Niagara Region Irrigation Project

Agricultural Policy Action Committee

27 November 2020

-Hugh Fraser, OTB Farm Solutions-

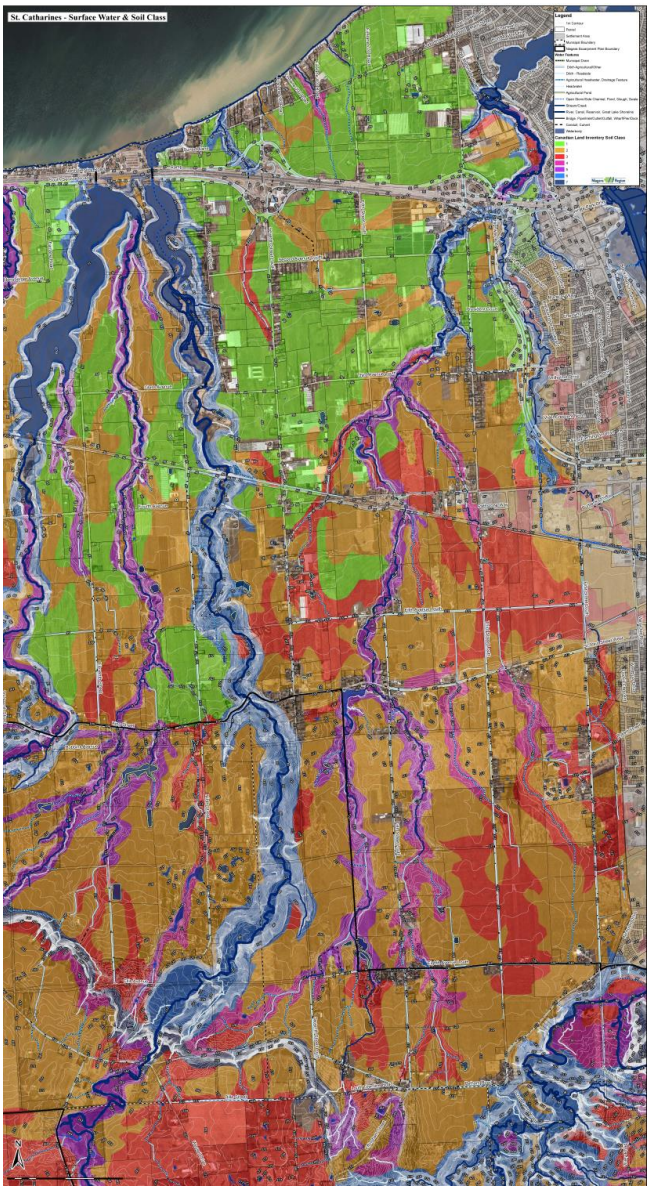
Project as of November 2019

- One year project, ending December 31 2020
- $$: Region, St. Cath, Lincoln, NOTL, GGO, TFG
- Continue 2017 Irrigation Strategic Business Plan
- Work with St.Cath growers & OPG to clarify interest in conveying water from above escarpment at Decew to farmland below
- Work with NOTL Drainage Superintendent & irrigation committee on improving capacity, reliability & coverage of open ditch system
- Work with growers in Lincoln to determine how a common intake & pumping system could work to cover more areas
- Recommend to Steering Committee on what tools are needed beyond year 2020

Committee of the Whole/Steering Committee

- Committee of the Whole
  - Mayors & reps from NOTL, St. Cath & Lincoln
  - Rep from Region
  - Reps from Associations; Tender Fruit & Grapes
  - Growers of tender fruit & grapes
  - Reps from APAC
  - Reps from OMAFRA
  - Rep from Agriculture Canada
- Steering Committee
  - Bill Schenck (APAC, GGO, GH, St. Cath): Chair
  - Sarah Marshall (Tender Fruit) Co-Chair
  - Rebecca Shortt (OMAFRA)
  - Patrick Handyside (Agriculture Canada)
  - Dave Hipple (Tender Fruit, GGO, Town of Lincoln)
  - Kelly Provost (Niagara Region)
  - Christine Adams (City of St. Catharines)
  - Albert Witteveen (APAC, Regional Councillor)
  - Erwin Wiens (NOTL Councillor)

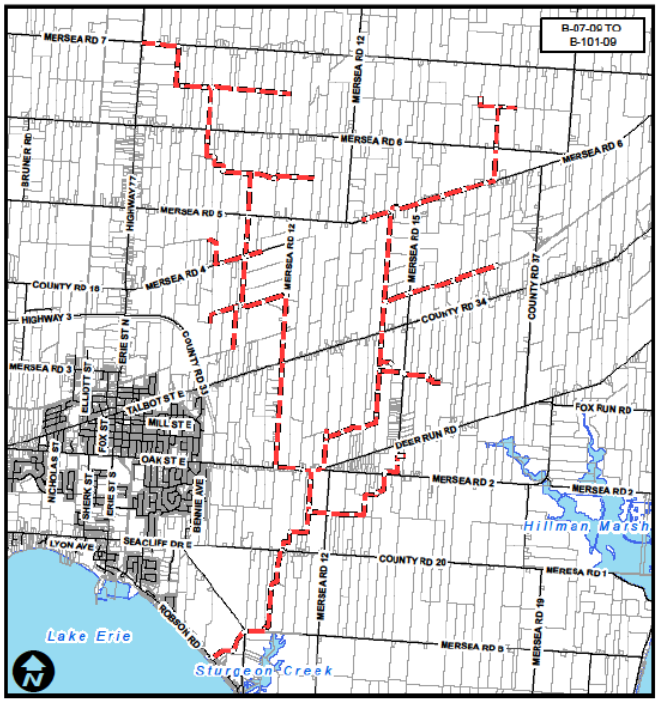
St. Catharines



- St. Cath most needs system, so 90% of time in 2020 there
- Coloured maps with soil classes, 1 m contours, property lines, watercourses were used to show growers how a system might work
- Crops: Tender fruit, grapes, nursery, GH, field flowers…but also interest from wineries & others

Mimicking the 'LADII'System

1. For-profit corporation has 13 shareholders with 50 shares of 100 US gpm each on 2000 acres; an extra 13 shares are rented
2. Piped, trickle irrigation pressurized system
3. April: annual costs paid whether used, or not, for debt servicing, based on shares owned. Extra $250/share for maintenance/expansion
4. November: operating costs paid for electrical & pumping costs, based on water used
5. Year-round system; 3.5 ft (ins); 4.5 ft (none)
6. No new shareholders can be added
7. One manager averages ≈ 40 h/month



St. Catharines Interviews

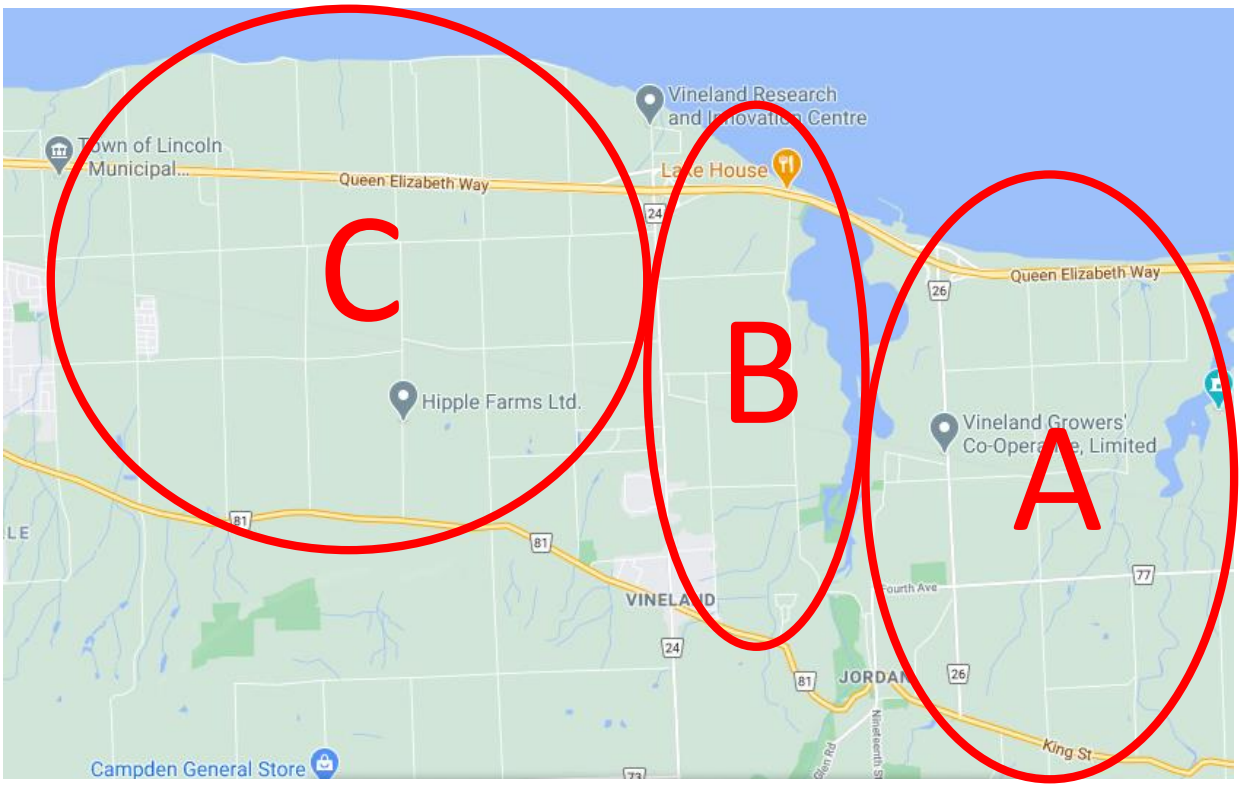
- 1st to 11th St (18-Mile Creek) includes Lincoln
- Current & next generation invited to discussion
- 27 interviews; 2300 acres represented
- 67 tapoffs so far interested over that area
- When done interviews, maybe 90 total tapoffs
- Likely maximum of 60+ taps available, but not everyone will join system anyway
- But one grower has stated *'if you miss the bus, there may not be another bus coming along'*

St. Catharines OPG & WTP

- May be an option to use OPG water, or Regional water not used by WTP
- Unused, buried pipe (yellow) might be rehabbed
- Using gravity to power the system is attractive for many reasons, but it requires careful design
- Up to 40 km of lines might be needed to service all areas between 9th and 11th Streets

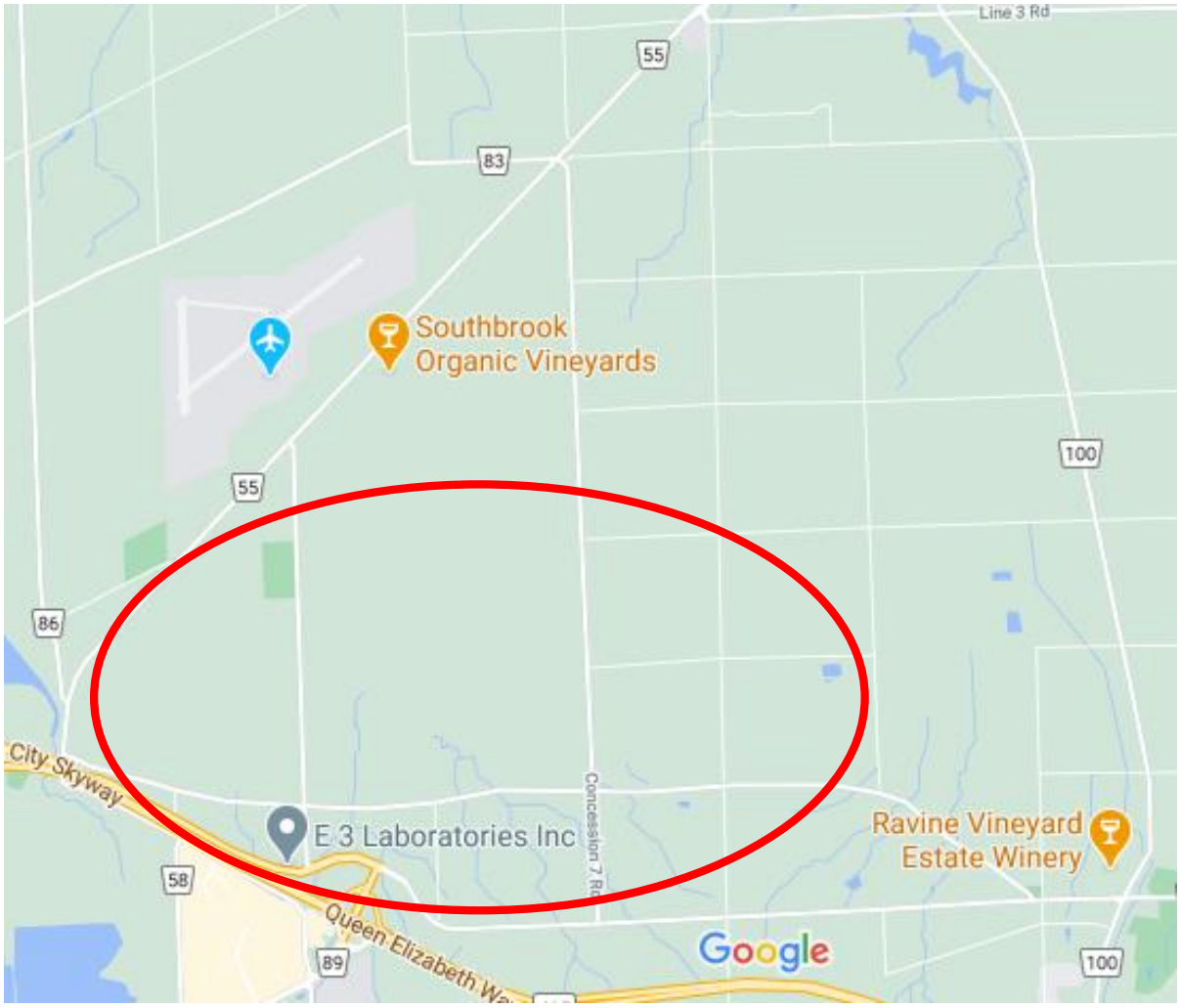
Other Areas (Town of Lincoln)

- Lincoln has three areas to irrigate, some which need access to irrigation water more than others
  A. 16-Mile Creek to Jordan Harbour
  B. Jordan Harbour to Victoria Avenue
  C. Victoria Avenue to Saan Road



Other Areas (Town of NOTL)

- NOTL is already covered with an open-Municipal ditch system, fed by water from the OPG reservoir, Niagara River & Welland Canal, but system needs more water & it has other limitations
- The southwest corner is not serviced & perhaps a closed-pipe, pressurized to trickle irrigation pressures could be investigated



Why is this initiative important?

- Other farm areas would laugh knowing Niagara had difficulties accessing water when it is all around us
- This dry 2020 has re-proven that irrigation is needed, and COVID-19 has re-proven that people really do want to support local produce
- It is difficult enough to farm in the Greenbelt with competition for high-priced land, small properties, labour & dealing with so many people living next door – without stress of accessing irrigation water
- Initial discussions have suggested gravity alone – without pumps – could power the St. Catharines system, if water comes from above the Escarpment
- This reduces operating costs, improves quality & yields of produce & fits climate change & energy saving priorities
- This should be a good news cooperation story for growers, governments, agencies & general public