



GIANT MINE ABANDONMENT AND RESTORATION:

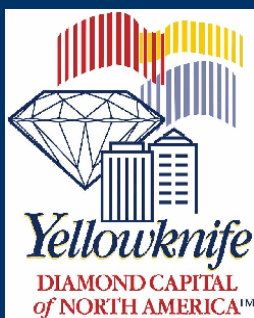
PRELIMINARY IDENTIFICATION OF THE
ISSUES AND POTENTIAL IMPACTS
ON THE CITY OF YELLOWKNIFE

FINAL REPORT

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PROJECT NO. 2006-310

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MARCH 30, 2007

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EXECUTIVE SUMMARY

Context and Purpose

There are two former gold mines wholly situated within the municipal boundaries of the City of Yellowknife. They are commonly known as Giant Mine and Con Mine. Both mines were in operation since the 1930's and have ceased mining activities in the last two (2) years. They are each being decommissioned and their sites remediated. The process of abandonment and restoration of the Giant Mine, initiated in the late 1990s and expected to conclude in the next few years, is subject to regulatory review and potentially an environmental assessment.

The *Cooperation Agreement Respecting the Giant Mine Remediation Project* was signed in 2005 by INAC and the GNWT and is intended to develop, review and finalize an integrated (surface and underground) remediation plan which includes four objectives: (a) To manage the underground trioxide dust; (b) To remediate the surface to the *industrial standards*; (c) To minimize public health and safety risks associated with buildings, mine openings and other physical hazards at the Site; and (d) To minimize the release of contaminants from the site to the surrounding environment.

The pending Abandonment and Restoration (A&R) Plan for Giant Mine is premised on a freeze in situ method of remediation and management of the 237,000 tons of arsenic trioxide dust stored underground and the overall surface site to ensure public and environmental safety. The limited information currently available regarding site conditions and restoration works is expected to be addressed in large part through the filing of the A&R Plan by Indian and Northern Affairs Canada and the GNWT, the co-proponents, to the Mackenzie Valley Land and Water Board.

This report presents the preliminary identification and assessment of issues and potential impacts of the abandonment and restoration of Giant Mine on the Corporation of the City of Yellowknife. More specifically, it provides: a summary the findings from documentation review as well as the results from interviews with selected representatives from the City of Yellowknife Administration; Presents the issues and impacts within the following categories: Planning, Infrastructure and Public Works; Economic Development, Investment and Tourism; Fiscal and Taxation; Public Safety and Community Services; and, Political and Intergovernmental; and, recommends initial priority issues and actions to inform the development of a framework by the City Council and Administration to address key issues and potential impacts to ensure that the City's strategic and operational interests are recognized and addressed in the Giant Mine abandonment and restoration process.

Methodology and Limitations

The methodology was limited to research and analysis within the limits of the Corporation of the City of Yellowknife and available documentation. Additionally, the preliminary information that had been provided to the City by the federal and territorial governments with respect to the Giant Mine abandonment and restoration initiative is by its very nature incomplete pending the formal submission of the A&R Plan. The submission of the A&R Plan may further clarify, mitigate or remove certain issues or impacts identified in this report. As such, the report does not include potential data, perspectives or potential impacts from any external organizations, including the co-proponents.

The Giant Mine Issue

The closure of extraction operations, such as mines, or any other industrial/commercial operation is a fact of economic reality and history of many communities. As such, municipal authorities are not generally in a position to seek some type of accommodation and/or compensation from senior levels of government. This stems from the view that there is at least the potential of new investment and/or redevelopment of vacant lands which can be put to a higher and better use, and thereby generate economic benefits for the community via employment, property and other types of taxation.

However, the situation with the Giant Mine land is unique from a number of perspectives. The normal restoration and redevelopment scenario, including re-establishment of a property tax stream, for the Giant Mine site is highly constrained given the existing understanding and documentation of the scope and extent of the contamination, the associated potential environmental liabilities, and the provision of the *Cooperation Agreement* which anticipates restoration largely to industrial standards. While recognizing that the physical and environmental site conditions may necessitate restoration to industrial standards, there are important considerations with respect to the dynamics of demand for and supply of industrial and other lands within the municipal boundaries.

Based on consideration of the existing publicly available information and the provisions of the *Cooperation Agreement*, the following observations are provided: The A&R Plan is expected to document the type, extent and severity of environmental contamination and public health and safety concerns. Consequently, there are potentially certain zones that are not possible or feasible to remediate (and which may necessitate land use restrictions) and as such may be beyond productive use for the foreseeable future. Other zones within the overall site that are potentially suitable for remediation may only be done at an industrial standard and some zones may be subject to additional health and safety requirements by the applicable health and environmental regulations. Even where pockets could be remediated and redeveloped the practical limitations of access, site management and security, and economies of scale remain unfavourable to prospective developers and users. In terms of land use, investment and development options, the net effect of the A&R Plan may potentially be to make the land more challenging to market for any potential commercial and industrial use or activity, and even where it may be possible the ability to obtain bank financing becomes a further barrier to redevelopment of the site.

The process of closure and abandonment of the Giant Mine, initiated in the late 1990s and expected to conclude in the next few years, is subject to regulatory review and potentially an environmental assessment. Notwithstanding the jurisdictional and legal aspects under active discussion, the interests of the City of Yellowknife need to be clarified through a review of the impacts (whether positive and/or negative) on the City of Yellowknife generally, and the Corporation of the City of Yellowknife specifically. The impact dimensions include: Economic and taxation impacts (direct, indirect and induced); Physical planning, land use and growth management; Economic development, tourism and market investment; Public infrastructure; Public health and safety; Programs and Services; and, Corporate capacity, and intergovernmental and public relations.

Preliminary Identification of Issues and Impacts

The City of Yellowknife has a number of strategic and operational interests with respect to the potential impacts of the Giant Mine abandonment and restoration undertaking. The more significant and urgent interests include the following:

- **Exclusion of the City from the Giant Mine *Cooperation Agreement* and the Need for Full Disclosure & Information Sharing:** Canada (INAC) and the GNWT signed the *Cooperation Agreement Respecting The Giant Mine Remediation Project* on March 15, 2005 as 'co-proponents' within their respective jurisdictions. The purpose of the *Cooperation Agreement* pursuant to Section 3.1 is "to create an agreement between Canada and GNWT to cooperate and coordinate the care and maintenance of the site and the implementation of the Approved Remediation Plan". The *Cooperation Agreement* does not provide a direct role for the City of Yellowknife. The only reference to any obligation is in Section 12.1 where Canada and the GNWT are to work cooperatively to 'discuss' with the City site plans and activities, as well as access to municipal services for the purpose of carrying out the remediation work.
- **Outstanding Giant Mine Property Taxes:** Since the closure of the Giant Mine, the ownership of the property has reverted to the Commissioner of the NWT. Payment of the 2005 to 2006 property taxes: totaling \$354,000 (municipal taxes being \$236,000 and school district taxes are \$118,000); the 2005 Final Levy of \$89,840; and, the 2006 Levy of \$264,836 by way of a Grant in

Lieu of taxes or otherwise, has not occurred to date. The City has been in ongoing dialogue with the GNWT and Canada regarding the matter.

- **Reduced Property Tax Base and Consequential Multiple Impacts:** Giant Mine had historically been a significant source of property taxation for the City. During the 1990 to 2005 period the property represented a peak levy of \$1,042,143 in 1991. This represented 3.9% of the City's total assessment and 10.8% of total municipal taxation. The Assessment pattern has been one of gradual decline from the peak in 1991 to \$264,836 by 2005. This represented 0.6% of the City's total Assessment and 1.6% of the total municipal taxation. The 2006 Assessment for 2007 Taxation for the Giant mine property is set at \$1,986,890. This will generate only \$32,982 in municipal taxes and \$15,895 in school district taxes.

It is estimated that once the area is in the post-closure and monitoring stage, the Giant Mine property will only generate approximately \$8,300 in municipal taxes and \$4,000 in school district taxes based on a \$500,000 assessment for the water treatment plant and associated site improvements. The outstanding grants in lieu represent lost revenue of \$118,000, and the future revenues are estimated at only \$4,000 annually. There is at present no indication that the City may be able to realize any appreciable financial savings from reduced demand for municipal services directly or indirectly related to the Giant Mine land. In effect, the City is potentially assuming a financial burden disproportionate to its jurisdiction. The City needs to examine the option of negotiating a special service agreement with the Giant Mine Remediation Project proponents to offset any specific site or municipal services that may be required.

- **City Existing Lease interests in the Mine Townsite Lease Area:** The City currently has an interest in a portion of the Giant Mine Town site Lease Area (Lease 17889T) and a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay. The Townsite Lease is held by the City for uses restricted to municipal and recreational uses only. The term of the lease is to 2030. Based on preliminary information available from the Giant Mine Remediation Project, there have been identified potential environmental, building/structural and public health concerns based on the site and existing buildings contaminants/condition information currently available. There is a formal request for a sub-lease on portion of Lease 17889T from the Mining Heritage Society who is seeking 1.15 ha, for a proposed NWT Mining and Geological Interpretative Centre. The City's interest, in light of the limited existing information regarding potential environmental, structural and public health concerns and the possible associated liabilities, is with respect to the advisability of continuation of the Townsite Lease and the request for a sub-lease.
- **City Existing Interest in Waterfront Lease and Giant Mine Public Boat Launch:** The City currently has an interest in a Waterfront Lease on Yellowknife Bay. The original Waterfront Lease, comprising of 1.125 ha and the site of the Giant Mine Public Boat Launch, expired on August 1, 2005 and was extended to February 24, 2007, and is now under active renewal negotiation with INAC regarding terms and conditions. This may include potential site use restrictions that are inconsistent with the city's Giant Mine Land/Water Use Plan or with potential, although not formally initiated at this point, private sector investment in additional docking facilities on the north end of the Waterfront Lease. If renewed, the lease would be for a period of twenty-five (25) years at a cost of \$150 per year. The City has undertaken a number of site improvements, including the construction of a timber wharf at the boat launch.

The viability of some of the policies and proposals approved in the Giant Mine Land/Water Use Plan will need to be reevaluated.

- **Municipal Boundary and Land Quantum:** The Giant Mine lands encompass an area of some 851 ha, represents 6.2% of the total municipal boundary area of 13,660 ha (136.6 km square including land and water) or 8.3% of the total municipal land area (10,297 ha), and the pending

abandonment and restoration of the Con Mine lands (383 ha, representing 3.7% of the total municipal land area) will result in a potentially significant and permanent reduction of the City's existing land quantum.

- **Opportunity to Prepare a Comprehensive Brownfield Strategy for Yellowknife:** The Giant Mine, and the pending Con Mine, remediation and site management processes may provide a strategic opportunity to advance the City's economic and environmental interests through assessing opportunities in the context of various contaminated sites within the municipal boundaries. There is an opportunity to address in a more comprehensive way the reality that there are several contaminated sites, including Giant Mine and Con Mine, within and in proximity to the municipal boundaries. The fact that these sites are adjacent to, or in proximity of, existing transportation and municipal services, provides an opportunity to advance the City's broader economic interests and urban land economics.
- **Municipal Water System and Treatment Plant:** Yellowknife's water system consists of four distinct systems. Except in emergency situations, all water is supplied by Pumphouse No. 2 at the Yellowknife River. The Public Works and Engineering Department has conducted a review of the City's existing water supply system and future requirements. One of the options is to replace the existing water intake system from the Yellowknife River and draw directly from Yellowknife Bay as part of a proposed new \$7.5 million dollar water treatment plant. In the event that the Giant Mine A&R Plan approval results in the City not being subsequently authorized to draw water directly from Yellowknife Bay, consideration needs to be given by the City for seeking financial compensation for demonstrable incremental capital and operations costs of retrofitting and operating the existing Yellowknife River intake system.
- **Akaitcho Dene First Nation Land Withdrawal:** In the context of other potential impacts on the City's tax base, the Akaitcho Dene First Nation land withdrawal within the municipal boundaries and ultimate transfer are potentially significant. The identified lands encompass some 1033 ha (10% of the total municipal land area (10,297 ha)). While recognizing that the ADFN process is outside the scope of this report, the cumulative impacts on the property tax base need to be addressed by the City. Specifically, the questions that need addressed relate to: (a) the legal status of the lands upon transfer to the ADFN (i.e. potentially reserve land in the context of the community of N'Dilo located within the existing municipal boundaries); and, (b) eligibility with respect to municipal property taxation. Canada's *Policy on Additions To Reserve* (ATR) recognizes that a municipality may face a loss of property tax revenue when a reserve is created or added to as a result of a land claim settlement or other legal obligation. The Policy requires that a First Nation negotiate directly with the municipality on 'reasonable' compensation measures. The purpose of the compensation provision is to allow the municipality to adjust to the reduction in its tax base.

The impact and opportunities for the City need to be examined in light of the reduction in the property tax base and the effective municipal land quantum. Additionally, the ability of the City to regulate through zoning the selected lands needs to be clarified. Potentially, the ADFN lands in fact could simply be interpreted as changing ownership but not effectively being taken out of productive use in terms of the land quantum and growth management requirements for the City overall.

Process and Management Recommended Actions

The following recommended actions focus on process and management aspects.

Administrative Review

It is recommended that Administration conduct a comprehensive internal review of the list of preliminary issues and potential impacts (which may be positive or negative) as presented in Section 4.2. The purpose of the internal review is to:

- Validate the completeness and accuracy of the issues and impacts that were identified as of February 20, 2007;
- Identify any emergent issues or potential impacts, including those that may now be satisfactorily addressed since the completion of the preliminary identification. This should include but not necessarily be limited to: Giant Mine Abandonment and Restoration Plan; Con Mine Abandonment and Restoration Plan; and, the Akaitcho Dene First Nation land claims process;
- In the context of the issues and potential impacts identified, establish priorities with respect to addressing and protecting the City's interests. Criteria to apply to this prioritizing process should include: significance (in terms of: scale, duration, and resource implications); legal and political risks and liabilities; and, immediacy of the issue or potential impact on City management and operations.

Legal Counsel Respecting Potential Risks and Liabilities

It is recommended that the City obtain independent legal counsel with respect to the various potential risks and liabilities identified in the report. Particular emphasis should be given to the potential risks and liabilities related to planning and administration, public health and environmental safety aspects of the Giant Mine abandonment and restoration process.

City Council's Strategic Direction

Following the completion of the recommended internal review by Administration and consideration of the receipt of independent legal counsel respecting potential risks and liabilities, it is recommended that City Council consider the collective findings and within the context of Council's established goals and priorities, provide strategic direction to Administration with respect to ensuring that the City's interests are recognized and addressed in the Giant Mine abandonment and restoration process and associated negotiations. City Council's strategic direction should give appropriate consideration to the pending Con Mine Abandonment and Restoration Plan and the Akaitcho Dene First Nation land claims process.

The following recommended actions are intended to address specific issues, potential impacts and opportunities. In consideration of the City's existing capacity limitations and level of effort and resource commitment that may be required to respond appropriately, it is recommended that the City give initial priority consideration to addressing key issues, potential impacts and opportunities identified within each of the categories below.

Reference No.	Priority Issues and Impacts
Planning, Infrastructure and Public Works	
A01	City interest in Giant Mine Townsite lease area
A02	City interest in waterfront lease and Giant Mine public boat launch
A03	Reduction of the Municipal Land Quantum
A05	Diminution of land use, investment and development options
A11	Opportunity for expansion of City landfill capacity
A12	Municipal water system and treatment plant
Economic Development, Investment and Tourism	
B02	Maximizing economic opportunities from the Giant Mine Remediation Project
B03	Media coverage and image of Yellowknife as a desirable and safe place to live
B04	Opportunity to advance Yellowknife as a territorial research knowledge centre
B05	Opportunity to prepare a comprehensive brownfield strategy for Yellowknife
Fiscal and Taxation	
C01	Outstanding Giant Mine property taxes
C02	Reduced property tax base and consequential multiple impacts
Public Safety and Community Services	
D01	Provisions and protocols during the initial stages of the A&R process
D03	City's jurisdiction and authority for on site building inspections, demolition and waste management
D04	Demolition, transportation and waste management
D06	Giant Mine public boat launch – public health and environmental standards
D08	Baker Creek realignment and bank re-grading along Giant Mine lands R. O. W.
Political and Intergovernmental	
E01	Defining Council strategic framework and priorities
E02	Adequacy of the A&R Plan and potential of referral for a comprehensive environmental assessment
E03	Precedent for Con Mine remediation
E06	Exclusion from the Giant Mine Cooperation Agreement and need for full disclosure and information sharing with the City
E07	City intervention/participation in A&R processes: Capacity and resource impacts

ACRONYMS

A&R	Abandonment and Restoration Plan
ADFN	Akaiicho Dene First Nations
BLT	Block Land Transfer
CCME	Canadian Council of Ministers of the Environment
DFO	Department of Fisheries and Oceans, Canada
DOT	Department of Transportation, GNWT
ERI	Ecological Resource Inventory
ESA	Environmentally Sensitive Area
GILT	Grant in Lieu of Taxes (GNWT)
GNWT	Government of the Northwest Territories
ha	Hectare
IMA	Interim Measures Agreement (Akaiicho Process)
INAC	Indian and Northern Affairs Canada
km	kilometres
km ²	square kilometres
m ²	square metres
MACA	Municipal and Community Affairs, GNWT
MOU	Memorandum of Understanding
MVEIRB	Mackenzie Valley Environmental Impact Review Board
MVLWB	Mackenzie Valley Land and Water Board
MVRMA	Mackenzie Valley Resource Management Act
NEF	Noise Exposure Forecast Contours
NRCan	Natural Resources Canada
NWT or NT	Northwest Territories
PILT	Payment in Lieu of Taxes (Canada)
PWS	Public Works and Services, GNWT
PWSC	Public Works and Services Canada
R.O.W.	Right of Way
SQ. FT.	Square feet
YASRC	Yellowknife Arsenic Soil Remediation Committee

1.0 INTRODUCTION

1.1 Purpose of the Report

This report on the preliminary assessment of issues and potential impacts of the abandonment and restoration of Giant Mine on the Corporation of the City of Yellowknife is intended to:

- Present in summary the preliminary findings from the review of existing documentation and publicly available literature as well as the results from confidential interviews with selected representatives from the City of Yellowknife Administration;
- Summarize the existing and potential impacts on the Corporation of the City of Yellowknife. Specifically, present the issues and impacts within the following categories: Planning, Infrastructure and Public Works; Economic Development, Investment and Tourism; Fiscal and Taxation; Public Safety and Community Services; and, Political and Intergovernmental;
- Recommend initial priority issues and actions to inform the development of a framework by the City Council and Administration to consider options and initiatives to address key issues and potential impacts to ensure that the City's strategic and operational interests are recognized and addressed in the Giant Mine abandonment and restoration process.

1.2 Structure of the Report

The report is organized and structured as follows: *Section 2* outlines the research and analysis methodology, including identification of limitations and data gaps. *Section 3* outlines the overall impact identification framework used in this project, including a summary of the context and chronology of the abandonment and reclamation of Giant Mine. The characterization of the 'problem' with respect to the City's strategic and operational interest is presented in light of the legislative, regulatory and policy context completes *Section 3*. The preliminary identification of issues, existing and potential impacts (positive and negative) on, and opportunities for the Corporation of the City of Yellowknife resulting from the abandonment and closure of the mine are presented in *Section 4*. The recommended actions, grouped into process and specific issues and impacts, are presented in Section 5.

The report is supported by a number of appendices, specifically: *Appendix 1* contains the references for the documentation and literature reviewed. *Appendix 2 and 3* list the individuals who were interviewed for this project, and the interview protocol, respectively. *Appendix 4* contains a graphic time line of the history of Giant Mine and the remediation work. *Appendix 5* contains the Cooperation Agreement between Canada and the GNWT Respecting the Giant Mine Remediation Project.

2.0 METHODOLOGY

2.1 Research and Analysis

The City of Yellowknife (the “City”) directed that the following research and analysis methodology be executed as required by the scope of work.

- Conduct a selective and focused review of existing documents and literature provided by the City;
- Conduct a limited review of selected Canadian provincial and territorial jurisdictions (Nova Scotia, Quebec, Ontario, Alberta, British Columbia and the Yukon) and United States (Texas, Colorado and Montana) regarding impacts, experiences and/or case studies related to abandonment and reclamation of contaminated sites within urban environments;
- Conduct a selected number of interviews with members of City Administration;
- Identify existing and potential impacts on the Corporation of the City of Yellowknife. Specifically, present the impacts within the context of the City's interests as stated in Council's goals and priorities and as represented by the mandates of the various departments;
- Identify key strategic issues and factors, and present potential actions for consideration by Council and Administration.

2.2 Limitations and Data Gaps

The approach and direction from the City's Project Manager - Loretta Bouwmeester, Manager, Legal Services and Corporate Policy, was to contain the research and analysis efforts within the limits of the Corporation of the City of Yellowknife and available documentation. Additionally, the preliminary information that had been provided to the City by the federal and territorial governments with respect to the Giant Mine abandonment and restoration initiative is by its very nature incomplete pending the formal submission of the Abandonment and Restoration (A&R) Plan by Indian and Northern Affairs Canada (INAC) and the GNWT, the co-proponents, to the Mackenzie Valley Land and Water Board (MVLWB). The anticipated submission of the A&R Plan may further clarify, mitigate or remove certain impacts identified in this report. As such, the report does not include potential data, perspectives or potential impacts from any external organizations, including the co-proponents.

The provincial and territorial jurisdictions review regarding impacts, experiences and/or case studies related to abandonment and reclamation of contaminated sites within urban environments, yielded limited information directly relevant to the Giant Mine remediation process. In general, the circumstances in the reviewed jurisdictions, while of general insight, was not directly applicable to Yellowknife based on significant variation with respect to: spatial scale of the remediation lands; the volume and variety of contaminants involved and the proximity to aquatic environments and watersheds; ownership; jurisdiction and regulatory framework. As such, the report does not focus on the limited jurisdictional comparison review. The findings of the report by AMEC Earth & Environmental for the City of Yellowknife – *Background Considerations of Relevance for Long-Range Planning by the City of Yellowknife in Advance of New Industrial Development* (February 2007), while not directly relevant to the Giant Mine A&R process, do provide a complementary perspective regarding options for securing net benefits from new industrial developments which may proceed within the City's economic sphere of influence.

The scope of services for which Terriplan Consultants was retained excludes legal analysis or advice. For greater certainty, this report limits the preliminary identification and analysis from that of a planning and municipal management perspective. No legal interpretation or advice is offered.

2.3 Terminology

The published materials, including the applicable legislation, policies and instruments of agreement related to the Giant Mine site and project, contain a variety of terms respecting the closure and clean up process that are at times used interchangeably, specifically: Reclamation; Remediation; Restoration; Decommissioning; Care and Maintenance. For purposes of consistency, this report has adopted the term '*abandonment and restoration*' to reflect the site intervention and management intentions contained in the applicable legislative, regulatory, policy and instruments of agreement. Essentially, the reclamation concept entails the process of restoring disturbed land as closely as possible to its original condition. This concept reflects the fact that mining is a temporary land use and activity.

While there is a variety of definitions and principles respecting contaminants, remediation and restoration contained in legislation, regulations and policies, the common elements relevant to this report are expressed in the INAC's *Contaminated Sites Management Policy* (August 2002). This Policy is "intended to provide guidance for the management of contaminated sites located on reserve lands, on federal lands north of the 60th parallel, and on any other lands under INAC's custodial responsibility". For greater certainty, the INAC *Mine Site Reclamation Policy for the NWT* (July 2002) does not apply to orphaned or abandoned sites, including mines.

The INAC *Contaminated Sites Management Policy* includes the following statement: "INAC is committed to managing contaminated sites in a cost-effective and consistent manner, to reduce and eliminate, where possible, risk to human and environmental health and liability associated with contaminated sites". Additionally, the Policy provides specific definitions of relevance to this report, including:

- **Abandoned or orphaned site:** a site where the person or corporation that created the contaminated site is unknown or out of business and the site is on federal crown land or Canada Lands (e.g. reserve land).
- **Contaminant:** any physical, chemical, biological or radiological substances in air, soil or water that has an adverse effect. Any chemical substance whose concentration exceeds background concentrations or which is not normally occurring in the environment.
- **Contaminated site:** a site at which substances occur at concentrations (1) above background levels and pose, or are likely to pose, an immediate or long-term hazard to human health and the environment or (2) exceeds levels specified in policies and regulation.
- **Management of a contaminated site:** refers to the process of identifying, assessing, remediating and/or risk managing and monitoring a contaminated site (Canadian Council of Ministers of the Environment).

3.0 IMPACT IDENTIFICATION FRAMEWORK

3.1 Context and Chronology

The legacy of federal contaminated sites and abandoned mines in the North (including Giant Mine) were the focus of the 2002 *Report of the Commissioner of the Environment and Sustainable Development, Office of the Auditor General of Canada (Chapter 2), to the House of Commons*. Among the findings directly relevant to the City of Yellowknife was the potential impacts on environment and land use: *"Unless they are managed properly, contaminated sites can lead to significant contamination of water, soil, and air, thus threatening human health and the environment. They can also take valuable land out of productive use for agriculture, commerce, industry, recreation, or housing which in turn will lower property values and affect tourism, recreation and economic development."*

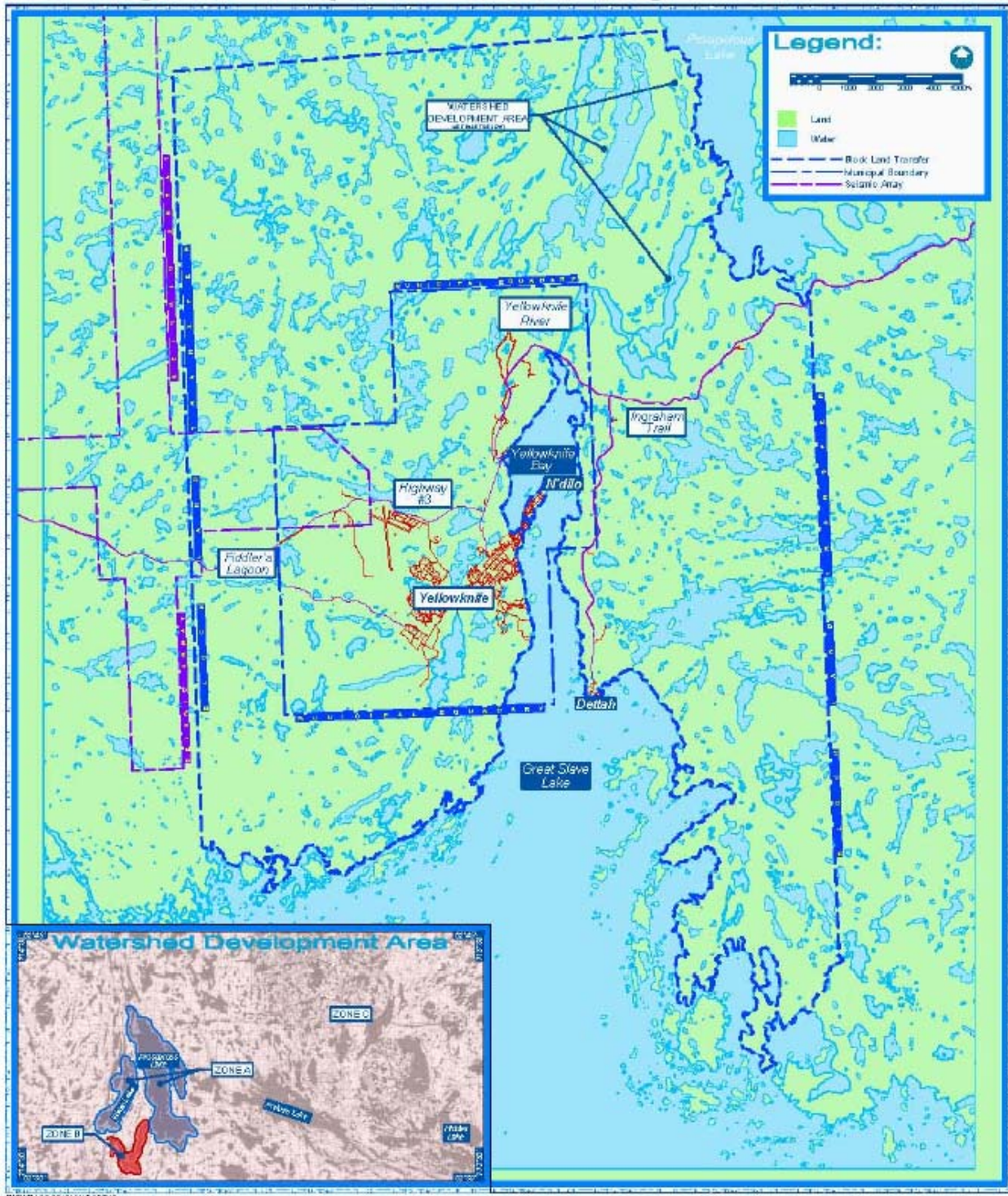
There are two former gold mines wholly situated within the municipal boundaries of the City of Yellowknife. They are commonly known as Giant Mine and Con Mine. Both mines were in operation since the 1930's and have ceased mining activities in the last two (2) years. Additionally, the City of Yellowknife has direct leasehold interests at and adjacent to the Giant Mine site: Giant Mine Townsite Lease; and, Waterfront Lease and Public Boat Launch. They are each being decommissioned and their sites remediated. However, at both sites there will continue to be areas that will not be suitable for residential or recreational uses for the foreseeable future. Appendix 4 provides a graphic timeline of the history of Giant Mine and the abandonment and restoration process.

The ore bodies mined at both sites contained high concentrations of arsenic. As such, arsenic and other toxic by-products of the mining activities that took place are present on each site. This is due in part to the fact that the mines were in operation for a long period of time when environmental standards and protection in Canada were rudimentary or non-existent. At the Giant Mine site there is some 237,000 tonnes of highly toxic arsenic trioxide dust stored underground, in addition to arsenic-contaminated buildings, soils, and tailings that also pose risks to human health and the environment. At the Con Mine site there are serious issues respecting arsenic and cyanide contamination and environmental remediation, as there is a significant amount of stabilized arsenic and other toxins contained in the tailings ponds. Figure 3.1 illustrates the regional and environmental context

Con Mine is currently operated by Miramar Con Mine Ltd ("Miramar Con") on lands leased from the Government of the Northwest Territories ("GNWT"). Up until June 5, 2005, Miramar Giant Mine Ltd. ("Miramar Giant") operated Giant Mine pursuant to a Care and Maintenance Agreement with the Department of Indian and Northern Affairs Canada ("INAC"), at which time the agreement expired. On July 15, 2006 Miramar Giant was placed into bankruptcy by court order. INAC now occupies the mine site by way of a 'Reservation by Notation' and pursuant to a 'Cooperation Agreement Respecting the Giant Mine Remediation Project' ("Cooperation Agreement") between itself and the GNWT. The Commissioner of the NWT is the designated 'owner' of the Giant Mine site.

The decision by INAC to proceed with the in-situ 'frozen block method' of managing the arsenic trioxide dust stored underground initiated the work of developing a comprehensive surface and sub-surface abandonment and restoration plan for Giant Mine for regulatory review. Terriplan Consultants have completed this report based on the City's direction to work from the premise that the in-situ frozen block method is not at issue at this juncture. The City's primary interest and focus is on the identification of issues, potential impacts and opportunities of the abandonment and restoration of the Giant Mine site.

Figure 3.1: City of Yellowknife – Regional Context



3.2 Characterization of the Giant Mine Issue

The closure of extraction operations, such as mines, or any other industrial/commercial operation is a fact of economic reality and history of many communities. As such, municipal authorities are not generally in a position to seek some type of accommodation and/or compensation from senior levels of government. This stems from the view that there is at least the potential of new investment and or redevelopment of vacant lands that can be put to a higher and better use, and thereby generate economic benefits for the community via employment, property and other types of taxation etc. However, the situation with Giant Mine lands is unique from a number of perspectives: The normal restoration and redevelopment/reuse scenario for the Giant Mine site is extremely limited given the scope and extent of the contamination, the associated potential environmental liabilities, and the provision of Section 6.3 of the *Cooperation Agreement Respecting the Giant Mine Remediation Project* which states "For greater certainty, the parties recognize that, while land uses for portions of the Site may broaden beyond the intended industrial use expressly contemplated by the Approved Remediation Plan, this Agreement does not render either party responsible for such costs."

The Giant Mine lands are zoned GM-Growth Management. This zoning category is intended to control and regulate land use so that future development may proceed in an orderly and well planned manner in keeping with then intent of the General Plan and applicable Development Scheme By-law. The Conditionally Permitted uses in this zone include: Industrial; Transportation facility; and, Bulk fuel storage.

While recognizing that the physical and environmental site conditions may necessitate remediation to industrial standards, there are important considerations with respect to the dynamics of demand for and supply of industrial lands within the municipal boundaries. For purposes of illustration, if all the Giant Mine lands could in fact be remediated to an industrial standard, and assuming the access and servicing requirements were addressed, this would add some 851 ha to the industrial land inventory. In the context of the existing supply of industrial lands and the modest demand forecast, there is some potential of excess supply, particularly relative to residential land demand. The potential for excess supply may be exacerbated when additional industrial land from the Con Mine remediation is factored in. The effects of such a scenario may include: (1) Growth management priorities and strategic (and sequenced) direction for industrial development in the Airport West area may be more difficult to achieve as a result of opening up additional zones of industrial investment; (2) Recognizing that while historically the City of Yellowknife has been the majority owner and supplier of industrial land, the potential ownership and marketing of certain industrial lands by the ADFN and other private land owners may affect the timing and market price of industrial lands; (3) The existing and projected strong demand for residential land, as well as other land use categories, needs to be considered and monitored in terms of the A&R regulatory review and determination of appropriate remediation standards – industrial and residential standard, as well as the spatial extent - for both the Giant Mine and Con Mine lands; and, (4) Capital planning and infrastructure investment implications for the City, particularly with respect to the potential of 'leap-frogging' municipal infrastructure and services to meet residential and commercial development requirements around vacant and undeveloped industrial land.

Based on consideration of the existing understanding and documentation of the publicly available information and the provisions of the *Cooperation Agreement Respecting the Giant Mine Remediation Project*, the following preliminary observations are provided: The A&R Plan is expected to document the type, extent and severity of environmental contamination and public health and safety concerns. Consequently, there are potentially certain zones that are not possible or feasible to remediate (and which may necessitate land use restrictions) and as such may be beyond any productive use for the foreseeable future. Other zones within the overall site that are potentially suitable for remediation may only be done at an industrial standard and some zones may be subject to additional health and safety requirements by the applicable health and environmental regulations (i.e. the 450 m setback is one example; diversion away from the arsenic storage vaults). Even where pockets could be remediated and

redeveloped the practical limitations of access, site management and security, and economies of scale remain unfavourable to prospective developers and users.

In terms of land use, investment and development options, the net effect of the A&R Plan may potentially be to make the land more challenging to market for any potential commercial/industrial use or activity, and even where it may be possible the ability to obtain bank financing becomes a further barrier to redevelopment and re-use of the site. Furthermore, the Commissioner of the NWT, as the Giant Mine land owner, may for reasons of site security and public safety impose access restrictions, which could further reduce the amount of remediated land available for redevelopment. Additionally, the adjacent industrial (City solid waste facility and quarry operations) and recreational type uses (Ski Club) may potentially be unduly constrained, which could affect future expansion and/or remediation options on quarry and solid waste sites. This result is that there are numerous potential negative impacts on the City of Yellowknife as well as other interested parties (lease and sub-holders).

The process of closure and abandonment of the Giant Mine, initiated in the late 1990s and expected to conclude in the next few years, is subject to anticipated environmental assessment and regulatory review. Notwithstanding the jurisdictional and legal aspects under active discussion, the interests of the City of Yellowknife need to be clarified through a review of the impacts (whether positive and/or negative) on the City of Yellowknife generally, and the Corporation of the City of Yellowknife specifically. The impact dimensions include, but are not necessarily limited to:

- Economic and taxation impacts (direct, indirect and induced)
- Physical planning, land use and growth management
- Economic development, tourism and market investment
- Public infrastructure
- Public health and safety
- Programs and Services
- Corporate capacity, intergovernmental and public relations

3.3 Growth Management and Development Constraints

The City of Yellowknife is characterized by a significant number of natural, infrastructure, legal and regulatory constraints to development. The key uses and development constraints that are relevant to the consideration of the impacts of the Giant Mine abandonment and restoration on the City are illustrated in *Figure 3.2*. Brief descriptions of the key relevant development constraints as identified in the 2004 General Plan Background Report are presented below.

Municipal Boundary

The existing municipal boundary encloses an area of about 13,660 ha (136 km²). Within this boundary, there are a number of physical constraints to development. Some of these have been well documented, while others are not as well documented. The physical setting of the City on the shores of Great Slave Lake in a permafrost zone with significant rock outcroppings as well as the location of manmade developments including the two gold mines and the airport, has significantly affected the patterns of growth and development of the City. The following features provide an overview of some of the constraints and considerations to future development and growth management.

Water Bodies, Muskeg, Permafrost

Water bodies, muskeg and permafrost (discontinuous) occupy significant areas within the municipal boundaries. Yellowknife Bay restricts any growth toward the east, and a number of large lakes present limits to growth and affects the direction of future development. Geographic Information System analysis

by Jacques Whitford Limited in the *Ecological Resources Inventory Draft Report (2007)* indicated that within the municipal boundaries, the land cover consisted of: 27% bedrock with discontinuous vegetation, 23% water, 20% anthropogenic developments, 7% forest with bedrock exposure, 7% forest, 7% graminoid dominated wetland, 2% treed wetland, and 2% bedrock.

Swamp and muskeg areas are a constraint to development as they are not desirable as building sites and pose infrastructure development challenges.

Terrain

Sand, gravel and topsoil deposit areas are limited in extent and distribution. Additionally, these features are correlated with vegetation and associated ecosystems, and as such warrant conservation and management consideration. Development should be planned and phased to allow the City to make maximum use of these resources. Yellowknife is located in a very challenging zone due to the variable terrain and underlying discontinuous permafrost.

In 1997, EBA Engineering Consultants Ltd. prepared the *Review of Geotechnical Constraints to Urban Expansion*, for the City of Yellowknife. This study examined geotechnical constraints to urban expansion to within one kilometre outside the municipal boundaries. A terrain analysis was completed through air photo interpretation. Three potential areas for future development are identified. These sites are north and west of the built-up area. The potential for a number of quarry sites was also discussed.

The *Airport West Area Geotechnical Constraints Study*, prepared by EBA in 1999 for the City, provides further detail to the 1997 study for the area west of the Yellowknife airport and was completed due to the anticipated commercial development along Highway No. 3. The study area was assessed and categorized for development potential.

Watershed and Ecological Resources

There are a number of local watersheds within the municipal boundaries. In the Yellowknife area, surface water patterns are constrained by rock outcrops, and in some locations by the presence of permafrost.

The recognition and control over development of lands within a watershed is necessary in Yellowknife for two reasons. Briefly these are:

- Protection of sensitive environmental area – development can result in increased run-off and erosion to downstream lands when the surface of a development is re-contoured. While this possibility exists within Yellowknife, there are no environmentally sensitive areas noted in the available documentation other than those described in the preceding sections; and,
- Protection of human health and safety related to the migration from contaminated sites onto publicly accessible lands – in this regard there are several areas where contaminated run-off is present, or where there is a risk that the up gradient activities (past and present) could pose a risk to human activity. Specifically these include operating and closed tailings ponds, operating and closed waste management sites, and Fiddler's Lake sewage lagoon. Areas down gradient from these sites are to be excluded from potential residential development.

Bordering the northeast municipal boundary, the City's existing water supply is protected by the Yellowknife Watershed Development Area (see Figure 3.1). The Regulations of the *NWT Area Development Act* prescribes allowable land use in the Yellowknife River watershed. The watershed is divided into three zones, with Zone 'A', the most restrictive zone, prohibiting development of any kind. The other two zones limit disturbance and development.

The City of Yellowknife continued developing the physical information inventory within municipal boundaries through the completion of the *Ecological Resources Inventory* (ERI) by Jacques Whitford (Draft Report, February 2007). The ERI examined 40 candidate Environmentally Sensitive Areas (ESAs). The work completed in the ERI is relevant in that it: (1) Developed a classification system for the selected resources; (2) Completed an inventory of ecological resources; (3) Ranked and rated resource areas for future protection; and, (4) Developed options for the protection of the ecological resources. While no specific ESAs were identified on the Giant Mine lands, the Yellowknife Ski Club lands, adjacent to the Giant Mine lands were assessed.

Airport

The *2002-2021 Yellowknife Airport Development Plan* prepared by InterVISTAS, included the following observation regarding the Yellowknife Airport:

“Given the importance of airport operations to the community and the costs associated with relocating airside infrastructure to minimize noise impacts on existing residential areas, safeguarding the airport vicinity from encroachment of incompatible urban development is critical for ensuring the long-term operational viability of the airport facility”.

An accepted method of measuring the noise associated with aircraft movements is through the preparation of Noise Exposure Forecast (NEF) contours. The site specific NEF is produced to encourage compatible land use planning in the vicinity of airports.

In the *Land Use in the Vicinity of Airports* report prepared by Transport Canada in 1996, it was recommended that new residential development in the City is not compatible with NEF 30 and greater, and should not be considered. As part of the *Yellowknife Airport Development Plan*, the NEF contours were updated to reflect actual 2001 data. These contours are mapped to show the constraints to residential development in the vicinity of the airport (see Figure 3.2). The GNWT has also prepared noise contours for the years 2011 and 2021 to illustrate the potential changes to aircraft design and other considerations including the relocation of the Airport Terminal Building to the west side of the airport.

The *Yellowknife Airport Development Plan* also proposed that Airport Vicinity Protection Area (AVPA) be used to provide guidance with respect to the long-term land use pattern around the airport site. The AVPA contains three distinct zones that are loosely derived from the location of the noise contours. The land use restrictions are based on Transport Canada guidelines and applicable height restrictions. The AVPA zones indicated in the plan take into consideration the Runway 15-33 extension and will limit future development on large portions of vacant land surrounding the airport, such as the area west of the boundary, to commercial, industrial or recreational purposes. New residential development in the Kam Lake and Range Lake subdivisions would also be limited.

Giant Mine and Con Mine Leases

The existing mine leases (see Figure 3.3 and 3.5) affect any expansion plans toward the north (Giant Mine) and the south (Con Mine). The Giant Mine lands encompass an area of some 851 ha, represents some 6.2% of the total municipal boundary area of 13,660 ha (136.6 km square including land and water) or some 8.3% of the total municipal land area (10,297 ha), and the pending abandonment and restoration of the Con Mine lands (383 ha, representing 3.7% of the total municipal land area). Both mines are in the process of finalizing and submitting for regulatory review their respective A&R Plans. The details of the Giant Mine site and development constraints are discussed in Section 3.2 and 3.4.

Seismic Array

The NRCan Seismic Array is located west of the City. It extends primarily north-south and east-west in two narrow bands. The site also includes a seismic station. The reserve was made unavailable for disposition by Order In Council in 1967 and was included as part of Canada's commitment to the international *Comprehensive Nuclear Test Ban Treaty Implementation Act*. It complements the primary network of scientific monitoring sites worldwide. Due to the sensitive nature of the monitoring equipment, NRCan representatives have advised there are development limitations within and adjacent to the reserve.

A portion of the reserve (approximately 940 ha) overlaps the municipal boundaries in the vicinity of the Yellowknife Airport, Highway No. 3 and the Yellowknife Golf Course. The restrictions associated with the array will impact future development in this area. Federal representatives had previously expressed interest in participating in future discussions associated with land development in this area.

Capital Area

The Capital Area encompasses an area of about 330 ha. This site is Commissioner's land bounded by Highway No. 3 to the north, the downtown to the south, Old Airport Road to the west and the Yellowknife Access Road to the east. Jackfish Lake and Frame Lake are located within the Capital Area. The Capital Site is the portion of the Capital Area south of Jackfish Lake. The development restrictions imposed by the Capital Area are significant.

Recreation Leases

The Fred Henne Territorial Campground is a well-used facility, both for seasonal day use and camping. The park encompasses an area is about 240 ha.

The Yellowknife Ski Club leases a parcel of land some 121 ha south of the Giant Mine lease and north of Niven Lake. In 1995, the Yellowknife Ski Club entered into a 30-year lease with the City. It has a membership of over 500 individuals that have contributed to the construction of an extensive trail system accessible year-round. The Ski Club has entered into a number of successful partnerships, including the Elks Lodge with the construction of the main lodge facility on-site. The Ski Club lands were identified in the *Ecological Resources Inventory* (ERI) by Jacques Whitford (Draft Report, February 2007) as ranking 1 out of 40 Environmentally Sensitive Areas based on ecological criteria and 29th from a land use pressure perspective. Overall, the Ski Club lands are priority ranked as 6th out of 40 sites examined .

The Yellowknife Gun Club has a sublease from the City (Lease No. 1550T). The shooting range has existed on this site dating back to WW II. With a membership of over 200, this is the only certified range in the NWT allowing professionals to maintain their firearm qualifications. This site is suspected to be a potential source of contamination resulting from spent ammunition. The undertaking of a Phase I, Level I environmental assessment is proposed.

The Yellowknife Golf Course and the 'Folk on the Rocks' sites are relatively small leases along Highway No. 3 and are primarily located within the Seismic Array. They are also situated within the Noise Exposure Forecast (NEF) zone of the airport making these compatible uses.

Cemeteries

The Yellowknife Cemetery is located near Jackfish Lake. Another smaller cemetery of historical interest, the Back Bay Cemetery, is located on the shores of Great Slave Lake near the Yellowknife Ski Club.

Fiddler's Lake Sewage Lagoon

Located near the western limit of the municipal boundaries, Fiddler's Lake sewage lagoon system discharges its treated effluent via a series of lakes into the North Arm of Great Slave Lake. The NWT *Public Health Act* Sanitation Regulations requires a 450-metre buffer zone around this facility. Residential development in close proximity should be discouraged.

Solid Waste Site/ Baling Facility

The existing landfill site was opened in 1974. It is located north of the junction of Highway No. 3 and No. 4, approximately 2 km from the downtown. In 1993, the site was converted to a baling facility. A landfill closure plan is being developed and a new site must be determined before the landfill reaches its capacity in the 2010 to 2012 period. If development was to occur around the existing or proposed sites, then suitable buffers must be considered. The solid waste site is subject to a 450-metre buffer that excludes housing within this zone.

Old Waste and Contaminated Sites

A number of studies have been completed on the levels of arsenic contamination in the soils in Yellowknife. The most recent is the 2001 YASRC assessment of risks to human health and the environment, and proposed remediation objectives. Recommendations include restricting public access and covering significantly impacted areas.

Mapping of old landfill sites, lagoons, and other disposal areas is not complete. Where sites are known to exist, they are indicated on Figure 3.2.

Jackfish Power Plant and Transmission Lines

The Jackfish Power Plant is located at the junction of Highway No. 3 and No. 4 and forms part of the Capital Area. Transmission rights-of-ways and lines crossing the City affect patterns of development and offer an opportunity for creating links with the open space system and places for recreational facilities at the neighbourhood level.

Archaeological Sites

An information request to the GNWT for the provision of archaeological sites data was made as part of the 2004 General Plan process. The database revealed six sites within the municipal boundaries but it is recognized that these sites are limited to only those that have been registered with the database. A number of NWT Acts and Regulations protect heritage resources and developer guidelines exist. The Yellowknives Dene have initiated the documentation of significant sites in the region but mapping of these sites is not currently available.

Community of N'dilo

The community of N'dilo is located within the municipal boundaries on Latham Island. This Aboriginal community forms an integral part of the City's growth, however lands within this community are 'lands set aside for Indians' and as such are not available for City development and the governance of these lands falls outside the City's jurisdiction. The community has identified concerns regarding their growth requirement and limited land to accommodate it. This is an issue that the City needs to include in the dialogue on regional co-existence as it may have growth management impacts and potential opportunities as part of the ADFN process.

Community of Dettah

Dettah is an Aboriginal community located outside the City's municipal boundaries on the east shore of Yellowknife Bay. Similar to the situation in the community of N'dilo, concerns regarding their growth requirement and limited land to accommodate it. This is an issue that the City needs to include in the dialogue on regional co-existence as part of the ADFN process given that it may have growth management impacts and potential opportunities, at both a municipal and regional planning scale,

Akaitcho Dene First Nations Land Withdrawal

The Akaitcho Dene First Nations (ADFN) process and land withdrawal (as identified on October 31, 2006) for potential selection of some but not necessarily all the 1,033 ha (representing some 10% of the total municipal land area (10,297 ha) within the City's municipal boundaries present a number of physical development and political issues and impacts. Figure 3.2 identifies the approximate location of the lands identified by the ADFN, including lands immediately south of Giant Mine encompassing the Yellowknife Ski Club lands. Additional lands have been withdrawn in the Capital Area, the Airport West area and a parcel south of the Con Mine lease.

Given that the lands identified are part of a comprehensive negotiation process with the federal and territorial governments, the actual amount of lands to be ultimately selected and transferred to the ADFN is not known. Consequently, for the purposes of this report it was assumed for purposes of scenario analysis that all the lands are under consideration from a land quantum perspective.

Figure 3.2: City of Yellowknife – Uses and Development Constraints

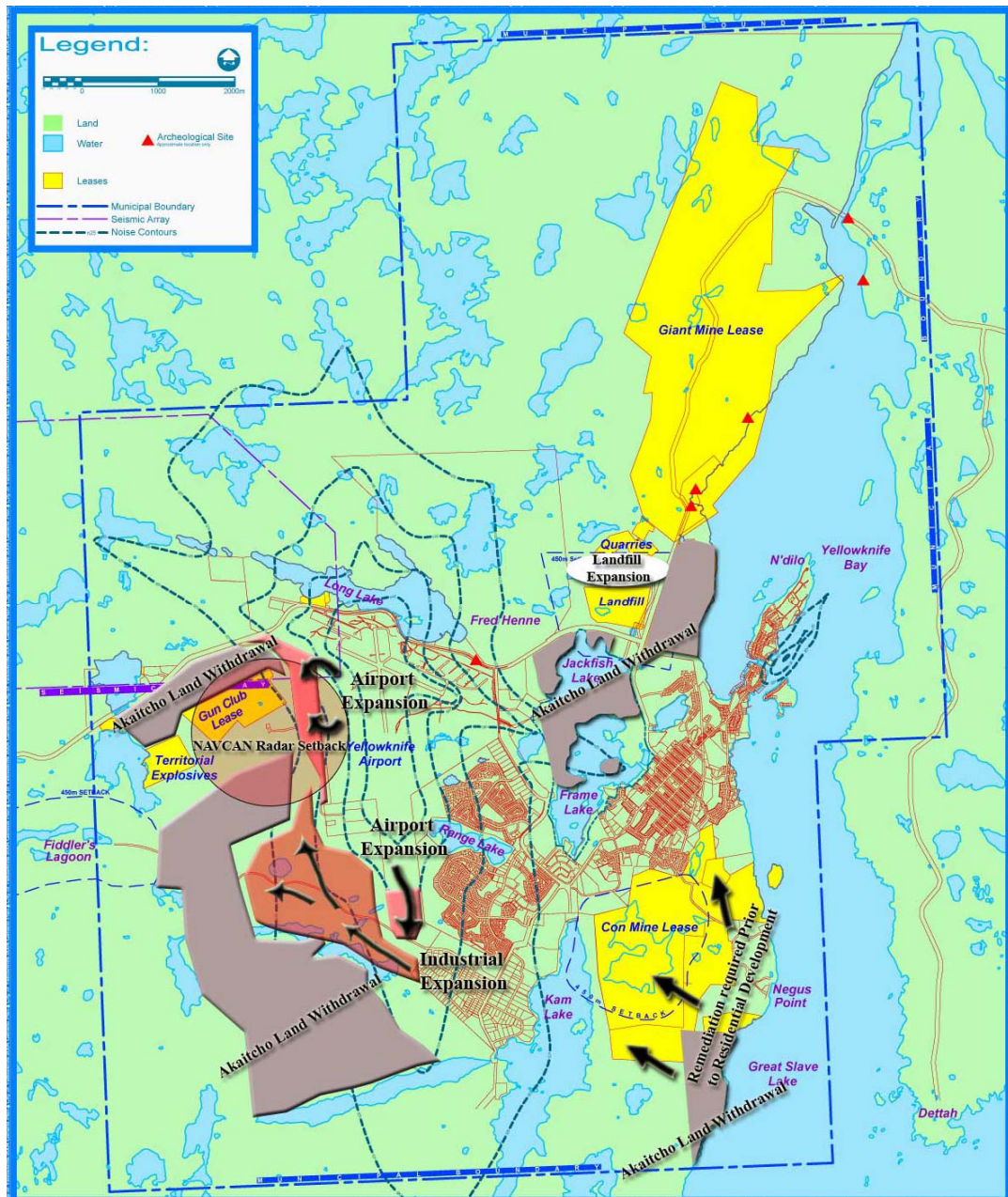
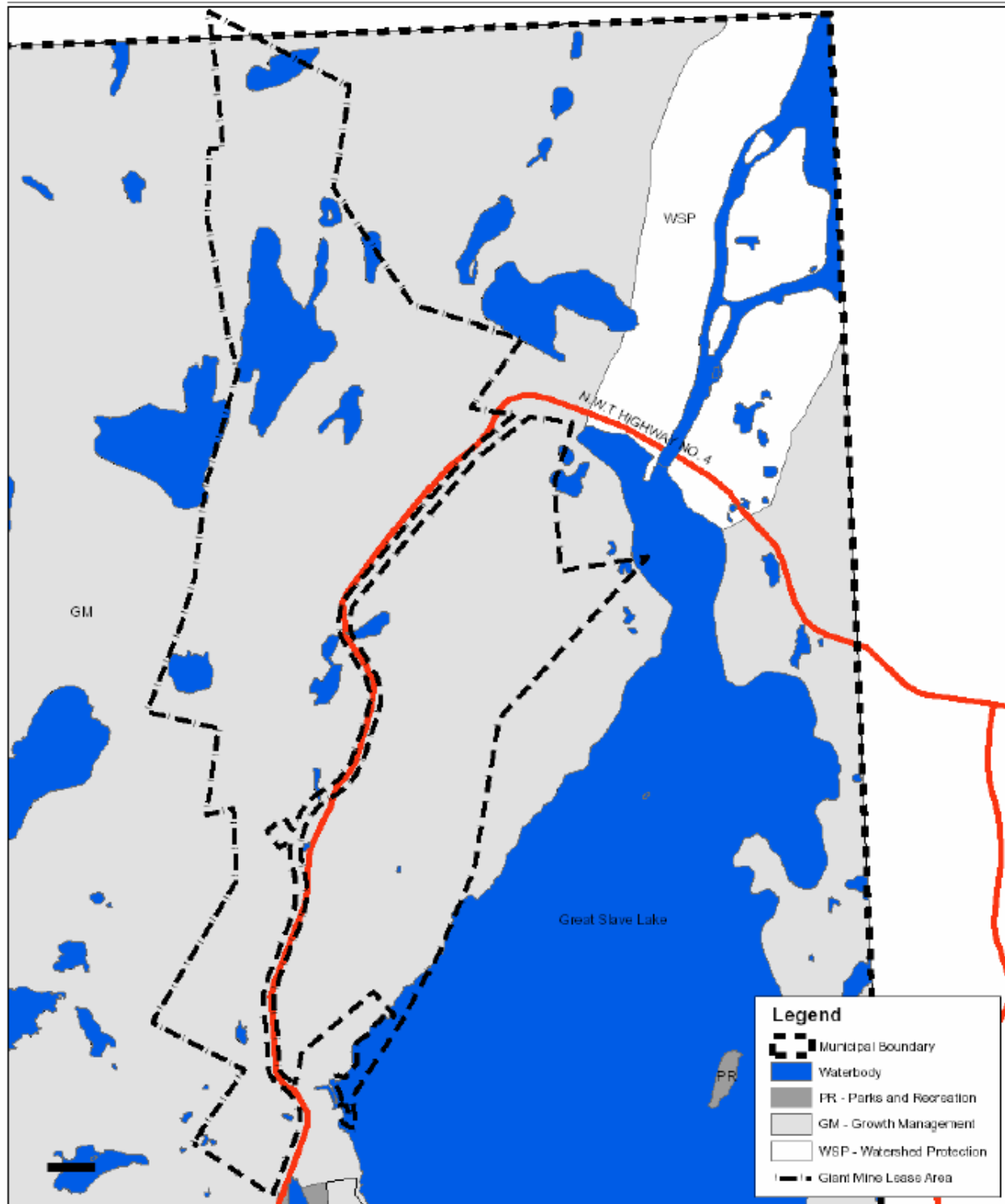


Figure 3.3: Giant Mine Site and Area



3.4 City of Yellowknife Strategic and Operational Interests

The City of Yellowknife has a number of strategic and operational interests with respect to the assessment of the impacts of the Giant Mine abandonment and restoration undertaking. While Section 4.2 discusses the full range of interests in specific detail (in a table format), the following presents Terriplan Consultant's perspective on the more significant interests related to land leases and property taxation in light of their scope and immediacy.

Exclusion of the City from the Giant Mine Cooperation Agreement and the Need for Full Disclosure & Information Sharing

Canada (INAC) and the GNWT signed the *Cooperation Agreement Respecting The Giant Mine Remediation Project* on March 15, 2005 as 'co-proponents' within their respective jurisdictions. The purpose of the Cooperation Agreement pursuant to Section 3.1 is "to create an agreement between Canada and GNWT to cooperate and coordinate the care and maintenance of the Site and the implementation of the Approved Remediation Plan". The Cooperation does not provide a direct role for the City of Yellowknife. The only reference to any obligation is in Section 12.1 where Canada and the GNWT are to work cooperatively to 'discuss' with the City site plans and activities, as well as access to municipal services for the purpose of carrying out the remediation work.

While recognizing and respecting the jurisdiction and authority of Canada and the GNWT, the City of Yellowknife is effectively politically accountable to its citizens by virtue of its mandate, and by the fact of having to live with the consequences of the remediation process and the results, which include growth management and cost effective municipal service delivery considerations.

The strategic interest of the City is with respect to the options that may facilitate a meaningful role but that does not create legal risk or liability. The City needs to examine the potential legal risks and implications of participation options (possibly including becoming a 'party' to the *Cooperation Agreement*) without unnecessarily constraining its authority and prerogative to protect the interests of the City through any means necessary. However, the City's response options are not intended to usurp the respective authorities and roles of the federal and territorial governments. Additionally, the capacity and resource implications on the City need to be taken into consideration in assessing options for participation and/or intervention.

Giant Mine Townsite Lease Area

The City currently has an interest in a portion of the Giant Mine Town site Lease Area (Lease 17889T) and a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay. Figure 3.6 illustrates the City's lease interests.

The Townsite Lease is held by the City for uses restricted to municipal and recreational uses only. The term of the lease is to 2030. Any sub-leases require approval of the Deputy Minister of MACA. Based on preliminary information available from the Giant Mine Remediation Project, there have been identified potential environmental, building/structural and public health concerns based on the site and existing buildings contaminants/condition information currently available. The issue and potential impact stems in part from the current unavailability of specific information. The limited understanding of site conditions and restoration options is expected to be addressed in large part through when the Giant Mine Remediation Project proponent, INAC, files the Abandonment and Reclamation (A&R) Plan which is expected to address both surface and sub-surface reclamation plans.

There is a formal request for a sub-lease on portion of Lease 17889T from the Mining Heritage Society who is seeking Parcel A (see Figure 3.6), comprising of 1.15 ha, for a proposed NWT Mining and

Geological Interpretative Centre. The proposed development includes: Interpretive Centre/Museum with gift shop to be located in the Recreation Hall (pending remediation); Outdoor displays of equipment and relocated heritage buildings around parking lot; Walking trails connecting to City's trails; and, a walking bridge over Baker Creek connecting to displays in the north.

The City's interest, in light of the limited existing information regarding potential environmental, structural and public health concerns and the possible associated liabilities, is with respect to the advisability of continuation of the Townsite Lease and the recent request for a sub-lease.

Waterfront Lease and Giant Mine Public Boat Launch

The City currently has an interest in a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay. The original Waterfront Lease, comprising of 1.125 ha and the site of the Giant Mine Public Boat Launch, expired on August 1, 2005 and was extended to February 24, 2007, and is now under active renewal negotiation with INAC regarding terms and conditions. This may include potential site use restrictions that are inconsistent with the Giant Mine Land/Water Use Plan or with potential, although not formally initiated at this point, private sector investment in additional docking facilities on the north end of the Waterfront Lease. If renewed, the lease would be for a period of twenty-five (25) years at a cost of \$150 per year. The City has undertaken a number of site improvements, including the construction of a timber wharf at the boat launch.

There is an existing expired sub-lease on portion of Lease 17889T (adjacent to Lease 85J/8-12-14) to the Great Slave Cruising Club that was agreed to by the previous land owner some twenty-five years ago. The City has identified potential environmental concerns and associated public health and liabilities regarding possible disruption of lakebed sediment contaminants from existing site uses and potential future expansion. The City is seeking information from the responsible authorities, including INAC, MACA and Department of Fisheries and Oceans (DFO). The issue and potential impact stems in part from the absence of clarity and additional information expected only when the Giant Mine Remediation Project proponent, INAC, files the Abandonment and Reclamation (A&R) Plan which is expected to address both surface and sub-surface reclamation plans. The A&R Plan is expected in March/April 2007.

The viability of some the policies and proposals approved in the Giant Mine Land/Water Use Plan will need to be reevaluated in light of the A&R Plan.

Municipal Boundary and Land Quantum

The Giant Mine lands encompass an area of some 851 ha, represents some 6.2% of the total municipal boundary area of 13,660 ha (136.6 km square including land and water) or some 8.3% of the total municipal land area (10,297 ha), and the pending abandonment and restoration of the Con Mine lands (383 ha, representing 3.7% of the total municipal land area) will result in a potentially significant and permanent reduction of the City's existing land quantum through what may in effect be a removal of a portion of the lands undergoing A&R from effective productive capacity (i.e. redevelopment and property taxation revenue). While the actual area of land that could be withdrawn is not established at this time (pending the filing of the A&R Plan), the maximum land from the two former mines that could potentially be withdrawn from productive use is some 1,234 ha, representing 12% of the total municipal land area (10,297 ha). Preliminary information from both Giant Mine and Con Mine indicates that the proponents through their respective A&R Plans intend to return to some type of productive use at least portions of the former mine sites. This impact is potentially significant with respect to the City's ability to maintain a property taxation stream for effective fiscal management.

The pending A&R Plan for Giant Mine is premised on a freeze in situ method of remediation and management of the 237,000 tons of arsenic trioxide dust stored underground and the overall surface site to ensure public and environmental safety. The potential impacts and associated issues stems in part

from the current unavailability of specific site information. The limited understanding of site conditions and restoration options is expected to be addressed in large part through when the Giant Mine Remediation Project proponent, INAC, files the Abandonment and Restoration (A&R) Plan which is expected to address both surface and sub-surface reclamation plans.

The A&R Plan is expected to document the type, extent and severity of environmental contamination and public health and safety concerns. Subject to the actual proposed remediation approach and standard, and ultimately what may be approved by the responsible regulatory agencies, there are potentially certain zones where it may not be possible or feasible to remediate to a productive state. If such circumstances are contained in the A&R Plan, there may be certain zones which are in effect taken out of permanent productive use. Furthermore, the Commissioner of the NWT, as the Giant Mine land owner, may for reasons of site security and public safety impose access restrictions, which could further reduce the amount of remediated land available for redevelopment. Other zones within the overall site that are potentially suitable for remediation may only be done at an industrial standard. Once again, subject to the A&R Plan, some zones will be subject to additional health and safety requirements by the applicable health and environmental regulations (i.e. the 450 m setback is one example; diversion away from the arsenic storage vaults). From a land redevelopment and investment perspective where sub-areas may be remediated to an acceptable standard, there are potentially a number of practical challenges and limitations with respect to access, site management and security, and economies of scale, which prospective developers and users will need to consider in their decision making process.

The City's strategic and operational interest is with respect to the impact of the functional removal of the Giant Mine lands on the municipal land quantum. This potentially represents a substantial economic opportunity cost to the City. There is a need to mitigate the impact through some type of compensation or changes to municipal boundaries to maintain a comparable land quantum and effective property tax base.

Land Use, Investment and Development Options

The normal restoration and redevelopment/reuse scenario for the Giant Mine site is limited given: (1) the scope and extent of the contamination and associated environmental liabilities; and, (2) the provision of Section 6.3 of the *Cooperation Agreement Respecting the Giant Mine Remediation Project* which states "*For greater certainty, the parties recognize that, while land uses for portions of the Site may broaden beyond the intended industrial use expressly contemplated by the Approved Remediation Plan, this Agreement does not render either party responsible for such costs.*".

The *Cooperation Agreement Respecting the Giant Mine Remediation Project* (March 15, 2005) was signed by INAC and the GNWT. Article 6.1 – Remediation Plan states that the parties agree to develop, review and finalize an integrated (surface and underground) remediation plan which includes four objectives: "(a) To manage the underground trioxide dust; (b) To remediate the surface to the *industrial standards* set out in the *Environmental Guideline for the Remediation of Contaminated Sites* adopted pursuant to the *Environmental Protection Act*, R.S.N.W.T., 1988, c.E-7 in effect at the date of the Approved Remediation Plan, recognizing that *portions of the Site will necessitate land use restrictions*; (c) To minimize public health and safety risks associated with buildings, mine openings and other physical hazards at the Site; and (d) To minimize the release of contaminants from the Site to the surrounding environment."

The Giant Mine lands are zoned GM-Growth Management. This zoning category is intended to control and regulate land use so that future development may proceed in an orderly and well planned manner in keeping with then intent of the General Plan and applicable Development Scheme By-law. The Conditionally Permitted uses in this zone include: Industrial; Transportation facility; Bulk fuel storage.

While recognizing that the physical and environmental site conditions may necessitate remediation to industrial standards, there are important considerations with respect to the dynamics of demand for and supply of industrial lands within the municipal boundaries. For purposes of illustration, if all the Giant Mine lands could in fact be remediated to an industrial standard, and assuming the access and servicing requirements were addressed, this would add some 851 ha to the industrial land inventory. In the context of the existing supply of industrial lands and the modest demand forecast, there is some potential of excess supply, particularly relative to residential land demand.

The potential for excess supply may be exacerbated when additional industrial land from the Con Mine remediation is factored in. The effects of such a scenario may include: (1) Growth management priorities and strategic (and sequenced) direction for industrial development in the Airport West area may be more difficult to achieve as a result of opening up additional zones of industrial investment; (2) Recognizing that while historically the City of Yellowknife has been the majority owner and supplier of industrial land, the potential ownership and marketing of certain industrial lands by the ADFN and other private land owners may affect the timing and market price of industrial lands; (3) The existing and projected strong demand for residential land, as well as other land use categories, needs to be considered and monitored in terms of the A&R regulatory review and determination of appropriate remediation standards – industrial and residential standard, as well as the spatial extent - for both the Giant Mine and Con Mine lands; and, (4) Capital planning and infrastructure investment implications for the City, particularly with respect to the potential of 'leap-frogging' municipal infrastructure and services to meet residential and commercial development requirements around vacant industrial land.

In terms of land use, investment and development options, the net effect of the A&R Plan is potentially to make the land more challenging to market for any commercial/industrial use or activity, and even where it may be possible the ability to obtain bank financing becomes a further barrier to redevelopment and re-use of the site. Additionally, the adjacent industrial (City solid waste facility and quarry operations) and recreational type uses (Ski Club) may potentially be unduly constrained, which could affect future expansion and/or remediation options on quarry and solid waste sites. This result is that there are numerous potential negative impacts on the City of Yellowknife as well as other interested parties (lease and sub-holders).

Opportunity to Prepare a Comprehensive Brownfield Strategy for Yellowknife

The Giant Mine, and the pending Con Mine, remediation and site management processes may provide a strategic opportunity to advance the City's economic and environmental interests (*New Paradigm for Economic Growth*, 2006) through assessing strategic opportunities in the context of various contaminated sites within the municipal boundaries. There is an opportunity to address in a more comprehensive way the reality that there are several contaminated sites, including Giant Mine and Con Mine, within and in proximity to the municipal boundaries. The fact that these sites are adjacent to, or in proximity of, existing transportation and municipal services, provides an opportunity to advance the City's broader economic interests and urban land economics.

Municipal Water System and Treatment Plant

Yellowknife's water system consists of four distinct systems. Except in emergency situations, all water is supplied by Pumphouse No. 2 at the Yellowknife River being via an underwater 400mm diameter steel pipeline to a 6 million litre storage reservoir adjacent to Pumphouse No. 1. The water supply for Giant Mine was via a direct and separate underwater pipeline. The Giant Mine water intake line was decommissioned in 2005.

The Public Works and Engineering Department has conducted a review of the City's existing water supply system and future requirements. One of the options being proposed is to replace the existing water intake system from the Yellowknife River and draw directly from Yellowknife Bay (near Pumphouse No. 2)

as part of a proposed new \$7.5 million dollar water treatment plant. The Giant Mine A&R Plan and the long term site management (i.e. mine water treatment and discharge into Baker Creek and Yellowknife Bay) need to be considered with respect to the potential water quality and safety impact in the event of a discharge exceeding the parameters of the water license). Additionally, ongoing territorial and national concerns regarding water quality and safety will affect public perception of risk. There is a potential for public opposition, as well as concerns by the responsible regulatory authorities to drawing directly from Yellowknife Bay need to be addressed. In such a scenario, there may well be a significant impact on the City with respect to feasibility of the proposed water system plans and the expenditures to date for engineering studies and associated works. Moreover, if the Giant Mine A&R Plan approval results in the City not being subsequently authorized to draw water directly from Yellowknife Bay, consideration needs to be given by the City for seeking financial compensation for demonstrable incremental capital and operations costs of retrofitting and operating the existing Yellowknife River intake system.

Outstanding Giant Mine Property Taxes

Since the closure of the Giant Mine, the 'ownership' of the property has reverted to the Commissioner of the NWT. Payment of the 2005 to 2006 property taxes by way of a Grant in Lieu of taxes or otherwise, has not occurred to date. The property is recorded as Assessment Roll Number 7000100000 and shows the following unpaid property taxes totaling \$354,000 (Municipal Taxes being \$236,000 and School District Taxes are \$118,000): 2005 Final Levy of \$89,840; and, the 2006 Levy of \$264,836.

If the City does not receive payment then the tax burden will be borne by all other tax payers through a mill rate increase that covers the shortfall. While initial responses to requests by the City to have the property taxes were unfavourable, supplementary research, and documentation submitted by the City have created an opportunity to have the outstanding property taxes addressed by the Joint Oversight Committee.

Reduced Property Tax Base and Consequential Multiple Impacts

Giant Mine had historically been a significant source of property taxation for the City. Archival Assessment records for the 1990 to 2005 period (see Table 3.1 and Figure 3.4) indicates that the property represented a peak levy of \$1,042,143 in 1991. This represented 3.9% of the City's total assessment and 10.8% of total municipal taxation. The Assessment pattern has been one of gradual decline from the peak in 1991 to \$264,836 by 2005. This represented 0.6% of the City's total Assessment and 1.6% of the total municipal taxation. From an assessment and valuation perspective there are three fundamental questions that need to be considered: (1) What was the value of the Giant Mine land at the start of full operations and production? (2) What was the value of the Giant Mine land on the final day of operations and production prior to initiation of the A&R Plan? (3) What may be the value of the Giant Mine land upon completion of the comprehensive A&R Plan?

Property taxes are the product of two factors: individual land assessment, and the municipal and education mill rates. The Municipal Mill Rate (and the Education Mill Rate) is determined by dividing the total property tax revenues required to meet the City's operating budget by the total property assessment in the City. Given that the City of Yellowknife raises some 50% of all its operating revenue through property taxation, and that Yellowknife School Districts raise a significant portion of their respective operating revenues through property taxation, the impact of the reduced property tax base is an important municipal management consideration. Council approved a 3.7% increase in property tax revenues for 2007.

The 2006 Assessment for 2007 Taxation for the Giant mine property is set at \$1,986,890. This will generate only \$32,982 in municipal taxes and \$15,895 in school district taxes. It is estimated that once the area is in the post-closure and monitoring stage, the Giant Mine property will only generate approximately \$8,300 in municipal taxes and \$4,000 in school district taxes based on a \$500,000 assessment for the Water Treatment Plant (WTP) and associated site improvements. The City will only transfer to the School Districts the property taxes and grants in lieu of property taxes that are actually collected from the taxpayers. The outstanding grants in lieu represent lost revenue of \$118,000, and the future revenues are estimated at only \$4,000 annually. There is at present no indication that the City may be able to realize any appreciable financial savings from reduced demand for municipal services directly or indirectly related to the Giant Mine land. In effect, the City is potentially assuming a financial burden disproportionate to its jurisdiction. The City needs to examine the option of negotiating a special service agreement with the Giant Mine Remediation Project proponents to offset any specific site or municipal services that may be required.

The potential for further reductions in the City's total property tax base exists with the environmental and potential liability issues identified respecting the City existing interest in a portion of the Giant Mine Town site Lease Area (Lease 17889T) and a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay (see Section 4.2.1). In the event that the identified remediation issues are not resolved satisfactorily, and the City relinquishes its lease interests, the opportunity for generating any revenue stream from any future development proposed in the plan adopted by Council in 2006 will be forgone. This could have additional significant future property tax implications for the City.

In the context of other potential impacts on the City's tax base, the Akaitcho Dene First Nation land withdrawal within the municipal boundaries and ultimate transfer are potentially significant. The identified lands encompasses some 1033 ha (representing some 10% of the total municipal land area (10,297 ha). While recognizing that the ADFN process is outside the scope of this report, the cumulative impacts on the property tax base need to be addressed by the City.

Canada's *Policy on Additions To Reserve* (ATR) recognizes that a municipality may face a loss of property tax revenue when a reserve is created or added to as a result of a land claim settlement or other legal obligation. The Policy requires that a First Nation negotiate directly with the municipality on 'reasonable' compensation measures. The purpose of the compensation provision is to allow the municipality to adjust

to the reduction in its tax base. The impact and opportunities for the City need to be examined in light of the reduction in the property tax base and the effective municipal land quantum (as discussed in Section 4.2.1). Additionally, the ability of the City to regulate through zoning the selected lands needs to be clarified. Potentially, the ADFN lands in fact could simply be interpreted as changing ownership but not effectively being taken out of productive use in terms of the land quantum and growth management requirements for the City overall.

Table 3.1: Giant Mine Property Assessment, Percent of Total Assessment and Percent of Total Municipal Taxation, 1990-2005

Assessment Year	Giant Mine				Total Roll					
	Land	Improvement	Total	Levy	Land	Improvement	Total	Assessment %	Mun. Levy	Municipal Tax%
1989			0				0	0.0	7,726,000	0.0
1990	3,960,300	29,264,600	33,224,900	740,251	397,985,000	335,009,500	732,994,500	4.5	8,654,000	8.6
1991	3,960,300	24,904,600	28,864,900	1,042,143	395,952,500	349,998,300	745,950,800	3.9	9,637,000	10.8
1992	3,960,300	18,544,900	22,505,200	873,583	403,650,700	357,296,900	760,947,600	3.0	9,940,000	8.8
1993			20,982,100	694,508			1,321,205,572	1.6	10,300,000	6.7
1994	4,220,800	33,673,400	37,894,200	682,096	508,916,900	873,474,600	1,382,391,500	2.7	10,777,000	6.3
1995	4,220,800	33,946,100	38,166,900	687,004	506,360,100	907,074,300	1,413,434,400	2.7	10,356,000	6.6
1996	4,220,760	33,946,100	38,166,860	717,495	520,462,820	927,632,020	1,448,094,840	2.6	11,152,000	6.4
1997	4,220,760	35,463,080	39,683,840	738,386	521,890,840	946,185,840	1,468,076,680	2.7	13,309,000	5.5
1998	3,857,900	34,882,110	38,740,010	699,606	481,620,540	954,740,310	1,436,360,850	2.7	13,920,000	5.0
1999	3,857,900	34,882,110	38,740,010	699,606	483,123,210	965,143,730	1,448,266,940	2.7	13,869,000	5.0
2000	2,867,110	26,630,630	29,497,740	532,700	484,023,870	974,438,260	1,458,462,130	2.0	14,154,000	3.8
2001	2,867,110	22,629,220	25,496,330	460,438	482,327,810	987,453,690	1,469,781,500	1.7	14,472,000	3.2
2002	4,398,310	15,189,250	19,587,560	468,339	467,250,070	1,094,553,160	1,561,803,230	1.3	14,794,000	3.2
2003	4,398,310	15,189,250	19,587,560	468,339	476,219,406	1,135,608,910	1,611,828,316	1.2	15,178,000	3.1
2004	4,398,310	11,787,040	16,185,350	391,685	472,837,357	1,186,417,966	1,659,255,323	1.0	15,861,000	2.5
2005	0	10,765,710	10,765,710	264,836	476,073,440	1,221,339,320	1,697,412,760	0.6	16,730,000	1.6

Figure 3.4: Giant Mine Property Assessment, Percent of Total Assessment and Percent of Total Municipal Taxation, 1990-2005

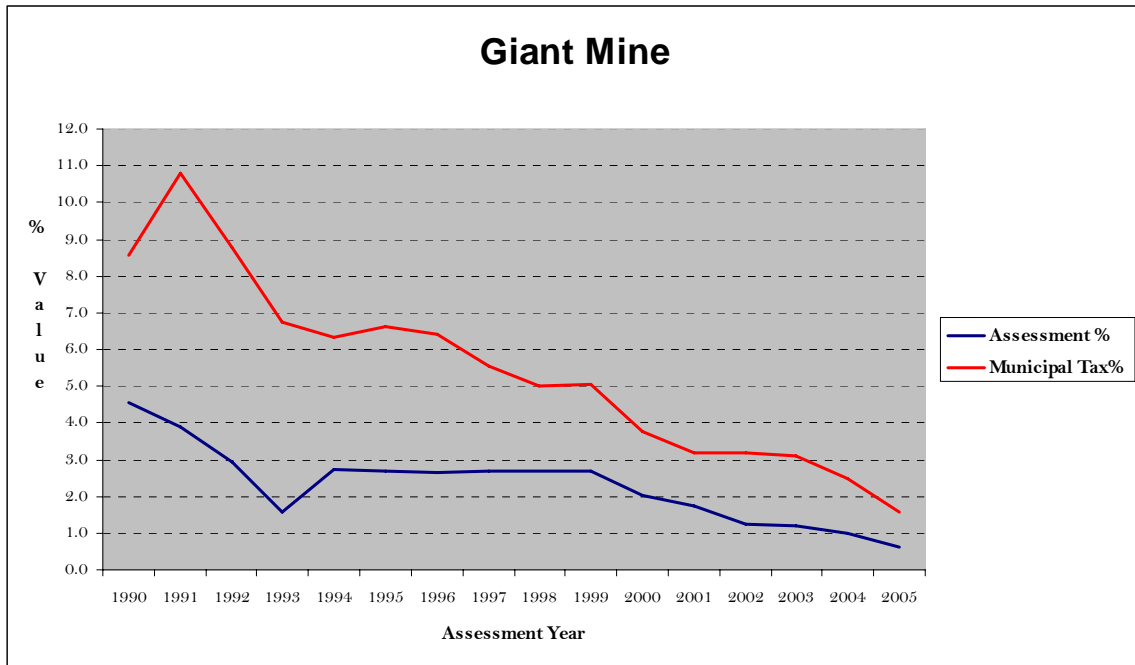


Figure 3.5: Giant Mine and Miramar Mine Context

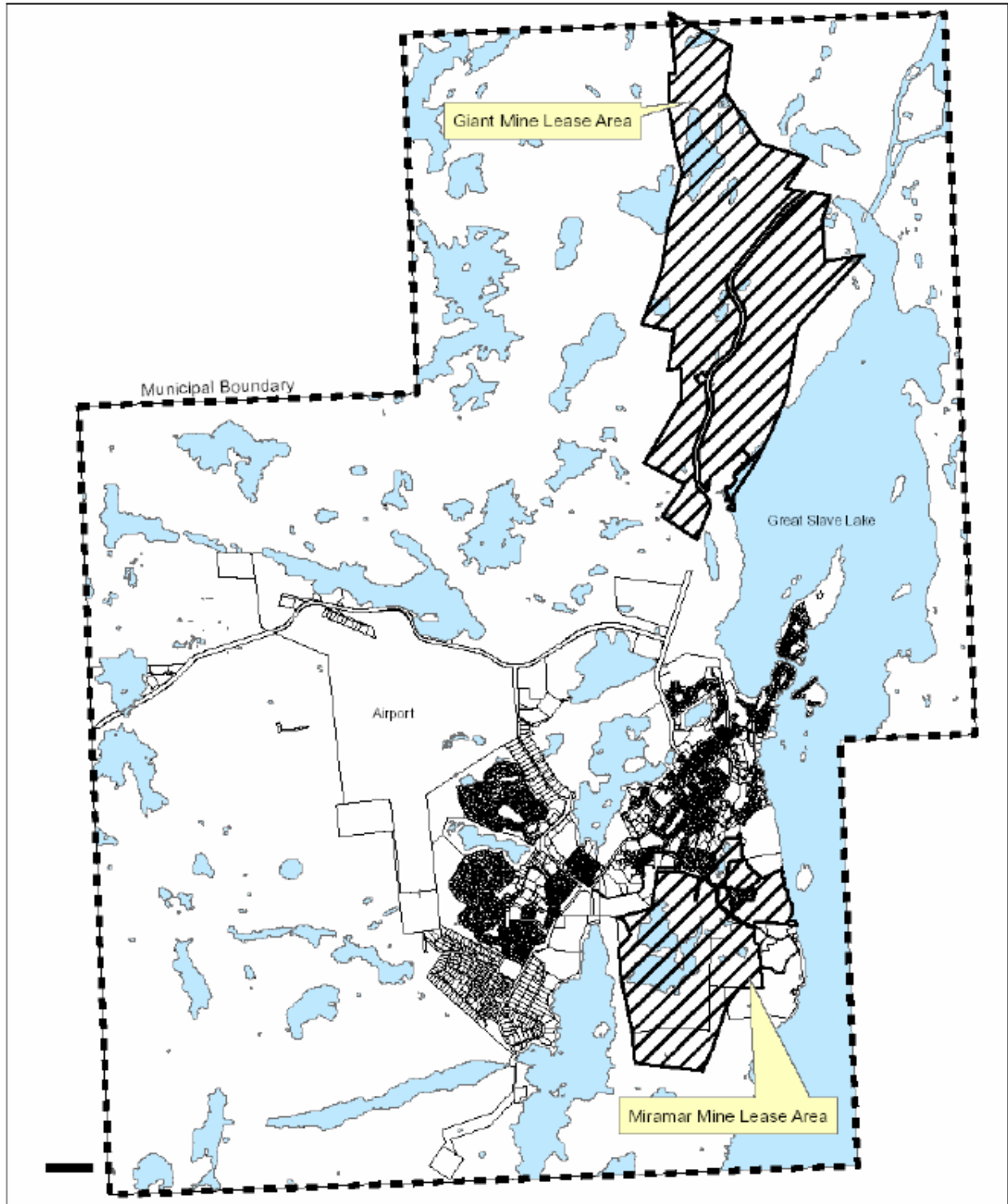


Figure 3.6: Giant Mine Townsite and Lease Interests

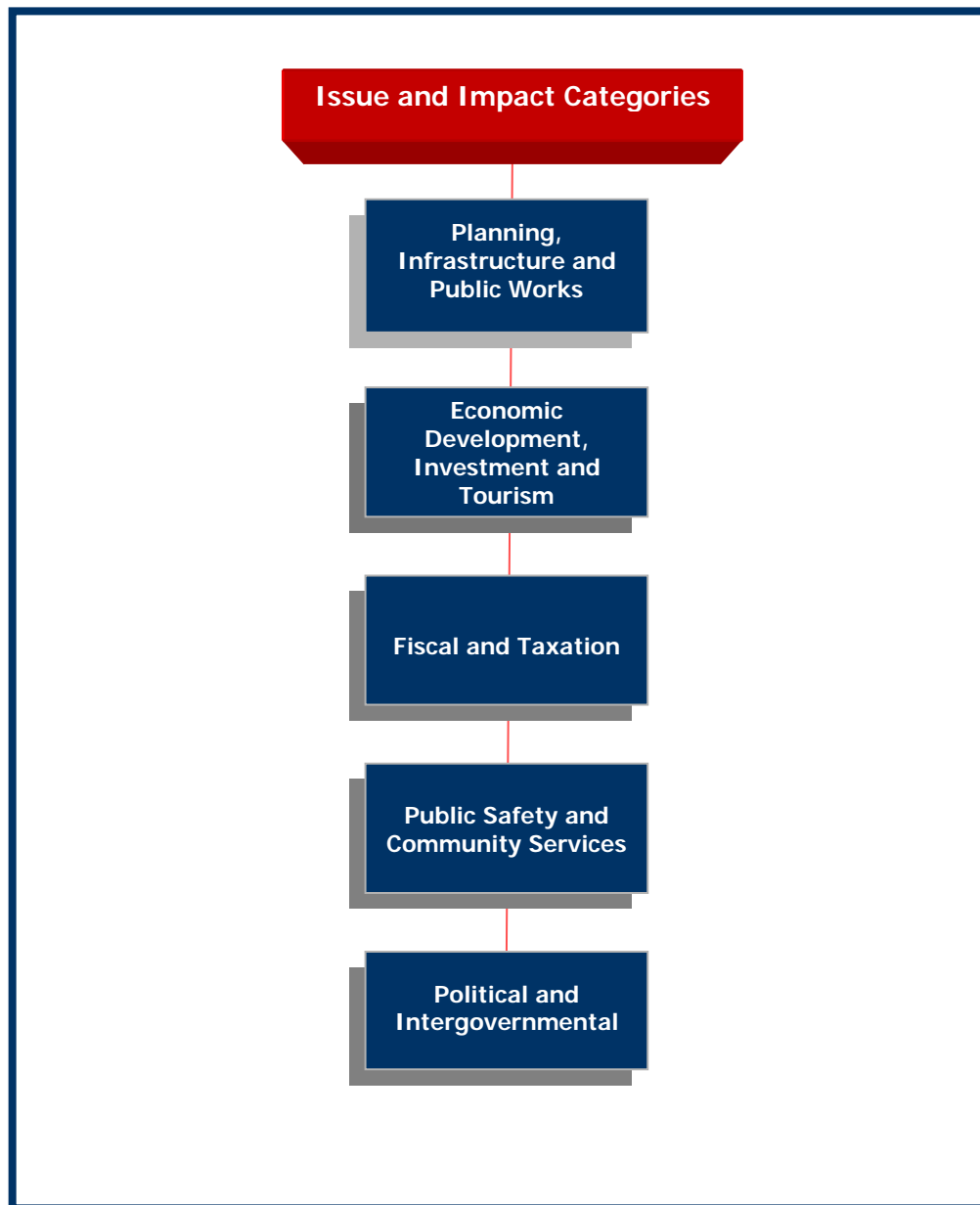


4.0 PRELIMINARY IDENTIFICATION OF ISSUES AND IMPACTS

4.1 Methodology and Limitations

The approach taken with respect to the preliminary identification of issues and impacts included the synthesis of findings from the literature review and the interviews with City Administration officials. The overall issues, potential impacts and opportunities listing was then organized into five categories as presented in *Figure 4.1*. The categories generally reflect and correspond to the mandate and interests of the City of Yellowknife.

Figure 4.1: Issue and Impact Categories



4.2 Issue and Impact Categories

The following tables, Tables 4.2.1 to 4.2.5, present the issues, potential impacts and opportunities identified to date and within the context of the methodological and information limitations discussed in Section 2. The issues and impacts are not presented in the tables in any specific priority order. The issues and impacts vary with respect to scale, duration, financial and resource considerations, and immediacy. The determination of ultimate relevance and significance for the City will require further consideration informed by the establishment of specific criteria by Council and Administration. Section 5 contains specific recommended actions to facilitate the prioritization process. Each issue, potential impact or opportunity has been assigned a reference number for tracking convenience, followed by a short title and description. While a number of the issues and impacts are interrelated, to the extent possible each issue has been identified in a discrete and singular manner in order to facilitate discussion and decision making. Consequently, there is an unavoidable degree of necessary duplication in some aspects of Section 3 and 4. The following tables are organized into the following categories:

- Planning, infrastructure and public works
- Economic development, investment and tourism
- Fiscal and taxation
- Public safety and community services
- Political and intergovernmental

Table 4.2: Preliminary Issues & Impacts Tables

Table 4.2.1: Planning, Infrastructure and Public Works	
Ref. No.	Issue / Impact Description
A01	<p>City Interest in Giant Mine Townsite Lease Area The City currently has an interest in a portion of the Giant Mine Town site Lease Area (Lease 17889T) and a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay. Figure 3.6 illustrates the City's lease interests.</p> <p>The Townsite Lease is held by the City for uses restricted to municipal and recreational uses only. The term of the lease is to 2030. Any sub-leases require approval of the Deputy Minister of MACA. Based on preliminary information available from the Giant Mine Remediation Project, there have been identified potential environmental, building/structural and public health concerns based on the site and existing buildings contaminants/condition information currently available. The issue and potential impact stems in part from the current unavailability of specific information. The limited understanding of site conditions and restoration options is expected to be addressed in large part through when the Giant Mine Remediation Project proponent, INAC, files the Abandonment and Reclamation (A&R) Plan which is expected to address both surface and sub-surface reclamation plans. The A&R Plan is expected in March 2007.</p> <p>There had also been a request for a sub-lease on portion of Lease 17889T from the Mining Heritage Society which is seeking Parcel A, comprising of 1.15 ha, for a proposed NWT Mining and Geological Interpretative Centre. The proposed development includes: Interpretive Centre/Museum with gift shop to be located in the Recreation Hall (pending remediation); Outdoor displays of equipment and relocated heritage buildings around parking lot; Walking trails connecting to City's trails; and, a walking bridge over Baker Creek connecting to displays in the north.</p> <p>In light of the limited existing information regarding potential environmental, structural and public health concerns and the possible associated liabilities, the impact on the City is with respect to the advisability of continuation of the Townsite Lease and the recent request for a sub-lease from third party.</p>
A02	<p>City Interest in Waterfront Lease and Giant Mine Public Boat Launch The City currently has an interest in a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay. The original Waterfront Lease, comprising of 1.125 ha and the site of the Giant Mine Public Boat Launch, expired on August 1, 2005 and was extended to February 24, 2007, and is now under active renewal negotiation with INAC regarding terms and conditions. This may include potential site use restrictions that are inconsistent with the Giant Mine Land/Water Use Plan or with potential, although not formally initiated at this point, private sector investment in additional docking facilities on the north end of the Waterfront Lease. If renewed, the lease would be for a period of twenty-five (25) years at a cost of \$150 per year. The City has undertaken a number of site improvements, including the construction of a timber wharf at the boat launch.</p> <p>The City is seeking information from the responsible authorities, including INAC, MACA and Department of Fisheries and Oceans (DFO). The issue and potential impact stems in part from the absence of clarity and additional information expected only when the Giant Mine Remediation Project proponent, INAC, files the Abandonment and Reclamation (A&R) Plan which is expected to address both surface and sub-surface reclamation plans.</p>

Ref. No.	Issue / Impact Description
	<p>The A&R Plan is expected in March/April 2007.</p> <p>The viability of some the policies and proposals approved in the Giant Mine Land/Water Use Plan will need to be reevaluated in light of the A&R Plan.</p>
A03	<p>Reduction of the Municipal Land Quantum</p> <p>The Giant Mine lands encompass an area of some 851 ha, represents some 6.2% of the total municipal boundary area of 13,660 ha (136.6 km square including land and water) or some 8.3% of the total municipal land area (10,297 ha), and the pending abandonment and restoration of the Con Mine lands (383 ha, representing 3.7% of the total municipal land area) will result in a potentially permanent reduction of the City's existing land quantum though what may in effect be a removal of a portion of the lands undergoing A&R from effective future productive capacity. While the actual area of land that could be withdrawn is not known at this time (pending the filing of the A&R Plan), the maximum land from the two former mines that could potentially be withdrawn from productive use is some 1,234 ha, representing some 12% of the total municipal land area (10,297 ha). Preliminary information from both Giant Mine and Con Mine indicates that the proponents through their respective A&R Plans intend to return to some type of productive use at least portions of the former mine sites. This impact is potentially significant with respect to the City's ability to maintain a property taxation stream for effective fiscal management.</p> <p>The pending A&R Plan for Giant Mine is premised on a freeze in situ method of remediation and management of the 237,000 tons of arsenic trioxide dust stored underground and the overall surface site to ensure public and environmental safety. The potential impacts and associated issues stems in part from the current unavailability of specific site information. The limited understanding of site conditions and restoration options is expected to be addressed in large part through when the Giant Mine Remediation Project proponent, INAC, files the Abandonment and Restoration (A&R) Plan which is expected to address both surface and sub-surface reclamation plans.</p> <p>The A&R Plan is expected to document the type, extent and severity of environmental contamination and public health and safety concerns. Subject to the actual proposed remediation approach and standard, and ultimately what may be approved by the responsible regulatory agencies, there are potentially certain zones where it may not be possible or feasible to remediate to a productive state. If such circumstances are contained in the A&R Plan, there may be certain zones which are in effect taken out of permanent productive use. Furthermore, the Commissioner of the NWT, as the Giant Mine land owner, may for reasons of site security and public safety impose access restrictions, which could further reduce the amount of remediated land available for redevelopment. Other zones within the overall site that are potentially suitable for remediation may only be done at an industrial standard. Once again, subject to the A&R Plan, some zones will be subject to additional health and safety requirements by the applicable health and environmental regulations (i.e. the 450 m setback is one example; diversion away from the arsenic storage vaults). From a land redevelopment and investment perspective where sub-areas may be remediated to an acceptable standard, there are potentially a number of practical challenges and limitations with respect to access, site management and security, and economies of scale, which prospective developers and users will need to consider in their decision making process.</p> <p>The functional removal of the Giant Mine lands represents a significant functional diminution of the City's land quantum. This represents a substantial economic opportunity cost to the City. There needs to be a dialogue with MACA and INAC with respect to mitigating this through some type of compensation or changes to municipal boundaries to maintain a comparable land quantum and effective property tax base.</p>

Ref. No.	Issue / Impact Description
A04	<p>Cumulative Development Constraints and Adequacy of the Existing Municipal Boundary</p> <p>The functional removal of the majority of the Giant Mine lands (851 ha) and the pending removal of potentially a significant portion of the Con Mine Lands (some 383 ha) from effective productive capacity are significant with respect to the City's ability to create a property taxation stream for effective fiscal management. Moreover, these impacts are significant from the perspective of cumulative development and growth management constraints (see Figure 3.2), including the Akaitcho Dene First Nations Land Claim, Capital Area Plan, Airport Development Plan, Solid Waste Site/Bailing Facility etc. This represents a substantial economic opportunity cost to the City.</p> <p>There needs to be a dialogue with the MACA and INAC with respect to mitigating this through some type of compensation or changes to municipal boundaries to maintain a comparable land quantum. There is a need to assess some options, including (a) either amending the municipal boundaries to increase the total land quantum (which may not be feasible given the Akaitcho process); (b) establish a mechanism for either PILT of GILT, or a combination of both. However, there needs to be careful consideration of the complexity of the process to amend the municipal boundaries in light of the current land use, municipal fiscal management needs, third party interests, Aboriginal rights, and intergovernmental relations.</p>
A05	<p>Diminution of Land Use, Investment and Development Options</p> <p>The closure of Giant Mine or any other industrial/commercial operations is a fact of economic reality and history of every city. As such, municipal authorities are not generally in a position to seek some type of accommodation and/or compensation from senior levels of government. This stems from the view that there is at least the potential of new investments and/or re-development and re-use of vacant lands that can be put to a higher and better use, and thereby generate economic benefits for the community via employment, taxation etc. However, the situation with Giant Mine lands is somewhat unique from a number of perspectives: The normal restoration and redevelopment/reuse scenario for the Giant Mine site is highly constrained given: (1) the existing understanding and documentation of the scope and extent of the contamination and associated environmental liabilities; and, (2) the provision of Section 6.3 of the <i>Cooperation Agreement Respecting the Giant Mine Remediation Project</i> which states "<i>For greater certainty, the parties recognize that, while land uses for portions of the Site may broaden beyond the intended industrial use expressly contemplated by the Approved Remediation Plan, this Agreement does not render either party responsible for such costs.</i>".</p> <p>The <i>Cooperation Agreement Respecting the Giant Mine Remediation Project</i> (March 15, 2005) was signed by INAC and the GNWT. Article 6.1 – Remediation Plan states that the parties agree to develop, review and finalize an integrated (surface and underground) remediation plan which includes four objectives: "(a) To manage the underground trioxide dust; (b) To remediate the surface to the <i>industrial standards</i> set out in the <i>Environmental Guideline for the Remediation of Contaminated Sites</i> adopted pursuant to the <i>Environmental Protection Act</i>, R.S.N.W.T., 1988, c.E-7 in effect at the date of the Approved Remediation Plan, recognizing that <i>portions of the Site will necessitate land use restrictions</i>; (c) To minimize public health and safety risks associated with buildings, mine openings and other physical hazards at the Site; and (d) To minimize the release of contaminants from the Site to the surrounding environment."</p> <p>The Giant Mine lands are zoned GM-Growth Management. This zoning category is intended to control and regulate land use so that future development may proceed in an orderly and well planned manner in keeping with then intent of the General Plan and applicable Development Scheme By-law. The Conditionally Permitted uses in this zone include: Industrial; Transportation facility; Bulk fuel storage.</p> <p>While recognizing that the physical and environmental site conditions may necessitate remediation to industrial standards, there are important considerations with respect to the dynamics of demand for and supply of industrial lands within the municipal boundaries. For purposes of</p>

Ref. No.	Issue / Impact Description
	<p>illustration, if all the Giant Mine lands could in fact be remediated to an industrial standard, and assuming the access and servicing requirements were addressed, this would add some 851 ha to the industrial land inventory. In the context of the existing supply of industrial lands and the modest demand forecast , there is some potential of excess supply, particularly relative to residential land demand. The potential for excess supply may be exacerbated when additional industrial land from the Con Mine remediation is factored in. The effects of such a scenario may include: (1) Growth management priorities and strategic (and sequenced) direction for industrial development in the Airport West area may be more difficult to achieve as a result of opening up additional zones of industrial investment; (2) Recognizing that while historically the City of Yellowknife has been the majority owner and supplier of industrial land, the potential ownership and marketing of certain industrial lands by the ADFN and other private land owners may affect the timing and market price of industrial lands; (3) The existing and projected strong demand for residential land, as well as other land use categories, needs to be considered and monitored in terms of the A&R regulatory review and determination of appropriate remediation standards – industrial and residential standard , as well as the spatial extent - for both the Giant Mine and Con Mine lands; and, (4) Capital planning and infrastructure investment implications for the City, particularly with respect to the potential of ‘leap-frogging’ municipal infrastructure and services to meet residential and commercial development requirements around vacant industrial land.</p> <p>Based on consideration of the existing and publicly available information and the provisions of the <i>Cooperation Agreement Respecting the Giant Mine Remediation Project</i>, the following preliminary observations are provided: The A&R Plan is expected to document the type, extent and severity of environmental contamination and public health and safety concerns. Consequently, there are potentially certain zones that are not possible or feasible to remediate (and which will ‘necessitate land use restrictions) and as such may be beyond any productive use for the foreseeable future. Other zones within the overall site that are potentially suitable for remediation may only be done at an industrial standard and some zones may be subject to additional health and safety requirements by the applicable health and environmental regulations (i.e. the 450 m setback is one example; diversion away from the arsenic storage vaults). Furthermore, the Commissioner of the NWT, as the Giant Mine land owner, may for reasons of site security and public safety impose access restrictions, which could further reduce the amount of remediated land available for redevelopment. Even where pockets could be remediated and redeveloped the practical limitations of access, site management and security, and economies of scale remain unfavourable to prospective developers and users.</p> <p>In terms of land use, investment and development options, the net effect of the A&R Plan may be to make the land more challenging to market for commercial/industrial use or activity, and even where it may be possible the ability to obtain bank financing becomes a further barrier to redevelopment and re-use of the site. Additionally, the adjacent industrial (City solid waste facility and quarry operations) and recreational type uses (Ski Club) may potentially be unduly constrained, which could affect future expansion and/or remediation options on quarry and solid waste sites. This result is that there are numerous potential negative impacts on the City of Yellowknife as well as other interested parties (lease and sub-lease holders).</p>
A06	<p>Integrity and Viability of the Giant Mine Land/Water Use Plan and Waterfront Management Plan The potential environmental concerns, public health risks and possible liabilities to the City will need to be fully considered in the context of the A&R Plan (surface and sub-surface). The review should also take into consideration the potential impacts on the Waterfront Management Plan as approved by Council.</p> <p>The integrity and viability of the Giant Mine Land/Water Use Plan and the Waterfront Management Plan will need to be re-evaluated in light of the A&R Plan. The City’s benefit through the expenditure on the development of the Giant Mine Land/Water Use Plan and Waterfront Management Plan may potentially be compromised or necessitate a comprehensive review and</p>

Ref. No.	Issue / Impact Description
	amendment.
A07	<p>Need for a Integrated Land Use and Development Scheme There have been identified a number of interrelated land use and growth management issues on and adjacent to the Giant Mine lands. The pending filing and review of the A&R Plan will provide an opportunity to more fully assess these types of issues and potential impacts. To enable the City to review and intervene and potentially participate in the A&R Plan review processes, and subsequently in the post restoration and monitoring stage, there needs to be a land use and growth management framework to guide discussion and decision making. The City has the responsibility and authority to prepare a comprehensive land use and development scheme for the area. The geographic extent of the area to be included in the land use and development scheme could potentially encompass: North to the northern municipal boundary; East to the Eastern municipal boundary (including the eastern shire of Yellowknife Bay); South to the Niven Lake Subdivision; and extending West to include the Long Lake area.</p> <p>There have been identified a number of land use, growth management and potentially A&R Plan implementation issues and impacts that need to be addressed in a comprehensive and integrated manner. The City has the option and authority to direct that a comprehensive land use and development scheme be prepared for the area. The need for this undertaking is clearly as a consequence of the impacts and issues from the closure and abandonment of the Giant Mine lands and as such should be considered a financial responsibility of the proponent.</p>
A08	<p>A&R Based Surface Traffic Volume on Ingraham Trail (Highway No. 4) The A&R Plan implementation and subsequent site management requirements may necessitate significant level of surface traffic both on site and along the R.O.W. that currently crosses the Giant Mine lands. The normal traffic volumes along Ingraham Trail from residential areas towards Prelude Lake and points east need to be factored in as part of assessing the transportation impacts (i.e. including periodic closures or disruptions) and what mitigative measures may be necessary. This needs to be considered in the context of any potential re-routing that has been identified as an option.</p> <p>The A&R Plan operations and subsequent site management requirements are expected to result in increased levels of surface transportation, at least periodically. There needs to be an assessment of traffic management options and mitigative measures.</p>
A9	<p>Giant Mine Site Remediation Waste Disposal and Management Preliminary information indicates the presence of a variety of known, and potentially undocumented/unknown, hazardous materials within existing buildings and surface infrastructure. Additionally, the proponent has verbally stated that some materials (including hazardous that pose unnecessary risks from off-site transportation) will be permanently stored and managed on site. The destination for residual materials, including information regarding volumes and hazard category, is not available. The potential impact on the City's landfill capacity (i.e. life expectancy of existing site) and operations (i.e. such as supplementary containment procedures; and, applicable fee schedules for the proponent) need to be assessed. This should be considered as part of the recommended development of a comprehensive demolition, waste transportation and management plan.</p> <p>The potential risks associated with the demolition, transportation and waste management of a variety of known, and potentially undocumented/unknown, hazardous materials within existing buildings and surface infrastructure need to be managed through a comprehensive demolition, waste transportation and management plan.</p>

Ref. No.	Issue / Impact Description
A10	<p>Opportunity for Expansion of City Landfill Capacity</p> <p>The current landfill was opened in 1974. The site is located north of the junction of Highway No. 3 and No. 4, some 2 km from the downtown Yellowknife and immediately south of the Giant Mine site. Engineering assessment indicates that the landfill's life expectancy will reach its capacity in the 2010 to 2012 period. The City is currently developing a Landfill Closure Plan that provides operational procedures and site layouts for an orderly closure of the existing landfill site. The plan will address closure and reclamation requirements, maintenance and monitoring after the closure, leachate management, drainage management, methane gas management, and the scheduling and cost estimates of various closure activities.</p> <p>The City's current plan is to close the existing landfill over a seven-year period and possibly expand the landfill to an adjacent quarry site in the future. The new Transport Canada regulations with respect to wildlife control will need to be addressed with the site expansion. The City is currently in the process of finalizing the design of the final capping needed in order to close the landfill. The design will incorporate the latest cost effective methods so that the City remains within the approved budget for the landfill closure. As part of the ongoing management of the site, additional tasks and studies will be completed with the intent of extending the useful life of the landfill for as long as possible. The City will also be exploring possible options for the use of the area once it is closed.</p> <p>The City is currently remediating some hydrocarbon-contaminated soils in partnership with Biogenie. The intent of this program is to treat the contaminated soils to industrial standards for use as cover material in the daily operations. There is approximately 7,000 m³ of hydrocarbon contaminated soil stored at the landfill and this amount continues to grow as sites are being remediated within the municipal boundaries. The City only accepts hydrocarbon contaminated soil and nothing else in terms of types of contamination (i.e. arsenic). Part of the program includes a cost analysis to determine an appropriate tipping fee that will cover the cost of treating the soil.</p> <p>The preliminary information indicates that the A&R Plan proponent intends to address the presence of a variety of known, and potentially undocumented/unknown, hazardous materials within existing buildings and surface infrastructure through a comprehensive demolition, waste transportation and management plan. Including the potential of on-site landfill and contaminants containment.</p> <p>In the context of the Giant Mine A&R Plan (which may include designation of exclusion zones due to environmental constraints) consideration should be given by the City to examining options of expanding the City's landfill system by possibly coordinating with the proponent in terms of disposal and management on selected areas of the Giant Mine site.</p>
A11	<p>Municipal Water System and Treatment Plant</p> <p>Yellowknife's water system consists of four distinct systems. Except in emergency situations, all water is supplied by Pumphouse No. 2 at the Yellowknife River being via an underwater 400mm diameter steel pipeline to a 6 million litre storage reservoir adjacent to Pumphouse No. 1. The water supply for Giant Mine was via a direct and separate underwater pipeline. The Giant Mine water intake line was decommissioned in 2005.</p> <p>The Public Works and Engineering Department has conducted a review of the City's existing water supply system and future requirements. One of the options being proposed is to replace the existing water intake system from the Yellowknife River and draw directly from Yellowknife Bay (near Pumphouse No. 2) as part of a proposed new \$7.5 million dollar water treatment plant. The Giant Mine A&R Plan and the long term site management (i.e. mine water treatment and discharge into Baker Creek and Yellowknife Bay) need to be considered with respect to the potential water quality and safety impact in the event of a discharge exceeding the parameters of the water license). Additionally, ongoing territorial and</p>

Ref. No.	Issue / Impact Description
	<p>national concerns regarding water quality and safety will affect public perception of risk. There is a potential for public opposition, as well as concerns by the responsible regulatory authorities to drawing directly from Yellowknife Bay need to be addressed. In such a scenario, there may well be a significant impact on the City with respect to feasibility of the proposed water system plans and the expenditures to date for engineering studies and associated works. Moreover, if the Giant Mine A&R Plan approval results in the City not being subsequently authorized to draw water directly from Yellowknife Bay, consideration needs to be given by the City for seeking financial compensation for demonstrable incremental costs of the capital and operations costs of retrofitting and operating the existing Yellowknife River intake system.</p> <p>In the event that the Giant Mine A&R Plan approval results in the City not being authorized to draw water directly from Yellowknife Bay, consideration needs to be given by the City for seeking financial compensation for demonstrable incremental capital and operations costs of retrofitting and operating the existing Yellowknife River intake system. Additionally, and subject to the conditions of any approved A&R Plan, there is a need to determine potential areas to redevelop on the Giant Mine site and to more fully assess the demand for water services as well as other municipal services (snow removal; public transit etc).</p>
A12	<p>In Situ Active Freezing Power Requirements</p> <p>The Giant Mine remediation and site management includes an extensive in situ active freezing process. The potential magnitude of the power requirements has been identified as a potential impact concern by the City with respect to total and peak demand; and, any associated infrastructure. The preliminary information indicates that: The active freezing system is the largest consumer of power, up to 22,000 megawatt-hours per year (MWh/yr). However, the high demand is only anticipated for years 1 to 8, after which the demand is projected to decline markedly. Water treatment and mine dewatering comprise the next largest power consumers, approximately 850 megawatt-hours per year but expected to decrease slightly after year 10. The preliminary data from the Giant Mine Remediation Project indicates a peak of 23, 250 MWh/yr in year 2, decrease to some 5,350 in year 7 and then level off at approximately 1,000 MWh/yr starting in year 9.</p> <p>The potential power requirements, not fully assessed at this point, may have an impact on power supply and associated infrastructure. The City's interest is to ensure adequate power infrastructure and availability to meet normal demand by all private and business consumers. Additional information is required with respect to the potential total peak demand by all users within the City and the potential of exceeding normal capacity limits, and which may require the use of supplementary diesel power. The associated climate change impacts of the freezing power requirements need to be given consideration. Additionally, the projected power requirements have consequential implications for the existing <i>Community Energy Plan (2006)</i> which established targets for building energy conservation and reduction in greenhouse gas emissions. The targets will need to be reviewed.</p>

Table 4.2.2: Economic Development, Investment and Tourism

Ref. No.	Issue / Impact Description
B01	<p>Visual Impact of the Giant Mine Area on Economic Development, Investment and Tourism The Giant Mine remediation and site management process will result in both interim and final surface remediation and topographic alteration and access provisions. At present there is limited information available with respect to the visual aspect of the A&R Plan. The “visual” impact from the ground, water and air is a relevant consideration with respect to the City’s economic development, investment and tourism development strategies – as outlined in the <i>‘New Paradigm for Economic Growth’</i> (2006). The visual impact aspect can translate into investment confidence, as well as influence outdoor trail/amenity use choices by residents and tourists. Potential public health and environmental impacts and issues will also need to be considered as part of this potential impact. Additionally, the investment decisions by the City with respect to public infrastructure (i.e. the Giant Mine public boat launch and the proposed NWT Mining and Geological Interpretative Centre (which includes: a gift shop to be located in the Recreation Hall; Outdoor displays of equipment and relocated heritage buildings; Walking trails connecting to City’s trails; and, a walking bridge over Baker Creek connecting to displays in the north) on the Giant Mine Town site Lease Area (Lease 17889T) and a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay). The limited scope and scale of tourism ‘product’ investment and development are challenges that need to be given consideration in terms of the potential opportunities and constraints resulting from the Giant Mine abandonment and restoration process.</p> <p>Notwithstanding the concerns identified regarding potential environmental and public health concerns and the possible associated liabilities that are addressed elsewhere, the effect on the City is with respect to the how the potential visual impact may influence investment confidence at both the public and private level. Additionally, the visual impact may influence investment decisions, particularly by the City, in outdoor recreation and tourism infrastructure (i.e. Integrated Parks, Trails and Open Space Development Plan, and Waterfront Management Plan).</p>
B02	<p>Maximizing Economic Development Opportunities from the Giant Mine Remediation Project The City clearly has an interest in maximizing economic development opportunities from the Giant Mine Remediation Project for northerners, and particularly for Yellowknife. Article 14.1 of the <i>Cooperation Agreement Respecting the Giant Mine Remediation Project</i> outlines a commitment to maximizing northern opportunities.</p> <p>The City needs to consider undertaking discussions with the proponent regarding ways and means to maximize the economic opportunities for Yellowknife businesses and individuals.</p>
B03	<p>Media Coverage and Image of Yellowknife as a Desirable and Safe Place to Live The Giant Mine remediation and site management process will result in both interim and final surface remediation activities and corresponding media coverage. The marketing image of Yellowknife as the <i>Diamond Capital of North America™</i> needs to be protected through a perspective of risk management.</p> <p>Notwithstanding the concerns identified regarding potential environmental and public health concerns and the possible associated liabilities that are addressed elsewhere, the effect on the City is with respect to the how the media coverage may influence</p>

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	<p>migration confidence. There is a need to further assess the closure and post closure stages and their impact, positive and/or negative, on migration dynamics and the associated investments and expenditures.</p>
<p>B04</p>	<p>Opportunity to Advance Yellowknife as a Territorial Research Knowledge Centre The Giant Mine, and the pending Con Mine, remediation and site management processes may provide a strategic opportunity to advance the City's economic interests (<i>New Paradigm for Economic Growth</i>, 2006) to expand Yellowknife as a territorial research knowledge centre. By taking active steps to build on the existing knowledge infrastructure and investment (i.e. CS Lord Northern Geoscience Centre; Geological Survey of Canada Seismographic Centre; Taiga Environmental Laboratory, as well other associated entities such as academic institutions) and the emergent demand for suitable land and facilities (industrial and commercial/office) the City may leverage benefits through the abandonment and remediation of the former mining lands.</p> <p>The potential of developing and investing in expertise in research and innovation related to reclamation and clean-up technology offer opportunities. Additionally, there are potentially alternative energy options to be assessed, including the initial funding from the Federation of Canadian Municipalities for feasibility research into geothermal heat energy on the Con Mine site.</p> <p>There may be an opportunity to advance the City's economic interests ('New Paradigm for Economic Growth' (2006)) to expand Yellowknife as a territorial research knowledge centre. There is a need to further assess the closure and post closure stages and their impact, positive and/or negative, on investment opportunities by both the public and private sector with respect to expanding Yellowknife as a territorial knowledge centre.</p>
<p>B05</p>	<p>Opportunity to Prepare a Comprehensive Brownfield Strategy for Yellowknife The Giant Mine, and the pending Con Mine, remediation and site management processes may provide a strategic opportunity to advance the City's economic and environmental interests (<i>New Paradigm for Economic Growth</i>, 2006) through assessing strategic opportunities in the context of various contaminated sites in the municipal boundaries. There is an opportunity to address in a more comprehensive way the reality that there are several contaminated sites, including Giant Mine and Con Mine, within and in proximity to the municipal boundaries. The fact that these sites are adjacent to, or in proximity of, existing transportation and municipal services, provides an opportunity to advance the City's broader economic interests and urban land economics. Additionally, the findings of the report by AMEC Earth & Environmental for the City of Yellowknife – <i>Background Considerations of Relevance for Long-Range Planning by the City of Yellowknife in Advance of New Industrial Development</i> (February 2007), while not directly relevant to the Giant Mine A&R process, do provide a complementary perspective regarding options for securing net benefits from new industrial developments which may proceed within the City's economic sphere of influence.</p> <p>A broader brownfield strategy could identify and assess the opportunities to realize the benefits of a 'highest and best use' concept that could integrate what are potentially a number of fragmented sites. There is a need to further assess the full range of contaminated sites, and their economic and environmental potential, within the framework of a comprehensive brownfield strategy for the City and the region. A comprehensive brownfield strategy can position the City to access targeted funding for brownfield redevelopment from the federal and potentially the territorial government. The City may also want to examine the potential of participating in a range of tax and other incentives to encourage private sector investment in brownfield re-development and to advance growth management priorities.</p> <p>There is an opportunity to address in a more comprehensive way the reality that there are several contaminated sites, including</p>

Ref. No.	Issue / Impact Description
	<p>Giant Mine and Con Mine, within and in proximity to the municipal boundaries. The fact that these sites are adjacent to, or in proximity of, existing transportation and municipal services, provides an opportunity to advance the City's broader economic interests and urban land economics. The Giant Mine, and pending Con Mine, remediation provides an opportunity to assess the full range of contaminated sites, and their economic and environmental potential, within the framework of a comprehensive brownfield strategy for the City and the region. A comprehensive strategy should also examine the targeted program funding from senior levels of government.</p>

Table 4.2.3: Fiscal and Taxation

Ref. No.	Issue / Impact Description
C01	<p>Outstanding Giant Mine Property Taxes Since the closure of the Giant Mine, the ‘ownership’ of the property has reverted to the Commissioner of the NWT. The circumstances regarding the Giant Mine closure, bankruptcy proceedings and who has legal ‘ownership’ responsibility for the site have resulted in a lack of clarity regarding who is in fact responsible for payment of the 2005 to 2006 property taxes. The property is recorded as Assessment Roll Number 7000100000 and shows the following unpaid property taxes totaling \$354,000 (Municipal Taxes being \$236K and School District Taxes are \$118K): 2005 Final Levy of \$89,840.59; and, the 2006 Levy of \$264,836.47.</p> <p>While initial responses to requests by the City to have the property taxes were unfavourable, supplementary research, and documentation submitted by the City have created an opportunity to have the outstanding property taxes addressed by the Joint Oversight Committee. The City needs to monitor the situation and take action as necessary to ensure payment of an amount equal to the outstanding taxes.</p>
C02	<p>Reduced Property Tax Base and Consequential Multiple Impacts Giant Mine had historically been a significant source of property taxation for the City. Archival Assessment records for the 1990 to 2005 period (see Figure 4.1 and Table 4.1) indicates that the property represented a peak levy of \$1,042,143 in 1991. This represented 3.9% of the City's total assessment and 10.8% of total municipal taxation. The Assessment pattern has been one of gradual decline from the peak in 1991 to \$264,836 by 2005. This represented 0.6% of the City's total Assessment and 1.6% of the total municipal taxation. From an assessment and valuation perspective there are three fundamental questions that need to be considered: (1) What was the value of the Giant Mine land at the start of full operations and production? (2) What was the value of the Giant Mine land on the final day of operations and production prior to initiation of the A&R Plan? (3) What may be the value of the Giant Mine land upon successful completion of the comprehensive A&R Plan? Additionally, a similar scenario is expected from the Con Mine lands. The City needs to consider the cumulative effect of the reductions in the property tax base.</p> <p>Property taxes are the product of two factors: individual land assessment, and the municipal and education mill rates. The Municipal Mill Rate (and the Education Mill Rate) is determined by dividing the total property tax revenues required to meet the City's operating budget by the total property assessment in the City. Given that the City of Yellowknife raises some 50% of all its operating revenue through property taxation, and that Yellowknife School Districts raise a significant portion of their respective operating revenues through property taxation, the impact of the reduced property tax base is an important municipal management consideration. Council approved a 3.7% increase in property tax revenues for 2007.</p> <p>The 2006 Assessment for 2007 Taxation for the Giant mine property is set at \$1,986,890. This will generate only \$32,982 in municipal taxes and \$15,895 in school district taxes. It is estimated that once the area is in the post-closure and monitoring stage, the Giant Mine property will only generate approximately \$8,300 in municipal taxes and \$4,000 in school district taxes based on a \$500,000 assessment for the water treatment plant (WTP) and associated site improvements. The City will only transfer to the School Districts the property taxes and grants in lieu of property taxes that are actually collected from the taxpayers. The outstanding grants in lieu represent lost revenue of \$118K, and the future revenues are estimated at only \$4,000 annually. There is at present no indication that the City may be able to realize any appreciable financial savings from</p>

Ref. No.	Issue / Impact Description
	<p>reduced demand for municipal services directly or indirectly related to the Giant Mine land. In effect, the City is potentially assuming a financial burden disproportionate to its jurisdiction. The City needs to examine the option of negotiating a special service agreement with the Giant Mine Remediation Project proponents to offset any specific site or municipal services that may be required.</p> <p>The potential for further reductions in the City's total property tax base exists with the environmental and potential liability issues identified respecting the City existing interest in a portion of the Giant Mine Town site Lease Area (Lease 17889T) and a Waterfront Lease (Original Lease J/88-12-13 and draft Lease 85J/8-12-14) on Yellowknife Bay (see Section 4.2.1). In the event that the identified remediation issues are not resolved satisfactorily, and the City relinquishes its lease interests, the opportunity for generating any revenue stream from any future development proposed in the plan adopted by Council in 2006 will be forgone. This could have additional significant future property tax implications for the City.</p> <p>In the context of other, non Giant Mine related, potential impacts on the City's tax base, the Akaitcho Dene First Nation negotiation process and land withdrawal for potential selection of some but not necessarily all the 1,033 ha (identified on October 31, 2006) within the City's municipal boundaries present a number of physical development and political issues and impacts.. The identified lands encompass some 10% of the total municipal land area. While recognizing that the ADFN process is outside the scope of this report, the cumulative impacts on the property tax base need to be addressed by the City. Specifically, the questions that need addressed relate to: (a) the legal status of the lands upon transfer to the ADFN (i.e. potentially reserve land in the context of the community of N'Dilo located within the existing municipal boundaries); (b) eligibility with respect to municipal property taxation. Once again, the limited information available to the City necessitates the preliminary identification of this issue and the potential impacts on the City.</p> <p>Municipal Tax Loss Compensation: Canada's <i>Policy on Additions To Reserve</i> (ATR) recognizes that a municipality may face a loss of property tax revenue when a reserve is created or added to as a result of a land claim settlement or other legal obligation. The Policy requires that a First Nation negotiate directly with the municipality on 'reasonable' compensation measures. The purpose of the compensation provision is to allow the municipality to adjust to the reduction in its tax base.</p> <p>The impact and opportunities for the City need to be examined in light of the reduction in the property tax base and the effective municipal land quantum (as discussed in Section 4.2.1). Additionally, the ability of the City to regulate through zoning the selected lands needs to be clarified.</p>

Table 4.2.4: Public Safety and Community Services

Ref. No.	Issue / Impact Description
D01	<p>Provisions and Protocols during Initial Stages of the A&R Process There is a need to establish, implement and coordinate with the City a number of provisions and protocols during the initial stages of the A&R process, as well as the ‘care and maintenance’ stage. The anticipated large numbers of private contractors and personnel involved in the A&R process may pose a number of coordination challenges. The areas of priority include” (a) site security/surveillance plans, measures and signage (particularly given the surface (highway and the proposed integrated parks and trails system) and marine craft accessibility); (b) site information base, management and access; (c) communications plan and protocol; To date the City has not had a formal opportunity to contribute to or participate directly in the development of such provisions and protocols (including aspects addressing Fire Code awareness). Additionally, the capacity and resources implications (if any) on the City have not been considered by the proponent or other responsible authorities. Preliminary assessment by the City is that there is likely limited additional demand on the City’s fire and emergency response services.</p> <p>The City is necessarily involved and impacted by virtue of the site location within the municipal boundaries and public expectations regarding an effective management regime (and the City’s responsibilities). Provisions and protocols during the initial stages of A&R are necessary to establish and maintain effective management during normal procedures and circumstances, and to address potential liability issues for the City.</p>
D02	<p>Emergency Measures Plan and Coordination There is a need for a comprehensive emergency measures plan for the Giant Mine A&R process. The emergency measures plan needs to include: (a) procedures both for the short and longer term (i.e. post closure monitoring phase); (b) clear definition of respective authorities and responsibilities (including the City’s obligations, if any); (c) communications plan; (d) site and structure information management (i.e. structural hazards at surface and sub-surface – with particular concern regarding confined spaces and accurate information sheets); (e) site security plans during an event; (f) mass scale evacuation procedures; (g) the necessary capacities, resources (i.e. type and quantity of equipment, materials and other consumables) and training of responsible authorities. The A&R regulatory review process should consider this issue as within the scope of identified interests.</p> <p>To date the City has not had an opportunity to contribute to or participate in the development of an emergency measures plan. However, given the City’s experience during the 1992 Giant Mine explosion, a number of issues and potential impacts on the City have been identified.</p> <p>The City may be potentially implicated, involved and impacted by virtue of the site location within the municipal boundaries and public expectations regarding an effective emergency measure management regime (and the City’s responsibilities). Provisions and protocols during both the initial stages of A&R and the post closure stage are necessary to establish and maintain effective management during emergency situations, and to address potential liability issues for the City.</p>
D03	<p>City’s Jurisdiction and Authority for on Site Building Inspections, Demolition and Waste Management The City’s jurisdiction and authority with respect to building inspection, demolition, waste management and monitoring is not fully clarified at the present time, including the scope and limitations of the City’s existing Building By-Law No. 3815 (i.e. which does not necessarily require a building,</p>

Ref. No.	Issue / Impact Description
	<p>demolition or waste handling/transportation permit for the Giant Mine site). The preliminary issues and potential impacts identified by the City include the presence of a variety of known, and potentially undocumented/unknown, hazardous materials (including asbestos and a variety of toxic chemicals) within existing buildings and surface infrastructure.</p> <p>While recognizing that the federal and territorial governments are higher orders of government, there appears to be no legal requirement for the proponent to obtain permits/authorizations (with respect to building inspection, demolition and waste management) from the City of Yellowknife, the nature of the site and the potential Giant Mine A&R Plan works raise practical municipal operations, public safety and liability issues that need to be addressed.</p>
D04	<p>Demolition, Transportation and Waste Management Plan Notwithstanding the lack of clarity regarding the City's jurisdiction and authority with respect to building inspection, demolition, waste management and monitoring, preliminary information indicates the presence of a variety of known, and potentially undocumented/unknown, hazardous materials (including asbestos and a variety of toxic chemicals) within existing buildings and surface infrastructure. The potential risks need to be managed through a comprehensive demolition, waste transportation and management plan.</p> <p>The potential risks associated with the demolition, transportation and waste management of a variety of known, and potentially undocumented/unknown, hazardous materials (including asbestos and a variety of toxic chemicals) within existing buildings and surface infrastructure need to be managed through a comprehensive demolition, waste transportation and management plan.</p>
D05	<p>Terrorism and Site Risk Management The surface and sub-surface concentration of infrastructure (i.e. proposed ice plant for in-situ freezing), large volumes of process chemicals and reagents, and the arsenic trioxide dust underground storage vaults provide a number of site security, public safety and environmental concerns that have not been discussed with the City.</p> <p>The proximity to Yellowknife Bay and the City's water supply infrastructure necessitate consideration of potential risk and associated risk management. The potential risk related to terrorism and site risk management need to be assessed and discussed with the City.</p>
D06	<p>Giant Mine Public Boat Launch-Public Health and Environmental Standards The recently completed chip sealing of the access road to the Giant Mine Public Boat Launch was undertaken as a method of containing arsenic concentrations in the soil.</p> <p>The acceptability of the gravel surface treatment of arsenic concentrations in the soil at the Giant Mine Public Boat Launch parking lot needs to be addressed.</p>
D07	<p>Surface Flooding and Risk Management The City has identified a number of issues and potential impacts related to the risk associated with a surface flooding scenario on and adjacent to the Giant Mine lands. The public health risk associated with a surface flood (and associated contamination) were identified recently related to Baker</p>

Ref. No.	Issue / Impact Description
	<p>Creek and embankment re-engineering work. The emergency response scenario protocol for a large scale human evacuation has not been discussed by the proponent to date.</p> <p>The City needs to be informed of and in agreement with what its roles and responsibilities would be in such a scenario. Additionally, the procedures for accessing external resources from the Department of National Defense (DND) and other capable providers (i.e. City of Edmonton). The City's role, responsibilities and resource implications with respect to a large scale human evacuation scenario need to be determined.</p>
D08	<p>Baker Creek Realignment and Bank Re-Grading along Giant Mine Lands R.O.W: Baker Creek realignment and bank stabilization work has resulted in potentially two public safety concerns: (a) the reduced road shoulder area potentially posing risks to motorists and A&R works traffic; (b) The grading work has resulted in a number of sections now characterized by steep slopes (and associated erosion potential) which due to the absence of fencing or appropriate signage potentially poses risks to motorists (vehicular, all terrain or snowmobile), pedestrians and A&R works traffic. Realignment and re-grading of Baker Creek may pose certain risks to the public and A&R personnel. The potential risks need to be considered and options for mitigative measures assessed, including sectional fencing and/or appropriate signage.</p>
D09	<p>Water Discharge From Baker Creek into Yellowknife Bay The discharge of both treated water (within the Water License standards) and potentially untreated water (from surface flooding), from Baker Creek, has been identified as a potential concern given the proximity to the Giant Mine Public Boat Launch, water based recreational activities (swimming, jet skiing, water skiing), harvesting of fish for consumption from Yellowknife Bay and berries and plants along the adjacent shoreline, and the City's proposed integrated parks, trails and open space plan. The potential public health risk and associated liabilities necessitate appropriate action, including the use of sectional fencing and/or appropriate signage.</p> <p>Discharge of treated water and potentially untreated water from Baker Creek into Yellowknife Bay may pose public health risks. There is a need to confirm the potential risks, if any, and what mitigative measures are appropriate.</p>

Table 4.2.5: Political and Intergovernmental

Ref. No.	Issue / Impact Description
E01	<p>Defining Council Strategic Framework and Priorities</p> <p>In economic and political terms the City has experienced a “soft closure” impact scenario with respect to the closure of the Giant and Con Mines. The phased closure and direct economic losses had been anticipated and to varying degrees even planned for. There was generally adequate time for structural and business adjustments to be made, in large part through opportunities provided through the emergence of the diamond mining sector. The unique economic structure of the diamond mining industry sector has not fully replaced gold mining with respect to the direct benefits for the City. Consequently the direct economic and fiscal impact (i.e. reduced municipal property tax base) has to varying degrees been accommodated. The Giant Mine and Con Mine closure and post closure stages present a number of new challenges and potential opportunities that the City needs to assess and act on.</p> <p>While Council has adopted a number of goals and objectives, including issues of environmental sustainability and mine site restoration (Goal 1: Action 1.1 of the April 2004 Goals) , the pending Giant Mine A&R Plan and subsequent activities will potentially necessitate that the City have an overall strategic and operational framework and clear priorities with respect to the Giant Mine abandonment and restoration Plan in the context of the preliminary issues and potential impacts identified to date. Such a framework will provide guidance to Administration respecting engagement in the emergent processes and more generally a consistent approach to intergovernmental relations.</p> <p>The City may wish to consider the following potential objectives and outcomes as part of the process of defining the strategic framework respecting the Giant Mine abandonment and restoration issue:</p> <ul style="list-style-type: none"> • Recover unpaid property taxes for the Giant Mine land • Protect the financial interests of the City through stabilization of the property tax base resulting from the reduction of property taxes from Giant Mine lands and the Con Mine lands. • Manage the impact on the municipal land quantum through amendment of the municipal boundaries to facilitate more effective growth management and efficient and cost-effective municipal service operations • Assess and minimize the legal risks and liabilities to the City • Establish a mechanism (and possible precedent) to reach a fair accommodation and/or compensation for past, present and future impacts on City operations and infrastructure from Giant Mine lands and the implementation of the proposed A&R Plan. • Recover any direct and indirect costs incurred by the City through provision or absorption of costs related to municipal services attributable to the Giant Mine situation • Access federal and/or territorial funding related to planning and development studies necessary to complete special development schemes, Giant Mine Lease Area Land/Water Use Plan, Waterfront Management Plan, Integrated Parks, Trails and Open Space Development Study. Additionally, the directly associated costs of amending the General Plan By-law and Zoning By-law – including the planning, design and consultation costs • Establish a strategy and precedent to deal with the pending Con Mine A&R Plan • Negotiate a clear and continuing role for the City in the Giant Mine <i>Cooperation Agreement</i> as a mechanism to protect its

Ref. No.	Issue / Impact Description
	<p>interests</p> <ul style="list-style-type: none"> • Access federal funding for a comprehensive brownfield strategy (plan and actual remediation work) for the City that encompasses the Giant Mine and Con Mine lands • To the extent possible, mitigate potential negative impacts on intergovernmental relations from the implementation of the City's strategic framework
E02	<p>Adequacy of the A&R Plan and Potential of Referral for a Comprehensive Environmental Assessment There is a possibility that the filing of the Giant Mine A&R Plan will not necessarily address or satisfactorily resolve all the issue and potential impacts identified by the City. There is also the possibility that the actual A&R Plan may raise additional issues and impacts for the City. There may also be public expectations, potentially renewed by media coverage following the filing of the A&R Plan, that the City takes responsible and appropriate steps to protect the interests of the City, the residents and the environment.</p> <p>The City needs to consider its response and/or intervention options with the MVLWB.</p>
E03	<p>Precedent for Con Mine Remediation The Giant Mine abandonment and restoration process may entail positions and actions by Council and Administration that may serve as a precedent with respect to the pending Con Mine abandonment and restoration. Consideration needs to be given by the City with respect to its interest and needs in a broader context. With respect to intergovernmental relations, consideration of precedent for INAC, and Canada more generally, is relevant. There are some 30 abandoned sites in the three Territories, 17 of which are considered high priority contaminated sites. Across Canada there are some 10,000 contaminated sites as identified by the Auditor General in the 2002 Report to the House of Commons. The sites, which include airports, government laboratories, harbours and ports, military bases and Aboriginal reserve lands, vary in scale and degree of potential public and environmental risks. The practical challenge of prioritizing remediation actions in light of constrained resources are important to consider.</p> <p>While not necessarily a direct core interest for the City, the aspect of precedent should also recognize the potential of unintentionally contributing to the creation of disincentives for existing private sector operations that may be perceived as economically marginal if full environmental liabilities are attributed.</p>
E04	<p>Reopening of Public Debate on the In-Situ Underground Freezing of Arsenic Trioxide Dust Option The comprehensive assessment of management options by the proponent concluded with the selection of the in-situ underground freezing of the arsenic trioxide option. The in-situ frozen block approach provides the basis for the pending A&R Plan. Of note is the provision in the <i>Cooperation Agreement Respecting the Giant Mine Remediation Project</i> which states in Article 9.1(b) "Canada shall share information on alternative approaches to underground arsenic trioxide dust management options that may become viable in the future as a result of new technologies with respect to improving or modifying the frozen block alternative."</p> <p>In the context of the City's interests and the issues and potential impacts identified, consideration needs to be given to the possibility and efficacy of a renewal of public discussion regarding proceeding with the in-situ underground freezing of the arsenic trioxide dust method. There may be adequate indication of 'significant' public concern and therefore the MVLWB may decide to refer the A&R Plan for a full environmental assessment.</p>

Ref. No.	Issue / Impact Description
E05	<p>Precedent for Municipal Environmental Responsibility The City's pending articulation of its expectation regarding the Giant Mine A&R Plan with respect to appropriately addressing environmental risks, liabilities and remediation may influence the perception by the federal and territorial environmental regulatory agencies, as well as the public with respect to the City's outstanding environmental responsibilities – particularly the closure and management of the City's landfill site.</p> <p>The City will need to address the aspect of responsibly responding to public expectations relative to its own regarding the Giant Mine and the pending Con Mine remediation.</p>
E06	<p>Exclusion from the Giant Mine Cooperation Agreement and the Need for Full Disclosure & Information Sharing with the City Canada (INAC) and the GNWT signed the <i>Cooperation Agreement Respecting The Giant Mine Remediation Project</i> on March 15, 2005 as 'co-proponents' within their respective jurisdictions. The purpose of the Cooperation Agreement pursuant to Section 3.1 is "to create an agreement between Canada and GNWT to cooperate and coordinate the care and maintenance of the Site and the implementation of the Approved Remediation Plan". The Cooperation does not provide a direct role for the City of Yellowknife. The only reference to any obligation is in Section 12.1 where Canada and the GNWT are to work cooperatively to 'discuss' with the City site plans and activities, as well as access to municipal services for the purpose of carrying out the remediation work.</p> <p>While recognizing and respecting the jurisdiction and authority of Canada and the GNWT, the City of Yellowknife is effectively politically accountable to its citizens by virtue of its mandate, and by the fact of having to live with the consequences of the remediation process and results, which include growth management and cost effective municipal service delivery constraints.</p> <p>The impact on the City is with respect to the options that facilitate a meaningful role that does not create legal risk or liability. The City needs to examine the potential legal risks and implications of participation options (possibly including becoming a "party" to the Cooperation Agreement) without unnecessarily constraining its authority and prerogative to protect the interests of the City through any means necessary. Additionally, the capacity and resource implications on the City need to be taken into consideration in assessing options for participation and/or intervention.</p>
E07	<p>City Intervention/Participation in A&R Processes: Capacity and Resource Impacts Notwithstanding the concerns and issues resulting from the City's exclusion from the <i>Cooperation Agreement Respecting The Giant Mine Remediation Project</i>, the practical view encompasses the questions regarding the City's capacity and ability to dedicate the necessary resources for sustained meaningful participation and/or intervention in the Giant Mine remediation process, as well as the pending Con Mine remediation. The type and scale of remediation on the Giant Mine site necessitate access to a broad range of technical, legal and financial expertise to protect the City's interests.</p> <p>The preliminary list of issues, potential impacts and opportunities, may ultimately be relevant and significant for the City. In consideration of the City's existing capacity limitations and level of effort and resource commitment that may be required to respond appropriately, the City will need to first prioritize its key areas of interest and then assess the resource requirements.</p>

Ref. No.	Issue / Impact Description
E08	<p>Akaiitcho Dene First Nations Land Withdrawal</p> <p>The Akaiitcho Dene First Nations (ADFN) process and land withdrawal for potential selection of some but not necessarily all the 1,033 ha (identified on October 31, 2006) within the City's municipal boundaries present a number of physical development and political issues and impacts. Figure 3.2 identifies the approximate location of the lands identified by the ADFN, including lands immediately south of Giant Mine encompassing the Yellowknife Ski Club lands. Additional lands have been withdrawn in the Capital Area, the Airport West area and a parcel south of the Con Mine lease. This selection of Ski Club lands (some 121 ha) represents the potential loss of a major outdoor recreation resource (and the cost of relocating and building a comparable asset); and reduction in effective land quantum.</p> <p>Given that the lands identified are part of a comprehensive negotiation process with the federal and territorial governments, the actual amount of lands to be ultimately selected and transferred to the ADFN is not known. Consequently, for the purposes of this report it was assumed for purposes of scenario analysis that all the lands are under consideration from a land quantum perspective.</p> <p>The ability of the City to regulate the selected lands through applicable zoning needs confirmation.</p>
E09	<p>Potential Municipal Tax Loss Compensation</p> <p>In the context of other (non Giant Mine related) potential impacts on the City's tax base, the Akaiitcho Dene First Nation land selection within the municipal boundaries are extensive. The identified lands encompasses some 1033 ha (representing some 10% of the total municipal land area (10,297 ha). While recognizing that the ADFN process is outside the scope of this report, the cumulative impacts on the property tax base need to be addressed by the City. Specifically, the questions that need addressed relate to: (a) the legal status of the lands upon transfer to the ADFN (i.e. potentially reserve land in the context of the community of N'Dilo located within the existing municipal boundaries); (b) eligibility with respect to municipal property taxation. The City's policy position on compensation for revenue loss was outlined in the <i>Akaiitcho Agreement Negotiations: Land Identification and Selection Processes Relating to the City of Yellowknife: A Discussion Paper</i> (2006). Compensation for revenue loss (i.e. revenue from property taxes, service fees, utility charges and grants-in-lieu from Crown lands) by the City through the implementation of the Akaiitcho Agreement needs to be negotiated, particularly in light of the significant land area involved and the cumulative effect of other major development and growth management constraints, physical as well as regulatory.</p> <p>Canada's <i>Policy on Additions To Reserve</i> (ATR) recognizes that a municipality may face a loss of property tax revenue when a reserve is created or added to as a result of a land claim settlement or other legal obligation. The Policy requires that a First Nation negotiate directly with the municipality on 'reasonable' compensation measures. The purpose of the compensation provision is to allow the municipality to adjust to the reduction in its tax base.</p> <p>The impact and opportunities for the City need to be examined in light of the reduction in the property tax base and the effective municipal land quantum (as discussed in Section 4.2.1). Additionally, the ability of the City to regulate through zoning the selected lands needs to be clarified.</p>

5.0 RECOMMENDATIONS

5.1 Recommended Actions

Within the context of the objectives of this report, the following recommended actions are submitted for consideration by the City of Yellowknife. The recommended actions are grouped into '*process and management*' and '*specific issues and impacts*'. Included in the recommendations is the identification of priority issues and actions to inform the development of a framework by the City Council and Administration. The recommended priority actions will address the key issues and potential impacts by ensuring that the City's strategic and operational interests are recognized and addressed in the Giant Mine abandonment and restoration process and associated negotiations.

5.1.1 Process and Management Recommended Actions

The following recommended actions focus on process and management aspects.

Administrative Review

It is recommended that Administration conduct a comprehensive internal review of the list of preliminary issues and potential impacts (which may be positive or negative) as presented in Section 4.2. The purpose of the internal review is to:

- Validate the completeness and accuracy of the issues and impacts that were identified as of February 20, 2007;
- Identify any emergent issues or potential impacts, including those that may now be satisfactorily addressed since the completion of the preliminary identification. This should include but not necessarily be limited to: Giant Mine Abandonment and Restoration Plan; Con Mine Abandonment and Restoration Plan; and, the Akaitcho Dene First Nation land claims process;
- In the context of the issues and potential impacts identified, establish priorities with respect to addressing and protecting the City's interests. Criteria to apply to this prioritizing process should include: significance (in terms of: scale, duration, and resource implications); legal and political risks and liabilities; and, immediacy of the issue or potential impact on City management and operations.

Legal Counsel Respecting Potential Risks and Liabilities

It is recommended that the City obtain independent legal counsel with respect to the various potential risks and liabilities identified in the report. Particular emphasis should be given to the potential risks and liabilities related to planning and administration, public health and environmental safety aspects of the Giant Mine abandonment and restoration process.

City Council's Strategic Direction

Following the completion of the recommended internal review by Administration and consideration of the receipt of independent legal counsel respecting potential risks and liabilities, it is recommended that City Council consider the collective findings and within the context of Council's established goals and priorities, provide strategic direction to Administration with respect to ensuring that the City's interests are recognized and addressed in the Giant Mine abandonment and restoration process and associated negotiations. City Council's strategic direction should give appropriate consideration to the pending Con Mine Abandonment and Restoration Plan and the Akaitcho Dene First Nation land claims process.

5.1.2 Specific Issues and Impacts Recommended Actions

The following recommended actions address specific issues, potential impacts and opportunities. Section 4.2 provides an extensive list of issues, potential impacts and opportunities, each of which may ultimately be relevant and significant for the City. In consideration of the City's existing capacity limitations and level of effort and resource commitment that may be required to respond appropriately, it is recommended that the City give initial priority consideration to addressing key issues, potential impacts and opportunities identified within each of the categories below.

Reference No.	Priority Issues and Impacts
Planning, Infrastructure and Public Works	
A01	City interest in Giant Mine Townsite lease area
A02	City interest in waterfront lease and Giant Mine public boat launch
A03	Reduction of the Municipal Land Quantum
A05	Diminution of land use, investment and development options
A11	Opportunity for expansion of City landfill capacity
A12	Municipal water system and treatment plant
Economic Development, Investment and Tourism	
B02	Maximizing economic opportunities from the Giant Mine Remediation Project
B03	Media coverage and image of Yellowknife as a desirable and safe place to live
B04	Opportunity to advance Yellowknife as a territorial research knowledge centre
B05	Opportunity to prepare a comprehensive brownfield strategy for Yellowknife
Fiscal and Taxation	
C01	Outstanding Giant Mine property taxes
C02	Reduced property tax base and consequential multiple impacts
Public Safety and Community Services	
D01	Provisions and protocols during the initial stages of the A&R process
D03	City's jurisdiction and authority for on site building inspections, demolition and waste management
D04	Demolition, transportation and waste management
D06	Giant Mine public boat launch – public health and environmental standards
D08	Baker Creek realignment and bank re-grading along Giant Mine lands R. O. W.
Political and Intergovernmental	
E01	Defining Council strategic framework and priorities
E02	Adequacy of the A&R Plan and potential of referral for a comprehensive environmental assessment
E03	Precedent for Con Mine remediation
E06	Exclusion from the Giant Mine Cooperation Agreement and need for full disclosure and information sharing with the City
E07	City intervention/participation in A&R processes: Capacity and resource impacts