

Draft Nose Creek Watershed Management Plan – AENV Approvals Review

Calgary AENV Approvals
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TECHNICAL REVIEW AND COMMENTS PROVIDED BY:

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Recommendations/Comments/Questions

Section 3.0 Water Conservation Objectives:

Water Conservation Objectives (WCOs) using the unit area rate is difficult to incorporate into a licence and/or transfer. The WCOs are not clear or intuitive and would be difficult for laypersons to understand. WCOs should be modified in order to be an effective tool. The WCOs must be in a form that can be understood by the public, able to be incorporated into a *Water Act* licence and enforceable by Alberta Environment (AENV).

AENV asks that the Nose Creek Watershed Partnership (the partnership) consider the following changes/comments/questions:

1. It is AENV's understanding that the Tennant method is supposed to use natural flows opposed to flows resulting from developments. Since development flows had to be used for the development of the Urban WCOs, is the Tennant's method the best method for the urban areas?
2. Instead of having WCOs based on the drainage area at the site, the NCWMP should consider dividing the watershed into reaches, for example:
 - i. West Nose Creek
 - ii. Nose Creek above the confluence of West Nose Creek
 - iii. Nose Creek below the confluence of West Nose Creek
3. Existing and additional monitoring stations should be utilized, where appropriate. At a minimum, at least one monitoring station should be strategically placed within each reach.
4. WCOs for each reach will be based on the information from the monitoring stations and the drainage area at the station.
5. In order to make the WCOs more effective, weekly (or if possible, daily) WCOs should be provided for the reaches
6. What are the WCOs based on, IFNs, Stormwater, other objectives? Are there any other water conservation objectives (conservation, aesthetics, etc.) in addition to the IFNs that should be taken into consideration.
7. Two week period flushing flow - High Flow WCO
 - i. Who is responsible for determining when High Flow is to occur
 - ii. Will there be a set period (eg. June 1 to June 30)
 - iii. If a variable High Flow period is to be used, what will the criteria be for determining High Flows and when to start High Flow WCOs
 - iv. How will the public be informed to when the High Flow WCOs are in effect

8. It is the understanding of AENV that the urban Intermediate and High Flow WCOs do not reflect natural flow. Instead, these WCOs pertain to stormwater management issues and therefore, are not pertinent to the *Water Act* or a WCO.
9. AENV will consider any other methods and techniques that the Partnership proposes for the implementation of the WCOs, as long as they address the aforementioned concerns regarding implementation. Any WCO must be legally defensible.

Section 4.1 – Stormwater Management

As previously stated, it is the understanding of AENV that the urban Intermediate and High Flow WCOs pertain to stormwater management. The NCWMP will have to decide how stormwater will contribute to the High Flow WCOs. If stormwater is to contribute to High Flows, the Partnership must determine what their stormwater priorities are – capture/retention or contribution of stormwater during high flows.

There are many discrepancies between the language used in the NCWMP and AENV stormwater guidelines and other documents. The partnership should ensure that the language is consistent between the existing AENV guidelines and the NCWMP. The Partnership should also consider reviewing AENV existing Stormwater guidelines and incorporate applicable guidelines into the NCWMP.

The following are specific questions/comments regarding terminology in the Stormwater section:

1. Page 22 Minimum Runoff Capture Volume – Imperative that terms used for stormwater in Nose Creek WMP be the same or similar as those terms used in AENV’s Stormwater Guidelines. (terms in Nose Creek WMP seem awkward and manufactured)
2. Page 23 Water Quality Capture Volume
 - o The term “water quality volume” is awkward and AENV feels is unnecessary. “Water quality volume” is meant to replace the wording “the captured/stored water volume required for water quality improvement.” The expectation by AENV is that for those “stormwater directed” communities, storm ponds are required to have proper storage and quality enhancement, making the term “water quality volume” unnecessary.
 - o mention of accumulations of contaminants on impervious surfaces and how, if not captured and untreated will be washed into streams. Intent to “capture on-site and reused, infiltrated or evaporated.” (page 22 Minimum Runoff Capture Volume) What about those same dissolved contaminants in the stormwater intended for re-use (irrigation?) and/or infiltration into the groundwater?

AENV comments on the Stormwater Recommendations:

1. Page 23 Recommendations.....(d) “The developer or a representative of the developer should be responsible for selecting the source control BMPs....”

- This statement may give the false impression that AENV has no say in the BMPs that are used in developments. AENV (EPEA) has directed most communities (subdivision approving authorities) in the Calgary area to ensure that stormwater quality enhancement features are incorporated into new stormwater facilities. (stormwater directed) Certain storm BMPs may or may not be acceptable to the municipalities and/or AENV depending on the specific site and circumstances. The municipalities (subdivision approving authorities) then dictate the minimum BMPs that can be used within their municipal boundaries. The choice that developers then have for stormwater BMPs are from a list of acceptable BMPs from the communities and AENV, not just any BMP.
2. Page 23 Recommendations.....(d) and Page 24 Recommendations for Interim Water Quality Volume Capture (g)
- Source control BMPs are mentioned on both pages (23 & 24), there may be some confusion as to exactly what the definition of a source control BMP is. As per AENV stormwater Guidelines, source control BMPs are “street cleaning”, “catchbasin cleaning”, and “animal litter removal”. The AENV Stormwater Guidelines list groups of stormwater BMPs as follows: source control BMPs, (cleaning, animal waste etc.) -lot level BMPs (grading, rooftops, on-lot infiltration etc.) -Stormwater conveyance Systems BMPs (pervious pipes and catchbasins, grassed swales etc) -End of Pipe BMPs (wet ponds, dry ponds, wetlands, oil and grit separators etc. Mention of BMPs must be consistent with existing understood categories of BMPs.
3. Page 24 Recommendations for Interim Water Quality Volume Capture – “Dry ponds retrofit to low flow sediment removal facilities”
- Siting of dry ponds is generally less restrictive than wet ponds. (AENV Stormwater Guidelines 3-13) Aesthetics of dry ponds for size and shape are usually not an issue. There may be a considerable backlash if retrofitting was planned in communities that have existing dry ponds, as they would be considerably wetter for longer periods. Does retrofitting to a low flow sediment removal facility mean the flow restriction with ultimate drainage like a dry pond was designed to do, or the creation of a permanent pool forming a wet pond? Dry storm ponds usually do not have sedimentation forebays, which is integral in stormwater treatment (settling of TSS) and allows for easier maintenance. The lack of a sedimentation forebay would suggest that stormwater maintenance costs would certainly increase for the municipality. The permanent pool of a wet pond is the major water quality improvement mechanism. Would a retrofitted dry storm pond have a permanent pool for water quality? The permanent pool of a wet pond promotes stormwater treatment through displacement and biological activity (algae). Usually dry storm ponds are considered / constructed to maximize land uses. Often sports fields and playground equipment are located within dry storm ponds. Safety, cleanup and maintenance of the fields after a rain event may become an issue with a retrofitted dry pond / sports area.

4. Page 25 Recommendations for Increased Sediment and Erosion Control – p) “Valued ecosystem components”
 - Who has defined, and where is the definition of what a “valued ecosystem component” is? Value is relative and may not mean the same thing to all people. How is an escarpment valuable, and to whom it is valuable? Is this list definitive, and is there a hierarchy or priority?
5. Page 25 Recommendations for Increased Sediment and Erosion Control – q) “Sedimentation and Erosion Control Manual”
 - Is everyone now expected to adopt the City of Calgary’s Sediment and Erosion Control Manual?
6. Page 25 Recommendations for Increased Sediment and Erosion Control – r) “City of Calgary’s Sedimentation and Erosion Control Manual should be updated”
 - Is the City of Calgary on-side with this suggestion? Who is going to do this updating manual work?
7. Page 25 Recommendations for Increased Sediment and Erosion Control – t) “responsibility for providing sediment control measures”
 - The developer usually receives a stripping and grading permit from the subdivision approving authority for the site. Usually in that S&G permit, there are requirements for sedimentation and erosion control. Both the developer and the subdivision approving authority also may have some responsibility under EPEA for any adverse affect that sediment from stormwater leaving the development may have on adjacent streams or property.
8. What about snow disposal/storage as it relates to runoff water volume and quality?

Section 4.1.3 Implementation, Jurisdiction and Enabling Legislation

Alberta Environment- Enabling Legislation - the following references must be **included** to fully document the legislated requirements under EPEA:

- EPEA Revised Statutes of Alberta 2000 Chapter E-12 Part 2-Division 2- (Approvals, Registration, and Certificates)
- Activities Designation Regulation AR 276/2003 Schedule 2, Division 2 (Substance Release- construction, operation or reclamation of a storm drainage system)
- Wastewater and Storm Drainage Regulation AR 119/1993 Sections 5-6.1(3) (Design standards, extension of collection system, storm treatment facilities)

- Approvals and Registrations Procedure Regulation AR 113/93 Section 3(1)(2) (Requirements of Application), Sections 4, 5, and 6 (application completion, review and scope of review)
- Standards and Guidelines For Municipal Waterworks and Storm Drainage Systems (January 2006)

Section 4.2 - Riparian Protection

Any work within a water body would require an Approval under the *Water Act*. Any activities outside of a water body, as defined in the *Water Act*, would be outside of AENV jurisdiction. It would be up to the local authorities to implement the setbacks under their applicable legislation.

With respect to the loss of ephemeral wetlands, Alberta Environment must issue an Approval for work in or the removal of wetland. Wetland retention and compensation are considered in our decisions. Please refer to the Wetland Restoration/Compensation guides and policies stated below.

Section 4.3 – Water Quality Protection

Source Water Protection

A source water protection plan has to be developed and implemented as a cross-jurisdictional process as there would be multiple stakeholders involved with various aspects of implementing any plan. A Source Water Protection plan may trigger legislative requirements under the *Water Act* and *EPEA*. The Nose Creek Watershed Partnership, in part, would be responsible for developing the Source Water Protection Plan.

With respect to the recommendation for “all wetlands should be retained”, wetland retention and compensation is already considered in AENV decisions. Please refer to the Wetland Restoration/Compensation guides and policies stated below.

Channelization

The effects of channelization are taken into consideration during AENV’s review of Water Act applications.

Section 4.3.3 - Implementation, Jurisdiction and Enabling Legislation

Alberta Environment- Enabling Legislation - the following references must be **included** to fully document the legislated requirements:

- *Water Act*
Section 36 states that “no person may commence or continue an activity except pursuant to an approval unless it is otherwise authorized under this *Act*
Any work in or on a water body would require an Approval under the *Water Act*
- *Wetland Management in the Settled Area of Alberta – An Interim Policy*

- Alberta Water Resources Commission, May 1993
- *Wetland Restoration Program Water Act Approval Administrative Guide*
Alberta Environment/Ducks Unlimited Canada, May 24, 2005
- *Provincial Wetland Restoration/Compensation Guide*
Alberta Environment, November 2005

Section 4.5 – Compensation, Mitigation and Restoration

Compensation, mitigation and restoration are taken into consideration during AENV's review of Water Act applications. Any restoration work would have to be promoted by the Nose Creek Partnership. Alberta Environment is not in the business of conducting stream restoration.

Section 4.5.4 - Implementation, Jurisdiction and Enabling Legislation

Alberta Environment- Enabling Legislation - the following references must be **included** to fully document the legislated requirements:

- *Water Act*
Section 36 states that "no person may commence or continue an activity except pursuant to an approval unless it is otherwise authorized under this *Act*
Any work in or on a water body would require an Approval under the *Water Act*
- *Wetland Management in the Settled Area of Alberta – An Interim Policy*
Alberta Water Resources Commission, May 1993
- *Wetland Restoration Program Water Act Approval Administrative Guide*
Alberta Environment/Ducks Unlimited Canada, May 24, 2005
- *Provincial Wetland Restoration/Compensation Guide*
Alberta Environment, November 2005

Section 4.6 – Class Structure of Nose Creek and West Nose Creek

Reclassification of Nose Creek would have to be determined by Alberta Sustainable Resource Development (SRD) Fisheries Biologist after reviewing supporting evidence for the classification change. The partnership should contact SRD regarding the reclassification and determine the process and information required to reclassify Nose Creek.

Section 4.7 – Cumulative Effects Assessment

Any Cumulative Effects Assessments completed by the Partnership, developers, other stakeholders, etc. for the Nose Creek Watershed could be considered in the AENV's review of applications for a licence and/or an approval.

Valued Ecosystems Components (VECs) must be clearly defined. The VECs should be determined with consultation and consideration from the public to determine which VECs are a priority in the Nose Creek Watershed.

General Recommendations/Comments

A list of the NCWMP recommendations and AENV jurisdiction and specific legislation is enclosed.

Formatting

There are formatting issues and making it difficult for the document to be legal and enforceable under AENV's legislation. The following should be considered:

1. Separate AENV/ Nose Creek Watershed Management Plan Document for AENV's consideration
 - All sections and recommendations under AENV jurisdiction should be compiled into a separate document (e.g. Matters and Factors for consideration by AENV) to the NCWMP.
 - Water Management Plans are a *Water Act* concept. There is no reference to Water Management Plans in *EPEA*. Therefore, the Draft Nose Creek Management Plan should be separated into three documents for review and consideration:
 - a. Matters and factors pertaining to the *Water Act*
 - b. Matters and factors pertaining to the *Environmental Enhancement and Protection Act*
 - c. Matters and factors pertaining to the other jurisdictions
 - To avoid cross-jurisdictional complications (AENV being seen responsible for areas outside of our jurisdiction by signing the whole document), AENV can only consider the matters and factor pertinent to the *Water Act* and *EPEA* in the separate documents.
 - AENV only has jurisdiction over the *Water Act* and *EPEA*. AENV does not want the public or other stakeholders to believe that we are responsible for legislation that is outside of our jurisdiction. AENV may, upon detail review, promote the recommendations and comments in the NCWMP, however, can only approve those recommendations and comments under the *Water Act* or the *Environmental Protection and Enhancement Act*.

Grammatical and Format Comments:

- Pg 11 Section 3.1 – 2nd paragraph refers to “unnatural erosion” - What is unnatural erosion?
- Pg 15 Section 3.4 – (AENV Factsheet) is referenced but does not appear in the Literature Cited
- Pg 17 Section 3.5 – Recommendations r), s) and t) are repeat recommendations of o), p) and q) on pg 16
- pg 22 to pg24 - Mislettering of recommendations in grayed box..... a,b,c,d,f.....no letter “e”
- Pg 36 Section 4.2.3 – Section refers to a “qualified environmental professional (QUES)”, is this suppose to refer to a qualified aquatic environmental specialist

(QAES), which is referred to in the Water Act – Code of Practice. If it is not referring to a QAES, the a “qualified environmental professional (QUES)” should be clearly defined

- Pg 70 Section 7.0 – “van der kamp” should be “van der Kamp”
- Throughout the document - Section 7.0 Literature Cited – (Stanley Associates Engineering Ltd. (Stanley) 1998) is referenced throughout the document. The reference in the document should be either (Stanley, 1998) and have Stanley Associates Engineering Ltd. (Stanley) 1998 in the Literature Cited or the reference should be just (Stanley Associates Engineering Ltd. 1998)