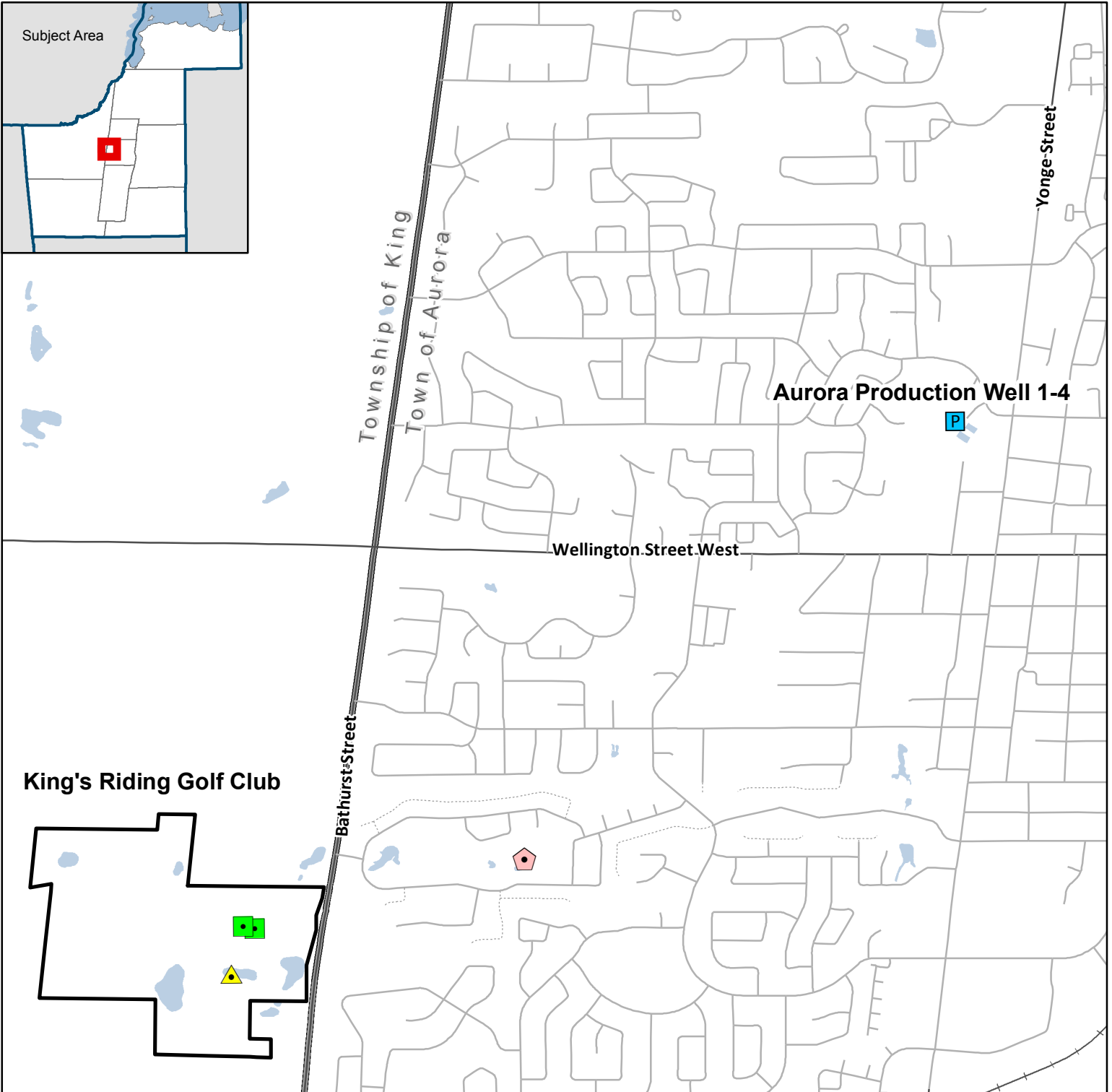
ClubLink Corporation ULC



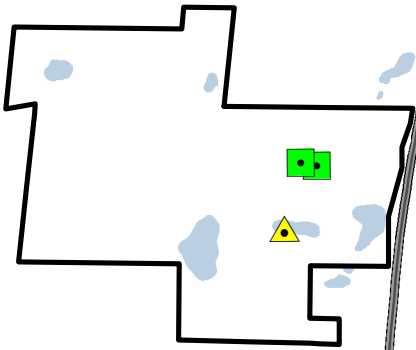
Robert Visentin
Senior Vice President, Investments

Enclosures

cc. Mr. Wayne Emmerson, The Regional Municipality of York
Mr. Don Goodyear, The Regional Municipality of York
Ms. Cheryl Shindruk, Highland Gate Developments Inc.
Ms. Shauna Dudding, Highland Gate Developments Inc.



King's Riding Golf Club



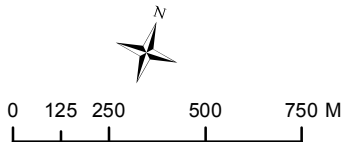
Location Map - King's Riding Golf Club
 King's Riding Golf Club Water Supply, January 14, 2016

Produced by: Water Resources
 The Regional Municipality of York
 Environmental Promotion & Protection, Environmental Services
 December, 2015

Data Sources:

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See York.ca for disclaimer information.



Legend

-  York Region Production Well
-  King's Riding Golf Club Wells
-  King's Riding Pond Network
-  Highland Gate Pond Network
-  King's Riding Golf Club