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ENVIRONMENTAL MANAGEMENT ACTION PLAN

Submitted to:

Atikameksheng Anishnawbek

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Submitted by:

WESA™
a BluMetric™ company

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EXECUTIVE SUMMARY

Environmental management is the management of the interaction and impact of human societies on the environment in order to preserve natural resources. This document was created to assist the community of Atikameksheng Anishnawbek with development of an environmental management system for their community. An environmental management system includes a number of components, some of which are being developed externally to this deliverable. The other components include development of environmental laws and policies, and development of an environmental assessment process and toolkit. These components are being developed collaboratively with the staff and community members of Atikameksheng Anishnawbek.

The purpose of this document is to provide guidance to staff of the community on future actions that are required for Atikameksheng Anishnawbek administration to adequately manage its reserve land under the Land Management Code signed by the community in 2009. Selected sections of the document may also be provided to individuals, companies, or other government agencies at the discretion of administration.

This document includes three main sections. The first portion of the document (Community) gives a brief historical background of the community in terms of the land and the treaty. The second section (Background Information) summarizes key background information about the community and the local environment. The third portion of the document identifies the processes used to obtain input on environment management from the community, and documents the issues of concern (Issues Identification). Issues covered are categorized into classifications such as water, air, land, forestry, wildlife, human health, and recreational uses. Lastly, the fourth and final portion of the document (Management System and Action Plan) summarizes the recommended actions the community may choose to take, to address the issues the community is faced with. It provides guidance about how the environment should be managed.

The Environmental Management System is made up of a number of components. These will include development and endorsement of a Land Use Plan, development and endorsement of

community laws (including an environmental assessment law), program development, environmental monitoring, land tenure, permitting and revenue generation, advocacy and political actions, judicial and enforcement actions, development and use of information management systems, and education, consultation and communication with community members. The action plan also identifies specific on-the-ground objectives that will assist the community with achieving its objectives.

The Action Items are organized into a series of tables which are coded according to the specific management component that they refer to. The last portion of the document (Resources) discusses staffing and resource requirements to implement the management actions identified.

The operationality of this document is dependent upon the resources and staffing that will be selected to implement it and the dedication and skill through which the actions identified will be implemented. As part of the implementation of this plan, an evaluation and amendment process has been included. This will permit the implementers of the plan to gauge the effectiveness of the identified actions and to incorporate new goals and objectives as the community grows and develops.

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1. INTRODUCTION

In the winter of 2014, Atikameksheng Anishnawbek Lands Department initiated a process to develop an Environmental Management Action Plan (EMAP) with the assistance of WESA, a division of BluMetric Environmental Inc. (WESA). An EMAP outlines a systematic approach to identifying environmental issues or concerns and identifies and prioritizes the required actions that are required to be taken to properly manage the environment. Atikameksheng Anishnawbek is in need of such a tool to ensure the protection of the natural environment on-reserve and to establish and maintain the core mission and vision for environmental management. Figure 1 illustrates the key components in an Environmental Management System. The Environmental Management Action Plan is one of four components that together with the other components, contributes to a full system of Environmental Management.

Implementation of the plan would not be possible without the other components of the plan which include development of a regulatory framework that include and describe the laws, regulations and policy pieces along with approval mechanisms such as permits and leases. Enforcement of the policies and laws is a key component but cannot be achieved without dedicated staff and resources. Environmental stewardship and monitoring also plays a key role in management of the environment by providing the baseline data to characterize and scrutinize how management actions may be affecting the environment. Monitoring can be done to establish the current status of the environment, to assess the environmental impact of a project, or to establish trends in environmental parameters.

Figure 1: Environmental Management System Model

What is Environmental Management?

Environmental management is the management of the interaction and impact of human societies on the environment in order to preserve natural resources. Effective environmental management is dependent upon regulatory frameworks, policies and initiatives, policy implementation, and appropriate environmental monitoring (Regional Aquatics Monitoring Program, 2014).

What is a Regulatory Framework?

A regulatory framework is a structure of regulations, authorizations, permits and approvals that govern a given development project or activity. Regulatory frameworks aim to manage the potential effects of development, to minimize undesirable outcomes, to maximize potential benefits, and to provide accountability to the public. Examples include federal and provincial laws.

Environmental Monitoring is an important tool for collecting information about environmental conditions. It includes sample and data collection, and analysis, interpretation and reporting. Environmental monitoring can be accomplished through Resource Stewardship.

Policy Implementation-Policies and initiatives may be implemented through use of incentives, by encouraging compliance through education and awareness, by incorporating policies and initiatives into laws or regulations, and by attaching penalties and fines for non-compliance.

Environmental management is complex and faces many challenges: competing interests among different groups who rely on natural resources, inappropriate policies and incentives, limited institutional capacity, and absence of alignment between ecological and administrative boundaries (Regional Aquatics Monitoring Program, 2014).

This document has been developed for the purpose of setting out a plan of action and system of guidance for further development of an Environmental Management System for Atikameksheng Anishnawbek. A component of this document will include a suggested monitoring program for the reserve lands of Atikameksheng Anishnawbek. Environmental Protection Laws are being prepared under separate cover. Also separate to this document, a Land Use Plan is being developed for the reserve. An Environmental Assessment Law and associated Environmental Assessment Process manual is also being developed separately. All of these documents, when completed and combined, will form an interconnected system with interconnected and clearly defined processes to ensure the smooth and efficient operation of the Lands Department of Atikameksheng Anishnawbek, and the stewardship and effective management of the reserve lands of Atikameksheng Anishnawbek.

1.1 PAST WORK

In February of 2009, the community passed a Land Management Code under the *First Nations Lands Management Act* (Appendix A).The passing of the Land Management Code gives the community the authority to develop its own laws and policies related to the development, conservation, protection, management, use and possession of Atikameksheng Anishnawbek lands. The EMAP will function as a process guide that will provide direction to the community, outside industry, Chief and Council, and internal committee members on what environmental and land-related issues and concerns the community is facing, how these issues should be prioritized and studied, and what tools the community can use to implement the recommended environmental management objectives. It will also outline how the community can successfully implement the laws and policies through standardized processes that will result in a transparent and fair manner of evaluating all lands and resources proposals on reserve.

In order for the EMAP to be successful, the resulting plan must be community driven. Traditional Ecological Knowledge (TEK*)* which is a legitimate environmental knowledge system can be drawn upon in the move towards sustainability. Many people in the community, such as Elders

or seniors, have lived in the community long enough to have become invaluable sources of information. Expertise also lies with resource users such as trappers, hunters, fishermen and gatherers of food and medicine. This knowledge is extremely valuable in identifying environmental problems as well as moving towards their resolution. The community's wealth of information, knowledge and expertise can therefore be harnessed to identify strategies to manage the land that are based in traditional values and belief systems.

2. THE COMMUNITY

2.1 THE LAND AND THE TREATY

Atikameksheng Anishnawbek, formerly known as Whitefish River First Nation, is located approximately 12 kilometers southwest of Sudbury, adjacent to the Town of Walden in Northeastern Ontario (Please refer to Figure 2.) It is accessed just south of Regional Road 55 near Naughton, Ontario. The reserve is a total of 19, 789 hectares of land that is bounded to the north by the Vermilion River and its associated lakes, which include Mud Lake, Simon Lake, McCharles Lake, Rat Lake and Little Rat Lake. The reserve extends to the south and west until reaching Lake Panache. Surrounding townships include Graham, Waters, Eden, Louise, Dieppe and Eden Townships which are located within the District of Sudbury.

Provincially, the community is part of the Ontario Shield Ecozone and regionally, it is part of the Georgian Bay Ecoregion 5E. This ecoregion is composed of Precambrian bedrock that is frequently exposed, creating a rugged landscape. Bedrock is covered with ground moraine (till) of variable depth and this ecoregion is dominated by mixed forests.

Vegetation is representative of the Great Lakes-St. Lawrence Forest Region and includes a mixture of northern and southern species. The surface area of this ecoregion includes lakes and rivers (10 %) and wetlands (2.5 %) which are rare here. The reserve is part of the Site District 5 E-5.

The physical geography of the area is comprised of the Proterozoic portion of the Canadian Shield and was formed over 680 million years ago. Atikameksheng Anishnawbek is located within WMU 42 (MNR, 2014. Wildlife Management Unit Maps). Please refer to Figure 3

2.1.1 The Treaty and Atikameksheng Anishnawbek

Atikameksheng Anishnawbek members are signatory to the Robinson-Huron Treaty of 1850 which was signed by Chief Shawenekezhik on behalf of the community. Members of the

community are of Ojibway, Algonquin and Odawa ancestry. The Robinson-Huron Treaty Area can be referred to in Figure 4.

In 1850, Chief Shawenekezhik, on behalf of the Whitefish Lake First Nation signed the Robinson-Huron Treaty granting the British Crown and their people (Royal Subjects) a right to occupy and share the lands of the Anishnawbek. Band Government falls under section 74 of the *Indian Act*. Elections are held every two years. In 2004, Chief and Council passed a Band Council Resolution for an 'Order in Council' to limit the number of Councilors elected into Office to seven (7). Band meetings are held bi-weekly. Each Council member holds a portfolio based upon the organizational structure of the First Nation. The First Nation Government belongs to a variety of political organizations such as the Assembly of First Nations, Chiefs of Ontario, Anishnawbek Nation and North Shore Tribal Council. Further information can be found on the community website (http://www. anishnawbek.ca/site/community/).

2.1.2 Physical Setting

2.1.2.1 Village Area

The Village area is situated in a valley at the northeastern corner of the reserve and is bounded by Simon Lake to the west. The community area is situated on a silty/sandy outwash plain with low local relief and wet and dry areas. The main village area is on a divide between lacustrine deposits of varved or massive clay and silt and ground moraine consisting of a sandy till mixed with large amounts of stones, boulders and gravel which provide good drainage (Henderson Paddon & Associates Limited, 2001). The original village has recently been expanded with the development of the Whitefish Lake Hill residential subdivision which follows a distinct east-west ridge which lies to the southwest of the Village. With the exception of a handful of rural residential dwellings, and the Whitefish Lake Hill Subdivision, all of the development is confined to the Village. An 18-lot industrial subdivision has been developed at the north end of the Village, abutting Junction Creek.

Overall, the topography of the reserve is undulating and rugged, with a number of ridges and bedrock outcrops at higher elevations to the north, east and south of the community lands. Drainage is generally from the northeast to the southwest with water flowing from Mud Lake through Junction Creek into Simon Lake. Drainage in the surrounding wetland areas is often restricted by localized rock outcrops or small ridges (Capital plan ref).

The reserve area is situated within the Sudbury Igneous Complex which is characterized by geological formations that have extensive mineral-bearing potential. The Copper Cliff Offset Dike may extend into the reserve which may contain Nickel-Copper-Platinum Group Elements.

2.1.2.2 Surrounding Land Uses

Long Lake Gold Mine

The southeastern part of the area adjacent to Eden Township is the site of a previously operated mine, the Long Lake Gold Mine. This area contains a contaminated site comprised of four tailings management areas (Figure 5). The southwestern portion of the reserve adjacent to Lake Panache is prospective for Copper-Nickel-Platinum Group Elements, polymetallic hydrothermal veins and skarn type mineralization associated with Nipissing gabbro (Tunnoch Consulting Limited et.al, 2012).

Village of Naughton

The Village of Naughton is directly adjacent to the Village area of Atikameksheng Anishnawbek and is situated along Regional Road 55. The village is home to historical plaques commemorating Salter's Meridian, a survey line associated with Sudbury's mineral deposits and the Hudson's Bay Company's historic Whitefish Lake Trading Post. The Walden Cross Country Ski Club is located just north of Regional Road 55 and contains over 23 km of cross country ski trails.

McCharles Lake Landfill Site-A landfill site is situated on the north side of McCharles Lake. The site is now the location of a waste transfer station known as the Walden Small Vehicle Transfer site which houses a location for blue box recycling, collection of electronic waste, freon containing appliances, scrap metal, tires, treated and painted wood waste, and leaf and yard trimmings.

To determine the surrounding land uses, a brief review of the Ministry of Natural Resources and Forestry (MNRF) Crown Land Use Policy Atlas was completed. Provided in Crown Land Use Atlas Map is a copy of the existing policies for these Crown land areas. Figure 6 (at end of document) illustrates the various forms of land tenure surrounding the reserve.

To the north, west, and northeast of the reserve, much of the land is private. Regional Road 55 runs from northeast to southwest in close proximity to the northern boundary of the reserve.

East of the reserve, along the eastern shoreline of Long Lake is C 157, the Eden Township Forest Conservation Reserve and the Tilton Forest Conservation Reserve (C210- lime green). These Conservation Reserves are approximately 145 and 725 hectares in size, respectively. Surrounding this area is a general use area known as Wanapitei River West General Use Area (G2044- yellow). South east of the reserve lands is an enhanced management area known as the Killarney East Area (E211a- orange) in addition to surrounding lands situated to the west of the reserve.

Killarney Provincial Park (P187- dark green) is located immediately south of the reserve across Lake Panache. Within this area are two designated Forest Reserves (dark orange). It is noted that Big Pine Island (located within Lake Panache) is classified as a general use area (G2047- yellow).

Through discussion with community members, it has been identified to WESA that portions of E 211a are referred to as potential area for an addition to reserve as the result of a land claim negotiation/legal action that is currently underway.

2.1.2.3 Land Claims

In 2007, the Ontario Court of Appeal made a decision in favour of the community in the case Whitefish Lake Band of Indians v. Canada (Attorney General) which set out for the first time a set of guidelines for establishing compensation for cases where the Crown allegedly breached its fiduciary duties to a First Nation band (Hosios & Smith, 2009). This case was related to the sale of timber on the reserve land that was made in 1886. A compensation amount was made, but the amount was appealed by the community. The current status of the case is unknown.

2.1.3 Mining

The greater Sudbury area has a long history of mining activities following the discovery of nickel ore in the 1800's. There are various companies who operate in the Sudbury area, an area. The major mining companies in the area include the following along with their target product/ service. A map of the major operational mines, and exploration sites in the Sudbury region can be viewed in Figure 7.

Locations for this map should not be relied upon for navigational purposes.

http://www.oma.on.ca/en/ontariomining/resources/advancedmineralprojects2013.pdf .

Table 1: Mining Companies in the Sudbury Area

Mining Company	Product/ Service
Vale INCO operates various mines (Totten, Coleman, Copper Cliff North and South, Creighton, Frood, Garson and Stobie) within the Sudbury area. They employ approximately 4,000 people and have one of the largest operations in the area. Vale is also responsible for the Ellen Pit, which is active. Currently nickel is actively mined, however exploration focus on additional reserves of nickel, copper and precious metals. As there are still many untapped deposits, mining operations are expected to continue for many decades. Currently, Vale INCO operates six mines, a smelter and a refinery in Sudbury making it the largest integrated mining operation in the world. Further information can be found on the company's webpage at www.vale.com.	Nickel- mineral extraction
Sudbury Integrated Nickel Operation, a Glencoe Company (formally Xstrata) operates underground mines, a mill and a smelter in the Sudbury areas. The two active mines in Sudbury are the Nickel Rim South and Fraser mines, the Nickel Rim South mine is currently the largest mining operation in Sudbury. The operations currently support approximately 1,200 workers and focuses on the extraction of nickel and copper. Further information can be found on their webpage at http://www.xstratanickelsudbury.ca.	Nickel, copper, cobalt, platinum and zinc
KGHM International (formally Quadra FNX Mining Ltd.) currently operates two underground mines within the Sudbury area; the Morrison deposit (formally Levack property) and the McCreedy West Mine. Advanced exploration work is underway for the Victoria Mine project. KGHM also is responsible for the Podolsky mine and the Kirkwood location. In November of 2014, KGHM and Atikameksheng Anishnawbek signed an Advanced Exploration Agreement for the Victoria project. Further information can be found on their webpage at http://www.kghminternational.com.	Nickel, Copper
Wallbridge Mining Company is currently operating its first mine (Broken Hammer) in Sudbury. They are also actively seeking additional properties in the Sudbury area with various partners and have various active joint venture development projects. Wallbridge currently has a signed Memorandum of Understanding with Atikameksheng Anishnawbek. Further information can be found on their webpage at http://www.wallbridgemining.com.	Copper, platinum, palladium and gold
First Nickel operates the Lockerby Mine within the Sudbury Area. Lockerby mine reached full production levels in Q1 2013 and is expected to hit its production target of between 13.5 and 15.1 million pounds of contained nickel in 2014. www.firstnickel.com	Nickel

It is important for Atikameksheng Anishnawbek to know what mining operations are currently being operated and/ or proposed in the areas surrounding the reserve lands to ensure ongoing protection of the environment and water quality and quantity. Mines contain various activities including road development, power generation, dams and impoundment areas each having their own potential environmental concerns. As part of future planning, the community should actively engage with mining companies in the region to explore the potential for development of Impact Benefit Agreements and explore opportunities for employment of members.

As seen in the figure below, the Atikameksheng Anishnawbek reserve falls within the actively mined areas in the south-west part of Sudbury. Thus, there is potential for mining operations to seek claims within reserve lands and explore potential mineral resources. To date, there are no active mining operations on-reserve. It is unknown if prospecting activity has occurred on the reserve.

As pressure from mining operations may occur in the future, it is important for the community to develop protocols and standards to ensure environmental protection on-reserve lands. This includes those being developed under the Land Management Code and Land Use Plan/Zoning By-Law, as well as, those recommended within this EMAP.

2.2 POPULATION

Atikameksheng Anishnawbek has a total population of 1183 band members, with 389 residing in the on-reserve community located immediately south of Naughton and 768 residents live off-reserve, the majority of these within the Greater Sudbury area (Miller, Melanie, 2014. Personal communication, Jan 15, 2015). There are 138 houses located in the community and 30 cottages owned by Atikameksheng Anishnawbek citizens on various lakes throughout the reserve land base. Many of the band members live off-reserve.

2.2.1 Certificates of Possession

There are a total of 65 Certificates of Possession (CP) on the reserve. Figure 8 illustrates the location of CPs in the village area and Figure 9 shows the CP locations in the vicinity of Lake Panache. The respective CP legal descriptions are outlined in Appendix B. Applications for CPs can be made to the Lands Office which currently go through a Simple Environmental Review process application.

2.3 SACRED AREAS

There are several sacred areas located on the Atikameksheng Anishnawbek lands which are outlined on Figure 10 Cultural Map. The Land Use Plan being developed for the reserve will provide additional updated information on cultural/sacred areas. These areas are described below.

2.3.1 Pigeon Mountain

Pigeon Mountain is located in the southwestern portion of the reserve and is accessed via Blackwater Lake Road. It is a popular site for fasting and other spiritual pursuits which may take place at any time of year.

2.3.2 Pow-Wow Grounds

The pow-wow grounds are located at the southern end of Whitefish Lake and are accessed via Blackwater Lake Road. These grounds are considered sacred and the annual pow-wow takes place July 28th-29th.

2.3.3 Burial and Archaeological Sites

Known burial sites are located at the north end of Round Lake, at the south end of Whitefish Lake, and along the northern shoreline of Lake Panache (Panache). A spiritual area is also located east of Whitefish Lake. All burial sites are considered sacred ground. There is a high potential for burial sites to be located in other locations on the reserve land. An archaeological report for the community can be made available upon request to the Director of Operations.

2.4 MARINAS AND BOAT LAUNCHES

One marina that provides access to Lake Panache is accessed from the Espanola side. There are currently no operating marinas on Atikameksheng Anishnawbek land, however rough boat launching areas are situated on the eastern side of Whitefish Lake via Blackwater Lake Road, on the northeastern side of Round Lake via Blackwater Lake Road, and at the end of Blackwater Lake Road at Panache Lake. Ojibway Road branches off Blackwater Lake Road to the east, providing access to member cottages on the north shore of Lake Panache.

3. PLANNING PROCESS

As part of the planning process for the EMAP, interviews were held with staff and various reports and documents were submitted to WESA for review. This section will summarize the key themes and findings of the previous work that has been done relating to environmental management on the reserve.

In 2011, Atikameksheng Anishnawbek embarked upon the completion of a Comprehensive Community Plan1, in co-operation with their affiliated North Shore Tribal Council, who retained the Cities and Environment Unit at Dalhousie University to complete the work. The Comprehensive Community Plan included a compilation of the existing realities and possibilities for the community through development of a comprehensive community Context, Vision and Action. The Comprehensive Community Plan provided a compilation of Atikameksheng Anishnawbek's history, land, people, economics, strengths and issues. A community Value Statement and Vision Statement were developed. Issues identified were categorized into the following; land, youth and education, infrastructure and housing, community culture, health and social welfare, law and safety, governance, public health and safety, and economics. A number of action areas were identified. One action area relevant to the development of an Environmental Management Action Plan included Land Stewardship, which stated "Make the health of the land a priority for future generations, build awareness and community responsibility for protecting the environment."

The land was identified as a source of cultural identity and a basis for developing and sustaining the community in the future. Land stewardship was identified as a key component and development of a Land Use Plan was a suggested action. The land use plan was to set out specific policies and regulations for the entire reserve. At this time, Atikameksheng Anishnawbek committed to making the health of the land a priority in land use decisions. Various specific actions were identified to assist the community in achieving its identified goals.

A Land Use Plan is currently being prepared for the reserve by Tunnock Consulting Ltd. At this time, a Draft Community Profile[2] entitled "Our Community, Our Future" has been prepared. Work to finalize the Land Use Plan is ongoing. Draft Land Use Planning Maps can be referred to in Figures 11, 12, 13 and 14.

[1] Cities & Environment Unit, Dalhousie University, 2013. Comprehensive Community Plan, Atikameksheng Anishnawbek
[2] Tulloch Consulting Ltd., 2012. *Draft Community Profile, Our Community, Our Future*

In 2001, the community completed a Capital Planning Study exercise with the objective of identifying the infrastructural servicing needs of the community[3]. The plan recommended the development of a 32 lot residential subdivision, connecting the water services to the City of Greater Sudbury, and installation of a gravity sewer collection system throughout the main village area with wastewater disposal in the Walden Water Treatment Plant, and the selection and development of a new landfill site for the community. It also recommended cleanup of a contaminated site (slag) in the Gabode subdivision.

As of 2014, the first two actions identified in the Capital Planning Study have been implemented, namely, the development of the Hill Subdivision (2011-2012), and connection of water services to the City of Greater Sudbury (Fall of 2013).

3.1 Vision and Mission

Before the development of the EMAP can begin, it is important to develop an Environmental Vision Statement that enshrines community values and principles towards the use and care of the natural environment. This is the next critical stage of the process as the Vision statement articulates what the community desires in the future. Once the vision is created, then goals can be established that define how vision will be accomplished. Objectives are then identified on how to reach the goals. Assessing the environmental situation would form the next part of the structure. This stage would answer the question "Where are we right now?" but also goes on to answer "Why are we not realizing our vision?" This would help the Environmental Committee and the community to decide what they need to do to get to where they want to be.

It is important to establish the scope of environmental interests to know what kind of information to seek, as well as, developing the appropriate questions when speaking to aboriginal knowledge holders. Identifying legislative and regulatory requirements, and gaps, that apply to reserve lands and activities is another stage in developing the EMAP. It is important for understanding compliance obligations, and compliance with a number of other codes of practices, guidelines and by-laws. Prioritizing issues and identifying solutions is the next stage to assess what options will assist the community with managing identified environmental challenges. The EMAP must also contain a specific implementation process, internal and external community consultation, co-management and partnership arrangements, and a process for monitoring and revision.

Establishing an Environmental Committee with good community representation to enlist the assistance and involvement of community members, as well as to carry out the work is part of

[3] Henderson Paddon & Associates Ltd., 2001. Capital Planning Study Update, Final Report, Whitefish Lake First Nation.

this step. The Atikameksheng Anishnawbek Council has currently appointed an Interim Lands Management Committee, however, this committee's focus is currently on development of laws related to matrimonial property rights. A committee with a specific Environmental Focus is required to implement the policies and objectives for Land Management under the *First Nations Lands Management Act*.

In November 2008, Atikameksheng Anishnawbek ratified their Land Management Code, effective February 2009, thus providing the community the ability to set out rules and procedures that would apply to the Atikameksheng Anishnawbek Land. This includes licenses and leases, interest or land rights and rules applying to the transfer of land. The Land Management Code speaks to the rights and responsibilities of the community to develop its own legislation and laws, identified the reserve lands to be managed by Atikameksheng Anishnawbek and provides for financial accountability for revenues from lands. Further it outlines the need for community approval in the law-making process.

As this document will become a component of the Land Use Plan, it will be a "living document". Therefore, it is anticipated it will under a review every (5) five years. As the community continues to evolve and change, new environmental issues and concerns are anticipated. Further, the previous objectives may not be met and/or completed to the satisfaction of the community members.

3.1.1 Visioning

One of the principles of visioning is that if there is no vision, there is no development. In order to envision the ideal environment, and to reach a common understanding of what is meant by the word "environment", the Environmental Management Committee devoted one community meeting to brainstorming on these concepts. Visioning is also a stage in the *First Nations Community Planning Model*. Visioning is an important tool of Natural Law, for the visioning exercise provides the Anishnawbek with spiritual guidance.

3.1.2 Definition of the Environment

The following definition of environment was provided by the citizens of Atikameksheng Anishnawbek at a community planning session for the Comprehensive Community Plan in 2013.

Our Environment is emotional, social, physical and spiritual. The emotional aspect starts with ourselves – the first environment. The social aspect is our relationship with family, community and other nations. The physical aspect is our relationships with air, land, water, plants, animals and humans. The spiritual aspect includes the instructions given to us by the Creator and provides the connection between the emotional, social and physical aspects.

3.1.3 Community Vision

The following community vision was provided by the community:

Atikameksheng Anishnawbek will thrive together as a strong and proud Nation by honouring our gifts of Anishinabemowin and the Life of the Land.

3.2 COMMUNITY VALUE STATEMENTS

The following community value statement was obtained from the Comprehensive Community Plan. At a meeting held on December 9th, 2014, members identified that the community Vision and Value statements should remain consistent throughout all planning documents.

We Value the gift of Anishinabemowin as the strength of our Nation.
We Value the Hope of our Youth, the Leadership of our Adults, and the Wisdom of our Elders. We Value and honour the contributions of our families as it makes us who we are. We Value Mino Minadsowin (the Good Life). The Life of the Land teaches us Respect, Love, Truth, Bravery, Humility, Honesty and Wisdom.

3.3 GUIDING PRINCIPLES FOR ENVIRONMENTAL MANAGEMENT

The guiding principles for environmental management were discussed at a community meeting held to focus on the EMAP on December 9, 2014. Through discussion, the following environmental principles were identified:

1. The definition of Environmental Management should be clearly defined.
2. The community needs to become further involved in environmental protection.
3. Education of both band and non-band members about Atikameksheng Anishnawbek's history and future is a key to environmental protection.
4. Laws and policies need to be straightforward and simple.
5. Information about Environmental Management should be readily accessible to all members including those that are confined (i.e. elders). Information should be presented in an easily understood format.
6. We should work in collaboration with other neighbouring First Nation communities on implementation of land management regimes.

7. Each individual has a responsibility for protection of the land and must be empowered to act.
8. Education of youth will play a key role in environmental management. We need to educate the youth about the legacy they are inheriting.
9. We should attempt to restore land back to a healthy state.
10. The community should educate non-band members about their activities on the land to raise awareness of treaty and traditional land areas and activities.

3.4 Goals And Objectives For Environmental Management

Specific goals for environmental management were identified by individuals present at the community meeting held to focus on the EMAP on December 9, 2014.

1. Directly involve members of Atikameksheng Anishnawbek in mine monitoring activities off-reserve.
2. Include oversight roles for the community members in new mining impact benefit agreements being developed.
3. Restore healthy waters.
4. Work more closely with external agencies and organizations such as the City of Greater Sudbury and other partners to make them aware of traditional ecological knowledge and the role it can play in environmental management.

4. ENVIRONMENTAL SCAN-THE LAND

4.1 Ecology

With over 330 lakes and thousands of hectares of forests and wetlands, Greater Sudbury is home to a rich diversity of plants, animals and ecosystems. In fact, some of the largest remaining stands of old-growth red pine forests are found here along with 12 species of amphibians, 10 species of reptiles, 183 species of nesting birds and 46 species of mammals.

Past mining and smelting activities have impacted a large area. Although past regreening efforts have achieved significant improvements on these lands, the Sudbury Soils Study's Ecological Risk Assessment report confirmed that there is much more work to be done. A Biodiversity Action Plan for Greater Sudbury has been developed that builds on past regreening successes and defines the path forward for future work that is needed to support Greater Sudbury's ecological recovery.

A Greater Sudbury Biodiversity Partnership has been formed to provide opportunities for information sharing, wider participation in group activities and heightened public awareness on biodiversity issues.[4]

The ecology of the Atikameksheng Anishnawbek reserve is similar to the ecology of the Sudbury area, and is comprised of 19,750 ha (48,804 acres) with a total of 18 interior lakes. The reserve covers two watershed areas, the Whitefish River watershed and the Wanapitei River Watershed.

4.1.1 Terrestrial Habitats

Twenty-five commercial tree species (9 softwood and 16 hardwood) are present on the reserve land. Species type and composition is largely a reflection of past disturbances including fire and unregulated harvesting, and recently air pollutants from smelting operations in nearby Sudbury. These activities have resulted in primarily successional species becoming the dominant species in the forest. The poplar working group occupies 4,487 hectares of the production forest[5]. The distribution of tree species throughout the Atikameksheng Anishnawbek forest varies depending upon topography and soil conditions. Stands located on north facing slopes and in moist valleys tend to be dominated by eastern hemlock, eastern white cedar, and white spruce, in association with balsam fir, white birch, yellow birch, and trembling aspen, in varying proportions. Wetland sites commonly contain stands of eastern white cedar, black ash, white spruce, balsam fir, and balsam poplar.

Maple, red oak, yellow birch and ironwood tend to occupy dry mesic to mesic ridge tops and slopes. Tree growth and form is typically poor on sites as a result of the shallow soils and poor drainage conditions.

Red pine is widespread on the reserve lands and occupies dry sites with shallow sandy soils over bedrock, usually in pure stands. White pine and white spruce are found in association with hardwoods scattered over much of the forest. Balsam fir aggressively establishes itself as a component within most of Atikameksheng Anishnawbek s forest types.

The reserve supports a variety of ground vegetation characteristics of the Great Lakes-St. Lawrence forest region in various associations and is documented amongst the different forest ecosite type associations. These flora and fauna species are ecologically significant in that they are an indicator of forest health. They also serve as food and shelter for many mammals,

[4] City of Greater Sudbury, 2014. (http://www.greatersudbury.ca/living/environmental-initiatives/biodiversity/)
[5] Whitefish Lake Forest Management Plan (2007-2027)

reptiles, insects, and bird species, while also enriching the soil through the processes of decomposition and decay, and act as soil binders in the absence of forest cover.

The most common and abundant understory shrubs are beaked hazel, and mountain maple, both of which may form tall dense shrub layers under a wide variety of canopies. Striped maple, leatherwood and ground hemlock are also abundant. Blueberries, sweet fern, and bush honeysuckle frequent dry, open rock outcrops. Speckled alder and willow are common in wet lowland forests and in thickets along many lakes, streams, and openings.

Common herbs include clubmoss, bracken fern, rice grass, winter green, wood horse-tail, golden thread, and lady fern, to name a few.

4.1.2 Terrestrial Species

Common mammal species on the reserve likely include shrews and moles, bats, rabbits and hares, rodents (including chipmunks, squirrels, beavers, mice, voles, muskrats and porcupine) and carnivores such as coyote, gray wolf, black bear, raccoon, marten, fisher, ermine, weasel, mink, skunk, river otter, bobcat and potentially cougar. White-tailed deer and moose are likely common on the reserve[6]). The forests and waters of the reserve contain a wide diversity of bird species.

4.2 Potential Species at Risk

Atikameksheng Anishnawbek reserve lands likely provide habitat for a number of Species at Risk. According to a project completed in February 2012 by the Lands and Resources Office[7] species on the reserve may include turtles (Wood Turtle, Blanding's Turtle, Snapping Turtle), a variety of forest bird species (Bald Eagle, Short-eared Owl, Peregrine Falcon, Red-headed Woodpecker, Common Nighthawk, Whip-poor-will, Olive-sided Flycatcher, Canada Warbler, Golden-winged Warbler) and marsh nesting bird species (Least Bittern, Yellow Rail, Black Tern). Potential reptiles at risk on the reserve may include Eastern Hog-nosed Snake, and Eastern Milksnake. Other potential Species at Risk may include Eastern Cougar and Monarch Butterfly.

4.3 Lake and Wetland Habitats and Species

There are 18 interior lakes within the reserve boundary and 7 occurring along its border and a resulting total of 646.2 km of lake and river shoreline. Interior lakes include Whitefish Lake, Fly Lake, Makada (Black) Lake, Round Lake, Cranberry Lake, Lake La Vase, Lost Lake, Panache Lake

[6] Dobbyn, J.S. 1994.
[7] Species at Risk Stewardship Fund, 2012. Species at Risk Poster

(southwestern boundary), Blackwater Lake, Nemag Lake, and Wakemi Lake. There are also several large rivers and many small creeks connecting the lakes across the lands. These include the Vermilion River along the northwestern boundary of the reserve and Long Lake to the east of the reserve. A number of studies have been completed to document the aquatic features of lakes within the Atikameksheng Anishnawbek lands. A Fisheries Management Plan has been developed as a first step to ensure protection and restoration of the aquatic ecosystem, contributing to a healthy environment[8]. Many of the lakes within the reserve boundaries are oligotrophic or mesotrophic. Common fish species include walleye, smallmouth bass, largemouth bass, northern pike, mooneye, brown bullhead, common sucker, yellow perch, rainbow smelt, lake trout, lake whitefish, rock bass, sunfish and cisco (lake herring).

5. ENVIRONMENTAL CONDITIONS

5.1 FORESTRY

Forestry is currently regulated under the existing Forest Resource Licensing system, and follows regulations as outlined in the Atikameksheng Anishnawbek Forest Management Plan 2007-2027.[9]

5.2 WASTE DISPOSAL

Atikameksheng Anishnawbek faces two critical environmental issues with respect to waste. The landfill site currently operating on the reserve is over capacity and if expanded, could negatively impact upon the environment. The existing landfill site currently has no written operating procedures and there is currently no closure plan in place. A new landfill site has been identified for future community use (Site 2 as referred to in mapping through a Waste Study commissioned by the band and completed by Neegan Burnside in October of 2003).[10] The new landfill site location can be referred to in Figure 15. The City of Sudbury's waste disposal and recycling locations can be referenced in Figure 16.

Atikameksheng Anishnawbek is also in the process of developing a municipal waste transfer agreement which will allow the City of Greater Sudbury to provide waste disposal services to the community at a City landfill site. The City has applied to the Ministry of the Environment to amend the Certificate of Approval for the City landfill site selected. This process is anticipated to take one year and is on-going. Following the initiation of this agreement, the Atikameksheng

[8] Atikameksheng Anishinabek, 2011. Fisheries Management Plan
[9] Atikameksheng Anishinabek, 2001-2027 Forest Management Plan
[10] Neegan Burnside, 2003. Waste Management Plan Study Whitefish Lake First Nation Final Report, FO O2 2580.

Anishnawbek landfill will require closure and will be turned into a Waste Transfer facility. The municipal waste transfer agreement was selected as the most suitable option for waste disposal because of the lower cost of off-site disposal.

Independent of the waste disposal option, the community realized they should adopt a waste minimization and diversion strategy in order to reduce the amount of waste from the community and to identify a location for a future landfill site on-reserve as an alternative plan. In 2012 Public Works and Natural Resources developed a Draft Waste Diversion Strategy. This system outlines the current services provided which include garbage pickup, curbside recycling, and special waste days. The objective of the Waste Diversion Strategy is to minimize the amount of waste generated within the community and to minimize demands on the landfill site in the interim. It is unknown if this strategy was ever presented to the Chief and Council for endorsement. As of November 2014, plans are underway to gate and fence the landfill, and to limit the hours of operation to three days/week with staff being present at the landfill during those hours.

5.2.1 Existing Operations

The Public Works Department operates Curbside household garbage pickup services on a weekly basis (Monday mornings) and waste is delivered to the existing on-reserve landfill site. A weekly curbside recycling pickup program is operated within the community through a contract with William Day Construction (Environmental Section). Recycle bins are provided to all residents (not including commercial sector) and are supplied at a rebate from Waste Diversion Ontario. Commercial businesses put out cardboard for pickup by an independent contractor (William Day). No green boxes are currently supplied on the reserve by the City of Greater Sudbury, and no on-reserve composting is currently taking place. A composting study was completed by Cambrian College.

A waste audit was completed in the community in mid-2014. Previous audits have confirmed a large percent of waste is recyclable. A goal of 50% diversion of recyclable materials from landfill has been set and achieved as of fall 2013.

Waste electronic equipment is collected at the Public Works Garage. The Public Works Department is a temporary site designated for the disposal of E-Waste products. The volume of e-waste is not sufficient for a contractor to pick up the waste.

The Lands Office operates a battery collection and disposal program for residents. Regular household batteries are collected in the administration office and brought to an Orange Drop access site. The burning of any type of waste is prohibited in all locations on the reserve.

Atikameksheng Anishnawbek has committed to the preparation of a brief annual report to summarize the waste disposal quantities and waste reduction/diversion activities. The program will be periodically evaluated by Atikameksheng Anishnawbek (Public Works) to assess its impact and effectiveness. The community has committed to development of a Communications Strategy for waste diversion which includes activities such as development of a recycling calendar, quarterly Recycling Champion awards, annual recycling Lunch and Learn activities and an Annual General Meeting normally held by the community to report on community achievements for the year and plans for the future.

5.3 Infrastructure Operations

The Public Works Department ploughs the roads located on the reserve and utilizes a sand/salt mixture in the Village Area and on hilly terrain within the reserve when required. Snow ploughing services are extended to near the terminus of Blackwater Lake Road and are completed within the entire Village Area, Hill Subdivision and Lake Panache area (Band members only). The band tries to limit the use of the sand/salt mixture in proximity to the area lakes.

5.4 Water Services

Water was supplied to the community via a central Village well until 2005, however the water supply was insufficient to meet the demands of fire protection services, and water quality was being impacted by septic beds within the Village area. In 2005 Atikameksheng Anishnawbek signed a service agreement with the City of Greater Sudbury, and water infrastructure was developed to link into the Sudbury water supply. The water line runs across the Junction Creek Bridge from Regional Road 55 and around the Village Area, and proceeds to the Hill Subdivision. A booster station is located at the end of Cedar Drive. There is no sewage infrastructure on the reserve, but the reserve is in close proximity to the City of Greater Sudbury's Waste Water Treatment Plant located on Regional Road 55. Water is metered at a small building on the north side of the bridge. An infrastructure map is being included in the Land Use Plan being developed in relation to this document.

The reserve currently has 111 approved tile bed septic systems and 7 residential housing units that use a bio filter septic system on Gabode Drive. No additional wastewater infrastructure other than ditching exists on the reserve.

5.5 Phone Services

Phone and internet services are supplied by Bell Canada and Vianet and are supplied to the village area. No phone service can be supplied to the Hill Subdivision (as communicated by D. Migwans, June 16th personal communication, 2014) but the reason is not clear. Lines and poles

extend to the leased cottage lot properties on Panache Lake where private band cottages also exist. Leased cottage lot properties are responsible for their own phone services and internet contracts.

5.6 Power

Hydro One supplies three phase power to the main village area and the Hill Subdivision only. The remainder of the reserve, including the leased lots along Lake Panache are not accessible to three phase power. Three phase power extends within the main village area down Lakeshore Drive to the community pump house and down Reserve Road, to the community center. All other areas are serviced by single phase power[11]

5.7 Natural Gas

Natural gas services are provided to all residences in the main village area and the Hill Subdivision, but it is not available at the leased lots on Lake Panache. Natural gas services will be mapped in the Final Land Use Plan.

5.8 Recreational Use

The reserve's many lakes provide an abundance of aquatic recreational opportunities. A reserve camp is located on the north shore of Lake Panache. This camp is owned by the band administration and previously served as an asset to the community. It has been rented out for multiple uses to members and non-members alike. Tap water is available to users of the facility and the facility is maintained by Public Works but the water is non-potable. Waste is picked up from the facility by the Public Works Department. The community posts a warning site to advise users of the non-potability of the water according to Provincial Regulations.

5.9 Potentially Contaminated Sites Located On Reserve

There are several areas of environmental concern on and adjacent to reserve land that were identified prior to the Land Management Code being endorsed, as part of a Phase 1 Environmental Site Assessment conducted by Neegan Burnside.[12] Areas of concern on reserve can be referred to in Figure 17. Areas of concern off reserve can be referred to in Figure 18.

[11] Reynish, Kevin. 2005. Preliminary Project Approval, 33 Lot Subdivision, Whitefish Lake Hill.
[12] Neegan Burnside, 2005. Phase 1 Environmental Site Assessment, Whitefish Lake First Nation, FOE 08509.

Table 2: List of Potentially Contaminated Sites located On-Reserve

Item of Concern	Environmental Issues
R&J Fuels	• Fuel takes (underground and above ground) were identified • Historical soil contamination located on-site • Site is located close to water bodies
Gabode Drive	• Slag was identified beneath the roadway and contaminants are leaching into the surrounding soils/ surface water
Private Fuel Tanks	• Potential for fuel tanks to leak and impact the soils and shallow groundwater system • No inventory of the locations of private fuel tanks has been completed.
Drums of waste oil at the public works maintenance building	• Potential for spills and leaks to impact the environment • The storage is out of compliance with the regulation
Existing Landfill site	• Waste deposition is not controlled or covered on a regular basis • Potential impacts to shallow groundwater and surface water • Landfill has reached capacity
Uncontrolled dumping sites	• Potential impact to soil, surface and groundwater from leaching of contaminants
Boat Launch on Lake Panache	• Potential for fuel tanks and/or lines to leak • Equipment may be out of compliance with current regulations
Gravel Pit Operations	• Impacts from operations and illegal disposal of waste at gravel pit locations.
Non-point sources of contamination	• Various locations where non-point sources could be identified but no clarification was given regarding the exact coodinates of these locations as part of the Phase 1 Environmental Assessment completed for the reserve.
Septic Systems	• Seepage of contaminates to the shallow groundwater and surface water, potential impact to lakes from cottage lots
Tree harvest areas	• Potential impact from equipment maintenance and old equipment left behind which could pose a phenol contamination and fire hazard risk.
Historical Landfill sites	• Potential for former community landfills in the vicinity of Lakeshore Road and Gabode Drive where waste was deposited prior to the development of the existing landfill site.

5.10 Potentially Contaminated Sites Located Off Reserve

There are areas of environmental concern located off-reserve, within the traditional territory. These sites are of concern because of the potential for contamination they pose for surface waters and groundwaters that may flow into the reserve land. A summary of potential off-site areas of environmental concern are listed below and were provided by reviewing the Neegan Burnside Report.

Table 3: List of Potential Environmental Concerns located Off-Reserve

Item of Concern	Environmental Issues
Inco Properties	• Potential for air emissions to impact the air, soils, sediment, surface and groundwater quality • Potential for tailing ponds to leak and impact Junction Creek
Gold Mine (Long Lake Mine)	• Two tailing ponds drain into Long Lake/ Round Lake
Other Mine Sites	• Potential for air emissions to impact the air, soils, sediment, surface and groundwater quality
Blueberry Hill Landfill Site	• Leachate impacts to the Vermillion River which borders reserve lands
Other Off-site sources of contamination	• Impacts from fuel/ oil leaks from gas stations located along Route 55 • Wastewater treatment plant located between Mud and Simon Lake • Salt dome potential to leach sodium and chloride to Mud and Simon Lake
Non-point sources of contamination	• Various locations where non-point sources could be identified

The worst contaminated site is known to be the former Long Lake Gold Mine, an historic mine operated just east of the reserve within Eden Township, 1.3 km south of the southern end of Long Lake. It is situated adjacent to the eastern boundary of the reserve. The mine was discovered in 1908 and has left behind an unpleasant environmental legacy that includes approximately 8.5 ha of uncontained mine tailings areas, waterborne tailings areas along Luke Creek, which discharge to Long Lake, and mine workings including waste rock piles, glory hole, shaft, underground workings, and abandoned mine foundations. Long Lake currently exceeds the Ontario Drinking Water Quality Standards for arsenic.

In June of 2013, CH2M Hill was retained by the Ministry of Northern Development and Mines (MNDM) to identify and characterize the source of arsenic impacts, develop reclamation alternatives, and recommend/develop a preferred remedial alternative that will reduce arsenic loading from the tailings areas. As of the spring of 2013, CH2M Hill developed a Site Characterization Summary.[13] Further work to be done includes completion of a detailed design of the preferred option for remediation, continuation of sampling and maintenance of interim measures, and construction of a preferred option that will mitigate arsenic loading to Long Lake. MNDM will conduct ongoing water quality monitoring of Long Lake (CH2M Hill, 2013). MNDM has also committed to water quality sampling of Round Lake, situated within the Atikameksheng Anishnawbek reserve in a joint venture with the community during the summer of 2012. MNDM initiated water quality sampling in the summer of 2012 in partnership with the community and the sampling program is ongoing. Figure 19 illustrates the arsenic sampling locations used by CH2MHill. The community conducted its own independent sampling of Round Lake and these locations can be reviewed in Figure 20.

In addition to these two critical issues, many other lands and resources issues have been identified that must be addressed in the Draft EMAP.

5.11 Unauthorized Land Uses

According to a report prepared for Chief and Council in June of 2013, there are many unauthorized uses of land currently occurring. Some of the potential uses include unauthorized establishment of businesses, abandoned forestry equipment, waste dump sites, waste dumping by non-band members throughout the reserve, road cruising and unauthorized road uses, unauthorized signage, derelict/abandoned vehicles, littering, unauthorized camp lots and trailers, sites where unauthorized forestry activities have taken place, and unauthorized farming and agricultural activities. Various incidents of forest harvesters cutting outside their designated area have been identified. Additionally, the use of motor oil as a dust suppressant on roads has been identified as an issue. Laws being developed must address such issues.

5.12 Commercial/Industrial Leases

As of November 2014, there are a total of 24 businesses operating on reserve, mainly operating on CP held lands. There is currently no tenure system for licensing or permitting commercial and/or industrial uses of the land, with the exception of Band Council resolutions which have authorized the use of various businesses on the reserve. Appendix C includes a list of businesses that operate on the reserve.

[13] CH2M Hill, 2013. Site Characterization Summary.

5.13 COTTAGE LOT INDUSTRY

The cottage lot industry has impacted the ecosystem in several different ways. The cottage lots are located on shoreline (mainly on the north shore of Lake Panache) to obtain the best scenic views and to access the lakes. Many docks and boathouses were built along the shoreline in the 1960's prior to the benefit of the Ontario Environmental Assessment Act and regulations that were enacted in 1975 or the *Canadian Environmental Assessment Act* screenings enacted in 1992. It is suspected that the installations disrupted, and in some cases, destroyed natural fish habitat and their spawning grounds and contravened federal fisheries laws. No conclusive study has ever been produced to evaluate the scope of the impact. Many valuable trees such as cedar, maple and white pine were cut to clear ground for camp buildings, driving away the wildlife that depended on an intact forest for survival in this area.

Ojibway Road was constructed for several residents for access purposes. Later the road was extended into an unauthorized trail, which was used to access adjacent waterfront lands. The existing access is not authorized to access leaseholder cottages.

This road has created an impact by bringing in vehicles and ATV's. The machines create noise and disrupt sensitive areas, leaving behind soil and plant damage, and further impacts wildlife in the area. Impacts to the quality of the lake water and groundwater are suspected, but to what extent is not known at this time.

New Environmental Standards have been incorporated into the proposed new lease agreements to increase compliance for the protection of groundwater and lake water. Additional monitoring and enforcement is recommended to bring these human impacts under control for the future, and to preserve the environmental integrity of the cottage lease area. The existing cottage lot policy for band recreational cottages can be reviewed in Appendix D. Locations of existing cottage lots will be included in the Land Use Plan being developed for the community. A draft map of cottage lot locations held by individual community members has been included in this document and can be referenced in Figure 21.

6. ENVIRONMENTAL MANAGEMENT COMMUNITY CONSULTATIONS

A series of Community Consultations were initiated in the summer of 2014 to begin development of the Environmental Management System for the community. Table 4 outlines the consultations that have occurred up to and including January of 2015. Consultation related material including reports, presentations, photographs and sign-in sheets have been included in this report within Appendix E.

Table 4: Community Consultations on Environmental Management Action Plan

Meeting Date	Information Provided	Number of Attendees
June 16, 2014	Panels were displayed regarding policy objectives for heritage and culture, forestry, waste management, contaminated sites and development of an EA Law	19
September 3, 2014	Three workshop groups were created. These included Heritage and Culture Draft Law Review, Enforcement and Dispute Resolution Law Review, and Waste Management Law Review	16
October 27, 2014	EA Law Presentation Environmental Action Plan Presentation	9 plus staff
January 2015	EA Law and EMAP A PowerPoint presentation on the EA Law was provided. A Draft Vision and Draft objectives for Environmental management were discussed and the EMAP was described. A Simple Application Form was presented as a mechanism to be used for non-complex EA's.	9 plus staff

7. LOCAL ENVIRONMENTAL ISSUES & CONCERNS

These local environmental issues were derived from discussions of the staff, responses to community information sessions and from various reports generated for and by the community.

7.1 WATER

The following presents the local environmental issues and concerns with respect to water.

Table 5: Water Issues

Local Environment Issue- Water	Concern/ Description
Septic Systems	• Contamination from septic systems from cottages on the shoreline of the mainland and on islands is a concern. Cottages may not have sewage disposal systems that meet health guidelines. • Trailers in Makada Lake may be leading to polluted surface waters (sewage).

Table 5: Water Issues (Cont'd)

Local Environment Issue- Water	Concern/ Description
Lakes	• Concern regarding algal blooms on Simon Lake during the summer months and algal blooms in Whitefish Lake. • Individuals are concerned regarding the loss of use of the waters of Round Lake for drinking, swimming and general use as a result of arsenic exposure, and about the potential for arsenic contamination downstream to Lake Panache.
Road Salt Runoff	• Every year tons of road salt is used to melt the snow and ice on the roads. When the snow melts in the spring, the salt runs off into the waters of the bays.
Drinking Water	• Former community wells should also be evaluated to determine whether there is potential for contamination of the groundwater from the surface. (Well information is included as Appendix F.
Water Contamination due to current and historical mining	• Arsenic contamination is flowing into Round Lake from the closed Long Lake Mine Site and toward Panache Lake. Concerns have been raised regarding potential downstream effects of arsenic contamination moving towards Lake La Vase and Lake Panache via Lake La Vase Creek. A wetland area on the reserve east of Round Lake has also been identified as a potentially contaminated site. • Individuals from the community are concerned regarding the potential impacts to the reserve's groundwater and surface waters that could occur if the Lively tailings dam is breached, or leaks into the Vermilion River (from Vale Inco and other mining properties). • Community members are concerned about the quality of water flowing through Vermilion River and boundary lakes from upstream mining activities.

7.2 LAND/ INFRASTRUCTURE

The following presents the local environmental issues and concerns with respect to land:

Table 6: Land-Related Issues

Local Environment Issue- Land/ Infrastructure	Concern/ Description
Garbage/ Waste Disposal	• New landfill areas have been identified and the community must have input into selection of future waste management sites as part of the land use planning process. • Community members are also concerned with illegal dumping and the accumulation of garbage along the roads and highway. Concern exists regarding non-reserve members use of the Waste Disposal Site. • Lack of a disposal method for waste oil and temporary storage interim solution. • No green boxes or composting; waste should be segregated to encourage more diversion. • Landfill site has no closure plan • Need to monitor illegal dump sites and waste content. • Garbage bins are required at the entry to the reserve and in other popular places to discourage illegal dumping. • Waste management needs to be considered for cottage lessees. • Suggestion to hire local workers for waste management (recycling, monitoring of landfill). • More security required at landfill site (gating/fencing). • There needs to be more education regarding waste management in the community.
Car Lot	• A local car lot/scrap yard is being expanded without consideration for impact on the environment, and without proper authorization
Unauthorized Road Development and Use	• Roads are being developed without being Band approved. Leaseholders on Lake Panache are using roads to access their leased cottage lands when they signed an agreement stipulating their lots would be water access only.
Unmonitored Land	• A majority of the reserve's boundaries are un-patrolled and un-monitored so trespassing and illegal entry does occur. • Concern regarding the health and safety danger posed by unused/abandoned aggregate pits on the reserve (unstable slopes). • Forestry roads are being put in without authorization.

Local Environment Issue- Land/ Infrastructure	Concern/ Description
Maintenance/ Infrastructure	• Lawns around the Seniors residences are not being maintained. • There is concern regarding lack of maintenance at the local cemetery on reserve. • Infrastructure Issue-culvert between Whitefish Lake and Makada Lake sometimes gets plugged resulting in calls to Infrastructure from cottagers on Makada Lake. • Concerns regarding unauthorized occupations and potential use of oil as a dust suppressant. • Road improvements required to Pow-Wow grounds. • Lack of phone services to Hill Subdivision. • Illegal dumping at Blackwater Road near Panache Leased cottages. • Suggestion to erect heritage site monuments at key locations. • Anishnawbek lands. • Need to maintain cross-country ski trails. • Need to install docks for elders to fish at key locations. • Campground locations should be selected for suitability. • Concern regarding trailers being set up with no sewage disposal systems on inland lakes. • Need for parking lot at the Pow-Wow grounds. • Litter issue at "front" of reserve created by City of Greater Sudbury Wastewater facility. • Unpleasant odour at "front" of reserve. • Potential health and safety issue re: steepness of Nora King Hill Rd. • Concern regarding dependence upon City of Greater Sudbury for infrastructure-related services. • Issue of motorized winter access (snowmobiles) running on reserve land in undesignated areas (i.e. Pow-Wow grounds). • Unauthorized vehicular access (boat, snowmobile, ATV etc.) at Lake La Vase entry to Lake Panache.
Land Use	• Concern regarding the Crown Land Use Atlas designations for crown lands surrounding the reserve.

Local Environment Issue- Land/ Infrastructure	Concern/ Description
Designations/ Claims	• Concern regarding the current land claim situation and status. • Suggestion to protect Pigeon Mountain area from development. • Suggestion to develop business lots along Nora Road. • Need to restrict motorized boat access and snowmobile access within the inland lakes. • Unrestricted float plane landings on inland and boundary lakes.

7.3 AIR

The following presents the local environmental issues and concerns with respect to air:

Table 7: Air Related Issues

Local Environment Issue- Air	Concern/ Description
Air Emissions	• Industrial Emissions: Long range deposition from Vale-INCO and other mining companies affects the air quality. • Vehicle exhaust emissions.
Ozone Layer	• Increased ultraviolet radiation because of the position of the community within the Great Lakes.
Climate/Global Warming	• Changes in weather patterns, temperature and precipitation. • Increase in micro burst events (severe storm events).
Aircraft	• Community members are concerned with aircraft flying over the reserve, and with unauthorized landing of aircraft on interior and boundary lakes.

7.4 FORESTRY

The following presents the local environmental issues and concerns with respect to forestry:

Table 8: Forestry-Related Issues

Local Environment Issue- Forests	Concern/ Description
Forests	• Impacts on the community forests may be occurring due to air pollution in the Sudbury Basin from smelting activities. This was the subject of a prior land claim many years ago. • Forest Management plan needs to be updated. • Concern regarding the commercial sale of wood off-reserve. • There are no measures present to monitor the amount of wood being taken off the reserve. • No logging zones need to be identified to protect the moose and deer populations. • Lack of tree planting and forestry renewal currently.

7.5 ANIMALS

The following presents the local environmental issues and concerns with respect to animals:

Table 9: Animal Related Issues

Local Environment Issue- Animals	Concern/ Description
Fish	• Fish have been found to have tumors and parasites. There are consumption restrictions due to arsenic contamination in Round Lake, and due to mercury contamination.
Farm Animals	• Farm animals (chickens, etc.) are being kept in a manner that may contaminate the local environment and without authorization
Wild Game	• There may need to be restrictions on consuming organs of Moose and Deer. Deer have been found with tumours. • Concern regarding bears and poaching of bear parts at the landfill site.
Availability/ Health	• There are fewer animals and fish. • Concern regarding the health of fish and wildlife on the reserve from drinking the waters of the Vermilion River. • Individuals from the community are concerned about their consumption of fish and game as being contaminated from the mining development in the Sudbury basin and the resultant impacts on Junction Creek, and from the Long Lake Arsenic Site located to the east of the reserve.

7.6 HUMAN HEALTH

The following presents the local environmental issues and concerns with respect to human health:

Table 10: Human Health Related Issues

Local Environment Issue- Animals	Concern/ Description
Human Health	• The potential health risks to the community due to their proximity to the Long Lake contaminated site should be further addressed. • Potential danger of wind mills off-reserve affecting people on-reserve.
Engagement	• More engagement of off-reserve band members. • Suggestion to supply maps to band members.
New Businesses	• Suggestion to develop an eco-tourism business.
Historical Sites	• Numerous sites were identified as being important to community members and should be protected in the future.

7.7 COTTAGE LOT LEASING

Cottage lot leasing to non-community members occurs along the shores of Panache Lake in the southwestern end of the reserve, where a total of 87 lots are in use. The reserve uses this industry to generate revenue. The Recreational Camp Lot Regulations currently outline the use of these properties. In August of 2012, Band Council authorized a lease agreement entitled "Lake Panache Recreational Cottage Lot Lease". The lease is currently in place, however plans are underway to bring all septic systems into compliance.

7.8 HOUSING AND PUBLIC WORKS

Prior to implementation of the Land Management Code, all reserve housing developments were subject to Environmental Site Assessment and Health & Welfare Canada approvals. However, after the Land Management Code implementation, the Housing department developed a set of its own policies to address housing issues. There are currently no guidelines or regulations for Public Works projects on the reserve. Building permits are not issued or required on reserve for construction projects.

8. ENVIRONMENTAL MANAGEMENT

8.1 STAFFING

8.1.1 Lands Department

The Lands Department is currently operated under the guidance of the Director of Community Assistance. Staff includes a Land Manager, Natural Resource Coordinator, and Lands Registry Clerk. The Director of Community Assistance reports directly to the Director of Operations.

The role of the Lands Department is to administer the Land Management Code on behalf of the community and to ensure that any land development on-reserve follows the proper procedures as outlined in the Code. This work involves working closely with the Interim Lands Advisory Committee. The organizational structure of Atikameksheng Anishnawbek is outlined in Figure 22.

8.1.2 Lands Advisory Committee

The Interim Lands Advisory Committee was established when the community endorsed the Land Management Code in 2009. The Committee is comprised of four community members who are eligible voting members.

The role of the Lands Committee is to establish a process for determination of fees and rent for interests and licenses in community land, and to determine the fees for services provided by Atikameksheng Anishnawbek staff. As outlined in the Land Management Code, the Lands Committee is to be elected. However, because the community had not established an Election Code at the time of the passing of the Land Management Code, no policy to outline how elections were to take place has yet been established. The Interim Lands Advisory Committee was established on an ad-hoc basis, to fulfill the role of the elected Lands Advisory Committee until an elected Lands Committee can be established. Plans are underway to complete an election process to select an elected Lands Advisory Committee after the passing of a Constitution on July 24, 2015.

Currently the Interim Lands Advisory Committee is in-active, due to vacancies.

The full Terms of Reference for the Lands Advisory Committee is outlined in the Land Management Code. Further detail can be found in Appendix G.

8.1.3 Environmental Committee

Following the ratification of community environmental assessment and protection laws, an Environmental Committee will be established to review development applications for projects that require Environmental Assessment on-reserve. Membership to the Environmental Committee will be made by appointment, and participation in the committee will be voluntary.

9. ENVIRONMENTAL MANAGEMENT COMPONENTS

Management of the reserve will involve implementation of a number of actions. A series of actions have been identified within a series of tables that are specific to the four elements; earth, air, water and fire. One of the key actions identified pertains to environmental monitoring. For this purpose, a separate environmental monitoring section has been created to focus in on this important component of environmental management.

9.1 ENVIRONMENTAL MONITORING

Environmental monitoring is critical to determining how the quality of the environment may improve or degrade over time. Information gathered through environmental monitoring is important because it allows for informed decision making about how the environment will affect the members of Atikameksheng Anishnawbek. Timely and effective responses to environmental emergencies, such as spills, are impossible without adequate information. Farmers, hunters, foresters, and fishers all need to know what is happening to the natural resources they rely on.

Responsibility for monitoring of Atikameksheng Anishnawbek's reserve lands and the traditional territories surrounding them can and should be shared by businesses, local governments, the Provincial and Federal government, and non-governmental agencies.

Environmental monitoring provides the critical information that is needed for sound stewardship of the environment. The reserve government uses the information collected to assess the current state of the environment, to predict the future environment, and to develop sound strategies for adapting to environmental change.

Environmental monitoring systems are most successful when they are well coordinated with other systems, when the right partners participate, when quality is built in from the beginning, when reports are designed to be useful, and when resources are used efficiently. Monitoring systems for Atikameksheng Anishnawbek should not rely heavily on expensive tools and equipment but should be simple, less costly, and conducted with basic tools and equipment.

Environmental monitoring is required for several key reasons which include the following:

1. Baseline Information collection: Environmental monitoring describes the starting point against which targets can be set and progress evaluated. One key step in developing an environmental management program is assessing the current state of the environment.
2. Resource Allocation: Knowing where the problems are makes it possible to target management actions efficiently.
3. Assessing the environmental impact of projects: In the case of contaminated sites related to complete or abandoned projects such as mines, continuing attention may be required if pollutants are being released into the environment. Monitoring may be required for projects that have undergone an environmental assessment, to determine if the effects of the project are consistent with predictions, and whether actions to mitigate possible effects are working as planned.
4. Compliance with laws and regulations: Environmental monitoring produces the information required to evaluate the performance of an industry or company in relation to regulations. It also provides a way of determining whether regulations and enforcement actions are working as required.
5. Emergencies: Enhanced monitoring may make resource managers aware of emergencies that require an immediate response.
6. Scientific Research: Monitoring may complement scientific research being done in relation to an issue

9.2 Traditional Ecological Knowledge

Traditional Ecological Knowledge (TEK) is defined as "a cumulative body of knowledge and beliefs, handed down through generations by cultural transmission, about the relationship of living things (including humans) with one another and their environment. It includes the knowledge of elders, current land users, and other community members. Traditional knowledge is an attribute of societies with historical continuity in resource use practices.

TEK can complement scientific monitoring. As part of the monitoring program, funding should be sought to complete a TEK Study of the reserve land and surrounding traditional territory. A TEK study may inform the community of past and future monitoring that may be required and WESA recommends that such a study be completed.

9.3 Developing a Monitoring System

Before implementing a specific monitoring system, it is critical to have a coordinated and strategic vision of what should be monitored, how different monitoring systems fit together, how information will be reported, and how the monitoring results will be used. A strategic vision must be developed that outline departmental requirements and agreements with other jurisdictions. The following table describes a stepwise process of designing a monitoring system:

Table 11: Designing a Monitoring System

Step 1	Design	The design addresses the objectives of the monitoring system: what will be monitored, how the data will be used, what indicators will be prepared, and how stakeholders will be informed. The frequency, timing, location and density of monitoring are all accurately defined.
Step 2	Implementation	The parties responsible for each aspect of the system have been identified and have received the necessary training. The methods are clear or in accordance with defined standards and contingency plans are in place to respond to problems.
Step 3	Data Collection	Procedures and practices to obtain the data are established and applied. The samples and data records are documented and archived.
Step 4	Quality Control	Quality control methods are consistently applied following approved standards and procedures.
Step 5	Synthesis and Analysis of the Data	The data are converted into summary forms, such as maps or graphs. Indicators are calculated and used to compare results to statistically sound methods.
Step 6	Reporting and Communication	The results are communicated within the organization responsible for monitoring. The data are available internally. The results are communicated to external audiences (MNR, MOE).
Step 7	Audits and reviews of the system	Audits and evaluations of the monitoring system are conducted to assess whether it is achieving its objectives and to identify opportunities for improvement.

9.4 Existing Monitoring Systems (Atikameksheng Anishnawbek)

Baseline monitoring provides a record of environmental conditions such as water quality and fish species diversity before any activities have taken place on the land. Baseline monitoring is a key component of environmental impact assessment. It is important to properly assess conditions before an activity takes place on a site, to understand which phenomena existed before project implementation and which could be impacts from project activities. The baseline assessment can also be used to reassure community members and decision-makers that key environmental issues

have been identified and will be monitored during implementation of a project (Regional Aquatics Monitoring Program, 2014).

9.4.1 Program Objectives

Baseline environmental monitoring programs are recommended to:

1) Measure the surface water quality indicator parameters (2012) before a facility or project is built to provide a temporal reference for water quality in the project area; and,
2) Establish a pre-development reference for any environmental contaminants in fish tissue.

A typical post-development sampling program will provide representative samples from upstream of the facility or project (reference), within the impoundment (if one exists, as in the case of a waterpower project), and downstream of the facility, to monitor any effects of the facility on water quality and concentrations of environmental contaminants in fish, taking into account natural variation. Post- development sampling will be conducted according to the recommendations in MOE's draft guidance (2012).

Baseline Monitoring Protocols should be established by Atikameksheng Anishnawbek for a variety of development projects or activities that are commonly expected to be proposed on reserve lands.

9.5 Existing Monitoring Systems (Atikameksheng Anishnawbek)

Appendix H outlines the details of recent monitoring conducted in the community.

9.5.1 Fisheries

All past fisheries monitoring on the reserve has been completed by the AOFRC (Anishnawbek-Ontario Fisheries Resource Centre). In 1995, the Anishnawbek-Ontario Fisheries Resource Centre (AOFRC) was established to serve as an independent source of information on fisheries assessment, conservation and management, promoting the value of both western science and traditional ecological knowledge. The AOFRC is a not for profit corporation controlled by a Board with equal representation from Native and non-Native Directors. The mission of the AOFRC is to report on stock status, evaluate stresses on fish populations and habitats, offer management recommendations, and facilitate information sharing and participation among all stakeholders to promote sustainable fisheries and resolve conflict (AOFRC, 2014).

Further information can be found on the AOFRC website at:
http://www.aofrc.org/aofrc/Anishnawbekontario-fisher.html)

9.5.2 Surface Water Quality

Currently, Atikameksheng Anishnawbek monitors bacteriological and chemical parameters at several locations on the reserve in partnership with Health Canada who provide funding for collection and testing of the samples. The samples are collected by the Public Works Department in the following locations:

1. Whitefish Lake Beach 1
2. Whitefish Lake Beach 2
3. Round Lake Pit (Round Lake)
4. Round Lake Bridge
5. Blackwater
6. Panache Lake Landing
7. Panache Lake Reserve Camp

Monitoring of water quality is of paramount importance in particular for Atikameksheng Anishnawbek because of the Long Lake arsenic issue, and because of the proximity of the reserve to the mining activities of the Sudbury Basin. Water quality monitoring can be conducted in partnership with several partners but at minimum, should focus on monitoring of the water quality of the inland lakes and streams of the reserve, as well as, monitoring of the boundary lakes. The Ministry of the Environment and Climate Change (in co-operation with other agencies and companies) currently conducts surface water quality monitoring of various lakes within the Sudbury Basin. Water quality data is available for these lakes from the MOECC. The locations where this information is collected are illustrated on Figures 23(Sudbury Region) and 24 (Lakes near the Reserve).

9.5.2.1 Water Stewardship with Community Partners

Within the City of Greater Sudbury, many lake residents and lake stewardship groups are actively involved in lake monitoring in the City of Greater Sudbury. Similarly to the City of Greater Sudbury, Atikameksheng Anishnawbek should consider the potential contribution of volunteer monitoring programs such as the ones listed below, that enable volunteers to collect valuable data. This will also enhance the community's stewardship of area lands and lakes. Programs such as these contribute to the goals of the larger scientific community, and give residents the

knowledge to understand the sensitive ecosystems. These programs are easily carried out, and deepen interest and learning about water quality issues;

- Canadian Lakes Loon Survey
- Frog Watch Ontario
- Plant Watch
- Ice Watch
- Lake Partner Program
- Ontario Ministry of the Environment
- The Great Canadian Shoreline Cleanup
- Invading Species
- Living by Water Project
- Adopt a Pond (www.torontozoo.ca)
- Ontario Turtle Tally

9.5.3 Drinking Water Quality

Additionally, Atikameksheng Anishnawbek receives annual water quality reports from the City of Greater Sudbury that report on the water supplied through the Sudbury distribution system.

9.5.4 Air Quality Monitoring

Vale Inco, 2014. Greater Sudbury Air Quality.

http://www.airquality-sudbury-vale.com/resources/index.asp

Sudbury SO2 Air Quality Monitoring Network

Vale and Xstrata Nickel, located in Greater Sudbury, operate and maintain 18 fixed continuous SO2 monitoring stations within Greater Sudbury. Data is displayed on a real-time basis and includes information on wind direction and speed, and sulphur dioxide emission levels at the 18 stations. The Ministry of the Environment regularly inspects these stations and receives compilations of the monitoring information several times per year. To view historical summaries of community air quality in Greater Sudbury, visit Clean Air Sudbury at www.cleanairsudbury.ca. Additionally, Atikameksheng Anishnawbek receives annual water quality reports from the City of Greater Sudbury that report on the water supplied through the Sudbury distribution system.

9.5.5 Effects and Compliance Monitoring

In the case of an existing project/site that is known to be affecting the existing environment or in the case of resource extraction projects, monitoring programs may be established to understand and monitor known or expected effects.

9.5.5.1 Round Lake Water Quality Monitoring

Due to the Long Lake Arsenic issue, water quality monitoring on Round Lake was initiated in the summer of 2014.

9.5.5.2 Ground Water Quality Monitoring

The three wells at the landfill site should be monitored. An outline of the costs of this endeavor is included within Appendix I.

Other abandoned wells are also present within the community. Two of the wells have already been abandoned. Wells in the Lake Panache area have not been included, because it is assumed that these wells are still currently being used by local cottagers and camp owners.

9.5.5.3 Forestry Monitoring

On Provincial Land in Ontario, the Ministry of Natural Resources is responsible for monitoring Ontario's Forests

Programs include Compliance Monitoring, Silviculture Effectiveness Monitoring, Forest Health Monitoring, Independent Forest Audits and Forest Certification activities. As part of Atikameksheng Anishnawbek's current forest management plan, monthly field inspections are recommended for each permit area. Compliance monitoring is recommended to include pre and post-harvest inspections, monthly harvest block compliance inspections (during active operations) and annual timber depletion surveys. Additional surveys include regeneration surveys, and insect/disease surveys. A quarterly forestry report is submitted to Chief and Council. The compliance and inspection component of the Forest Management Plan is not currently being implemented due to resourcing issues.

In 2013, crews from Wikwemikong First Nation conducted fieldwork (calibration plots) on Atikameksheng Anishnawbek's reserve land to update the Forest Resource Inventory including stand level attributes such as age, height, stocking, species composition, and crown closure. Photo interpretation of the data collected is being conducted and complete GIS information (aerial imagery) will be provided to MNR by late 2016. The information collected on behalf of MNR will be provided to the community upon its completion. Similar work is being undertaken by MNR for other reserves in the "area of the undertaking". The final product will provide resource managers at Atikameksheng Anishnawbek detailed information on harvested areas and enable more accurate evaluation of the current state of the forest land on reserve.

9.5.5.4 Existing Monitoring Systems (Other Parties)

Table 12 provides a summary of some of the current monitoring systems being utilized by the Canadian government which may contain data relevant to community (reserve) lands.

Table 12: Current Monitoring programs-Federal

Monitoring System Name and Description	Lead department or agency (Federal)
Air and atmosphere	
Air Quality Ontario The ministry has a network of 40 ambient (outside) air monitoring stations across the province that collects real-time air pollution data. This information is communicated to the public through Ontario's Air Quality Index (AQI) and as hourly concentrations of each pollutant. The AQI and data collected from these 40 locations are posted on this website every hour, 24 hours a day, seven days a week. Each year, the ministry prepares an Air Quality Report to assess the state of air quality in Ontario based on the AQI network.	Ministry of the Environment and Climate Change
Ontario Renewable Energy Atlas Illustrates Ontario's renewable energy potential and provides information to assist with identifying a potential renewable energy site. The Atlas is an interactive web tool that allows users to create and view maps of wind energy resources in the Province. The viewer can tailor the maps to meet their needs, from high level overview to detailed information.	Ministry of Natural Resources and Forestry
Canadian Air and Precipitation Monitoring Network Studies the regional patterns and trends of atmospheric pollutants, such as acid rain, smog, particulate matter, and mercury, in both air and precipitation.	Environment Canada
Integrated Atmospheric Deposition Network Monitors trends in toxic pollutants from non-point sources in the air and precipitation in the Great Lakes Basin. (Non-point sources are usually small, diffuse sources, such as runoff from agricultural land.)	Environment Canada
Atmospheric Greenhouse Gas Measurement Program Identifies trends, seasonal variability, and spatial distribution of greenhouse gases and related gases in the atmosphere.	Environment Canada
Surface Weather and Climate Monitoring Network Provides real-time data to weather offices for weather warnings and forecasts, and provides a long-term record of surface climate conditions.	Environment Canada
Water	
Fresh Water Quality Monitoring Program Monitors the status of water quality in Canada's rivers and lakes, as well as changes to aquatic ecosystem health.	Environment Canada
Freshwater Inventory and Surveillance of Mercury Monitors spatial and temporal trends in fish mercury concentrations across Canada to assess the effectiveness of the Clean Air Regulatory Agenda mercury emission regulations.	Environment Canada

Monitoring System Name and Description	Lead department or agency (Federal)
Canadian Aquatic Biomonitoring Network Assesses freshwater quality and aquatic ecosystem conditions in Canada, using communities of large bottom-dwelling invertebrates.	Environment Canada
Acid Rain Aquatic Effects Monitoring Program Monitors water chemistry of lakes (and a few streams) to establish the current regional acidification status, trends in acidification, and causes of the trends detected.	Environment Canada
National Hydrometric Program Provides for the collection, interpretation, and dissemination of both real-time and historical surface water level and flow data.	Environment Canada
Sea and Lake Ice Monitoring Program Monitors freshwater ice and sea ice conditions to provide information on stage of development, drift, and overall extent of the ice	Environment Canada
Drinking Water Monitoring System Measures the presence and levels of a variety of contaminants in raw and treated drinking water at 65 treatment plants across Canada.	Health Canada
Freshwater Environmental Quality For a set of lakes in Ontario, conducts monitoring with a focus on ecosystem stresses, including lake acidification and eutrophication (the buildup of nutrients in a water body, leading to excessive plant growth).	Fisheries and Oceans Canada
Provincial Stream Water Quality Monitoring Network This dataset provides stream water quality monitoring data for a number of parameters including chloride, nutrients and metals. Spatial information for stream monitoring locations across Ontario is also available. Water quality data for the years 2002-2011, inclusive, can be downloaded as an Access database. Data for individual years can be downloaded as Excel spreadsheets.	Ministry of the Environment and Climate Change
Provincial Groundwater Monitoring Network Each PGMN well is initially sampled and chemically analyzed at the Ministry of the Environment laboratory for a comprehensive set of chemical parameters including: general chemistry, metals, major ions, a suite of volatile organic compounds, and a suite of pesticides and herbicides. Bacteria are not monitored under the PGMN program. Approximately 380 of the PGMN wells have been selected for long-term annual water chemistry monitoring. The long-term monitoring parameters include general chemistry, metals, and major ions. Samples are collected from wells in the Fall season and chemically analyzed at either the Ministry laboratory or a number of private laboratories.	Ministry of the Environment and Climate Change
Surface Water Monitoring Centre The surface water monitoring center completes the following: • Collects, monitors & analyses water flows, levels and climate data	Ministry of Natural Resources and Forestry

Monitoring System Name and Description	Lead department or agency (Federal)
• Performs Watershed Conditions Analysis • Conducts a daily Hazard Identification and Risk Assessment (HIRA) to identify areas throughout the province where a potential risk of flood or drought • Calculates indices and generates maps • Creates conditions reports, notifications, watches, etc. • Communicates with partners and clients on flood and low water conditions and • Supports decision making for provincial programs: Flood; Low Water/Drought; Great Lakes water takings; water budgets; Water Management Planning compliance; dam safety; Emergency Response. The Centre also assists the Province and its partners with a variety of other water management activities including Great Lakes water level monitoring, interconnecting channel and diversions flow assessment and advice, water control boards, source water protection planning including water budgets, and water power compliance monitoring	
Ontario Renewable Energy Atlas Illustrates Ontario's renewable energy potential and provides information to assist with identifying a potential renewable energy site. The Atlas is an interactive web tool that allows users to create and view maps of water energy resources in the Province. The viewer can tailor the maps to meet their needs, from high level overview to detailed information.	Ministry of Natural Resources and Forestry
Soil and Landforms	
Canadian National Seismograph Network Monitors signals from seismic sources, including earthquakes and other possible sources (for example, nuclear tests and mining blasts).	Natural Resources Canada
Fire Monitoring, Accounting and Reporting System Integrates annual burned area mapping with models of fire weather and behaviour and fire ecological effects, resulting in estimates of carbon emissions.	Natural Resources Canada
Land Information Ontario Land Information Ontario (LIO) has a data warehouse with more than 300 data sets that include geographic information on Ontario's: • road network • trails • wetlands • lakes, river and streams • parks and protected areas • soil types • heritage sites • airports	Ontario Government

Monitoring System Name and Description	Lead department or agency (Federal)
• official names • municipal boundaries LIO works with partners across the province to create and maintain provincial data. First Nations can become members and can access data for no charge.	
Northern Contaminants Program Monitors concentrations of contaminants, including persistent organic pollutants and mercury, in air, wildlife, and human residents of the Canadian North.	Aboriginal Affairs and Northern Development Canada
First Nations Food Nutrition and Environment Study Monitors the health status, traditional foods consumed, contaminants in traditional foods, contaminants in drinking water, pharmaceuticals in surface water, and mercury in hair of First Nations people in Canada.	Health Canada
Colonial Water Bird Contaminant Program Monitors changes in contaminant concentrations in seabird eggs in the marine and Great Lakes environments over time.	Environment Canada
Acid Rain Biomonitoring Program Monitors the biological component of aquatic ecosystems in order to determine whether acid rain reduction efforts are sufficient to protect or enable the recovery of sensitive ecosystems across Canada.	Environment Canada
Plants and Animals	
Acid Rain Biomonitoring Program Monitors the biological component of aquatic ecosystems in order to determine whether acid rain reduction efforts are sufficient to protect or enable the recovery of sensitive ecosystems across Canada.	Environment Canada
National Forest Inventory Estimates change in Canada's forest ecosystems.	Natural Resources Canada
Species at Risk Recovery Monitoring Monitors status of species at risk under the Species at Risk Act.	Environment Canada
Coastal Habitat Assessment and Monitoring Project Monitors marsh bird communities and their habitat in lower Great Lakes coastal wetlands.	Environment Canada
Aquatic Invasive Species—Central and Arctic Monitors and provides early detection of aquatic invasive species in the Great Lakes, and establishes a baseline for aquatic invasive species monitoring in the Canadian Arctic (3 different activities).	Fisheries and Oceans Canada
Canadian Shorebird Monitoring Provides information on the current population status, distribution, and trends of shorebird species in Canada, including some monitoring in Latin America (about 15 different surveys for approximately 75 species).	Environment Canada

Monitoring System Name and Description	Lead department or agency (Federal)
Canadian Waterfowl Monitoring Provides information on the current population status, distribution, and trends of waterfowl species in Canada, as well as the magnitude of harvest of game species (about 80 different surveys covering approximately 50 species).	Environment Canada
Canadian Landbird Monitoring Provides information on the current population status, distribution, and trends of land bird species in Canada, largely relying on public volunteers (about 58 different surveys for approximately 250 species).	Environment Canada
Canadian Waterfowl Monitoring Provides information on the current population status, distribution, and trends of waterfowl species in Canada, as well as the magnitude of harvest of game species (about 80 different surveys covering approximately 50 species).	Environment Canada
Canadian Waterbird Monitoring Provides information on the current population status, distribution, and trends of waterbird species in Canada, including seabirds, inland colonial waterbirds, marsh birds, and others about 37 different surveys for approximately 90 species).	Environment Canada
Wildlife Disease Monitoring Monitors different wildlife diseases in dead and live animals: West Nile virus, Lyme disease, white nose syndrome of bats, rabies, and others. Avian influenza is listed separately in this inventory. Monitoring is conducted by the Canadian Cooperative Wildlife Health Centre.	Environment Canada with Canadian Food Inspection Agency, Public Health Agency of Canada, and other federal partners
Natural Heritage Information Centre As Ontario's Conservation Data Centre, the Natural Heritage Information Centre (NHIC) receives, reviews and distributes data and information about Ontario's rare species, plant communities, wildlife concentration areas and natural areas at local, regional, provincial, national and global scales. Working with conservation partners to track Ontario's biodiversity, the Natural Heritage Information Centre (NHIC) is Ontario's Conservation Data Centre. The NHIC is also a member of NatureServe and NatureServe Canada, a network that connects science with conservation efforts across the western hemisphere. The NHIC distributes data and information and provides collaboration opportunities and project development and delivery services for conservation science at local, regional, provincial, national and global scales. The Natural Heritage Information Centre (NHIC) collects, receives, verifies, enhances, protects and manages information for rare species, rare plant communities, wildlife concentration areas and natural areas in Ontario. The Natural Heritage	Ministry of Natural Resources and Forestry

Monitoring System Name and Description	Lead department or agency (Federal)
Information Centre (NHIC) assigns species conservation status ranks in Ontario and defines the location of occurrences for rare species, plant communities and wildlife concentration areas in the province. The NHIC also provides rare species, plant communities, wildlife concentration areas and natural areas assessment services.	
Ontario Butterfly Atlas Displays 221,000 observations of butterfly species in 10 kilometre squares. Sponsored by the Toronto Entomologists Association.	Ontario Butterfly Atlas
Ontario Reptile and Amphibian Atlas The objective of the atlas program is to improve our knowledge of the distribution and status of Ontario's reptiles and amphibians by collecting observation submissions from the public, carrying out field surveys and amalgamating existing databases.	Ontario Nature
Ontario Breeding Bird Atlas This web site, which serves as a complement to the book, contains several items that you can access online, such as species distribution and effort maps, various interactive data summaries, options to download the raw data and more.	Environment Canada, Ontario Nature, MNRF, Bird Studies Canada, Ontario Federation of Ornithologists
Ontario Herpetofaunal Summary Atlas http://134.117.10.208/find/maps/online-maps/place/Ontario	
Human Population	
Lyme Disease Surveillance System For the information of the public and medical practitioners, identifies the geographic locations where Lyme disease is emerging.	Public Health Agency of Canada
West Nile Virus National Surveillance System Provides data for the prevention and control of West Nile virus and reduction of the disease's impact on Canadians.	Public Health Agency of Canada
First Nations Biomonitoring Initiative Monitors First Nations people living on reserves to examine their current exposure to environmental chemicals or contaminants. The Assembly of First Nations is the custodian of the data.	Health Canada
Canadian Radiological Monitoring Network System Measures radioactivity levels in the environment locally, around major Canadian nuclear facilities, and more broadly across Canada, and collects precipitation and air samples to measure radioactive particulate matter and radioactivity doses.	Health Canada

Monitoring System Name and Description	Lead department or agency (Federal)
Provincial Monitoring Programs	
Provincial Stream Water Quality Monitoring Network This dataset provides stream water quality monitoring data for a number of parameters including chloride, nutrients and metals. Spatial information for stream monitoring locations across Ontario is also available. Water quality data for the years 2002-2011, inclusive, can be downloaded as an Access database. Data for individual years can be downloaded as Excel spreadsheets.	Ministry of the Environment
Provincial Groundwater Monitoring Network Each PGMN well is initially sampled and chemically analyzed at the Ministry of the Environment laboratory for a comprehensive set of chemical parameters including: general chemistry, metals, major ions, a suite of volatile organic compounds, and a suite of pesticides and herbicides. Bacteria are not monitored under the PGMN program. Approximately 380 of the PGMN wells have been selected for long-term annual water chemistry monitoring. The long-term monitoring parameters include general chemistry, metals, and major ions. Samples are collected from wells in the Fall season and chemically analyzed at either the Ministry laboratory or a number of private laboratories.	Ministry of the Environment
Surface Water Monitoring Centre The surface water monitoring center completes the following: • Collects, monitors & analyses water flows, levels and climate data • Performs Watershed Conditions Analysis • Conducts a daily Hazard Identification and Risk Assessment (HIRA) to identify areas throughout the province where a potential risk of flood or drought • Calculates indices and generates maps • Creates conditions reports, notifications, watches, etc. • Communicates with partners and clients on flood and low water conditions Supports decision making for provincial programs: Flood; Low Water/Drought; Great Lakes water takings; water budgets; Water Management Planning compliance; dam safety; Emergency Response • The Centre also assists the Province and its partners with a variety of other water management activities including Great Lakes water level monitoring, interconnecting channel and diversions flow assessment and advice, water control boards, source water protection planning including water budgets, and water power compliance monitoring.	Ministry of Natural Resources
Air Quality Ontario	Ministry of the

Monitoring System Name and Description	Lead department or agency (Federal)
The ministry has a network of 40 ambient (outside) air monitoring stations across the province that collects real-time air pollution data. This information is communicated to the public through Ontario's Air Quality Index (AQI) and as hourly concentrations of each pollutant. The AQI and data collected from these 40 locations are posted on this website every hour, 24 hours a day, seven days a week. Each year, the ministry prepares an Air Quality Report to assess the state of air quality in Ontario based on the AQI network.	Environment and Climate Change
Natural Heritage Information Centre As Ontario's Conservation Data Centre, the Natural Heritage Information Centre (NHIC) receives, reviews and distributes data and information about Ontario's rare species, plant communities, wildlife concentration areas and natural areas at local, regional, provincial, national and global scales. Working with conservation partners to track Ontario's biodiversity, the Natural Heritage Information Centre (NHIC) is Ontario's Conservation Data Centre. The NHIC is also a member of NatureServe and NatureServe Canada, a network that connects science with conservation efforts across the western hemisphere. The NHIC distributes data and information and provides collaboration opportunities and project development and delivery services for conservation science at local, regional, provincial, national and global scales. The Natural Heritage Information Centre (NHIC) collects, receives, verifies, enhances, protects and manages information for rare species, rare plant communities, wildlife concentration areas and natural areas in Ontario. The Natural Heritage Information Centre (NHIC) assigns species conservation status ranks in Ontario and defines the location of occurrences for rare species, plant communities and wildlife concentration areas in the province. The NHIC also provides rare species, plant communities, wildlife concentration areas and natural areas assessment services.	Ministry of Natural Resources
Ontario Breeding Bird Atlas This web site, which serves as a complement to the book, contains several items that you can access online, such as species distribution and effort maps, various interactive data summaries, options to download the raw data and more.	Environment Canada, Ontario Nature, MNR, Bird Studies Canada, Ontario Federation of Ornithologists
Invasive Species Tracking System In 1992, the Ontario Federation of Anglers and Hunters, in partnership with the Ontario Ministry of Natural Resources, established the Invading Species Awareness Program in order to address the increasing threats posed by invading species in Ontario. The objectives are to generate education and awareness of aquatic and terrestrial invading species, address key pathways contributing to invading species introductions and spread, and facilitate monitoring and tracking initiatives for the spread of new invaders found within Ontario. The	Ministry of Natural Resources in partnership with Ontario Federation of Anglers and Hunters

Monitoring System Name and Description	Lead department or agency (Federal)
Invading Species Awareness Program answers the Invading Species Hotline (1-800-563-7711) to give the public an avenue to report sightings, seek information, and to request educational material on invasive species. Contact us through the Invading Species Hotline (1-800-563-7711) or visit our website for more information.	

9.6 PROVINCIAL MONITORING

9.6.1 Monitoring Standards-Canadian Council of Ministers of the Environment

The Canadian Council of Ministers of the Environment (CCME) is the primary minister-led intergovernmental forum for collective action on environmental issues of national and international concern. The CCME publishes the Canadian Environmental Quality Guidelines (CEQG's) which provide science-based goals for the quality of aquatic and terrestrial ecosystems. Environmental quality guidelines cover topics such as community water supplies, recreational water quality guidelines, protection of aquatic life, agricultural water usage, soil quality guidelines, and guidelines that provide guidance with respect to tissue residues for the protection of wildlife consumers. As the community begins their Environmental Monitoring program, they should consult the CCME Guidelines, specifically the following documents:

- Canadian Water Quality Guidelines for the Protection of Aquatic Life
- Canadian Sediment Quality Guidelines for the Protection of Aquatic Life
- Canadian Soil Quality Guidelines for the Protection of the Environment and Human Health
- Canadian Tissue Residue Guidelines for the Protection of Wildlife Consumers of Aquatic Biota

A MEMO has been prepared to assist community members with comprehension of the guidelines, specifically as they apply to contaminated sites. This memo is available for review in Appendix J.

10. ENVIRONMENTAL MANAGEMENT REGIME

The Environmental Management Regime proposed for Atikameksheng Anishnawbek is based on the four elements. Figure 25 outlines the proposed regulatory structure for the environmental management system being proposed.

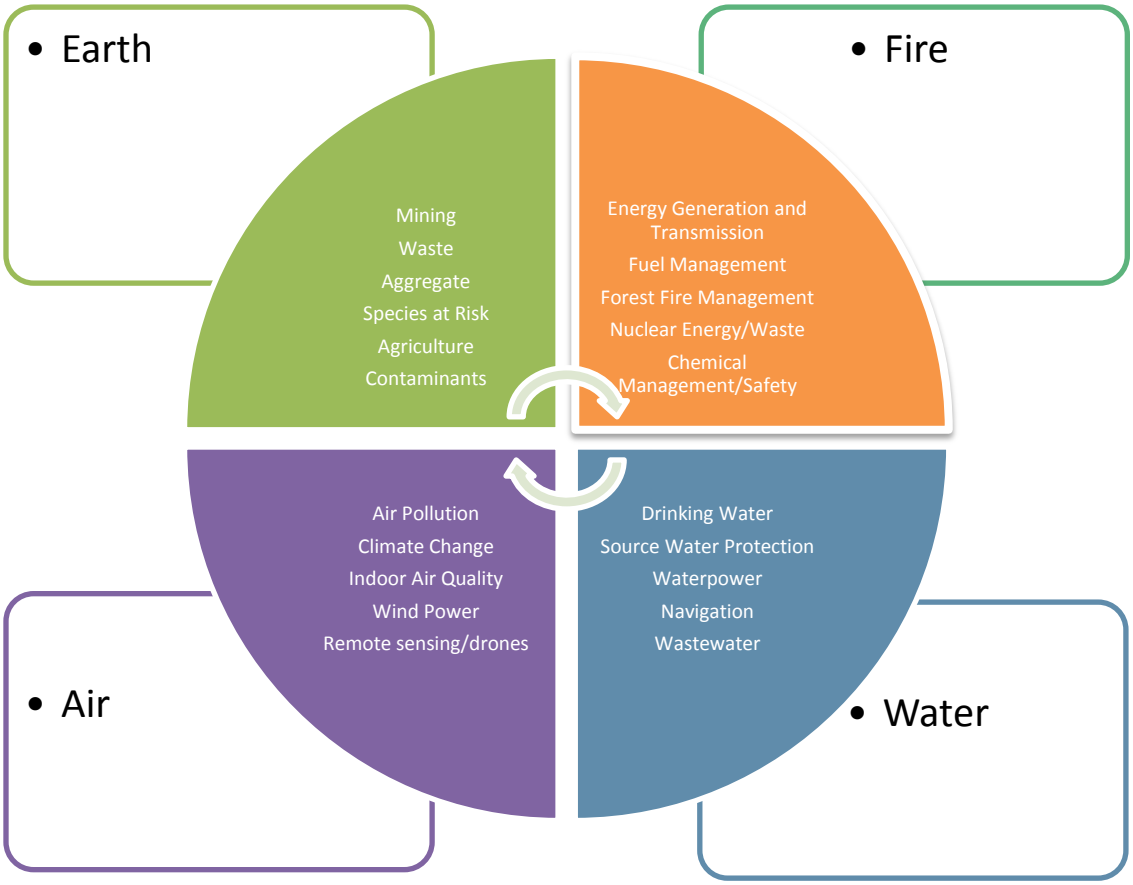

Figure 25: Suggested Regulatory Structure

10.1 ENVIRONMENTAL MANAGEMENT PROCESS

As detailed in Figure 26, there is a logical way to progress with the various components of environmental management within the community.

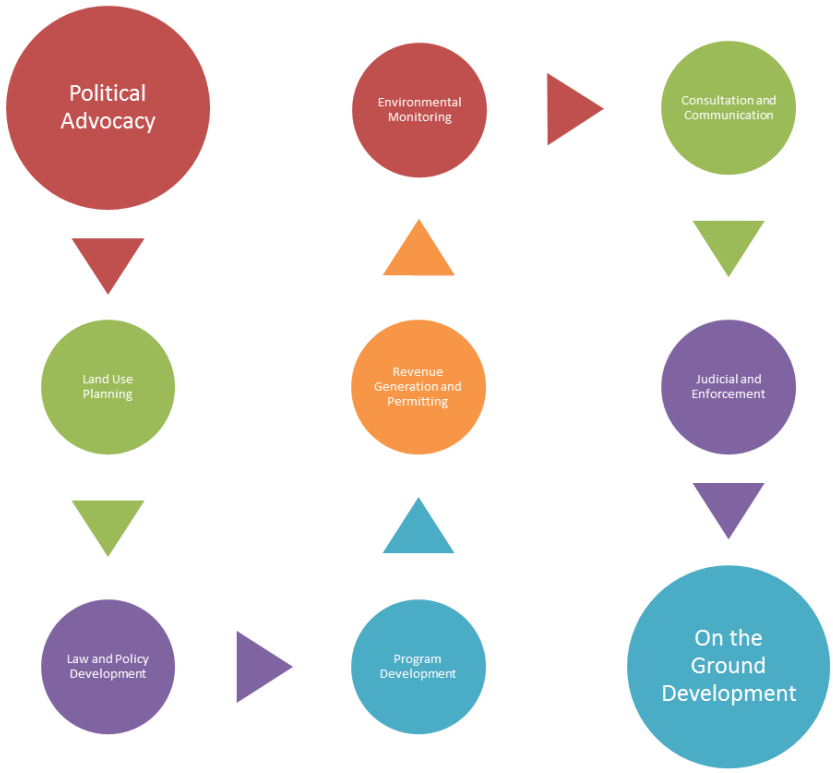

Figure 26: Environmental Management Process

10.1.1 Political Advocacy

It is important that the Chief and Council of the community endorse a strong political advocacy role with respect to Lands and Resources, to further developments relating to land claims, additions to reserve, and effectively working with federal and provincial government agencies, community partners, industries and non-governmental organizations to assist the Lands Department in achieving its goals through collaborative partnerships and harmonization.

10.1.2 Land Use Planning

The completion and community endorsement of the Land Use Plan being developed for the community (a separate document being developed by Tunnock Consulting, under separate cover) will play a critical role to providing the community with a framework under which future land dispositions can be considered. Building upon the Land Use Plan, additional work will need to be done relating to formation of an economic development strategy and identification of suitable resource rich areas that relate to it both on and off reserve. Additional planning work will be required to address cultural and heritage issues, achieving a balance between land protection and development, and formation of community positions on key issues such as mining and energy development on reserve land.

10.1.3 Law and Policy Development

The community has completed some of the preparatory work required to put environmental protection and environmental assessment laws and regulations into place, however much more work will be required to implement the processes that have been developed and to ensure their effectiveness. The laws under development include an Environmental Assessment Law, a Heritage, Culture and Spiritual Resources Law, and a Dispute Resolution and Enforcement Law. Work on additional draft laws including a Forestry Law and Water Keepers Law.

10.1.4 Program Development

Additional programming under both Public Works and the Lands Department will be required in order for the community to effectively manage the landbase. Additional programs are suggested to include Permitting, Environmental Education, Environmental Monitoring, Species at Risk, and Enforcement. Specific training will be required for the additional programs that will be developed.

10.1.5 Permitting and Revenue Generation

Through establishment of a permitting program, revenues will be generated that will help to offset the costs of operation of the Lands Department and the additional staffing that will be required to manage the programs. Revenue generation will primarily be driven by off-reserve businesses wishing to "set up shop" on reserve, or that require land tenure for their activities. Some examples include energy generation and transmission and telecommunications industries, and the mining and mine services industries. Tourism and food services industries may also play a role in the local area.

10.1.6 Environmental Monitoring

Once enough revenues are generated from permitting and land tenure, a strong environmental monitoring program should be implemented. Programming details and their implementation are further discussed under section X of this document.

10.1.7 Consultation and Communication

Consultation and communication with membership and between members and non-members (industry, government and other stakeholders) will play a key role in both the environmental assessment regimes that are developed, and in the types of land tenures that will be permitted to operate on reserve lands. It will be important for key staff to occupy permanent positions to

fulfill these roles. The complimentary role of educating and informing community members on a variety of issues will be an important consideration.

10.1.8 Judicial and Enforcement Capabilities

Although laws may be endorsed by the community, staff will be unable to fully implement laws unless they are duly enforced. The hiring of an Enforcement Officer will be key for the community to be able to collect additional revenues that will arise from the implementation of fines and penalties. The Enforcement Officer will play an additional role in some of the environmental monitoring that will be required under this plan.

10.1.9 On the Ground Development

Throughout the progression of this work, the key priorities of the community have become increasingly evident. One of the key needs is to develop a business park/industrial area that will provide a location for the establishment of on-reserve businesses. Another key need is to restore and rehabilitate contaminated lands and waters originating from the Long Lake Arsenic issue. The third key need is to close the existing landfill and find another option for future community waste disposal, including commercial and industrial waste. Until these three objectives are achieved, no further development at the community level will be possible.

10.2 Action Areas

The tables below outline a number of "Action Areas". Each table pertains to a particular element, and there may be some overlap and repetition between tables as may pertain to a singular action. The tables outline specific objectives for action, a task or tasks related to that objective, a proposed timeframe or priority for action based on the best available information at hand, a suggestion on what department would be responsible for implementing the action, and the estimated cost of the action based on preliminary information.

Each action has been given a code and number which refer to a specific set of processes/themes relating to environmental management. The Code refers to a specific process of environmental management as identified below:

1. M-Environmental Monitoring-
2. LUP-Land Use Planning
3. LP-Law and Policy Development
4. C-Consultation, Education and Communication
5. PD-Program Development

6. JE-Judicial and Enforcement
7. RG-Revenue Generation and Permitting
8. O-On the Ground Development
9. PA-Political Advocacy

Although not specifically included in the matrix, information management also plays an important role in each of these processes/procedures.

As detailed in Figure 25, there is a logistical way to progress with the various components of environmental management within the community. When reviewing considerations for future action, consideration should be given to a strategic prioritization of actions. The community currently has limited financial and human resources, so not all actions will be possible to achieve immediately. The community should focus first on actions that will assist the community by considering the sequential priorities for environmental management on the reserve.

Table 13: Protection Earth Actions

CODES:
M - Environmental Monitoring
LUP - Land Use Planning
LP - Law and Policy Development
C - Consultation, Education and Communication
PD - Program Development
JE - Judicial and Enforcement
RG - Revenue Generation and Permitting
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PA - Political Advocacy

PROTECT EARTH				
Objective	**Tasks**	**Timeframe Priority/ Frequency**	**Responsible**	**Estimated Cost**
General				
LUP-1 Identify current and future land uses on the reserve to enable appropriate assessment of major and minor projects and proposals	Complete Land Use Plan for reserve land	Extremely High	Community Development	Resources previously committed to consultant (amount unknown)
LP-1Develop Regulatory Framework under Land Management Code	Implement an Environmental Assessment Law and associated community consultation process to ensure proper environmental review of future projects through a clearly defined EA process	Extremely High	Lands under Land Management Code	Previously committed resources as identified in WESA proposal and through funding identified under First Nation Market Housing Fund (legal review)
	Develop and implement a Land Disposition process manual that will provide guidance to Land Administration staff regarding the process and fees for various forms of land tenure	Extremely High	Lands under Land Management Code with Consultant assistance	Revenue creation based on administrative fees charged and complexity/form of project as outlined in Land Disposition Process Manual (under development)
	Require new home applications and land dispositions to go through EA process and implement building permit fee for new construction that reflects time and staff resources		Housing in conjunction with New Environmental Department	Revenue creation for housing and lands depts. (need to discuss application fee for new construction)
C-1 Improve internal communication between departments regarding Lands related issues	Establish clear intake process and chains of command with respect to EA process for new projects on-reserve through development of EA Process Manual and checksheet		Consultant (WESA)	Currently allocated resources
	Develop and submit quarterly status reports to the Political Office and Senior Managers in all departments to ensure that in the event of staff changeovers, detailed briefing materials are available for new staff	High	Community Assistance and all respective departments	Staff time
C-2 Improve communication to members on Lands related issues	Identify staff resource to ensure community flyers and website are effectively used to communicate with membership on lands-related issues	High	Community Assistance	Staff time
LP-2Develop and establish Business Licensing Law to address existing and future Industrial and Commercial business development on reserve	Ensure that business licensing protocols are addressed as part of Land Use Planning			Currently allocated resources
LP-3Develop mandated Environmental Committee	Recommend that Environmental Committee include non-reserve membership with seats for non-governmental organizations such as Long Lake Stewardship Council and other stakeholders (i.e. Sudbury & District Health Unit)	High	Lands	Proposed per diem to Environmental Committee members for their involvement (suggest $100-150 /day for band member involvement. External organization involvement would be on a volunteer basis.

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
Mining				
C-Educate community members about the mining process and associated environmental management processes	Invite mining companies to the reserve to inform the community regarding their operations in the Sudbury Basin and their environmental management systems.	Next 4-6 months	Invited by Chief and Council, implemented by Consultation Coordinator	In house for minimal cost (time & expenses)
C-Establish a community position on mining	Consult with the community to establish a community position on mining		Chief and Council	In house for minimal cost (time & expenses)
LUP-Ensure interim protection of lands that have a high resource potential for mining	Identify and afford interim protection to lands that have a high resource potential for mining through Land Use Planning	Extremely High	Director of Community Assistance	Resources previously committed (amount unknown)
Waste Management				
LUP-Develop a long-term plan for waste management on-reserve	Consult with community to advise them of the location of the identified appropriate future landfill site on reserve	Extremely High	Director of Community Assistance	Minimal-based on direction provided in Neegan Burnside Report
	Hire a part-time Waste Management Technician to assist with waste reduction efforts (or contract out to company)(Part time position)	Extremely High	Public Works	$18,500- Up to $100,000 of funding is available per project under the Eco-Action Community Funding Program
	Develop and implement operating plan for existing landfill	Extremely High	Public Works	In house (Staff time)
	Begin monitoring ground and surface water quality at operating landfill on an annual basis (spring and fall)	Extremely High	New Environmental Department	$17,000 plus staff time
	Fence and gate operating landfill, place security cameras	Extremely High	Public Works	$20,000
	Interview Panache Lake leaseholders to identify how they are disposing of their waste	Medium	Enforcement Officer (Environmental Dept) in collaboration with consultant	Minimal cost $200-300
	Community leaders meet with Anishnawbek Police to discuss enforcement of waste law	Extremely High	Chief and Council	In house
	Develop and implement a Closure Plan for the landfill	Extremely High	Director of Community Assistance and Consultant assistance	Estimated at $10,000
	Seek an engineering review of future solid waste project proposals from a public health perspective through First Nations Health Authority	As required	Director of Community Assistance	No cost to community
	Convert existing waste site to transfer station	Extremely High	Public Works	

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
	Implement agreement with Ontario Electronic Stewardship for WEEE pickup and tire pickup; develop segregated site for tire collection	Extremely High	Public Works	Free service
	Develop a long-term strategy for management of industrial, institutional and commercial waste-negotiate with City of Greater Sudbury to accept this waste as part of new agreement	Prior to development of business park	Public Works with assistance of consultant?	Cost analysis would likely include a cost per tonne (not sure how the agreement with City is structured)
PD-Implement waste reduction actions to minimize amount of waste going to landfill	Implement clear bag policy	Extremely High	Public Works	$3,000
	Implement quarterly waste audits to monitor waste reduction success	Extremely High	Public Works	In house (time & expenses)
	Implement weekly pickup at Panache for reserve members	Extremely High	Public Works	Additional 28 km @ 0.55/km=15.40 x 52 wks=$800
	Identify a suitable location for a "Share Shed" where members can bring unwanted goods for pickup and reuse by others	Medium	Public Works	Is there a suitable community location?
	Organize an annual Hazardous Waste Collection day in conjunction with Toxic Taxi of Sudbury	Annually (Spring 2015)-Medium	Public Works	Free
	Continue segregation of white goods	Medium	Public Works	Free
	Develop an incentive rewards program to encourage recycling in the community and publicize results in community newsletter (Monthly $25 award or gift certificate)	High	Public Works	$300 annually
	Begin backyard composting program and education on composting	(Spring 2015)	Public Works/Environmental Dept	$40/composter x 130 residences=$5200 plus staff time for installation and education
	Raise community awareness regarding the dangers of improper oil and battery disposal and inform community of disposal options for these items	Extremely High	Public Works	First Nation Environmental Contaminants Program /In House
PD-Develop and implement a waste reduction/recycling education program	Develop ads for community newsletters	Extremely High	Public Works	In house (time & expenses)
	Develop materials to hand out for the community to educate on recycling (fridge magnets, flyers)	Extremely High	Public Works	In house (time & expenses)
	Continue awareness program articles in newsletter to make residents aware of street by street recycling rates	Extremely High	Public Works	In house (time & expenses)

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
	Implement a Waste Diversion strategy at the Community Centre for community events	Extremely High	Public Works/Community Development Manager	In house (time & expenses)
PD-Take action to minimize illegal dumping and littering	JE-Install security cameras at landfill site and entry to reserve		Public Works	$3514
	JE-Implement fines for illegal dumping $500 for off-reserve members and $200 for on-reserve members (suggested)	Extremely High	Enforcement Officer-under new Environmental Department	Free
	Clean up and monitor unauthorized dump sites using video cameras	Extremely High	Enforcement Officer-under new Environmental Department/Public Works	In house (time & expenses)
	Develop a disposal strategy for derelict vehicles	Extremely High	Enforcement Officer/New Environmental Department	Contacted MOE waiting for list of businesses
	JE-Implement and enforce a littering penalty/fine for on and off-reserve members	Extremely High	Enforcement Officer/New Environmental Department	$180 off reserve $200 on reserve
	Seek funding to purchase additional waste bins for public areas and entry to reserve; modify waste collection schedule to ensure pickup	Medium Priority	Public Works	1 dumpster 15 c.u. at Waste Management Sudbury is $436/wk
PD-Beautify community	Develop and implement a schedule for cleanup of playgrounds and beach areas	Low Priority	Public Works	Summer students?
Aggregates				
PD-Ensure that reserve aggregate sites are maintained in a manner that ensures public health and safety	Inspect aggregate sites and determine and implement actions required to ensure public safety; place signage to warn residents of potential danger	Medium priority	Enforcement Officer/New Environmental Department	4-5 sites x $500 per sign equals $2500

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
LUP-Ensure interim protection of lands that have a high resource potential for aggregate removal	Identify and afford interim protection to lands that have a high resource potential for mining through Land Use Planning	Extremely High	Community Development Manager/Lands Manager	Include in Land Use Planning
LUP-Seek community position on aggregate extraction	Consult with community as part of Land Use Planning exercise to determine community desires with respect to aggregate development	Extremely High	Community Development Director/Economic Development/Lands Manager	Include in Land Use Planning
Forestry and Agriculture				
LUP-Identify and protect high value forestry and suitable agriculture areas	Identify and maintain interim protection of lands that have a high potential for forestry and agricultural activities through Land Use Planning	Extremely High	Community Development Director/Economic Development/Lands Manager/Natural Resources	Completed through land use planning
	Develop and implement a royalty fee structure for the forestry program that will build capacity for proper forestry management	Extremely High	Natural Resources	Revenue based on level of forestry operation occurring (current level would provide revenue of $
	Develop and implement a firewood permitting system including an incentive program which awards prizes or draws for those who apply for fuelwood permits. Develop and implement penalty system for cutting outside of firewood permit areas. (First 10 Cords/Year Free Policy)	Extremely High	Enforcement Officer/ Environmental Department/Natural Resources	Ensure designation of Firewood areas on Land Use Planning documents
	Evaluate potential transfer of Forest Allocation to Economic Development while keeping Forest Management under Natural Resources, to provide opportunity for growth and economic development initiatives associated with forestry	Extremely High	New Environmental Department/ Economic Development	No cost
	Update Forest Management Plan once updated FRI becomes available (early 2015). Include implementation of royalty fees and updated stumpage fees.	2015 once updated FRI becomes available	Consulting Firm/Economic Development/Natural Resources	CORDA Funding maximum $35,000
	Inventory and map boundaries of existing unused or used sugar bushes on reserve, and protect these lands for future uses under Land Use Plan	Lower priority	Natural Resources	In-house staff time

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
	Establish policy for sugar bush stewardship that addresses passing on of a family member	Lower priority	Natural Resources	In-house staff time, demarcate areas on Land Use Plan
	Establish and implement fine for unauthorized occupations of reserve land	Medium priority	Enforcement Officer under new Environmental Unit	$200 for each day the work is continued in contravention of the order.
	Establish and implement fines for forestry-related offences (i.e. cutting within protected areas)	High priority	Enforcement Officer under new Environmental Unit	$15,000?
	Establish measures to monitor the amount of wood being removed from the forest for all uses by purchasing a scale which could also be used for waste applications by Public Works (scale discussion)	High priority	Natural Resources-Enforcement Officer to monitor use of scale and/or to scale wood	CORDA Funding $65,000 (approximate)
	Implement managerial fees to be added to forestry permits with fees going back to the Forestry Department to ensure proper forest management and enable capacity building.	High priority	Natural Resources/Ec Dev	Estimated revenues
	Develop an educational program to inform residents of new forestry renewal methods	Low Priority	Natural Resources	Weekly articles
	Develop a mechanism to determine the commercial value of the forest resources on reserve land by block	Medium Priority	Natural Resources With assistance from MNR Forester	In house if staff has capacity, or Forestry Technician (additional staff)
	Establish a forest renewal fee (timber dues) to be paid to Finance with the intent to reinvest this money in the Natural Resources Department based on the volume of wood harvested	High Priority	Enforcement Officer under new Environmental Unit	
	Implement fines under Forestry Law for unauthorized removal of non-timber forest products	High Priority	Enforcement Officer under new Environmental Unit	Revenue Creator dependent upon fines levied
Rehabilitation of Contaminated Lands				
O-1 PA-Restore and rehabilitate contaminated lands to their best possible use	Participate in Federal, Provincial and Municipal exercises to rehabilitate contaminated lands by identifying where additional capacity is required and lobbying for funding to implement programs and practices	High Priority	Chief and Council	Evaluate costs of land rehabilitation to assist with lobbying efforts

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
Heritage and Culture				
LUP-Protect heritage and cultural resources of the community	Expand on existing report on community history to remain on file at the library.	Medium Priority-	Lands	Special project under Lands
	Initiate a cultural mapping (Traditional Ecological Knowledge) study of the reserve and territorial lands	High Priority	Special Project-Hire Staff Person	Creative Communities Prosperity Fund
	Apply to MNDM to have off-reserve grave sites removed from lands available for staking (Tyson Lake Site).	Medium-within 6 months	Lands	No cost
	Develop cultural heritage program on-reserve	Medium	New Cultural Program	$
	Address the issue of unmarked graves by creating a graveyard inventory that documents all existing known current and future graves including GPS coordinates and create markers or historical plaques	Low	Special Project-Public Works/Management	Summer students?
	Develop a cemetery expansion plan and consult with community on the plan as it relates to Land Use Planning	High	Community Assistance Manager with Lands	Land Use Planning
Wildlife and Domestic Animals, Livestock				
PD-Take action to ensure the health and vitality of wildlife on the reserve	Develop Memorandum of Agreement (MOU) that permits MNR, upon request of the Chief, to enter and investigate occurrences on reserve land when evidence of poaching activity is observed on reserve (i.e. bear poaching-remains at landfill site)	Medium	Chief, to be implemented by MNR Conservation Officers in collaboration with Enforcement Officer under Environment Unit	No cost
	JE-Implement a hunting license permit fee and disclaimer form for non-members who wish to hunt on reserve with a band member (Develop non-band member regulations with respect to hunting)	ASAP	Permission of Chief and Council, to be implemented by Enforcement Officer under new Environmental Unit	
	JE-Establish permitting system for band members wishing to keep livestock on reserve that prescribes rules and regulations for keeping livestock	Medium to high priority	Enforcement Officer, authorized by Council, to seize and remove unauthorized animals in conjunction with Animal Control Services (SPCA)	Revenues from permitting system to offset the cost of animal removals when required

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
	Develop and implement a nuisance beaver management plan	Spring 2014	Trapping specialist-consulted by Public Works	$20/animal
	JE-Implement fine system for dogs at large in addition to fee established to pick up an impounded dog at Rainbow Animal Control $60	Low priority	Enforcement Officer to be notified by band, individual residents or Rainbow Dog Catchers 673-DOGS	First Offence-$30 Second Offence-$60 Third Offence-$150 If fines unpaid, denial of other services. Untagged dogs must pay tag fee of $30 plus additional fine of $30 dollars.
Public Health-Land Creatures **PD-Develop and post consumption guidelines with respect to consumption of organs from Moose and Deer in the territory (Investigate CMHC Guidelines referred to in Section X)**	Develop and post consumption guidelines with respect to consumption of organs from Moose and Deer in the territory (Canadian Council of Ministers of the Environment website-see guidelines online)	Medium priority	Health Department	In house (staff time)
Laws & Justice				
JE-Establish a legal and justice system in the community reinforced by the Land Management Code and FNLMA	Ensure proper registration of laws once passed by community	Following law implementation	First Nation Land Management Registry, Indian Land Registry, Canadian Gazette (Lands-Registry)	In house (staff time)
JE-Develop an enforcement program to implement community endorsed laws	Develop and implement a Justice Circle program to assist with enforcement	Prior to law implementation	Chief and Council	Potential for assistance from Union of Ontario Indians Legal Department
	Hire an Enforcement Officer to ensure compliance with community laws and Land Management Code	Once legal system has been established	Environmental Unit (New)	$40,000/year (off reserve rate is $45,000/year)
JE-Protect community right to reserve land	Develop and implement no trespassing signs at key locations along reserve boundary	High priority	Public Works	$500-1,000
	Develop authorization system for parking at boat launch	Medium priority	Enforcement Staff and Lands under new Environmental Unit	$500-1,000 (In development)
LP-Develop and implement environmental assessment process for major projects on reserve	Implement penalties and fines for development of roads without authorization	As part of Forestry Law	Enforcement Staff under new Environmental Unit	Consulting Fees

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PROTECT EARTH

Objective	Tasks	Timeframe Priority/ Frequency	Responsible	Estimated Cost
PA-Where there is reason to do so, explore potential for Land Claims	Explore status of various land claims (flood claim, timber claim, mining claim)	High Priority	With assistance from Union of Ontario Indians legal counsel	Explore funding available under Negotiation Support Directorate, Policy Development and Coordination Branch, INAC
PA-Explore potential for additions to reserve	Identify potential ATR's in Land Use Plan to facilitate future environmental management and economic development efforts		AART Reconciliation Team	Through discussion with Chief and Council, Senior Staff (In House)
PA-Intensify lobbying efforts with INAC regarding landfill closure and monitoring costs	Intensify lobbying efforts with INAC regarding landfill closure and monitoring costs	Immediate	Chief and Council/Public Works	In-house (time & expenses) $10,000
	Intensify lobbying efforts with various levels of government with respect to Long Lake Arsenic	Immediate	Chief and Council	In-house (time & expenses) $10,000

Table 14: Protect Fire Actions

CODES:		
M - Environmental Monitoring	**C - Consultation, Education and Communication**	**RG - Revenue Generation and Permitting**
LUP - Land Use Planning	**PD - Program Development**	**O - On the Ground Development**
LP - Law and Policy Development	**JE - Judicial and Enforcement**	**PA - Political Advocacy**

PROTECT FIRE				
Objective	**Tasks**	**Timeframe**	**Responsible**	**Estimated Cost**
Energy Generation/Transmission				
PD-Develop a culture of energy conservation within the community and reduce energy consumption	Develop and implement a community energy plan and make findings public.	As funding permits	New Environmental Unit/Economic Development/Consulting firm	Funding of up to $90,000 is available under Aboriginal Community Energy Plan to create a plan and funding of up to $25,000 is available to update an existing plan
LUP-**Identify potential future locations for transmission line development as may be required for new economic development projects on-reserve**	Identify potential future locations for transmission line development as may be required for new economic development projects on-reserve	Medium Priority	Economic Development	Up to $25,000 per community is available under the Aboriginal Transmission Fund and up to $500,000 per project.
LP-Prohibit pesticide use on reserve	As part of Environmental Protection Law, ensure that transmission line and right of way maintenance prohibits use of pesticides (with exception of manual applications)	Low	Lands	Costs for transmission line maintenance are covered by Hydro One.
PD-Develop sustainable energy sources for the community	Identify and develop opportunities for renewable energy generation on reserve and associated capacity building	Medium	Economic Development	Funding required is project-specific.
Fuel Management				
PD-Minimize and/or eliminate fuel-related contamination of the natural environment on reserve	Inventory and assess all existing above-ground fuel storage tanks	High	Enforcement/Inspection Officer under new Environmental Unit	$2-3,000 private consultant or 2-3 days staff time
	Establish a fee structure and permitting system for installation of new fuel storage tanks on reserve-make residents aware of new regulations	ASAP	Public Works in conjunction with consultant but to be implemented by Environmental Unit	Fee structure to be developed should ensure revenues reflect staff time and monitoring requirements. An estimate to complete the inventory and the permitting system should be obtained as soon as possible.
	Develop and establish a best-practices guide for maintaining fuel storage tanks on reserve and distribute to homeowners, businesses and administrative departments	High Priority	Public Works Staff	Can be done in house at AGM or on special occasions, or when in contact with homeowners and business owners.
Forest Fire Management				
PD-Protect the reserve land base from destruction by fire	Develop a Wildfire Strategy for Atikameksheng Anishnawbek and lobbying effort with Federal and Provincial government agencies.	High Priority	Lands/Public Works in conjunction with MNR	INAC/MNR funding may be possible-investigate funding sources
	Implement no-burning policy at landfill site and reinforce in waste law by	High Priority	Enforcement Staff	Revenue may be created from fines when implemented.

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PROTECT FIRE

Objective	Tasks	Timeframe	Responsible	Estimated Cost
	implementing fines for offenders		operated under Environmental Department	
	Repost fire hazard sign at entry to reserve	Spring 2015	Public Works	Minimal cost
	Develop Fire Awareness Communication Materials to educate residents on fire safety utilizing Fire Smart Program (MNR)	Low/Medium	New Environmental Unit with assistance from MNR	Seek funding from MNR for this initiative
	Implement Fire Permit application process for residents and camp owners and develop information on Best Practices	Low	Lands/Environmental/Enforcement Staff	No revenue creation
	Hold a yearly Fire Awareness luncheon for community members to raise awareness of fire safety for community members and leaseholders	Low	New Environmental Unit	Staff time plus $300/annually
	Build community capacity in the ability to fight wildfires through development of training programs	Low/Medium	Environment Unit in conjunction with MNR	Investigate funding sources
Nuclear Energy/Waste				
C-Consult with community to identify community position on nuclear energy/waste	Develop nuclear waste law that specifies rules/regulations or prohibitions with respect to nuclear waste storage/disposal on reserve land	Low	Consultation Coordinator under Community Development	Nuclear Waste Management Organization-investigate funding sources
Chemical Management/Safety				
LP-Develop law to protect community lands from aerial spraying	Establish and enforce penalties for unauthorized/unapproved aerial spraying of reserve lands-investigate extent of current aerial spraying-develop memorandum of understanding with Vermilion Forest Products and/or MNR regarding this	Low	Enforcement Officer operating within New Environmental Unit	Potential for revenue generation through implementation of fines

Table 15: Protection Air Actions

CODES:
M - Environmental Monitoring | **C - Consultation, Education and Communication** | **RG - Revenue Generation and Permitting**
LUP - Land Use Planning | **PD - Program Development** | **O - On the Ground Development**
LP - Law and Policy Development | **JE - Judicial and Enforcement** | **PA - Political Advocacy**

PROTECT AIR

Objective	Tasks	Timeframe	Responsible	Estimated Cost
Air Pollution				
C-**Develop community awareness around air quality issues posed by mining industry**	Invite mining companies from within the territory into the community to share information on their environmental and air quality monitoring programs	High	New Environmental Unit	Free (rental of community hall and refreshments)
Climate Change				
PD-**Encourage citizen science involvement in climate change monitoring programs**	Inform youth of opportunities for them to become involved on a voluntary basis in local environmental monitoring programs such as Naturewatch and sharing information with the Lands Department (www.naturewatch.ca)	Spring 2015	New Environmental Unit	Science Horizons Youth Internship of up to $12,000 per year could provide funding for such a project
PD-**Encourage youth to learn about and protect the natural environment**	Investigate having the "Cool Science" Caravan visit the community during a special event day on an annual basis to encourage youth to care for and protect the natural environment	Summer 2015	Environmental Educator under New Environmental Unit	Science Horizons Youth Internship of up to $12,000 per year could provide funding for such a project
Indoor Air Quality				
M-**Protect health of residents and staff**	Develop and implement an indoor air quality monitoring program for community-run buildings	Low	Band Administration	Consultant
	Check community run buildings and residences for potential asbestos and lead paint or other indoor air quality issues			
Drones and Filming				
Protect privacy of information that could be obtained from the use of drones (UAV's) and filming on Atikameksheng Anishnawbek lands	Drone use and filming authorizations should be incorporated into future law development. Drone use and filming must be authorized by Chief and Council-and information collected (if authorized) must be approved by and shared with Chief and Council. Written agreements must be signed to discuss for what purposes the information can be used and must be authorized by Chief and Council.	Medium Priority	Lands Office/Political Office	A costs framework needs to be established for use of drones within airspace above the community.
Wind Power				
RG-**Ensure revenues from use of reserve land for wind power flow to band in an equitable manner and ensure that wind power projects go through appropriate EA screening processes including community consultation**	Establish appropriate fee structures for rental of reserve land for wind power	Medium	Community Development/Lands/ Economic Development	Consultant or community development staff
	Consult with community to identify community desires with respect to wind power	Medium	Community Development/Consultant	As part of Land Use Planning

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PROTECT AIR

Objective	Tasks	Timeframe	Responsible	Estimated Cost
			Consultation Coordinator Economic Development	
	Identify and conserve suitable sites for wind power as part of Land Use Planning	Medium	Community Development	As part of Land Use Planning
Transmission Towers				
RG-**Ensure revenues from use of reserve land and/or traditional territory flow to band in an equitable manner and ensure that these projects go through appropriate EA screening processes including community consultation**	Establish appropriate fee structures for rental of reserve land for transmission towers based on land value (highest and best use)	Medium	Lands/Economic Development	Fees suggested-$1,000 administrative fee (equivalent MNR fee under existing policy) and $6,698/year for revenue-producing sites and $1,000/year for non-revenue producing sites
C-**Consult with community to identify community desires with respect to transmission towers**	Identify locations where towers could be permitted	High since being approached by developer	Economic Development in conjunction with Consultation Coordinator	In-house (staff time)
Transmission Lines				
RG-**Ensure revenues from use of reserve land and/or traditional territory for transmission lines flow to band in an equitable manner and ensure that these projects go through appropriate EA screening processes including community consultation**	Establish appropriate fee structures for rental of reserve land for transmission towers based on land value (highest and best use)	Medium	Lands/Economic Development	Look into fee structure

Table 16: Protect Water Actions

CODES:		
M - Environmental Monitoring	**C - Consultation, Education and Communication**	**RG - Revenue Generation and Permitting**
LUP - Land Use Planning	**PD - Program Development**	**O - On the Ground Development**
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PROTECT WATER				
Objective	Tasks	Timeframe	Responsible	Estimated **Cost**
Surface Water and Ground Water				
P-Protect and restore ecosystem health within lakes/rivers	Post signage at boat launch to warn boaters of transfer of invasive exotics (i.e. zebra mussels)	Spring 2015	Public Works	$300-500
LUP-Complete lake capacity studies for inland lakes on the reserve to determine appropriate levels of future development	Identify lakes that could be further developed and lakes where no development may occur through planning	High priority	New Environmental Department to work with economic development in conjunction with consultant utilizing guidance contained within MOE Lake Capacity Study Handbook, possible involvement of AOFRC or external consultant	CORDA funding maximum of $35,000 and examine potential application of Lake Partnership Program
M-Monitor fishing levels on reserve	Implement a voluntary fishing license program on reserve lands to monitor numbers of people fishing on reserve lands (and which would include special event fishing)	High priority	New Environmental Department	Free-no revenue creation
M- **PD-** Manage fish populations	Complete creel surveys on inland lakes to obtain data required for proper fisheries management	High priority	New Environmental Department/AOFRC	Funding of up to $35,000 is available under CORDA (Canada-Ontario Resource Development Agreement) for resource development related projects
M- **PD-** Manage fish populations	Implement a fishing permit system and fee for non-members	High	New Environmental Department	Off-reserve comparable rates range from $9 for a first card to $86 for a 3 year sport fishing license tag. Proposed license fee revenues estimated at $20/license x 50 people =1,000/year
M- **PD-** Manage fish populations	Establish appropriate possession limits for highly impacted fish species	High	Enforcement Officer under New Environmental Department	Through consultation with biologist and examination of fisheries data-cost currently unidentified
PD- Develop information management systems on reserve	Develop an information management and invoicing system to record and monitor various components of the natural environment on reserve and to monitor staff time associated with administration of the EA Law (system should include a Confidential Layering system)	Medium	New Environmental Department	In house or consultant
M-Monitor surface and groundwaters, sediments	Initiate and implement a monitoring program to monitor surface and groundwater and sediment quality in reserve lakes and rivers (as may be relevant to Long Lake Arsenic issue)	High	New Environmental Department in conjunction with Provincial Ministries, stakeholder groups	National Wetland Conservation Fund provides funding of between $50,000-$250,000 with a cap of $500,000 per project (deadline November 21st, 2014)
M-Monitor fish health	Initiate and implement a monitoring program to monitor fish and wildlife community health based on Community Stewardship and Co-Management	Immediate-Deadline for proposals is Dec 10 2014	New Environmental Department in conjunction with AOFRC, Provincial government agencies, citizen scientists, community youth, and stakeholder groups	Funding available under AOFRC, Species at Risk Stewardship Program, Habitat Stewardship Program for Species at Risk, Aboriginal Funds for Species at Risk, Land Stewardship and Habitat Restoration Program.

CODES:

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LUP - Land Use Planning	**PD - Program Development**	**O - On the Ground Development**
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PROTECT WATER

Objective	Tasks	Timeframe	Responsible	Estimated **Cost**
PA- **PD-** Comply with Federal and Provincial Regulations through Harmonization	Develop and adhere to a salt management plan that will provide guidelines to Public Works on road maintenance activities to ensure protection of the natural environment	Medium Priority	Confer with NDCA re: Source Water Protection Plan Implementation monies guided by new Environmental Department	
P- Manage fish populations on reserve	Set up a protocol to report unhealthy fish to the Ontario Ministry of the Environment for analysis and inclusion in the Ontario Guide to Sport Fishing	Medium Priority	Develop protocol with MNR	In-house-Staff time plus minimal resources for mailing samples
P- Information Management	Develop a GIS database for E.coli and blue-green algae monitoring on reserve, and within the traditional territory	Low Priority	Liaise with Sudbury & District Health Unit to develop an information sharing protocol	Health Canada?
PD- **C-** **PD-** **Implement measures around environmental health**	Raise community awareness regarding the risks posed by Blue-green algae and other environmental health considerations (a.k.a. West Nile Virus)	Low/Medium Priority	In conjunction with Sudbury & District Health Unit and Health Department of Atikameksheng Anishnawbek and New Environmental Department	Possibly free (needs further investigation) to be completed by Environmental Educator
M-Inventory and inspect existing unused water wells on reserve to determine if they could contribute to groundwater contamination	Have wells sealed where necessary	Medium Priority	Environmental Department Manager	External consultant
C--Educate residents on protection of the natural environment	Educate residents on the negative impacts of ATV use	Low Priority	Environmental Educator under new Environmental Department	In house-Staff time or newspaper articles
PD-Implement species at risk programming	Educate residents on species at risk and encourage reporting of sightings	Low Priority	Environmental Educator under new Environmental Department	In house-Staff time or newspaper articles
C- **PD-** Develop Environmental Education Program	Hire a part-time Environmental Educator to carry out all community-related education events and tasks	Low Priority	Environmental Educator under New Environmental Department	$30,000/year
PD-Take action to protect public health from the risks posed by environmental contamination specifically (but not limited to) Long Lake arsenic contamination	Continue and expand development of a public education program on the impacts of the Long Lake Mine arsenic issue on local water bodies	Medium Priority	Environmental Educator/Health Department in conjunction with New Environmental Department Manager	Seek funding under First Nations Health Authority-Environmental Contaminants Program
PD-Complete additional environmental studies	PA-Initiate a human health and ecological risk assessment in relation to the Long Lake arsenic issue	High Priority	Independent consultant guided by new Environmental Department Manager	Negotiate funding with various levels of government
PD-Complete additional environmental studies	PA-Initiate a risk assessment for the residents of the community in relation to the Long Lake arsenic issue	High Priority	Independent consultant guided by new Environmental Department Manager	Negotiate funding with various levels of government
M-Monitor groundwater on reserve	M-Complete testing of any remaining operable groundwater wells to assess Long Lake contamination impacts as part of site characterization study on reserve	High Priority	Independent consultant guided by new Environmental Department Manager	$19,000/year not including approx. 1 day of consultant assistance for training of staff (refresher groundwater sampling course) in the field
C-Complete Environmental Education	Raise community awareness regarding consumption of fish	High Priority	Environmental Educator under new	Negotiate funding with various levels of government

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PROTECT WATER

Objective	Tasks	Timeframe	Responsible	Estimated **Cost**
	from lakes that may be contaminated		Environmental Department	
PD-Remediate contaminated sites on reserve	Develop a priority list for remediation of contaminated sites on reserve	High Priority	Environmental Department Manager	In house
PD-Identify water resources in the community	Map and protect community springs as may be identified by community members during the Land Use Planning Process	Medium	Land Use Planning Consultants	As part of Land Use Planning work
Source Water				
PD-Participate in implementation of the Source Water Protection Plan for the City of Greater Sudbury	Implement actions identified in the Greater Sudbury Source Water Protection Plan to uphold community responsibilities under the Plan.	Medium	Applicable departments	Discuss with Ontario Government and local Conservation Authority
C-Develop a water conservation culture within the community	Monitor and report on the levels of water consumption of individual households and community buildings and associated water costs through recording of meter readings	Medium Priority	Enforcement Staff in conjunction Environmental Educator	Up to $100,000 of funding is available per project under the Eco-Action Community Funding Program
Water Power				
LUP-**Identify and protect potential water power sites on reserve for future development**	Establish appropriate fee structures for rental of land for waterpower uses	Medium priority	Economic Development	In house
	Consult with community to determine community direction on waterpower development opportunities.	Medium priority		
Navigation				
C-Inform residents of marine navigational obstructions on inland and boundary lakes through marking to protect public health and safety	Identify potential marine obstructions (reefs, shoals) and request to Transport Canada that markers be placed	Spring 2015	Transport Canada	Further discussion required to determine cost
C-Ensure safe snowmobile use on reserve to minimize potential health and safety risks to residents	Inform residents of snowmobile routes and unsafe areas on inland and boundary lakes and provide directional signage where required	Low priority	In partnership with local snowmobile club(s)	
C-Enhance community awareness regarding the rights and responsibilities associated with air navigation	Develop series of articles on unmanned aerial vehicles	Low priority	Environmental Educator	In house to be completed by new role, Environmental Educator.
Wastewater				
M-**Protect lakes and rivers on reserve from the impacts associated with wastewater**	Implement a septic system maintenance program through annual inspections for all leased and band member owned cottage lot septic systems	High Priority-Spring 2015	Enforcement Staff	Funding to be sought from INAC since issue is Pre-Land Management Code
C-Enhance community knowledge on wastewater treatment and impacts	Monitor wastewater quality by providing updates to members on information provided on the City of Sudbury wastewater site		Environmental Educator	Science Horizons Youth Internship of up to $12,000 per year could provide funding for such a project

11. COMMUNITY INVOLVEMENT

The Atikameksheng Anishnawbek Environmental Management Action Plan should be endorsed by Atikameksheng Anishnawbek First Nation Chief and Council. The EMAP has been developed based on community desires and aspirations. The community played an active role in the EMAP process. Choices and decisions in formulating the EMAP were obtained through research of relevant literature, and through public meetings and workshops where community members were able to voice their opinions.

12. EMAP RESPONSIBILITIES

Atikameksheng Anishnawbek should establish an EMAP Secretariat and an Environmental Management Committee with the following responsibilities:

12.1 EMAP SECRETARIAT RESPONSIBILITIES

The Committee Secretariat shall be located within the Lands Program and shall:

- Take direction from the Committee Chairperson;
- Coordinate all Committee meetings and functions;
- Follow-up in a timely manner all actions resulting from Committee meetings;
- Ensure that quorum is reached for scheduled Committee meetings;
- Liaise with all Committee members in a timely and cooperative manner;
- Send meeting agenda to Committee members at least 48 hours prior to meetings;
- Ensure minutes are circulated to Committee members for comment;
- Ensure that approved Committee minutes are submitted to Chief and Council;
- Maintain a public registry of all Committee materials;
- Store in the Lands Program electronic copies of any Committee documents;
- Ensure functional compliance with the Committee accountability framework; and
- Provide a progress report at each meeting on previous direction provided by the Committee.

12.2 Environmental Management Committee Responsibilities

The Environmental Management Committee will consist of a minimum of six (6) members. The Committee Chairperson will be appointed by the Committee. One (1) Committee member will be a Band Councillor appointed by Chief and Council. All other Committee members will be selected from a list of interested individuals and include community Elders. The Chief shall be an ex-officio member of the Committee. The proposed composition of the Committee attempts to balance community Youth, Women, Men, Elder interests as well as take into consideration community geographic interests. The Committee will be appointed and will not be voted in. the Committee is responsible for:

- Overseeing the development of a strategic, coordinated and culturally appropriate approach to community environmental management.
- Facilitating the development and implementation of a comprehensive approach to environmental management that meets the following criteria:
    - Guided by spiritual values and Anishnawbek cultural wisdom and experience;
    - Provides for the ongoing and meaningful participation of every community member; and
    - Focuses on lands sustainability, balancing environmental stewardship, economic development and social responsibility.
- Making a reasonable effort to attend every Committee meeting;
- Ensuring that Committee decisions and recommendations reflect a community perspective, and take into consideration local views and perspectives;
- Striving to make decisions and recommendations based on consensus where possible;
- In the event of a lack of consensus, making and supporting decisions on a majority rule basis; and
- Reviewing draft Committee minutes and supporting documentation and make every effort to provide constructive comments in a timely manner.

12.3 Environmental Priorities

It was not feasible to simultaneously address all of the environmental concerns raised by the community. A prioritization of the issues was conducted to determine which issues would be addressed in the short term, long term and on an ongoing basis. As part of this possess, specific

solutions and actions steps toward the resolution of issues were established. The strongest priorities for the community at this time are for the community to hire an Enforcement Officer who will be responsible for the implementation and enforcement of the community-endorsed laws at the community level. The following list includes typical job duties one might encounter as an Environmental Enforcement Officer:

- Review, prioritize, and follow up on citizen complaints.
- Inspect industrial and commercial operations to ensure compliance with environmental laws and regulations within an officer's jurisdiction and mandate.
- Investigate any activities that may be in violation of environmental laws.
- Collect samples during inspections or from sites under investigation and submit samples for processing.
- Analyze acquired information and prepare reports.
- Identify and assess environmental damage caused by violations.
- Issue and impose stop-work orders, notices of violation, directions, warning notices, and permit stay orders.
- Work with technical staff and collaborate with other environmental and legal agencies.
- Work with legal professionals to prepare court actions and provide testimony when necessary.
- Ensure public safety
- Conflict resolution and negotiation skills
- Protect reserve resources by enforcing legislation, providing user education and increasing public awareness
- Utilize excellent communication skills, both verbal and written
- Gain experience in resource management protection, public safety enforcement, understand and utilize various policies, Acts and legislation, and gain conflict resolution skills.

Conditions of Employment: Appropriate certification, licenses or specific qualification may be required. The individual must be able to be designated as an Enforcement Officer, which includes a criminal reference check.

Work environment:

Environmental enforcement officers work in a variety of locations, including:

In the office:

- Preparing paperwork and documenting complaints and actions taken
- Communicating on the phone and in meetings with colleagues, supervisors, business owners, and the public
- Reviewing technical reports
- Maintaining inspection and investigation files, including preparing and submitting legal and court documents, internal communications, and orders and warnings

In the field:

- Inspecting industrial and commercial facilities to verify compliance
- Responding to complaints of environmental violations
- Collecting evidence and statements
- Collaborating with other organizations on joint inspections and investigations
- Obtaining and executing search warrants
- Issuing compliance orders, tickets, and warnings, laying charges, and serving summonses and subpoenas
- Educating the public about environmental regulations, violations, and enforcement
- Enforce First Nation laws
- Communicate with other departments of Atikameksheng Anishnawbek administration, including Lands and Resources, Housing and Public Works, and Community Assistance and working committees to ensure compliance with community laws and Land Management Code
- Enter and inspect local businesses to ensure they are in compliance with regulatory requirements
- Create reports for Mandated Environmental Committee, Lands Advisory Committee, community staff and Chief and Council
- Safely use various forms of transportation including automobiles, boats and motors, ATV's and/or snowmobiles to complete reconnaissance missions on the reserve

- Interview band and non-band members when required to determine if actions are in compliance with laws and regulations of the First Nation.
- Liaise with Anishnawbek Police and Ontario Provincial Police where required to facilitate effective action against offenders
- Assist with regular waste audits and waste compliance activities where required
- Provide educational information and flyers to residents
- Enhance community awareness of environmental and land protection issues
- Monitor security cameras at strategic positions on reserve
- Monitor unauthorized dumpsites on reserve
- Enforce littering penalty and lay fines when required
- Enforce fines for illegal dumping for on and off-reserve community members
- Implement forestry-related charges and penalties where and when offences occur, and implement charges and penalties related to non-timber resource use
- Enforce fines and lay charges for unauthorized uses of reserve land
- Take action to ensure health and vitality of wildlife on reserve by conducting poaching investigations in collaboration with staff from other jurisdictions (MNR, OPP)
- Implement non-band member hunting and fishing regulations on reserve to ensure compliance
- Provide direction to community members regarding permits required to keep livestock on reserve
- Implement fine system for dogs at large (in addition to existing system in place with Rainbow Animal Control).
- Assist with development and implementation of Justice Circle program
- Monitor parking at boat launch (Lake Panache) to ensure compliance with rules/regulations
- Implement fines and penalties with respect to unauthorized road construction
- Act as a suitable role model for youth to show responsibility for the environment
- Monitor results of voluntary fisheries licensing program on reserve
- Potentially assist with creel surveys on reserve (fisheries management)
- Assist with surface and groundwater monitoring as may be required

- Inform residents of water navigational issues which may impact upon their health and safety
- Implement annual septic system monitoring program on reserve.

The most important objectives for the community to achieve are to work in collaboration with all levels of government.

12.4 Environmental Department Structure

To properly manage the lands of Atikameksheng Anishnawbek, staff capacity must be expanded at Atikameksheng Anishnawbek First Nation and training must be provided to staff on an ongoing basis as budgets may permit. The most important goal will be to develop an Environmental Department. The Environmental Department will be headed up by a Senior Manager and/or the Enforcement Officer himself. Further work is required to more fully develop a job description and training program for the Enforcement Officer.

12.5 Current Capacity

Currently, the department is managed by the **Director of Community Assistance**. Staff includes a Lands Manager, Natural Resources Coordinator, Lands Registry Clerk and Lands Management Technician. The Lands Department must ensure that all natural resources proposals are in alliance with the community-endorsed Land Management Code. The proposed future structure for the department would include the following additional staff members.

12.6 Future Capacity

12.6.1 Enforcement Officer-As previously described

12.6.2 GIS Technician

A GIS technician is required to support the ongoing maintenance and dissemination of data and applications in a GIS environment. Reporting to the Director, the GIS Technician will work with various departments to ensure that their needs for GIS information are met on a daily basis. GIS technicians must have good attention to detail in order to maintain and enter data in a GIS database. They also need to have superb written and oral communication skills for creating and

presenting data reports and training other people how to use GIS technology. They may also need to work on GIS programming.

12.6.3 Seasonal Forestry Technician

A seasonal forestry technician is required to support the forestry program through completion of activities such as tree marking, regeneration surveys, monitoring of forestry compliance, completion of monthly field inspections for each harvest area, completion of monthly harvest block compliance inspections, completion of annual timber depletion surveys, and completion of routine inspections. The Forestry Technician will also assist with Forestry compliance by administering written warnings, issuing temporary suspensions, and assisting with completion of annual reports. This position will be required to operate 80 days/year and should be provided with appropriate levels of funding to complete the work required.

12.6.4 Intergovernmental Affairs Officer

The Intergovernmental Affairs ("IGA") office would be responsible for providing administrative support to Council and other Atikameksheng Anishnawbek departments concerning relations with other governments (native and non-native), including negotiation support, policy development and legal strategy. IGA would maintain contacts with other First Nations across Canada and would be involved with First Nation political organizations both regionally and nationally.

Intergovernmental affairs would provide advice, strategic planning, analysis and communications in the following areas:

- Self-Government Implementation
- Policy Development
- Law Development
- Treaty Negotiations
- Traditional Use Records
- Land Referrals
- Specific Claims
- Rights Litigation
- Forestry

The currently existing committee ARDA Committee may fulfill some but not all of these roles at present, and is comprised of the same departmental staff which increases the workload of existing staff. This is why WESA has recommended that a separate Intergovernmental Affairs office is necessary.

12.7 MONITORING AND REVIEW

To ensure the effectiveness of the EMAP and its continual improvement, Atikameksheng Anishnawbek First Nation will review the important elements and outcomes of the EMAP on an annual basis.

12.7.1 Procedure

The Environmental Management Committee will review the following:

- Environmental Vision (to ensure adherence to commitments)
- List of Responsible Parties for the Implementation Plan
- List of Priority Environmental Issues/Concerns (Progress, implementation of action steps
- Evaluation of compliance status of First Nation activities concerning legislative requirements (See attached Compliance Tracking Log)
- Environmental Performance Results (from monitoring performance indicators of Environmental Priorities and Action Steps)
- Analysis of the costs and benefits of EMAP implementation

The Environmental Management Committee will conduct an internal assessment of the EMAP to ensure that it is being implemented and operated according to the Implementation Plan (Appendix K).

12.8 IMPLEMENTATION COSTS

The main costs of implementing the EMAP will be the hiring of the additional staff required to build the capacity required to run the programs and services outlined in the EMAP. Where there are potential funding sources that pertain to the task or issue identified in the EMAP, they have been described in the tables above. The additional time and staff capacity required to apply for develop proposals and apply for funding will depend upon the number of programs applied for.

The task of identifying funding sources and writing proposals could be described as being a job unto itself and should be accounted for in future plans.

The potential revenues that could be generated as a result of the implementation of the EMAP (through collection of fines and enforcement actions) will provide some additional resources that can be used to offset costs. However, revenues will only be realized most effectively through collection of revenues associated with Environmental Assessments under the EA Law. These revenues will be more fully explored and outlined in the Environmental Assessment Process Manual being developed under separate cover.

12.9 CONCLUSION

Atikameksheng Anishnawbek faces a number of extremely complex and serious environmental issues, and staff within the Lands Department is experiencing an overwhelming workload. WESA is recommending that a new Environmental Department be formed which will take some, but not all of the pressures off the Lands Department by ensuring compliance with Environmental Enforcement issues that will be addressed by the EA Law. The key staff within a new Environmental Department would include an Enforcement Officer and Environmental Educator, and could be expanded if future capacities permit to include a GIS Technician and/or Environmental Manager. A Project Officer under Lands is also required to immediately deal with the complex issues and multiple liaison tasks required to effectively manage the Long Lake Arsenic contamination that is currently affecting the reserve.

The highest priority for land management on-reserve is to deal with the water contamination that may be occurring as a result of improperly maintained septic systems. The Environmental Enforcement Officer would need to make this a key priority once hired on, in addition to the other high priority issues identified in the EMAP.

WESA is pleased to have assisted Atikameksheng Anishnawbek with development of this Environmental Management System plan. If you have any additional comments or questions after review of this document, please do not hesitate to contact us.

Respectfully submitted,
WESA, a division of BluMetric Environmental Inc.

DRAFT

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