

**ADDENDUM**  
REGULAR COMMITTEE OF THE WHOLE MEETING  
SHAW AUDITORIUM, 80 COMMERCIAL STREET, NANAIMO, BC  
MONDAY, 2015-APR-13, AT 4:30 P.M.

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- | <b>7.</b> | <b>CORPORATE SERVICES:</b>   | <b>PAGES</b>   |
|-----------|--|----------------|
|           | <p>(b) Add Colliery Dams Update Report including the letter dated 2015-APR-09 from Mr. Glen Davidson, Comptroller of Water Rights, Ministry of Forests, Lands &amp; Natural Resource Operations, regarding the Middle Chase River Dam and Lower Chase River Dam – Order and the delegations as listed below and renumber the remaining reports under Corporate Services.</p> <p><i>Purpose: To provide a review of the letter and Order received 2015-APR-09 from the Comptroller of Water Rights and provide a recommendation to install an auxiliary spillway at the Lower Colliery Dam in 2015 and an evaluation of remediation of the Middle Colliery Dam in subsequent years.</i></p> <p><u>Delegations:</u></p> <ol style="list-style-type: none"><li>1. Mr. Daniel Appell</li><li>2. Mr. Fred Taylor</li><li>3. Mr. Ronald Stead</li></ol> <p><u>Staff Recommendation:</u> That Council direct Staff to undertake design and installation of an auxiliary spillway for the Lower Colliery Dam and prepare a conceptual plan for the Middle Colliery Dam that complies with Dam Safety Regulations, plus ensure deadlines and requirements outlined in the Comptroller of Water Rights' Order dated 2015-APR-09 are met.</p> | <p>Pg. 2-9</p> |
| <b>9.</b> | <b>CORRESPONDENCE (not related to a Report to Council):</b>  |                |
|           | <p>Move Letter dated 2015-APR-09 from Mr. Glen Davidson, Comptroller of Water Rights, Ministry of Forests, Lands &amp; Natural Resource Operations, regarding the Middle Chase River Dam and Lower Chase River Dam – Order to Agenda Item 7 (b) – Colliery Dams Update.</p>  |                |
|           | <p>(a) Add as 9 (a) Letter from Mr. Jeff Tomlinson, Past President, The Rotary Club of Nanaimo North, requesting that Council allocate funds previously set aside for the Empire Days Society, to the Rotary Club of Nanaimo North for the organization and administration of the Nanaimo Heritage Days Celebration, which will take place 2015-MAY-16-17.</p>   | <p>Pg. 10</p>  |

**City of Nanaimo**  
**REPORT TO COUNCIL**

DATE OF MEETING: 2015-APR-13

AUTHORED BY: TOBY SEWARD, ACTING GENERAL MANAGER  
COMMUNITY DEVELOPMENT & PROTECTIVE SERVICES

RE: COLLIERY DAMS UPDATE

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**STAFF RECOMMENDATION:**

That Council direct staff to undertake design and installation of an auxiliary spillway for the Lower Colliery Dam and prepare a conceptual plan for the Middle Colliery Dam that complies with Dam Safety Regulations, plus ensure deadlines and requirements outlined in the Comptroller of Water Rights' Order dated 2015-APR-09 are met.

**PURPOSE:**

This report provides a review of the letter and Order received April 9, 2015, from the Comptroller of Water Rights and provides a recommendation to install an auxiliary spillway at the Lower Colliery Dam in 2015 and an evaluation of remediation of the Middle Colliery Dam in subsequent years.

**BACKGROUND:**

On 2015-APR-09, Glen Davidson, P.Eng., Comptroller of Water Rights, Dam Safety Section, provided a letter and Order to the City of Nanaimo (Attachment A). In this letter and Order, Mr. Davidson provided a summary of the letters exchanged between the Province and the City of Nanaimo during February and March of 2015 and confirmed the City had not undertaken the required steps to pursue a remediation option for the Lower Colliery Dam by the 2015-MAR-27 deadline detailed in Mr. Davidson's letter of 2015-FEB-25.

Mr. Davidson's letter stated, to date, this information has not been received and as a result, the City of Nanaimo is not in compliance with the B.C. Dam Safety Regulation, *Water Act*. Therefore, an Order is issued requiring the City of Nanaimo to correct the potential safety hazard of the Middle and Lower Colliery Dams. The letter also states the right of appeal to the Order lies with the Environmental Appeal Board and that an appeal does not act as a stay or suspend to operation of the Order being appealed unless the appeal board orders otherwise.

In addition to appealing the Order, the City may request a stay of the requirements of the Order, though the City solicitor advises approval for a stay is very difficult to achieve.

☐ Council  
☒ Committee of the Whole  
☒ Open Meeting  
☐ In-Camera Meeting  
Meeting Date: 2015-APR-13

DISCUSSION:

The City is now in a receipt of an Order to remediate the Colliery Dams from the Provincial Comptroller of Water Rights under the provisions of the *Water Act*. This Order is appealable to the Environmental Appeal Board, however, grounds for an appeal must be established and after initial review, the City solicitor advised that he does not believe there are grounds for an appeal.

The City is now in a position where it needs to proceed extremely quickly to meet the conditions of the Order that requires substantial completion of a remediation by 2015-OCT-15. This deadline will be extremely difficult to meet, even if a direction to proceed is provided immediately. The primary sequence of steps to have the work completed by 2015-OCT-15 are design development, permitting, referrals, tendering and construction.

City staff recommends proceeding with the auxiliary spillway as it is the less costly of the two options, likely less invasive depending on routing, shorter timeframe to construct, less need to draw down the Lower Dam reservoir, retention of the existing heritage spillway bridge and allows more potential for value engineering analysis that could further decrease the costs.

If Council directs staff to proceed with design and installation of the auxiliary spillway, staff will provide a follow-up Council report outlining process, scheduling, budget, etc. for the work to be undertaken.

Respectfully submitted,



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TOBY SEWARD  
ACTING GENERAL MANAGER  
COMMUNITY DEVELOPMENT & PROTECTIVE SERVICES

CITY MANAGER COMMENT:

I concur with the staff recommendation.

Drafted: 2015-APR-13  
G:/2015 Files/Colliery Dam Park/Reports/2015-APR-13 Colliery Dams Update  
TS/hp

# Attachment A



April 9, 2015

File: 76915-20/D720001-00 & D720002-00

E.C. (Ted) Swabey  
City Manager  
City of Nanaimo  
455 Wallace St  
Nanaimo BC V9R 5J6

Dear Mr. Swabey:

**Re: Middle Chase River Dam and Lower Chase River Dam – Order**

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Thank you for your letter, dated March 17, 2015, advising of the City of Nanaimo's (the City) March 16, 2015 Council Motion on Colliery Dams. We are also in receipt of the letter from Toby Seward, Acting City Manager, dated March 27, 2015, confirming that this motion remains Council's direction and providing a copy of the City's revised Colliery Dam Emergency Preparedness Plan (October 2014) along with the Operation, Maintenance and Surveillance manual for the Chase Dams (April 2004).

On February 25, 2015, a letter was sent to the City granting a one month extension to undertake the following steps by March 27, 2015:

- Select an option for remediation of Lower Dam;
- Prepare and submit to this office, a revised plan that clearly identifies and prioritizes all actions required to correct the potential safety hazard with Lower Dam. The plan must outline the timeline for taking those actions to address the recommended dam remediation requirements, as described by Golder Associates, within a reasonably expeditious time frame;
- Prepare and submit to this office, a revised conceptual plan that identifies and prioritizes any actions required to correct the potential safety hazard with Middle Dam, along with a timeline for taking those actions within a reasonably expeditious time frame, timed to follow after completion of actions to correct the potential safety hazard with Lower Dam; and,
- Implement both revised plans, based on the priorities identified in the plans, within a reasonably expeditious time frame and in accordance with Section 4 of the BC Dam Safety Regulation, as applicable to any alteration, improvement or replacement to all or any part of a dam intended to correct a potential safety hazard and which must be implemented in a timely manner.

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Ministry of Forests, Lands &  
Natural Resource Operations  
  
Resource Stewardship  
Division

Office of the Comptroller of Water  
Rights  
Water Management Branch  
Dam Safety Section

Mailing Address:  
PO Box 9340 Stn Prov Govt  
Victoria BC V8W 9M1

Location:  
3<sup>rd</sup> Floor, 335 Waterfront Cres  
Victoria BC V8T 5K7



To date, this information has not been received and as a result, the City of Nanaimo is not in compliance with the B.C. Dam Safety Regulation, *Water Act*. Therefore, please find attached an Order, issued pursuant to Section 88(1)(d) of the *Water Act*, requiring the City of Nanaimo to correct the potential safety hazard of Middle and Lower Dam.

A right of appeal to my Order lies to the Environmental Appeal Board. Notice of any appeal must (1) be in writing, (2) include grounds for the appeal, (3) be directed by registered mail or personally delivered to the Chair, Environmental Appeal Board, 4<sup>th</sup> Floor, 747 Fort Street, PO Box 9425 Stn Prov Govt, Victoria, BC V8V 9V1, (4) be delivered within 30 days of receiving this Order; and (5) be accompanied by a fee of \$25, payable to the Minister of Finance.

You are also reminded that Section 92(9) of the *Water Act* states that: "An appeal does not act as a stay or suspend to operation of the Order being appealed unless the appeal board orders otherwise".

Sincerely,



Glen Davidson, P.Eng.  
Comptroller of Water Rights

pc: John Baldwin, Dam Safety Officer, Regional Operations, FLNR, Nanaimo  
Toby Seward, A/City Manager, City of Nanaimo

**ORDER**  
Section 88  
*Water Act of British Columbia*

Dam File No.: 76915-20/D720001-00 & D720002-00  
Water Licence File No.: 0355097 & 0355174

**IN THE MATTER OF** Conditional Water Licences C061424 and C061423, held by the City of Nanaimo (the City), which authorize the storage of 75 acre feet of water behind the Middle Chase River Dam (Middle Dam) and 140 acre feet of water behind Lower Chase River Dam (Lower Dam), as part of the Colliery Dam system on Chase River.

**WHEREAS** engineering consultant, Golder Associates (Golder), was retained by the City to be technical advisor to the City's Colliery Dam Technical Committee (TC). The TC's mandate was to identify an environmentally minimally invasive, cost and time effective remediation solution for the Colliery (Middle and Lower) Dam system that meets safety standards, among other things. The mandate also included the development of a permanent solution to be put in place in 2014 if possible, but not later than 2015, with shorter term mitigation put in place, if required, in 2014;

**WHEREAS** the focus was primarily on the remediation of Lower Dam as Golder had determined that Middle and Lower Dams act together as a system, with Lower Dam largely controlling downstream consequences. For this reason, Golder determined that the remediation of Lower Dam would provide greatest reduction in risk to those living downstream of the dams, and remediation of this dam should be given highest priority. Golder indicated, in its report, Dam Remediation Options (August 29, 2014), that the remediation of the Middle Dam would be addressed separately at a later date;

**WHEREAS** Golder undertook a number of studies and produced several reports including their Hydrology, Hydraulics and Middle Dam Breach Analysis (July 25, 2014) which determined that Middle and Lower Dam's spillways both have inadequate flood routing capacity to pass the design flood event which could result in the dams overtopping. The report states (pg i, Executive Summary):

*"These calculations have determined that the spillway for the Middle Dam has the capacity to convey the flows associated with approximately the 50-year (2% annual exceedance probability) rainfall event. Storms larger than the 50-year overtop the dam embankment. The spillway for the Lower Dam has the capacity to convey the flows associated with approximately the 25-year (4% annual exceedance probability) rainfall event. Storms larger than the 25-year overtop the dam embankment."*

**WHEREAS** Golder calculated the existing flood routing capacity of Lower Dam to be 55.0 cubic meters per second (cms), equivalent to a 1 in 25 year flood event;

**WHEREAS** Golder reviewed the failure consequence classification for Lower Dam and concluded that a *very high* classification was appropriate;

**WHEREAS** in Canada, current practice for selection of the design flood event for dam safety is suggested in Table 6-1B in the Canadian Dam Association's (CDA) Dam Safety Guidelines (2013);

**WHEREAS**, with respect to flood routing capacity for Lower Dam, Golder states (pg. 17, Collicry Dams, Nanaimo, BC, Report on Dam Remediation Options, Golder, August 29, 2014):

*"...the risk of dam collapse due to flood events is significant and must be addressed by dam remediation to improve flood routing characteristics of the dam. The required flood routing capacity is given by the Table 6.1 CDA Guidelines, and is based on the Consequence Classification of the dam. For a Very High consequence dam, the dam must be able to pass a flood at least the equivalent of 2/3 of the way between a 1000 year and a PMF flood..."*

**WHEREAS** in accordance with CDA Table 6-1B Golder calculated the design flood event of Lower Dam, a *very high* consequence dam, to be a total peak outflow of 144.0 cms. A total peak outflow of 144.0 cms is 2.6 times greater than the calculated 55.0 cms flood routing capacity of Lower Dam's current spillway;

**WHEREAS** insufficient flood routing capacity is considered a *potential safety hazard* as it may lead to overtopping and possible failure of the dams;

**WHEREAS** the City has completed numerous studies and now has sufficient information and options to make an informed decision on the course of action required to correct this potential safety hazard;

**WHEREAS** two of these options are conceptually acceptable to this office; the (a) labyrinth spillway design and the (b) auxiliary spillway design;

**WHEREAS** on February 25, 2015, under Section 7.1 of the B.C. Dam Safety Regulation, the City was requested to undertake the following steps by no later than March 27, 2015:

- Select an option for remediation of Lower Dam;
- Prepare and submit to this office, a revised plan that clearly identifies and prioritizes all actions required to correct the potential safety hazard with Lower Dam. The plan must outline the timeline for taking those actions to address the recommended dam remediation requirements, as described by Golder, within a reasonably expeditious time frame;

- Prepare and submit to this office, a revised conceptual plan that identifies and prioritizes any actions required to correct the potential safety hazard with Middle Dam, along with a timeline for taking those actions within a reasonably expeditious time frame, timed to follow after completion of actions to correct the potential safety hazard with Lower Dam; and,
- Implement both revised plans, based on the priorities identified in the plans, within a reasonably expeditious time frame and in accordance with section 4 of the B.C. Dam Safety Regulation, as applicable to any alteration, improvement or replacement to all or any part of a dam intended to correct a potential safety hazard and which must be implemented in a timely manner.

**WHEREAS** the City of Nanaimo did not comply with the above noted request and therefore is not in compliance with the B.C. Dam Safety Regulation, *Water Act*;

**NOW THEREFORE**, I, Glen Davidson, Comptroller of Water Rights, pursuant to Section 88(1)(d) of the *Water Act*, hereby order the City of Nanaimo to correct the potential safety hazard of Middle Dam and Lower Dam by:

1. Immediately undertaking the necessary steps to increase the flood routing capacity of Lower Dam to 144.0 cms, as calculated by Golder, in order to meet an annual exceedance probability design flood event level that is 2/3 of the way between a 1 in 1000 year flood and the Probable Maximum Flood (PMF) in respect of Lower Dam, by:
  - a. Selecting one of the two following Lower Dam remediation options (as described by Golder) in order to address the potential safety hazard of Lower Dam:
    - i. the Labyrinth Spillway Design (Report on Dam Remediation Options, Golder, August 29, 2014); or
    - ii. the Auxiliary Spillway Design (Auxiliary Spillway - Conceptual Design, Golder, January 16, 2015;
  - b. Notifying this office of the selected option by **May 1, 2015**;
  - c. Preparing and submitting a design report and construction plans, for approval under Section 4 of the B.C. Dam Safety Regulation by **May 22, 2015**;
  - d. Substantially completing the chosen remediation option by **October 15, 2015**; and
2. Once the chosen remediation option for Lower Dam has been completed (as required by Section 1 of this Order), the City must undertake the following actions:
  - a. Prepare and submit to this office by **the end of 2015**, a revised conceptual plan that identifies and prioritizes any actions required to correct the potential safety hazard with Middle Dam, along with a timeline for taking those actions within a reasonably



expeditious time frame, timed to follow after completion of actions to correct the potential safety hazard with Lower Dam; and,

- b. Implement the revised plan, based on the priorities identified in the plan, within a reasonably expeditious time frame but no later than the end of 2017, and in accordance with Section 4 of the B.C. Dam Safety Regulation, as applicable to any alteration, improvement or replacement to all or any part of the dam intended to correct a potential safety hazard and which must be implemented in a timely manner.

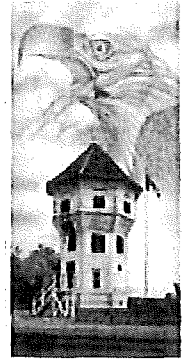
Dated at Victoria, British Columbia this 9<sup>th</sup> day of April, 2015.



Glen Davidson, P. Eng.  
Comptroller of Water Rights

**The Rotary Club of Nanaimo North**  
P. O. Box 223, Nanaimo, BC V9R 5K9

<http://www.nanaimonorthrotary.org>



City of Nanaimo  
455 Wallace Street  
Nanaimo, BC V9R 5J6

BY EMAIL: [mayor.council@nanaimo.ca](mailto:mayor.council@nanaimo.ca)

Dear Mayor and Council,

The Rotary Club of Nanaimo North is proud to support the Nanaimo Heritage Days event which will take place from May 16<sup>th</sup> to 17<sup>th</sup>, 2015 allowing everyone in Nanaimo and their guests to continue the traditional celebration of what is considered to be the first long weekend of summer.

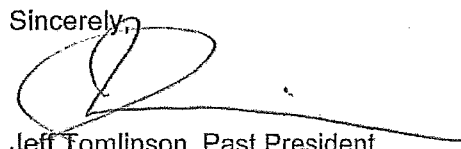
The current organizing group was formed very quickly once it was evident that the group that had historically worked on the May long weekend was not going to continue. Given that the Nanaimo Heritage Days event will take place within the next few months there isn't sufficient time to create a new Society to assume responsibility for the event and exercise the appropriate fiscal diligence required of the receipt of donated funds. In the interim, the Rotary Club of Nanaimo North has agreed to accept and control funds provided for the purposes of supporting the Nanaimo Heritage Days, to ensure that they are directed as intended and to keep records of expenditures.

The working group respectfully requests Mayor and Council's consideration to redirect funds earmarked for the May long weekend celebrations, previously granted to Nanaimo Empire Days Celebration Society, for the express use of the group organizing the parade, celebrations on Diana Krall Plaza and fireworks on that weekend.

Our involvement in overseeing these monies will only be for the 2015 event. We understand that a new society will be formed after this year's event and once that is done all records and any residual funds will be transferred to that society.

Please call me if you have any questions at (250) 740-7088 or by email at [jtdiavik@gmail.com](mailto:jtdiavik@gmail.com)

Sincerely,

  
Jeff Tomlinson, Past President

Cc: Greg Phillips, President  
Suzanne Sombrowski, City of Nanaimo

**Rotary**

☐ Council  
☒ Committee of the Whole  
☒ Open Meeting  
☐ In-Camera Meeting  
Meeting Date: 2015 APR 13