



CANADIAN ENVIRONMENTAL LAW ASSOCIATION  
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

March 6, 2009

**BY EMAIL**

Catherine Staples  
Fleming College  
Frost Campus  
200 Albert Street South  
Lindsay, Ontario  
K9V 5E6

Dear Ms. Staples:

**RE: DRAFT WATER SUPPLY WELLS BEST MANAGEMENT PRACTICES  
MANUAL (DECEMBER 2008)**

---

The Canadian Environmental Law Association (“CELA”) is pleased to provide our comments on the draft *Water Supply Wells Best Management Practices Manual* (“the Manual”), which we received in late December 2008.

At the outset, CELA wishes to commend the Ministry of the Environment (“MOE”) for not only making significant progress on the long overdue Manual, but also for establishing a multi-stakeholder group to review and comment upon the draft Manual.

We hasten to add, however, that once the Manual has been revised to reflect the stakeholders’ comments, the Manual should be subject to broader public notice and comment via the EBR Registry. Thereafter, the finalized Manual should be expeditiously released and widely distributed for use by well contractors and well owners across Ontario.

In general terms (and subject to the comments below), CELA is satisfied with the overall structure and content of the draft Manual. Once it has been finalized, we anticipate that the Manual will provide important, informative and user-friendly guidance on how to comply with provincial standards set out in Regulation 903.

We note, however, that in many instances, the Manual describes Best Management Practices (“BMPs”) that are omitted from, or are not required by, the current wording of Regulation 903. This observation is not intended to be a criticism of the Manual *per se*; instead, this situation demonstrates the need to review and revise Regulation 903 itself to ensure that it is effective, enforceable and truly reflective of well-related BMPs (particularly those intended to safeguard human health).

As a matter of law, the BMPs in the Manual are not enforceable in and of themselves – only the provincial standards set out in Regulation 903 are enforceable. As discussed below, however, there are several instances where the Manual specifies a BMP for which there is no corresponding requirement in Regulation 903, and for which there is no legal remedy if there is non-compliance. Accordingly, please be advised that we will be pursuing and elaborating upon the need for further regulatory reform in a separate submission to the MOE.

In the meantime, our comments about the draft Manual are set out below:

1. While our copy of the draft Manual contains a chapter entitled “Definitions and Clarifications”, it does not contain the proposed glossary. Accordingly, we are unable to comment on the nature or extent of the Manual’s glossary. However, we submit that a well-crafted and concise glossary is necessary to succinctly explain the numerous technical words, phrases and concepts sprinkled throughout the draft Manual and Regulation 903.
2. Similarly, our copy of the draft Manual does not contain a “resources” chapter, which we presume is intended to provide a centralized list of documents, reports, or other sources of information (including online references). Accordingly, we are unable to comment on the adequacy of the intended “resources” chapter. However, we would strongly suggest that this chapter should include not only references to materials prepared by regulatory agencies (i.e. MOE), but also to relevant and useful materials prepared by private authors, industry associations, academic institutions, and non-governmental organizations.
3. We understand that since the draft Manual focuses upon water supply wells, the MOE intends to produce similar manuals in respect of geotechnical test holes and dewatering wells. Given the nature and number of these non-supply wells across Ontario, CELA submits that these other manuals should be produced in a timely, efficient and open process.
4. We note that our binder of review materials includes a complete copy of Regulation 903, but it is not clear to us whether the Manual itself will include the Regulation in its entirety. As the Manual points out repeatedly, the BMP directions set out in the Manual are not intended to trump or supersede the actual requirements of Regulation 903 or the *Ontario Water Resources Act* (“OWRA”). Accordingly, CELA submits that it would be highly beneficial for the Manual to contain an appendix containing the full text of Regulation 903 as well as the relevant sections of the OWRA. In our view, having ready access to these legal requirements in the Manual could help resolve interpretive difficulties that may arise during the application of provincial standards to site-specific cases.
5. We have a number of concerns about certain aspects of the well construction/casing matters addressed by Chapter 5 of the Manual. These concerns may be summarized as follows:

- the Manual correctly states (page 29) that well constructors are required to notify the well purchaser, landowner and MOE “if natural gas is encountered.” The term “natural gas” is broadly defined in Chapter 2, and this reporting obligation is further addressed in Chapter 13. However, it appears that the Manual fails to specify or suggest the types of gas detection equipment which should be employed as a BMP in order to properly test for natural gas. In addition, the Manual appears to provide no upfront direction on the areas of the province where such gases are more likely to be encountered. In CELA’s view, these two matters should be specifically addressed in Chapter 5. In addition, it appears that these matters are not adequately addressed in Regulation 903, thereby underscoring the need to review and revise the Regulation;
  - the Manual describes various well screen characteristics (pages 47 to 51), but does not seem to adequately specify that as a BMP, concrete casings used as well screens need to have sufficient structural strength to prevent well collapse and to ensure well safety. We have a similar concern in relation to the need to ensure that fibreglass casing (page 34) and screens are appropriate for the environment in which they are installed in order to prevent well collapse and to ensure well safety. In CELA’s view, these two matters should be specifically addressed in chapter 5, and addressed in amendments to section 13 of Regulation 903;
  - the Manual states that it is a BMP to use and properly attach centralizer devices to the outside of the casing to ensure the casing is centred and vertically plumb in order to create an appropriate annular space for sealing purposes (page 45). However, it appears that the use of centralizers is not actually prescribed by Regulation 903, which, in our view, points to the need for an amendment to section 13 of Regulation 903; and
  - Chapter 5 does not seem to stipulate that as a BMP, a post-construction downhole video camera inspection should be undertaken to ensure that the casing is properly seated, and that joints (i.e. between casing sections, or between the casing and well screen) are watertight. In addition, such video inspections can provide a good record of baseline conditions in cases where future alterations are required, or where the well needs to be plugged, sealed and abandoned. Accordingly, CELA submits that this matter should be specifically addressed in Chapter 5, and addressed in amendments to Regulation 903.
6. We have a number of concerns about the well disinfection matters addressed by Chapter 8 of the Manual. These concerns may be summarized as follows:
- we note that the Manual states that it is a BMP to undertake post-disinfection bacteriological testing of the wellwater to ensure the absence of potentially harmful pathogens (i.e. *E. coli* and total coliform). While this suggestion is consistent with the multi-barrier approach and the well disinfection advice received by the MOE from the Ontario Drinking Water Advisory Council, CELA notes that this BMP is not actually prescribed or required by section 15 of Regulation 903. As drafted, section 15 only requires measurement of free chlorine residual, not bacteriological sampling/analysis. In our view, this is one of the most serious examples of the above-noted “disconnect”

between the Manual's BMP's and the actual requirements of Regulation 903, and it is a topic that requires an immediate regulatory amendment;

- it further appears that Regulation 903 does not require BMPs in relation to free chlorine residual measurements, bacteriological sampling/analysis, or pumping out of chlorinated water in situations where the wellwater will not be used for human consumption purposes. Again, it is CELA's view that regulatory amendments are needed to close this loophole;

- while the Manual discusses the need for thorough flushing of the well prior to disinfection (page 14), it does not appear that any of the recommended measures have attained the status of a specific BMP in the Manual. Thus, CELA submits that at the very least, these flushing steps should be elevated to, and described as, a BMP (especially the requirement to flush the water column at least twenty times). In our view, it is essential that proper well flushing be undertaken in order to clean the well and to remove biofilm which may contain or hide bacteria. We would also point out that the flushing steps recommended by the Manual are not expressly required by section 14.8 or section 15 of Regulation 903, which demonstrates the need for further amendments to Regulation 903; and

- among other things, the Manual's chlorination procedures specify that it is a BMP to multiple the wellwater volume by 4 or 5 times in order to kill not only bacteria in the well column itself, but also any bacteria that may be present in the aquifer close to the well. This BMP also correctly suggests chemical mixing be performed above-ground. However, neither of these matters is prescribed by section 15 of Regulation 903, thereby pointing to the need for further regulatory reform;

7. We have a number of concerns about the well abandonment matters addressed by Chapters 13, 14 and 15. These concerns may be summarized as follows:

- there are numerous references in the Manual to the obligation of the well owner (not well constructor) to ensure that a well is properly abandoned if prescribed conditions occur and cannot be remedied (i.e. natural gas, dry well, non-potable water, mineralized water, etc.). While this is consistent with the detailed abandonment requirements prescribed by section 16.5 and section 21.1 of Regulation 903, CELA remains concerned that if there are abandonment-related problems, the MOE may enforce the regulatory requirements against the innocent well owner, even where he or she may have been the victim of substandard work by well contractors. Thus, if the MOE wants to preserve its ability to go after well contractors for non-compliance with abandonment requirements, then Regulation 903 will have to be amended accordingly; and

- for certain alterations, it appears that section 14.11 and section 16.3 of Regulation 903 requires that a well tag be affixed to the well, but the well record does not have to be completed. CELA views this as a problematic scenario, as well tags and completed well records are essential to ensuring the accuracy and reliability of the MOE's database. Simply put, without a well record, no one (other than the well owner and/or contractor)

will know that the well exists, thereby defeating the purpose of having a well tag (or a database) in the first place.

We trust that the foregoing comments will be taken into account as the Manual is reviewed, revised and finalized in the coming months.

Please feel free to contact the undersigned if you have any further questions or comments about these submissions.

Yours truly,

**CANADIAN ENVIRONMENTAL LAW ASSOCIATION**



Richard D. Lindgren  
Counsel

CELA Publication #644

cc. The Hon. John Gerretsen, Minister of the Environment  
Gord Miller, Environmental Commissioner of Ontario