Economic Development Cooperative of North Kawartha
Crowe Valley Conservation Authority Board Meeting Delegation

April 21, 2022 (via Zoom)

Thank you for the opportunity to address the CVCA Board regarding floodplain determination on Chandos Lake on behalf of the Economic Development Cooperative of North Kawartha.

We are a citizen-based organization which addresses issues raised by the North Kawartha community. This delegation responds to concerns from homeowners whose Zone Amendment applications were rejected by CVCA over the last year. With our extensive experience with Chandos Lake, municipal government, and CVCA administration we have determined that deficiencies with CVCA equipment and policy have led to erroneous floodplain determinations.

We request that CVCA immediately cease providing floodplain responses to North Kawartha zone amendments until the following are implemented:

- Withdrawal of previous floodplain assessments including ZBA 14/21, 12/22, 19/22
- Relocation of the CVCA water level gauge into Chandos Lake proper
- Calibration of the gauge to the LiDAR mapping used by CVCA Regulations Officers
- Review of CVCA flood management policies to be consistent with Hydro-G study (below)
- Completion of Hydro-Geological study of the Chandos watershed to
    - establish Chandos Lake as a "controlled lake", including unobstructed outflow
    - validate use of GIS LiDAR mapping for floodplain assessment,
    - provide a process to determine an interim flood hazard elevation.

CVCA water level gauge

CVCA began addressing Chandos Lake floodplain issues when it chose to use Peterborough County's GIS LiDAR mapping as the basis for analysis. However, the CVCA water level gauge was not calibrated to the LiDAR contours, thus making the 30+ year history of water levels incompatible with the LiDAR contours. On March 22, 2022, using the CR 620 culverts' LiDAR elevation (see attached LiDAR map), the gauge read 1 metre higher than the actual water level. This finding supports the many anecdotal accounts of Chandos Lake water levels.

CVCA water level gauge location

The gauge is located across CR 620 from the lake, at the culverts, and not actually in Chandos Lake. The culverts are the only surface access to/from the lake and are partly filled with sand and debris. During the spring surge from Paudash, the culverts throttle flow from Flat Creek, making it higher than the actual lake level. Thus, the water level is exaggerated at the very time that the highwater mark is reached.

Chandos Lake highwater marks

CVCA controls the spring water levels in Chandos Lake when it instructs MNR to remove logs from the Paudash Lake dam, to provide room for the spring freshet. Over the next week the Crowe River rises several feet, flowing into Chandos Lake and its associated wetlands via the connecting Flat Creek. This enormous quantity of water is stored temporarily to avoid flooding

throughout the lower Crowe valley. Chandos Lake recedes through the rest of the year, with the (usually) April week marking the highwater mark. Over years, those six readings comprise the 314masl flood level, which is in error because of gauge location and lack of calibration.

Chandos Lake "uncontrolled" status

Clearly, the actions by CVCA to manage spring flooding are the largest influence on Chandos Lake water levels. There are ground springs, rainfall, and watershed drainage, but those effects are minor. With a dam upstream, the major input to the lake is controlled. Because the surge occurs in late spring, there is a low risk of ice dams on the outflow, and we ask that this factor be included in the Hydro-Geological study. In our view, Chandos Lake is a "controlled lake".

Setbacks from flooding hazard

The current Policy Manual treats Chandos Lake as an "uncontrolled" lake, further stating that a flood hazard cannot be determined. When flood hazard is undetermined, a 15m setback is imposed from the erroneous 314.00 masl elevation - horizontally - regardless of the slope of the property or existence of a retaining wall. For new construction, there is a further 6m for emergency access, to a total 21m. These setbacks should NOT be imposed (as Chandos is in fact controlled) and are useless, due to the simplistic way they are constructed.

Building Expansions

Additions to existing buildings are limited by the Policy Manual – up to 50% increase to a maximum of 500 sq ft. There is no conceivable connection to flood hazard from a building addition - the final building is either in a hazard or not. The NK Township Zoning Bylaw deals very well with building expansion near bodies of water and CVCA should not be infringing on other jurisdictions' mandate.

CVCA Policy Manual

The floodplain Policy Manual was developed by Regulations Officer Robert Cole, who is no longer on the staff of CVCA. We propose a thorough review of all aspects of the manual, in addition to correction of those items identified above ie. calibration of level gauge to LiDAR map, inappropriate use of 'uncontrolled' status, size and structure of setbacks, and irrelevant building expansion limits.

For over 70 years Chandos Lake homeowners have developed their properties with no floodplain issues. North Kawartha's By-Laws and septic inspection program permit responsible development while protecting our lakes. We are seeking a return to pre-2018 – ie. no floodplain review of Zone Amendments - until a mutually satisfactory plan is agreed. One which provides a useful service to homeowners, and not what seems to be a barrier to development.

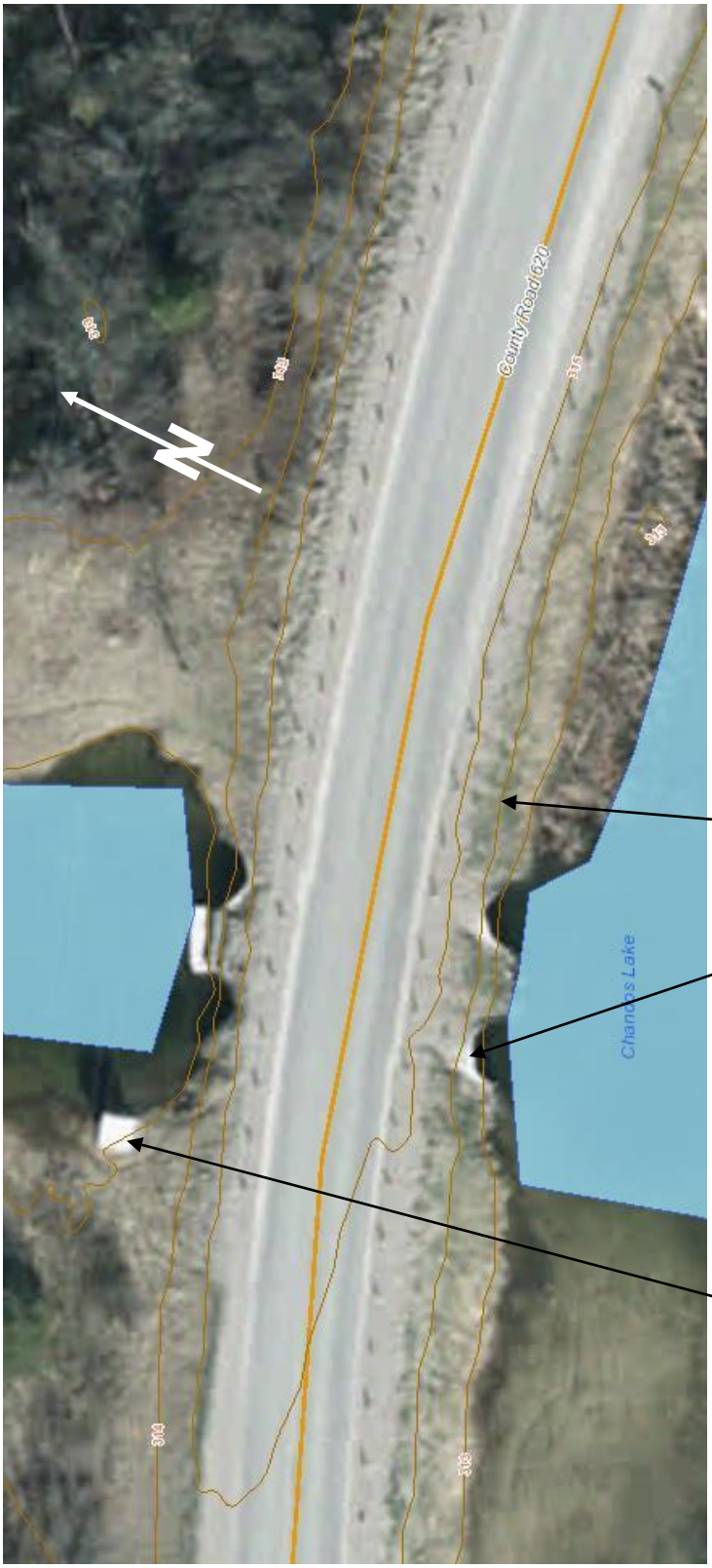
Barry Rand

Chair, Economic Development Cooperative

http://www.nkedc.ca

705-656-1850

LiDAR map of County Road 620 at Chandos Lake Culverts



LiDAR contour line = 314 masl

South end of west culvert

Elevation contour = 314 masl (top of culvert)

Height above water level = 79 " (2.01 m)

Water level = 311.99 masl (Mar 22, 2022)

CVCA gauge = 312.987 masl (Mar 17, 2022)

Difference gauge/LiDAR = 1 metre

CVCA water level gauge