

CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS

E3 – ENVIRONMENTAL MANAGEMENT

October 2023

Note: This examination consists of 5 questions on 1 page.

Please read each question carefully.

<u>Q.No</u>	<u>Time: 3 hours</u>	<u>Marks</u>	
		<u>Value</u>	<u>Earned</u>
1.	<p>A local firm has proposed to development of 5- and 10-acre parcels to be sold as hobby farms. This development is surrounded by natural vegetation (it could be forest or prairie grass). In an open-house meeting to discuss the proposed development, many local residents – deeply aware of recent wildfires in areas with similar vegetation and climate - raised the issue of wildfire risk.</p> <p>a) In your opinion, has the risk of wildfire encroachment on settlements increased in Canada? Support your answer.</p> <p>b) What suggestions can you make to reduce the risk of future wildfires destroying homes in this subdivision?</p>	20	
2.	<p>Stormwater engineers know that developing natural watersheds (for example by allowing subdivisions for residential housing) usually results in changes to downstream environments, namely increased bank erosion, scouring of river beds (sometimes endangering bridge and shore infrastructure) and alteration of fish habitat.</p> <p>a) Why does this happen?</p> <p>b) How can this effect be reduced?</p>	20	
3.	<p>Japan is releasing stored contaminated water from the failed Fukushima power plant. The contaminant of concern is radioactive tritium, an isotope of hydrogen. Tritium has a half-life of 12.3 years. Proponents invoke the phrase ‘the solution to pollution is dilution’.” Opponents invoke the concept of ‘biomagnification’ and point to mercury-contaminated salmon or pesticides in the milk of killer whales. How do the concepts of dilution and biomagnification relate to the debate on the Fukushima water release?</p>	20	
4.	<p>Risk assessment for soil contamination varies across the provinces and territories of Canada.</p> <p>a) In general terms, describe a typical 3-phase approach to determining the risk that soil in a property has been contaminated.</p> <p>b) Why does this approach contain three different phases?</p>	20	
5.	<p>Describe the main environmental issues in the construction of oil pipelines in Canada.</p>	20	
Total Marks:		100	