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### **3.0 PRINCIPLES**

#### **3.1 Use and Respect for Traditional and Community Environmental Knowledge**

The value of traditional and community environmental knowledge in the preparation of Environmental Impact Statements is widely accepted. Bilcon of Nova Scotia Corporation, for the subject study, gathered extensive input with respect to community environmental knowledge over a four-year period and this was used extensively throughout the preparation of the EIS.

It is, however, unfortunate that the Aboriginal Community did not make their Traditional Knowledge available to Bilcon of Nova Scotia Corporation until January 10<sup>th</sup>, 2006, when the study entitled “*Mi’kmaq Use of Oositookum (Digby Neck), It’s Surrounding Waters, and The Mainland Shore of St. Mary’s Bay Report*”, (see Appendix 16), prepared by the Confederacy of Mainland Mi’kmaq was submitted to the Panel. Reference to Section 9.3.5 of the EIS sets out the steps taken by Bilcon of Nova Scotia Corporation to engage the Aboriginal Community in consultation from the fall of 2002.

Notwithstanding past difficulties, Bilcon of Nova Scotia Corporation is committed to working with the Aboriginal Community and looks forward to further dialogue.

Valuable information was obtained during the preparation of the EIS from the Community Environmental Knowledge gathering process on virtually all the Valued Environmental Components (VECs) and this information was instrumental in the selection of the VECs and contributed significantly to a better understanding of the potential impacts of the project.

#### **3.2 Public Involvement**

Bilcon of Nova Scotia Corporation recognises public participation as a crucial objective in the environmental assessment process and the EIS sets out the various elements of public involvement and consultation which contributed to the EIS.

In this regard, it should be noted that Bilcon of Nova Scotia Corporation commenced public consultation in July 2002, with the formation of the Community Liaison Committee (CLC) for the 4 hectare quarry, and has maintained an office in Digby since July 2002. Bilcon of Nova Scotia Corporation initiated these activities almost a year prior to the Project being placed in a Panel Review process.

Bilcon of Nova Scotia Corporation has encouraged public consultation through:

- The CLC
- Open Houses
- Newsletters
- Attitude Survey
- Quality of Life Survey
- Traditional Knowledge Gathering
- Bilcon of Nova Scotia Website
- Office Drop-ins

Bilcon of Nova Scotia Corporation is committed to continuing the public consultation process throughout the life of the Project.

All comments received from the public have been addressed and a Concordance Table (see Chapter 5) sets out each of the issues and concerns raised over three and a half years of consultation, in addition to the section of the EIS that deals with those issues and concerns.

### 3.3 Sustainable Development

*The Canadian Environmental Assessment Act* defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. This means managing any adverse effects of the Whites Point Project to achieve the goal of protecting the environment, as well as the economic and social health of present and future generations. Paragraph 3.3 of the Environmental Impact Statement Guidelines provides project related specifics.

To realize the aims of sustainable development, this EIS takes the first step of identifying ecosystem boundaries and ecosystem elements, or valued environmental components (VECs), such as physical, biological, and human resource elements. This is followed by establishing measures to ensure the protection of these elements from adverse effects of the project through the conservation of ecosystem health within predetermined boundaries.

Protection of the ecosystem elements is to be ensured through the proactive approach of adaptive management. Adaptive management employs the precautionary approach to environmental decision-making and enables Bilcon of Nova Scotia Corporation to intervene in a timely manner to control environmental damage that may arise from the project. This is accomplished through the use of additional mitigation or effects avoidance techniques thus ensuring sustainability. Bilcon’s commitment to this approach is outlined elsewhere in the EIS and detailed strategies in this regard are noted throughout the EIS.

Bilcon of Nova Scotia Corporation acknowledges its obligation to ensure that this project is undertaken in a manner consistent with the goals of sustainable development – the efficient and environmentally responsible use of resources. This commitment to sustainable development is reflected throughout this EIS.

### 3.4 The Ecosystem Approach

The ecosystem approach evolved from the Convention on Biological Diversity (Reference 165-Secretariat of the Convention on Biological Diversity 2001-2005). It is a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way. A balance of three objectives – conservation, sustainable use, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources are the basis of application of the approach.

Further, the ecosystem approach is based on the application of appropriate scientific methodologies focused on levels of biological organization which encompass the essential structure, processes, functions, and interactions among organisms and their environment. It also recognizes that humans, with their cultural diversity, are an integral component of many ecosystems. This focus on the structure, processes, functions and interactions is consistent with the definition of “ecosystem” provided in Article 2 of the Convention on Biological Diversity.

“Ecosystem means a dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit”.

Realizing the complex, dynamic, and dimensional nature of ecosystems in time and space, the ecosystem approach requires adaptive management to deal with uncertainties and in many cases the absence of complete knowledge or understanding of their function. There is no single way to implement the ecosystem approach. However, the following twelve principles create a complementary and inter-linked framework.

1. The objectives of management of land and living resources are a matter of societal choice.
2. Management should be decentralized to the lowest appropriate level.
3. Ecosystem managers should consider effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem – management programme should: (a) reduce those market distortions that adversely

affect biological diversity: (b) align incentives to promote biodiversity conservation and sustainable use; and (c) internalize costs and benefits in the given ecosystem to the extent feasible.

5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a target of the ecosystem approach.
6. Ecosystems must be managed within the limits of their functioning.
7. The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.
8. Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objective ecosystem management should be set for the long term.
9. Management must recognize that change is inevitable.
10. The ecosystem approach should seek the appropriate balance between and integration of conservation of biological diversity.
11. The ecosystem approach should consider all forms of relevant information, including scientific and indigenous local knowledge, innovations and practices.
12. The ecosystem approach should involve all relevant sections of society and scientific disciplines.

The following five points provide operational guidance for application of the ecosystem approach.

1. Focus on the functional relationships and processes within ecosystems.
2. Enhance benefit-sharing.
3. Use adaptive management practices.
4. Carry out management actions at the scale appropriate for the issue being addressed, with decentralization as appropriate.
5. Ensure intersectoral cooperation.

The preparation of this Environmental Impact Statement has applied, to the extent practical under the EIS Guidelines (Reference 37) requirements, the principles and guidance contained in Division V/6 of the Convention on Biological Diversity. As advancements in ecosystem knowledge and science evolve over time, Bilcon of Nova Scotia Corporation will adhere to a precautionary approach and an adaptive management process as more fully described in the next section of this report.

### 3.5 The Precautionary Approach

The precautionary principle is now commonly used to guide environmental decision-making when faced with scientific uncertainty and insufficient knowledge. The most widely accepted definition of the precautionary principle is that developed at the 1992 Rio Conference (Reference 95 - Anonymous 1992). This definition states that “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.

At the Whites Point Quarry and Marine terminal, Bilcon will apply the precautionary principle to all phases of the project through its approach to environmental risk management. In this case, risk management combines an understanding of baseline conditions with the effects of the project operation itself to determine the appropriate techniques to ensure that mitigation and monitoring objectives are respected.

Where there is uncertainty with respect to the effectiveness of measures that are used to prevent serious or irreversible environmental damage, Bilcon will take an adaptive management approach. Adaptive management uses monitoring results to accommodate uncertainty. This will permit early intervention through the use of additional mitigation, or avoidance, to control potential environmental damage.

The use of an adaptive management approach, based on scientifically defensible performance based standards, will be adhered to by Bilcon during the life of the project. Performance based standards are physical, biological and human indicators or thresholds that approximate and rank the quality of the environment in the area. As scientific knowledge expands, these standards may be refined to provide more confidence in environmental decision-making.

Bilcon’s commitment to the use of the precautionary approach in environmental decision-making is reflected throughout this Environmental Impact Statement. Various phases of the project exhibit this approach including project planning, design, construction, operation, and closure. Specific examples of how the precautionary approach was applied are contained in subsequent sections of the Environmental Impact Statement.