Final Report

Regional District of Bulkley Nechako

Industrial Land Use Inventory Study: Electoral Area E

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1 Introduction

1.1 Purpose

In 2007-2008, staff of the Regional District of Bulkley-Nechako (RDBN) undertook the preparation of a report entitled "Regional District of Bulkley-Nechako Electoral Area B Industrial Land Use Inventory Study". Largely developed using internal staffing resources under the leadership of Planning Director Jason Llewellyn, the report was extremely well-received, and was seen as a model for the completion of similar reports covering the RDBN's other six Electoral Areas. The full collection of seven reports will be used for the following purposes:

- As a resource for planning and decision making regarding industrial land use policies and regulations
- As an identification of assets and opportunities for incorporation in economic development and marketing initiatives
- As a resource for developers, investors and the real estate industry to assist in the identification of current industrial land development opportunities
- As a resource for the identification of Crown Lands needed for economic development and economic diversification efforts
- As a resource to demonstrate to the Agricultural Land Commission the community needs for the release of certain lands for industrial uses.

In late 2008, Millier Dickinson Blais, a national economic development consulting firm, was retained to prepare the six additional Electoral Area inventories/studies, using the earlier industrial land inventory study for Electoral Area B as a model. To this end, the primary intent of these inventories is to:

- Identify the existing industrial land base in the study area(s)
- Identify the present and future industrial land use needs in the study area(s)
- Evaluate the adequacy of the existing and potential industrial land base to meet future demand
- Provide a detailed parcel based inventory of industrial lands that are, or may be, potentially suitable for industrial development.

This present document is a draft of a report designed to clearly present the information, results and recommendations resulting from the Scope of Work for Electoral Area E.

1.2 Report Structure

This report is organized into 11 sections:

- Sections 1 and 2 present the purpose, methodology and limitations of the study in Electoral Area E
- Section 3 discusses the existing regulatory and planning infrastructure that exists regarding industrial land development in Electoral Area E

- Section 4 presents data on existing developed and vacant industrial lands in Electoral Area E
- Section 5 provides an overview of issues relating to future industrial land use needs in Electoral Area E
- Section 6 provides data and information relating to infrastructure and servicing of industrial lands within Electoral Area E
- Section 7 discusses potential future industrial land requirements in Electoral Area E
- Section 8 contains a parcel-based inventory and description of lands that are, or may be, potentially suitable for future industrial development within Electoral Area E
- Section 9 includes a summary of the study findings for Electoral Area E
- Appendices A and B contain detailed maps and site formation regarding the actual existing and potential parcels of industrial land in Electoral Area E

2 Methodology

2.1 Geographic Study Area

The study area includes all of Electoral Area E of the Regional District of Bulkley-Nechako. Statistics Canada data from the 2006 Census shows that Electoral Area E has a population of 1,788 persons. This is an increase from the 2001 Census figure of 1,750 persons, meaning the population has grown by 38 people or 2.2%, making Electoral Area E one of the few areas of the RDBN to have experienced population growth.

2.2 Definitions

The following definitions are used in this report:

Developed Industrial Land means land that is wholly or partially utilized for industrial purposes. A portion of a developed property that has significant remaining potential or capacity for further industrial development may be considered Vacant Industrial land (defined below).

Existing Industrial Land means land designated by a local government official community plan or zoning bylaw for industrial use, or land currently being used for industrial purposes.

Industrial Use means any of the uses permitted under M1 Light industrial Zoning, M2 Heavy Industrial Zoning or M3 Agricultural Industrial Zoning.

Potential Industrial Land means land that is not designated for industrial uses by an official community plan or zoning bylaw, but which may hold some potential for an appropriate Industrial Use from an infrastructure and/or land use planning perspective, whether at present or in the future.

Vacant Industrial Land means land designated by a local government official community plan or zoning bylaw for Industrial Use but not yet developed for Industrial Use. This includes properties that are designated industrial, but are currently zoned and/or developed for uses not permitted in the industrial designation (e.g. residential, agricultural).

2.3 Methodology

This study was prepared using the following steps and process:

Step 1) Review of Literature

A literature review of relevant reports, studies, strategies and other documentation regarding industrial development, economic development, and the regional economy was undertaken, with a particular focus on understanding local official plans and local economic development objectives.

Step 2) Zoning and Land Use Designation Mapping Data

In conjunction with L&M Engineering of Prince George, the project team reviewed Official Community Plan (OCP) land use designations, zoning, and other geography-based data for lands within the region, and a series of maps were produced. An analysis of data was

undertaken to estimate the amount of existing industrial land, developed industrial land, and vacant industrial land. Site visits were undertaken to each of the identified Industrial Use sites, or where the land use status of a property was uncertain.

All lands zoned for Industrial Use and all known lands without industrial zoning that contain an Industrial Use were identified as Existing Industrial Lands. Existing Industrial Lands were then reviewed to identify which parcels were developed and which were vacant. This review was based in part on Regional District staff knowledge of each parcel and in part through site visits carried out by members of the project team. An analysis of the Market Readiness of each Vacant Industrial Lands was then undertaken based on site visits.

Step 3) Identification of Industrial Trends and Future Development
An identification of the general economic and industrial trends occurring in the region was undertaken through a literature review and consultation with local stakeholders and experts. This review was undertaken to provide a basis for estimating the areas of future industrial growth in the area, and the associated industrial lands needs.

Step 4) Identification of Infrastructure Distribution Expansion Options
Research was undertaken to determine the location of various infrastructure located within the study area. This includes power, rail access, telecommunications, and roads. The costs and process to expand and/or install various types of infrastructure and utilities were also investigated.

Research for this section was conducted through interviews with a variety of industry representatives including (but not limited to) the following public and private organizations:

- BC Hydro
- CN Rail
- Pacific Natural Gas
- Telus
- Navigata Communications

Step 5) Identification of Future Land Use Needs
An identification of the general amount of future industrial lands needed in the region was undertaken through a literature review and extensive consultation with local stakeholders, and industry experts. This review focused on confirming the industry types considered likely to locate in the area and the industry types being targeted by local economic development initiatives. Once the industry types were identified, research was undertaken to identify the service and location needs for the industry type.

Step 6) Creation of a Detailed Parcel Based Inventory
The maps created under Step 1 were reviewed by the project team, in consideration of the information identified in Steps 3 and 4, to identify areas and/or parcels of land that may be suitable for future Industrial Use. The potential impact of the Industrial Use of the lands was

then considered. Each parcel identified as Vacant Industrial Land or Potential Industrial Land was added to the Industrial Lands Inventory and evaluated for services available, location attributes, challenges, and opportunities.

Step 7) Review of Research Results
This study included a consultative process regarding the study purpose, existing industrial land supply, future industrial land needs, and the review of the inventory at the parcel level. Numerous conversations were held with local municipalities, economic development organizations and other interested parties. A complete list will be included in the final version of this report.

2.4 Limitations

The scope of the work undertaken in this study includes the compilation and identification of existing information from reports and studies and from local community and expert knowledge. The study did not include significant primary research beyond consultation with stakeholders and experts. In particular, the estimated land needs identified in Step 4 are intended to be general in nature, and are not based on any scientific or statistical analysis.

Information on all potential development constraints was not readily available. There are various factors that can affect the development capacity of industrial lands. These factors include:

- Environmental constraints
    - Stream and water body setbacks
    - Environmentally sensitive areas
    - Contaminated sites
- Natural hazard constraints
    - Steep slopes
    - Areas prone to flooding
    - Loss of developable area due to the requirement to provide mitigation measures for flooding and other natural hazards
- The rezoning of designated industrial land for other uses, such as housing, farming, etc.
- Inclusion of non-industrial uses as permitted uses in industrial zones (e.g. large format retail and free standing offices) which reduces the supply of land for industrial uses

The evaluation of potential land use impacts undertaken in Step 5 was a subjective process and did not include a complete review with all relevant information. In particular it is noted that this review did not include consultation with the general public, although consultations that took place during the development of the recent RDBN Economic Development Action Plan were considered and reviewed. Lands identified as Potential Industrial Lands may be found, upon further review, to be unsuitable for a particular, or any, industrial use. The necessary public input is incorporated into the rezoning process for any Potential Industrial Lands. The public will also have an opportunity to provide input at during future OCP review processes.

3 Land Use Planning and Industrial Development

3.1 RDBN Industrial Land Use Planning

3.1.1 Regional District of Bulkley-Nechako Zoning Bylaw

The Regional District of Bulkley-Nechako Zoning Bylaw no. 700, 1993 contains three industrial zones:

20.0 Light Industrial Zone (M1)

20.01 Permitted uses

(1)

a) *light manufacturing including the construction, assembly, and repair of wood and fibreglass products, signs, boats and ceramic products;*
b) *warehousing including cold storage plants, frozen food lockers and feed and seed storage and distribution;*
c) *food products manufacturing, processing and packaging excluding processing and packaging of fish and including only pre-dressed and government inspected meats and eviscerated poultry;*
d) *building supplies and lumber yard;*
e) *automotive repair garage including auto body work and painting, muffler shops, transmission shops, tire sales and service, carwashes and excluding the wrecking, salvage and storage of automobiles;*
f) *commercial workshop including machine shop, welding shop, private or government garage and workshop;*
g) *storage compounds; and,*
h) *retail sales of petroleum products.*

21.0 Heavy Industrial Zone (M2)

21.01 Permitted uses

(1)

a) *wood products manufacture and processing including sawmill, shake mill, planner mill, pulp mill, log storage yard, lumber remanufacturing plant, plywood plant, particle board plant, and hardboard plant;*
b) *public utility uses;*
c) *wrecking, salvage and storage of automobiles;*
d) *concrete, asphalt and rock crushing plant; and,*
e) *waste disposal site.*

22.0 Agricultural Industrial Zone (M3)

22.01 Permitted uses

(1)

a) *the processing, storage, wholesaling and retailing of agricultural products;*
b) *livestock auction;*
c) *farm implement repair and sales; and,*
d) *growth and sale of nursery products, commercial crops and garden supplies.*

The Regional District of Bulkley-Nechako Zoning Bylaw No. 700, 1993 also contains four zones that allow industrial activity associated with agriculture and resource extraction.

12.2 Small Holdings (Industrial Shop) Zone (H1 B)

12.2.01 Permitted uses

a) *single family dwelling;*
b) *two family dwelling;*
c) *agriculture;*
d) *horticulture, nursery, greenhouse;*
e) *silviculture;*
f) *kennel and veterinary clinic;*
g) *commercial workshop including machine shop, welding shop, private or government garage and workshop;*
h) *home occupation; and,*
i) *buildings and structures accessory to the permitted principal uses.*

13.0 Large Holdings Zone (H2)

13.01 Permitted uses

a) *agriculture;*
b) *intensive agriculture;*
c) *horticulture, nursery, greenhouse;*
d) *single family dwelling;*
e) *two family dwelling;*
f) *logging and silviculture;*
g) *portable sawmill and lumber kiln;*
h) *mineral, placer, coal, and aggregate exploration, extraction and processing;*
i) *waste disposal site;*
j) *outdoor recreation facilities*
k) *kennel and veterinary clinic;*
l) *primitive campsite;*
m) *guest ranch;*

n) *rural retreat;*
o) *peat extraction;*
p) *home occupation; and,*
q) *buildings and structures accessory to the permitted use.*

14.0 Agricultural Zone (Ag1)

14.01 Permitted uses

a) *agriculture;*
b) *intensive agriculture;*
c) *horticulture, nursery, greenhouse;*
d) *single family dwelling;*
e) *two family dwelling on parcels not within the Agricultural Land Reserve;*
f) *logging and silviculture;*
g) *portable sawmill and lumber kiln;*
h) *mineral, placer, coal and aggregate exploration, extraction and processing;*
i) *waste disposal site;*
j) *kennel and veterinary clinic;*
k) *outdoor recreation facilities;*
l) *primitive campsite;*
m) *guest ranch;*
n) *rural retreat;*
o) *peat extraction;*
p) *unpaved airstrips and helipads for the use of aircraft flying non-scheduled flights;*
q) *home occupation; and,*
r) *buildings and structures accessory to the permitted principal uses.*

15.0 Rural Resource Zone (RR1)

15.01 Permitted uses

(1)

a) *agriculture;*
b) *intensive agriculture;*
c) *horticulture, nursery, greenhouse;*
d) *single family dwelling;*
e) *two family dwelling;*
f) *seasonal dwelling;*
g) *logging and silviculture;*
h) *portable sawmill and lumber kiln;*
i) *mineral, placer, coal and aggregate exploration, extraction and processing;*

j) waste disposal site;
k) outdoor recreation facilities;
l) primitive campsite;
m) guest ranch;
n) rural retreat;
o) peat extraction;
p) unpaved airstrips and helipads for use of aircraft flying non-scheduled flights;
q) home occupation;
r) kennel and veterinary clinic; and,
s) buildings and structures accessory to the permitted uses.

The rural lands zoned M1 are identified further in Appendix A and discussed in Section 4 of the report.

4 Existing Industrial Land Supply

4.1 Existing Industrial Land

Existing industrial land includes both developed and vacant industrial lands. For the purpose of this study the definitions for existing, developed, and vacant industrial lands are as follows:

Existing Industrial Land means land designated by a local government Official Community Plan or zoning bylaw, or land currently being used for industrial use.

Developed Industrial Land means land that is wholly or partially utilized for industrial uses. A portion of a developed property that has significant remaining capacity for further industrial development may be considered Vacant Industrial Land.

Vacant Industrial Land means land designated by a local government Official Community Plan or zoning bylaw for Industrial Use but not yet developed for Industrial Use. This includes properties that are designated industrial, but are currently zoned and/or developed for uses not permitted in the industrial designation (e.g. residential, agriculture).

It is noted that the determination of the vacant status of lands was a particularly subjective exercise. Lands that were in use for purposes of equipment storage, or contained buildings at or near the end of their economic life, or otherwise significantly underutilized were considered to be vacant.

Details of existing industrial lands are shown in Appendix A, which includes lands that are in the Regional District but fall outside of the municipal boundaries.

The land area in hectares of Existing Industrial Lands, Vacant and Developed Industrial Lands, and Usable Vacant Industrial Lands are shown in Table 1. The data is broken down by page as shown in Appendix A.

4.2 Usable Vacant Industrial Lands

An evaluation of each piece of vacant industrial land was undertaken to identify the approximate area of land that is practically available for future industrial development. For example, areas than cannot be developed because they are wetlands or steeply sloped were excluded from the calculation of useable vacant industrial lands as shown in Table 4.2.

There is a limited amount of industrial land in Area E, with a total of 5.457 hectares. There is a total of 1.327 hectares of developed land and 4.130 hectares of vacant or underutilised land. All of this vacant land would be suitable for some small scale light industrial development.

Table 4.2 Existing Rural Industrial Land Area in Hectares

Map #	Zoning	Site Size (ha)	Industrial Lands			
			Total (ha)	Developed (ha)	Vacant (ha)	Usable Vacant (ha)
1	M1	2.141	2.141	0.535	1.606	1.606
2	M1	1.335	1.335	0.000	1.335	1.335
3	M1	3.962	1.981	0.792	1.189	1.189
Total		**7.438**	**5.457**	**1.327**	**4.130**	**4.130**

The market readiness of the Usable Vacant Industrial Land is not addressed in this Section. Section 8 of this study will identify, on a site and property specific basis, potential future industrial lands, in more detail. The lands discussed in Section 8 will include the Usable Vacant Industrial Lands identified in this Section.

5 Industrial Trends and Opportunities

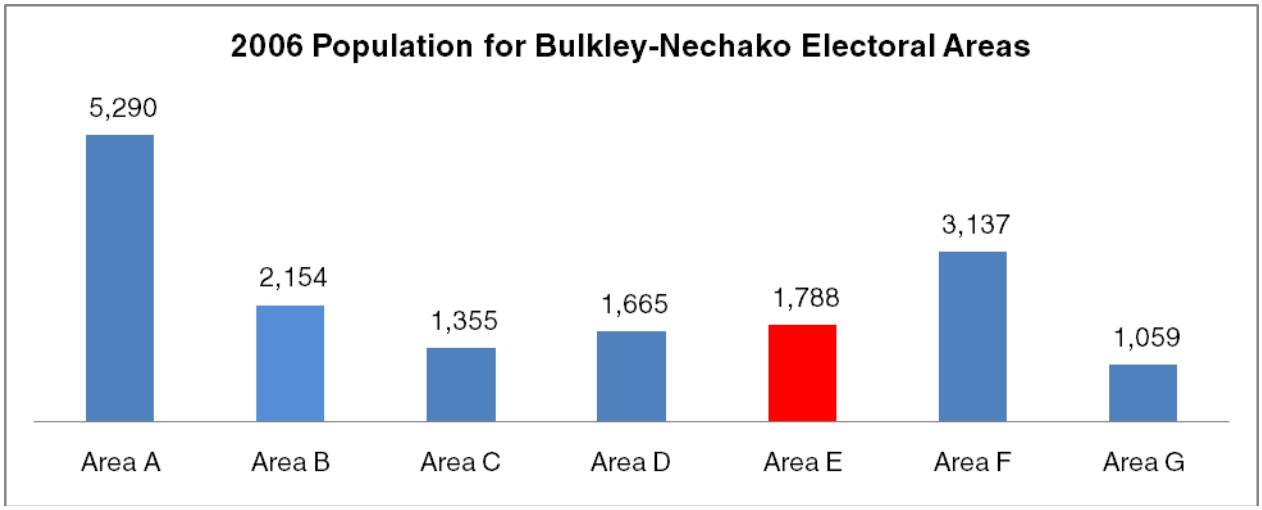
5.1 Economic Base Analysis

Since assuming an active role in economic development, local government has aimed at creating more jobs, expanding the tax base and diversifying the economic base. Economic base analysis uncovers the strengths and weakness of the economic landscape, thereby allowing the opportunity for a community to seize opportunities and mitigate weaknesses. It is anticipated that this study will be used as an economic development tool for industrial development and serve as a baseline for future comparisons of economic statistics over time. The sections below provide details on the Electoral Areas in the Regional District of Bulkley-Nechako.

5.1.1 Population

Population changes can facilitate or challenge economic development within a particular locale. A steady rise in population can expand the tax base and provide opportunities to expand business and infrastructure services. In some communities the type of population expansion can reveal some interesting facts about business trends within the community, or some emerging opportunities.

Figure 1: Population figures for Electoral Areas of Bulkley-Nechako



Source: Statistics Canada, 2006

The population figures show that Electoral Areas A and F are the largest areas within the Regional District of Bulkley-Nechako, with Electoral Area D accounting for just 4.7% of the total population of the Bulkley-Nechako census district.

The population change shows that Electoral Area C experienced the greatest decline in population while Electoral Area E was the only area to experience population growth between 2001 and 2006. During the same period, the region's overall decline in population was 6.4%, with an average decrease of 6.3% in the seven Electoral Areas.

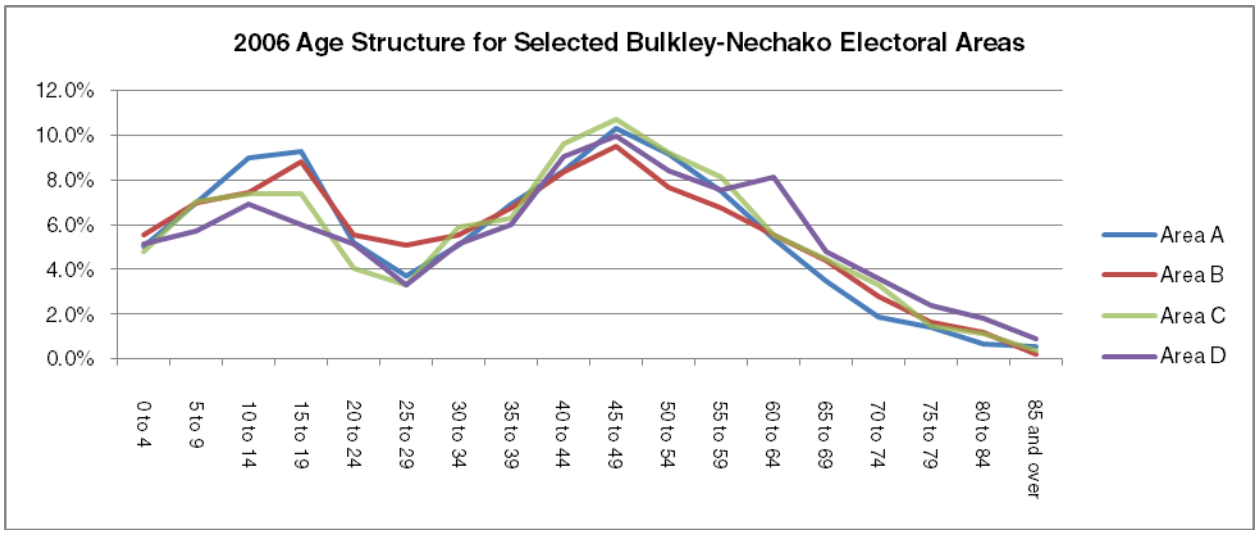
Figure 2: Population change for Electoral Areas of Bulkley-Nechako

2001 to 2006 Population Change	
Electoral Area A	-7.1
Electoral Area B	-5.4
Electoral Area C	-19.7
Electoral Area D	-2.9
Electoral Area E	2.2
Electoral Area F	-7.3
Electoral Area G	-3.6

Source: Statistics Canada, 2006

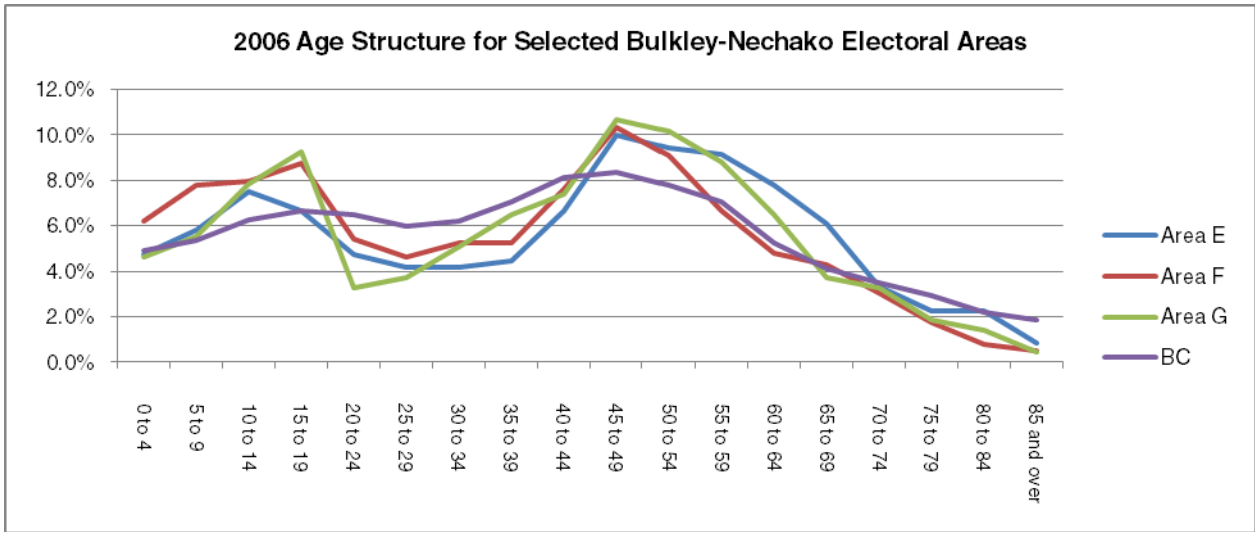
The age structure of a population can reveal certain dynamics over a period of time including advantages or disadvantages a particular location has. The composition of workforce groups such as the feeder cohort (i.e. those within range of joining the labour force), working cohort (i.e. those are active within the workforce) and mature/retired cohort (i.e. those out of the workforce) can determine the type of advantages or limitations a community has.

Figure 3: Age structure for Electoral Areas of Bulkley-Nechako



Source: Statistics Canada, 2006

Figure 4: Age structure for Electoral Areas of Bulkley-Nechako



Source: Statistics Canada, 2006

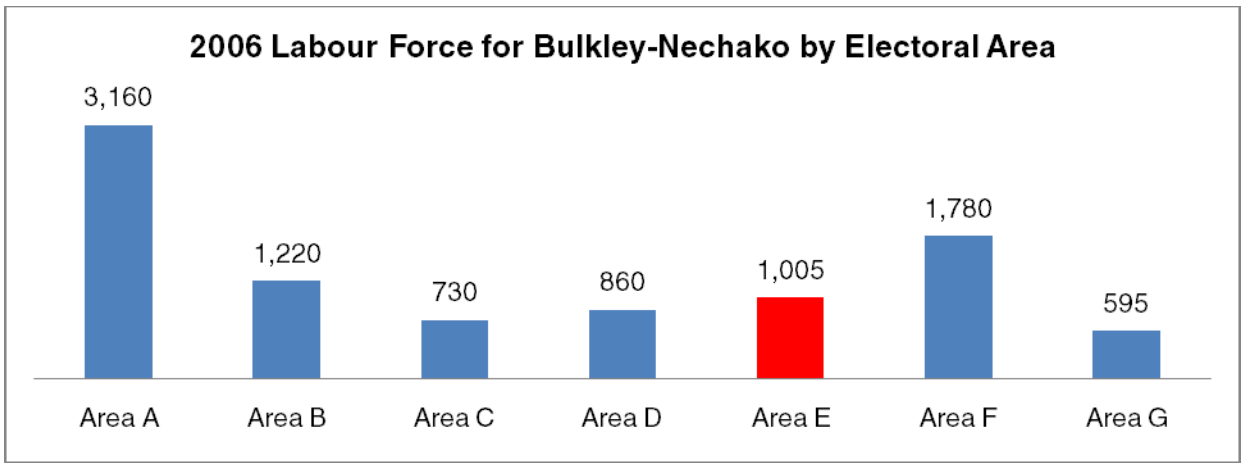
Most of the Electoral Areas have a similar pattern in terms of age distribution, much less constant across the age groups than the province as a whole. Generally speaking, the Electoral Areas have moderately sized youth populations, with a large gap in the 20-39 year old age cohorts, and larger middle-aged populations. However, there are some marked differences that may likely create advantages or unique opportunities for certain districts.

Electoral Area E had the highest proportion of population in the 65-69 year old range, a population segment that was likely retired at the time of the last census, as well as generally higher proportions of the population in the older age segments. Electoral Area E exhibited the highest median age for all Electoral Areas (45.8 years). This was almost 7.5 years higher than the median age for the RDBN (37.4 years) and exactly five years older than the median age of the Province (40.8 years). Generally speaking, Electoral Area E was the oldest of the Electoral Areas in 2006.

5.1.2 Labour force by industry

The size and growth rate of an industry can reveal the ability of the community to create jobs for people that participate within the economy and the potential for growth given the nature of economic opportunities that are created within the locale.

Figure 5: Labour force size for Electoral Areas of Bulkley-Nechako



Source: Statistics Canada, 2006

The graphs generally show a similar type of pattern seen in the population charts with Electoral Areas A and F comprising the larger portions of the Bulkley-Nechako labour force relative to the other Electoral Areas in the comparison. Electoral Area E accounted for approximately 5% of the total labour force in the Regional District.

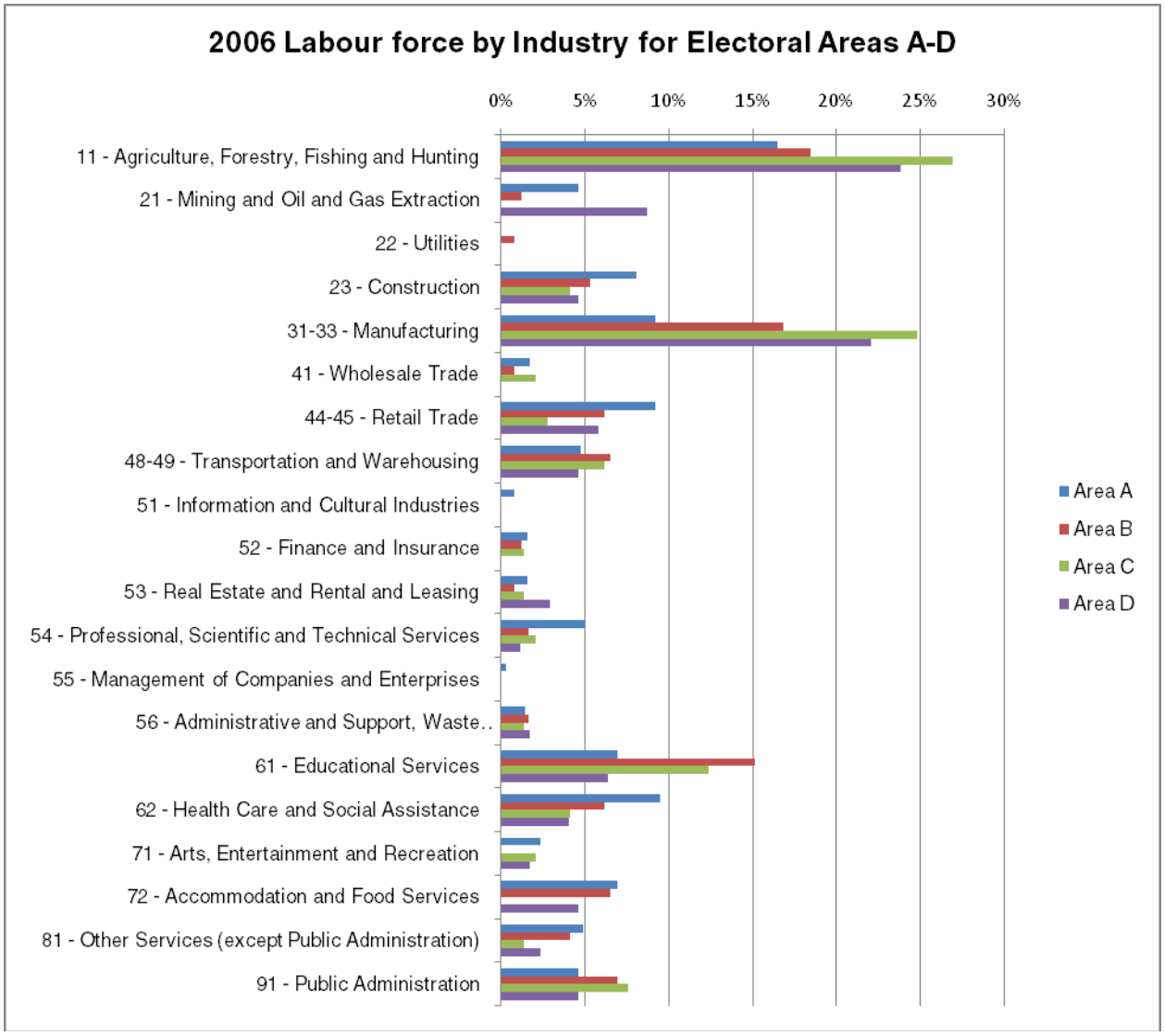
Also important is the structure of the community's labour force by industry, which can indicate whether a community's economy is based on a single industry or diversified in its sectors. One obvious advantage of a diversified economy in comparison to a single industry based economy is the ability to create opportunities for convergence between sectors and weather downturns that may occur in any particular sector. The result is economic flexibility and resiliency.

Figure 6: Labour force by industry for Electoral Areas of Bulkley-Nechako

Labour Force by Industry 2006	Elect Area A	Elect Area B	Elect Area C	Elect Area D	Elect Area E	Elect Area F	Elect Area G
Total employed in industry	3,160	1,220	725	860	1,005	1,775	595
11 - Agriculture, Forestry, Fishing and Hunting	520	225	195	205	295	495	140
21 - Mining and Oil and Gas Extraction	145	15	0	75	15	10	65
22 - Utilities	0	10	0	0	0	10	0
23 - Construction	255	65	30	40	65	85	40
31-33 - Manufacturing	290	205	180	190	95	325	115
41 - Wholesale Trade	55	10	15	0	20	40	0
44-45 - Retail Trade	290	75	20	50	90	140	40
48-49 - Transportation and Warehousing	150	80	45	40	65	80	60
51 - Information and Cultural Industries	25	0	0	0	0	25	0
52 - Finance and Insurance	50	15	10	0	10	30	0
53 - Real Estate and Rental and Leasing	50	10	10	25	15	0	0
54 - Professional, Scientific and Technical Services	160	20	15	10	25	40	0
55 - Management of Companies and Enterprises	10	0	0	0	0	0	0
56 - Administrative and Support, Waste Management and Remediation Services	45	20	10	15	0	30	15
61 - Educational Services	220	185	90	55	90	100	40
62 - Health Care and Social Assistance	300	75	30	35	80	115	30
71 - Arts, Entertainment and Recreation	75	0	15	15	0	0	0
72 - Accommodation and Food Services	220	80	0	40	35	120	15
81 - Other Services (except Public Administration)	155	50	10	20	45	60	20
91 - Public Administration	145	85	55	40	35	65	0

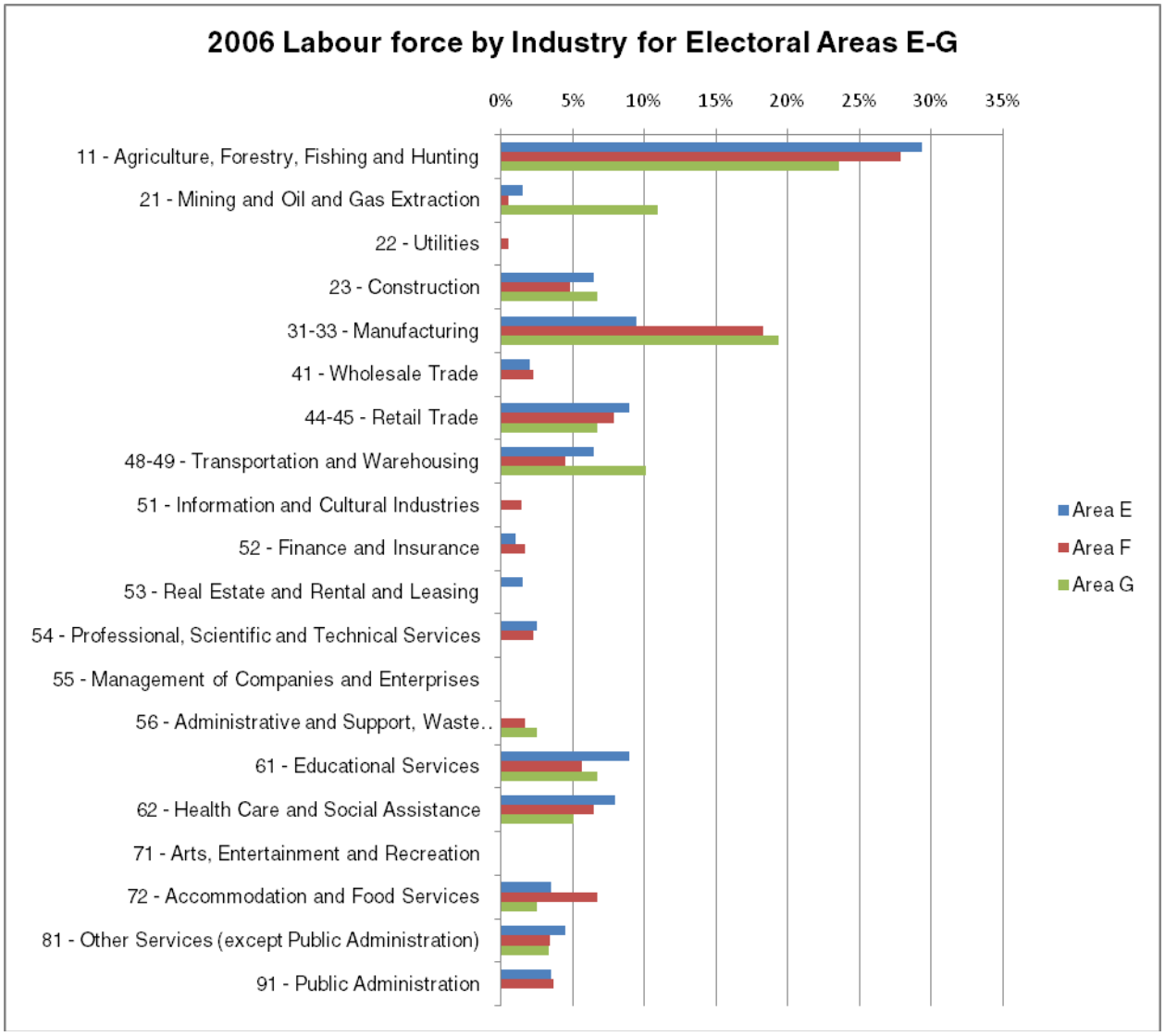
Source: Statistics Canada, 2006

Figure 7: Labour force by industry for Electoral Areas A-D of Bulkley-Nechako



Source: Statistics Canada, 2006

Figure 8: Labour force by industry for Electoral Areas E-G of Bulkley-Nechako



Source: Statistics Canada, 2006

The charts show that Electoral Areas are generally concentrated in sectors such as Agriculture, Forestry, Fishing and Hunting and Manufacturing. The labour force in Electoral Area E is concentrated in the Agriculture, Forestry, Fishing and Hunting sector, with comparatively smaller shares in Retail Trade, Manufacturing, and Educational Services. In the case of Agriculture, Forestry, Fishing and Hunting, the Electoral Area has the highest proportion of labour force concentration out of all Electoral Areas.

5.1.3 Occupations

Labour force by occupation is another way of looking at employment in communities. This perspective shows occupations that could be beneficial to economic development efforts. What is important to note is that some occupations have the advantage of flexibility in terms of transferring skills across different industries and this is a unique aspect that makes a community's economy more robust in difficult economic times. Concentrations in occupations

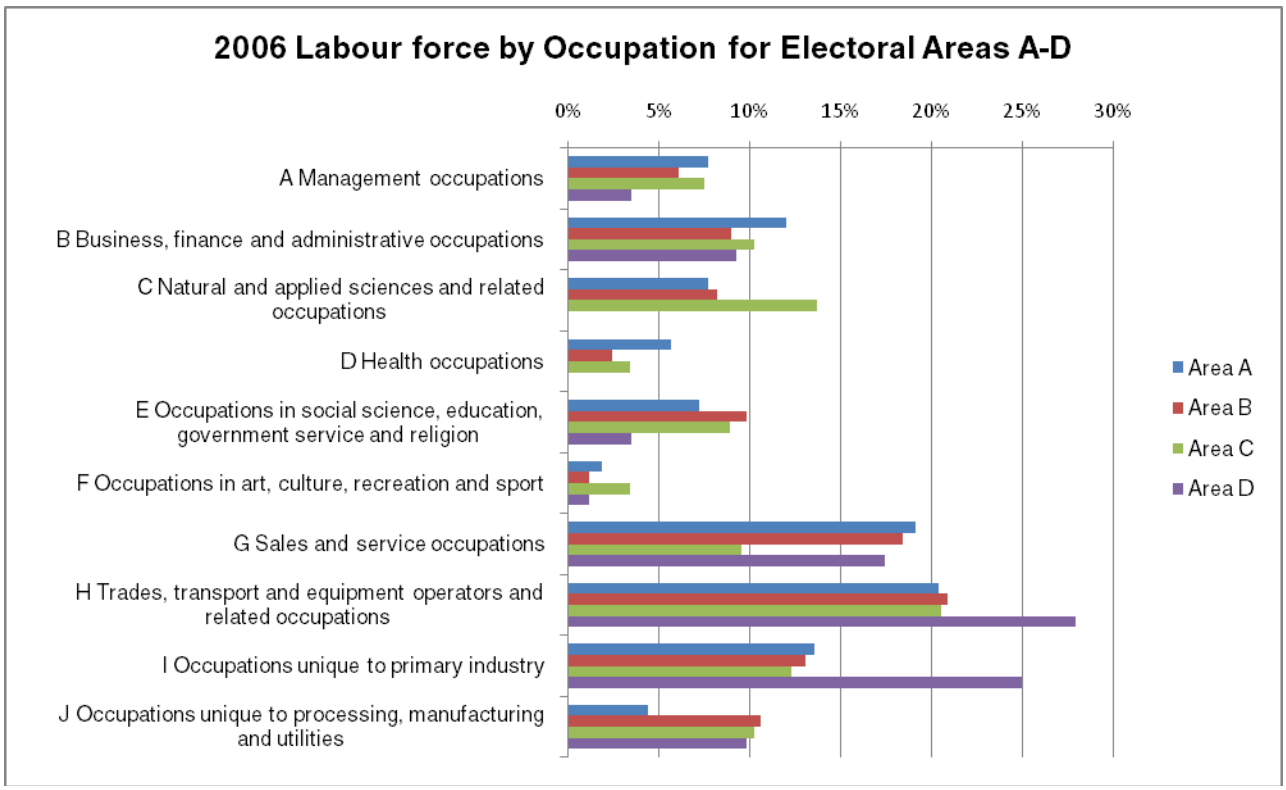
where wages are high also provide revenue opportunities for a community and provide the means to formulate strategies that anchor professionals to a community.

Figure 9: Labour force by occupation for Electoral Areas of Bulkley-Nechako

Labour Force by Occupation 2006	Elect Area A	Elect Area B	Elect Area C	Elect Area D	Elect Area E	Elect Area F	Elect Area G
All occupations	3,160	1,220	730	860	1,005	1,780	595
A Management occupations	245	75	55	30	70	95	40
B Business, finance and administrative occupations	380	110	75	80	120	160	65
C Natural and applied sciences and related occupations	245	100	100	0	35	40	10
D Health occupations	180	30	25	0	50	85	20
E Occupations in social science, education, government service and religion	230	120	65	30	90	90	10
F Occupations in art, culture, recreation and sport	60	15	25	10	0	20	10
G Sales and service occupations	605	225	70	150	140	305	100
H Trades, transport and equipment operators and related occupations	645	255	150	240	190	435	230
I Occupations unique to primary industry	430	160	90	215	240	415	45
J Occupations unique to processing, manufacturing and utilities	140	130	75	85	70	125	70

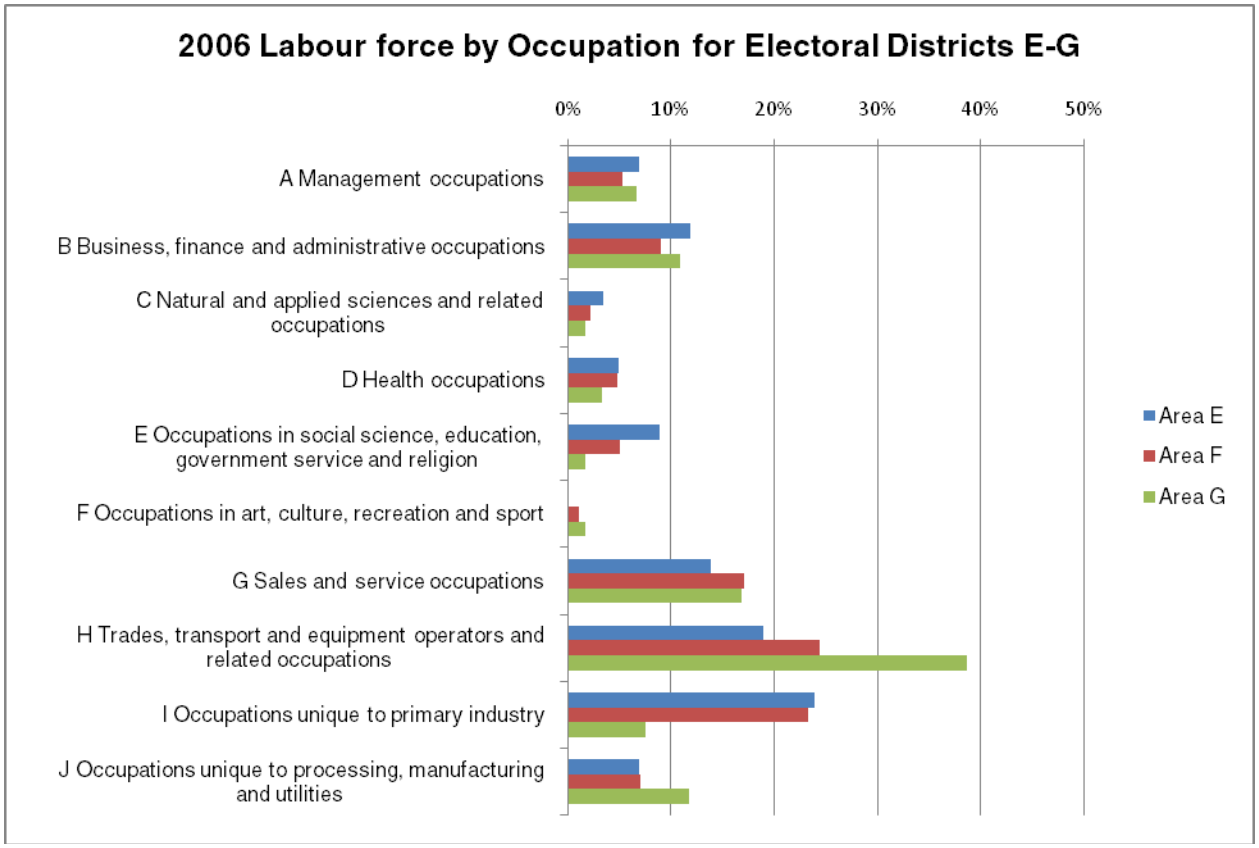
Source: Statistics Canada, 2006

Figure 10: Labour force by occupation for Electoral Areas A-D of Bulkley-Nechako



Source: Statistics Canada, 2006

Figure 11: Labour force by occupation for Electoral Areas E-G of Bulkley-Nechako



Source: Statistics Canada, 2006

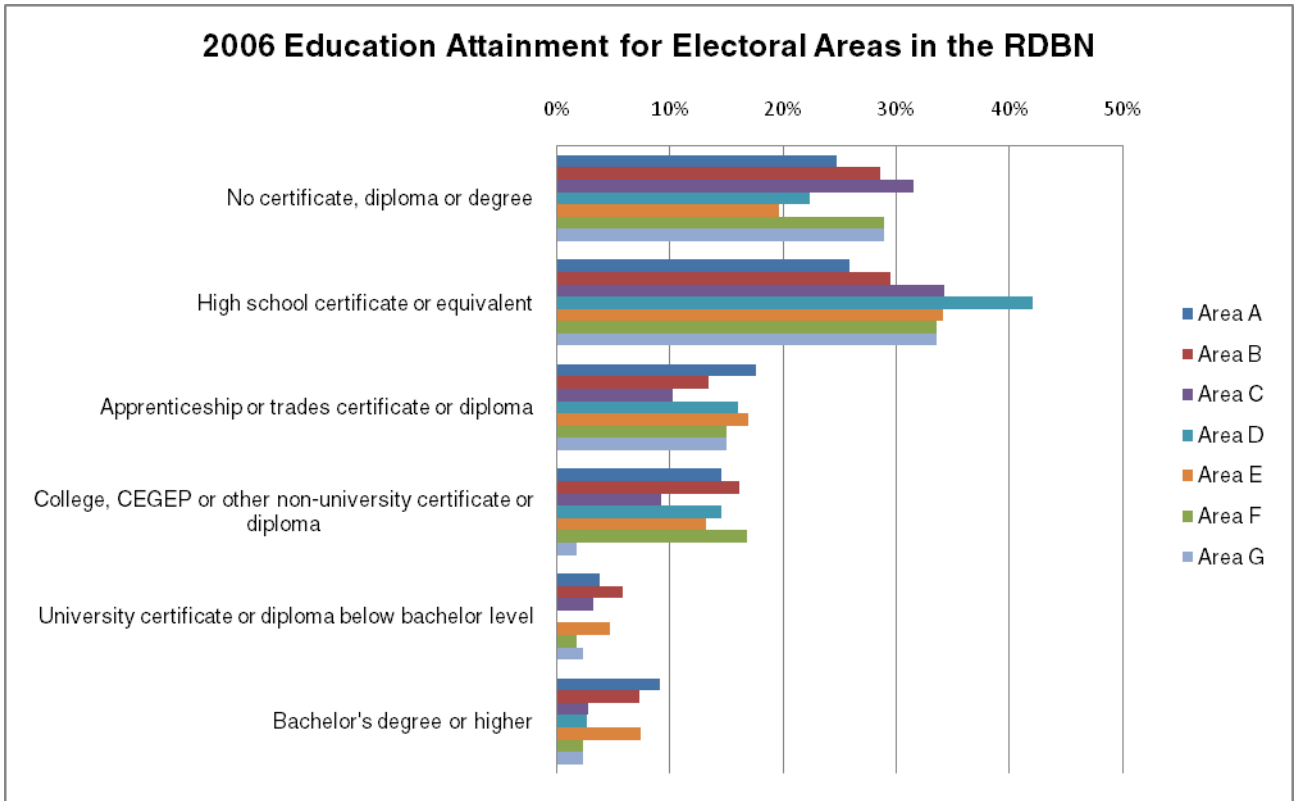
Occupations among the Electoral Areas are concentrated in trades, transport and equipment operators and related occupations; occupations unique to the primary industry; and sales and service occupations. Electoral Area E has the second highest concentrations of occupations unique to primary industry of all Electoral Areas, reflective of the area's strengths in mining and forestry industries.

5.1.4 Education attainment

The type and level of skills possessed by the residents of a community could offer diversification opportunities by way of labour force specializations and can give insight to the Regional District with respect to the type of programs needed to develop certain skills within the community. It should be noted that sectors that are targeted for development also require the Regional District to develop programs that will bring the skills of its workforce up to date so that they are ready to undertake or create new jobs.

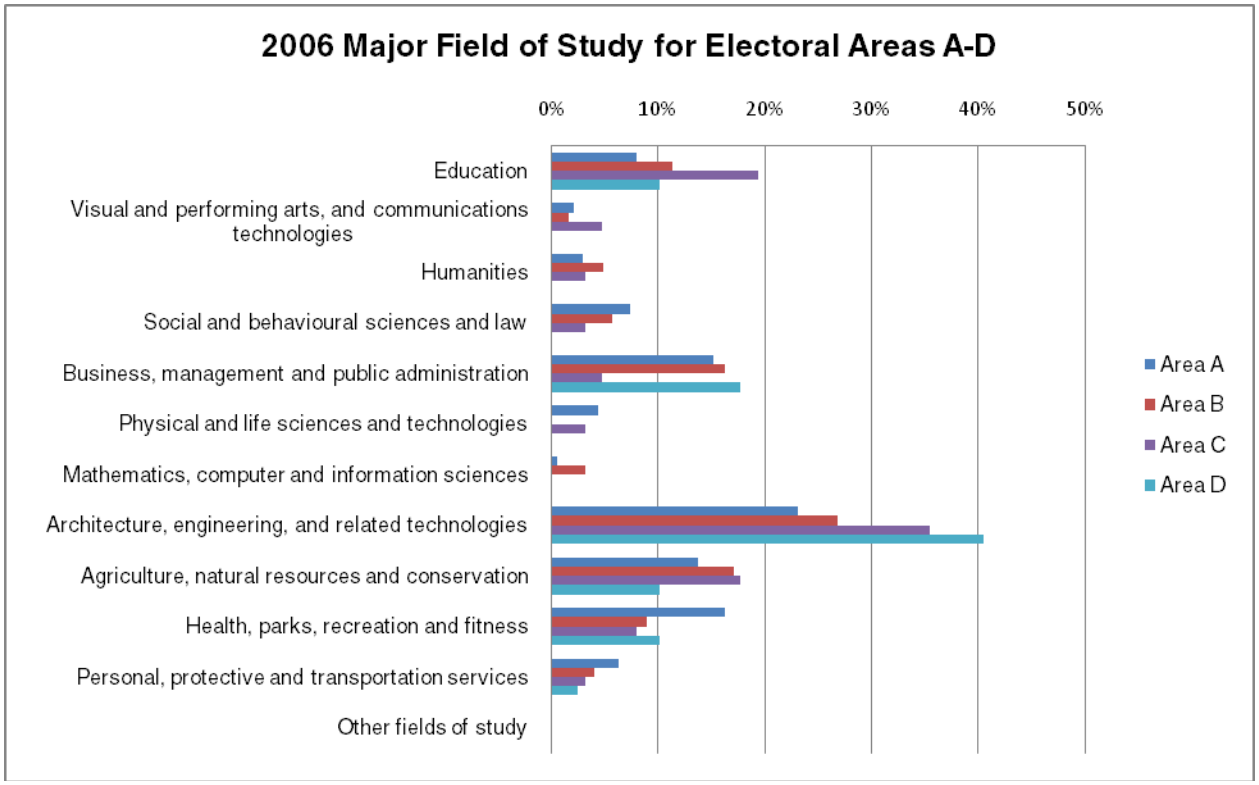
The education attainment for the Electoral Areas shows they are mostly concentrated in the following categories: no certificate, diploma or degree and high school certificate or equivalent. Electoral Area E contains among the highest proportion of population with an apprenticeship or trades certificate/diploma, as well as the second highest proportion of population with a bachelor's degree or higher.

Figure 12: Education attainment for Electoral Areas of Bulkley-Nechako



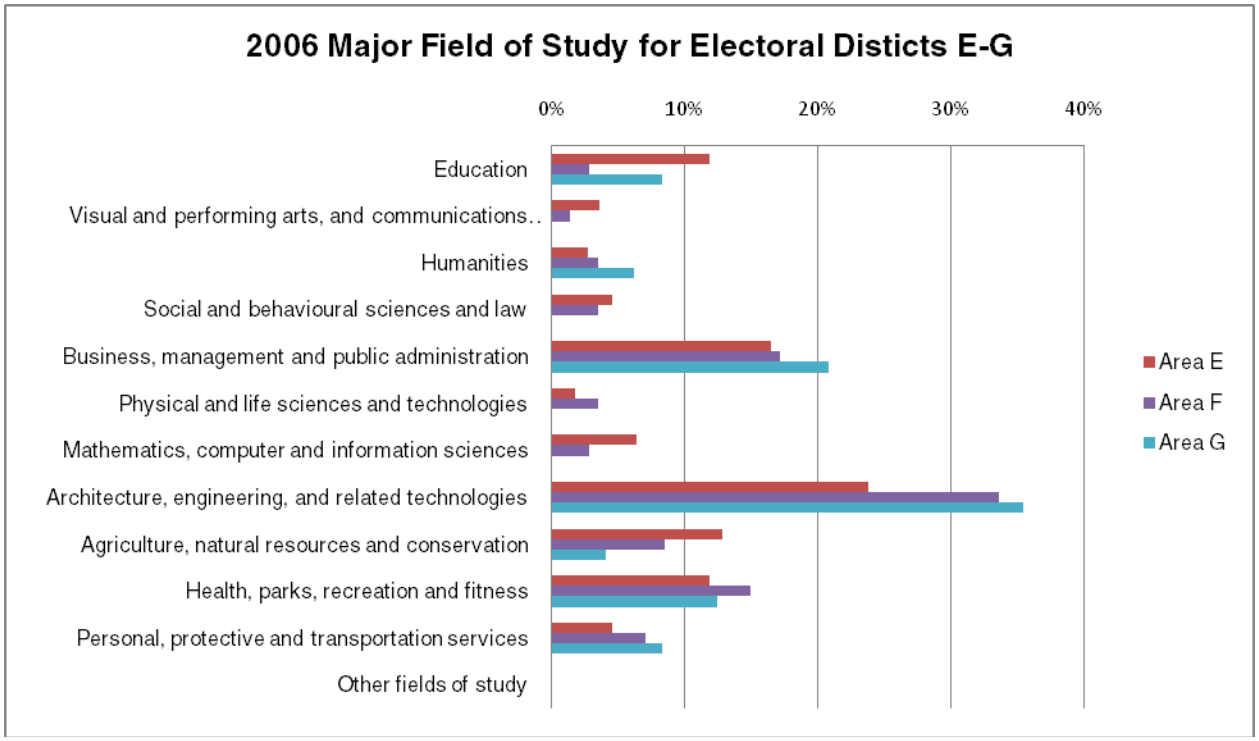
Source: Statistics Canada, 2006

Figure 13: Education attainment by major field of study for Electoral Areas A-D of Bulkley-Nechako



Source: Statistics Canada, 2006

Figure 14: Education attainment by major field of study for Electoral Areas E-G of Bulkley-Nechako



Source: Statistics Canada, 2006

Most of the population in Bulkley-Nechako have their major field of study in architecture, engineering and related technologies; business, management and public administration; agriculture, natural resources and conservation; and health, parks, recreation and fitness. The major field of study with the highest concentration for 25 to 64 year olds with post-secondary credentials in Electoral Area E is architecture, engineering, or related technologies. Business, management and public administration; as well as agriculture, natural resources and conservation credentials also accounted for high concentrations of credentials in this age cohort.

5.1.5 Income

Income and earnings are particularly important to look at because they represent revenue opportunities for a community. Studies show that communities with higher incomes and earnings generally have a higher economic growth potential than lower ones. Higher disposable incomes suggest opportunities for direct, indirect and induced impacts to a community's tax base, trade, and entire local economy

Figure 15: Average Household income for Electoral Areas of Bulkley-Nechako

2006 Average Household Income	
Electoral Area A	$69,128
Electoral Area B	$66,699
Electoral Area C	$72,541
Electoral Area D	$56,174
Electoral Area E	$57,578
Electoral Area F	$66,928
Electoral Area G	$83,303

Source: Statistics Canada, 2006

The household income figures show that Electoral Area G has the highest average household income in the regional District. The average household income for Electoral Area E was only slightly higher than that of Area D, which was the lowest of all Electoral Areas in the Regional District. In 2006, the average household income of Electoral Area E was $57,578, compared to $63,397 for the Regional District, and $67,675 for British Columbia.

5.2 Regional Economic Development Action Plan

The Regional District of Bulkley-Nechako (RDBN) recently developed a goal-oriented economic development action plan. It suggests that the fundamental changes occurring in the local, national and global economies demand that the approach taken in developing any new strategy be different from those of the past; they must position Bulkley-Nechako at the leading edge of the 21st Century economy, and prepare the Region for tomorrow's opportunities rather than yesterday's. This challenge is complicated in the RDBN's case by specific and pressing issues such as the Mountain Pine Beetle epidemic and international pressures on lumber markets.

The primary objective of the project was the creation of a three-to-five-year economic development action plan which will allow the RDBN to articulate key priorities and identify optimal areas of activity. Areas to be given particular consideration in the preparation of this strategy include the forest, mining and agriculture sectors. To understand the context within which economic development activity must occur, the project team carried out a range of research activities examining demographic and economic processes underway within the community. At the same time, to ensure that local insight and local perspective informed the research process, the project team carried out an extensive series of interviews with key stakeholders across the Region. This research process is summarized within two key chapters of the Action Plan report, one dedicated to the statistical information and data gathered, and one to an overview of the stakeholder consultations.

The project team then undertook an additional data-based exercise in the form of an economic gap analysis. In economics and economic development, gap analysis generally refers to a business resource technique that enables a community to compare its actual performance with its potential performance. The process involves documenting actual and optimal patterns of investment and business activity, and identifying those areas where actual performance falls short of desirable levels of performance. Based on this approach it is possible to estimate the number of businesses that the population in Bulkley-Nechako could *theoretically* support, as well as the current number of *actual* businesses for each category type in Bulkley-Nechako. The number of actual businesses is then subtracted from the theoretical for each category. If there are fewer actual businesses than the threshold number shown, there may be a business development opportunity. The project team then compared the results of this survey with some of the findings of the stakeholder interviews, where local community representatives were also asked to identify gaps in the local economy.

Based on the research process, the project team then developed a series of potential economic development actions for the RDBN. In this stage of the Action Plan process, 44 potential projects and actions were outlined, falling into four areas:

- Mining Sector
- Forest Sector
- Agricultural Sector
- Other Industry Sectors and Areas of Interest

Through a facilitated workshop with the RDBN Board, this long list of projects was ultimately shortened to a set of 14 top priorities. These top priorities were:

Mining Priorities:

1. Develop a skills training program
2. Develop a mining industry web portal
3. Develop an annual mining forum to enhance local mineral exploration

Forest Priorities:

1. Increase community access to fibre in the Region
2. Pursue uses for beetle-damaged wood
3. Support new value-added opportunities
4. Explore international and new market opportunities

Agriculture Priorities:

1. Identify solutions for accessing local markets
2. Identify other crop types
3. Explore new markets and export opportunities

Other Priorities:

1. Asia-Pacific Twinning Program
2. Tourism initiative
3. Entrepreneurship contest emerging from gap analysis
4. Explore emerging cargo capacity strengths

A subsequent consultation session with the RDBN Board led to some of the similar projects being combined in single initiatives, and to the development of a sense of project prioritization. Each of these projects is explored within the Action Plan in some depth, including the following overview of project elements:

- A detailed overview of the project activities to be involved in pursuing the action
- An indication of the project's expected outcomes
- An identification of potential project partners and sources of community support
- A description of potential source of external project funding and financial support

Projects in the Action Plan have been grouped thematically and are linked back to key priorities articulated during the consultation process by the RDBN Board. The first group of actions is based on the Board priority of "building on what we've got" and relates to initiatives that seek to retain or expand the Region's existing business base. The second set of actions reflects the Board's desire to "diversify the local economy" and relates to actions intended to attract additional investment to the Region, or to create new opportunities in new areas of economic activity. Finally, a third group of actions relates to a set of interlinked programs that meet the twin tests of "timeliness and affordability." In particular, they seek to match available sources of funding and project support with initiatives to quickly and efficiently open up new markets to the Region's businesses, with a particular focus on opportunities in the Asia-Pacific Region.

A range of local economic development structures exist to support the RDBN's efforts on the economic development front. In Electoral Area E these include the following organizations:

The Community Futures Development Corporation (CFDC) is a federally funded economic development organization providing services to Electoral Area E. Although CFDC's office is located in the neighbouring community of Houston, they are inclusive of the study area. CFDC assists with new business start-ups as well as larger economic development projects in the area. CFDC also administers some unique federal funding programs specifically available to residents receiving Employment Insurance Benefits who would like to become entrepreneurs.

The Northwest Regional Alliance (NRA) was formed in 2006 as a result of a need for information sharing amongst northern communities. The NRA is not a formally structured organization but rather an informal group of Economic Development Officers from Vanderhoof through to the Queen Charlotte Islands that meet to discuss economic development projects in their areas as well as collaborate on regional projects. To date the NRA has undertaken such projects as "Regional Foreign Investment Attraction Marketing Material" and a "Regional Destination Resort Attraction Study".

The Omineca Beetle Action Coalition (OBAC) was formed in 2005 and is a provincially funded coalition of communities acting collectively to be more effective in ensuring the long term sustainability for the Region. The OBAC includes all communities within the Regional District of Bulkley-Nechako and the Regional District of Fraser-Fort George. Each community and Regional District is represented by an appointed member on the OBAC Board of Directors. The purpose of OBAC is "to work to ensure sustainable development and resiliency for the Omineca Beetle Action Coalition Region."

Some of the priority items for OBAC include:

- Regional community-based interests in future forests and fibre use;
- Mineral exploration;
- Alternative energy;
- Integrated regional transportation;
- Business retention and attraction;
- Conventional energy;
- Social/community services and support;
- Destination tourism;
- Agriculture;
- Regional cohesion, branding and profile strategy;
- Regional emergency response.

The Northern Development Initiative (NDI) Trust was established in October 2004 through an act of legislation passed by the Government of BC. NDI received $185 million to form the trust bank account. NDI's region includes 50 communities, covering approximately 70% of the province. The NDI Trust offers grant and loan funding programs for local governments, First Nations, and not-for-profit agencies that reside within the Trust Area. The program is intended to support projects that demonstrate measurable economic benefits such as job creation and increased export sales. As of March, 2007 the Trust has approved $28.1 million in funding for seventy-eight projects. Leveraged with other funds this has resulted in over $177 million in economic development projects, close to 150 construction jobs, 36 full-time new jobs, and $11.6 million in payroll and benefits injection into our communities.

5.3 Industrial Sectors Overview

Mining

The Mining and Oil and Gas Extraction sector in Bulkley-Nechako consists of 745 employees according to the 2006 Census. This is up by 39% from 535 in 2001. By contrast, BC had a growth of 42%. This sector makes up 3.6% of all industries in Bulkley-Nechako in contrast to BC's 0.9%.

The mining sector has well developed transportation and industrial infrastructure, which is in proximity to a deep water port, a well maintained highway system and CN Rail lines that link the Region to terminal points across North America.

There are currently two operating mines within the Regional District - Endako Mine and Huckleberry Mine. Endako Mine is an open pit molybdenum mine, employing between 250 and 300 people. Huckleberry Mine, which is located in Electoral Area E, is an open pit copper and molybdenum mine, employing between 250 and 300 people. There are a number of major ongoing exploration sites in the region, and some have entered into the Environmental Assessment Phase. In Electoral Area E, these efforts include exploration activity at the Seel site to the south of the existing Huckleberry operation where possible mineral resources include molybdenum. The Lucky Ship exploration site is also just across the Electoral Area boundary, in nearby Electoral Area G.

Forestry

Timber harvesting and lumber production are the dominant subsectors in the forestry industry, which has traditionally been the largest industry in the region. The majority of harvestable forest in the area has been affected by the Mountain Pine Beetle. The infestation threatens most or all of the mature and near mature lodgepole pine stands in the region, which is the majority of the merchantable timber. To date, it is uncertain how long pine damaged by the beetle will be usable for manufacturing lumber but estimates from the BC Ministry of Forests office range between 6 and 10 years.

Once the remaining high quality pine stands have been logged and the standing dead timber is no longer of harvestable sawlog quality, there is some opportunity for restructuring in the forest sector, shifting from lumber production towards alternate energy production. Local governments, First Nations, and Industry are conscious of, and responsive to, the fact that there is a need to expand in all industrial sectors. It is also important to identify methods to utilize and gain additional value from the standing dead pine to sustain the forest sector, until such time as newly replanted forests can mature and be harvested once again.

Within the Regional District of Bulkley-Nechako are the Lakes, Morice and Bulkley Timber Supply Areas, as well as a large portion of the Prince George Timber Supply Area. The TSAs are predominantly Lodgepole Pine forests (all more than 50% Pine species, with the Lakes TSA being 76% Pine species).

According to the 2006 census, there were 1485 employees within this industry and this has remained unchanged from 2001. BC by contrast has declined 10% in employment. However, employment has likely declined significantly in the sector subsequent to 2006 as a result of the Pine Beetle infestation. This industry sector represents 7.2% of all industries in Bulkley-Nechako and 1.0% of all industries in BC. This suggests a specialization with the potential to export outside of the region. To maximize the economic value from forests in the future, the forest industry will need to look at opportunities for new products, processes and technologies along the whole value chain from the tree to the marketplace.

Agriculture

The Agricultural sector in Bulkley-Nechako consists of 935 employees that work on farms and 45 others employed in support activities for farms, according to the 2006 Census. This represents an increase of 10% over 2001 figures, with the province as a whole growing at the slower rate of 5.2%. Agricultural activities in the region include dairy, livestock and forage production.

Some of the agricultural opportunities for the region include green house operations, bio-energy and ranching. There also opportunities to create supporting business facilities in marketing, veterinary services, farm equipment and machinery and transportation services within the area.

Input and service suppliers, ranging from multinational firms and commodity brokers to small local businesses, play a vital role in the agriculture and agri-food system. Improvement in inputs and changing production technologies will create opportunities to develop different types of value-added products for the market.

5.4 Prince Rupert Container Port Development

United Nations forecasts of trans-Pacific container traffic show annual average growth of 7.5% for eastbound shipments and 4.6% for westbound shipments. The 2006 world maritime container traffic was estimated at 417 million TEU's. This is an increase of 10% over 2005 which was 378 million TEU's. A TEU is a unit of measurement of equivalent to 20 feet. Most containers today are 40 feet in length. Between 1995 and 2006, global container traffic volume tripled. Currently, existing west coast ports are facing capacity constraints. In addition, the rail corridor serving existing west coast ports is at overcapacity. The only major rail line with significant available capacity is CN's Northern BC Line, which ends at the development site of the Port of Prince Rupert.

The Prince Rupert Port Authority has planned to capitalize on the increased container traffic projections and existing port/rail constraints by constructing a container port at the Fairview Terminal in Prince Rupert. Phase 1 of this project was completed in 2007 and includes the construction of one berth as well as the positioning of three container cranes. Phase 1 had an associated construction cost of $170 million and the capacity to accept 500,000 TEU's per year. Phase 2 has a planned completion date of 2010 to 2011 and involves an additional 3 container cranes and an increased capacity of 1.5 million TEU's at an associated cost of $380 million. By 2020, the Port Authority sees the capacity of the Port at more than 4 million TEUs, a clear indication of the potential for development in the area.

Prince Rupert is located west of the RDBN, connected by a direct route on Highway 16 to Prince George. This positions the study area to capitalize on export opportunities. These potential opportunities include the following:

- The Prince Rupert Container Port offers the fastest route to Asia (30 hours closer than Vancouver and Seattle, 58 Hours closer than Los Angeles and Long Beach)

- The Prince Rupert Container Port offers residents of the Regional District a much closer ground shipping point compared to the next closest port at Vancouver which is 500 km further away
- The majority of the containers are projected to be inbound (Asia to Prince Rupert), which will result in an abundance of empty backhaul containers and resulting lower costs for west bound shipments. By decreasing shipping costs for export companies Northern BC is able to remain competitive with product pricing
- Shipping products by container results in lower damage to the product as well as greater delivery reliability, which are both important factors when dealing with Asian markets
- The Prince Rupert Container Port will assist the study area in attracting new businesses in the distribution and warehousing sectors, as well as assisting with the expansion of existing export businesses such as lumber and value added forest products (log home building, furniture, flooring, etc)

As noted above, one of the best economic development opportunities for North America with the increased capacity at the Port of Prince Rupert is the increased opportunity for backhaul to Asian markets, especially for the Northern Interior. Based on the connections to the CN mainline, the feeder or catchment area for these opportunities stretches across Canada and into the U.S. Midwest. In 2007, the Prince Rupert Port Authority attempted to identify specific opportunities and quantify the possible capacity. Possible opportunities are outlined in the table below. Of note to the RDBN should be the opportunities for perishable agricultural products (beef, pork) and forestry products (wood pellets, building materials).

Export	Estimated Quantity per year (TEUs)
Alaska and local Seafood	75,000 - 100,000
Pork	100,000 - 160,000
Beef	40,000 – 80,000
Forest Products	120,000 +
Special Agricultural Products: Grains and Oilseeds, Malt, Hay, Pulses	60,000 – 100,000
Cotton*	160,000 – 180,000
Recycled Paper*	40,000 – 100,000
Soybeans*	130,000 – 170,000
Petrochemicals/Plastics	TBD based on demand
Log and Modular Home Products	TBD based on demand

* Could potentially originate from the Chicago-Memphis Area

5.5 Prince George Airport Expansion

The Prince George Airport is the closest international airport to the Regional District of Bulkley-Nechako, though significant regional service is also offered from Smithers. The Prince George Airport is aggressively marketing itself as a location to do business throughout North America. It has recently developed more than 300 hectares of Airport property for commercial and industrial use, including aviation and non-aviation enterprises, forming the Prince George Global Logistics Park. The overall vision for the Park includes businesses concerned with:

- Distribution;
- Assembly, packaging, and value-added manufacturing;
- Inspection, sorting, testing, relabeling, and repackaging;
- Long-term storage; and
- Light Manufacturing.

As a next step, the Prince George Airport Authority is planning to pursue a major trans-Pacific air cargo initiative. This involves a significant upgrade to the airport facilities, including the expansion of the runway from its current length of 7,400 feet to 11,400 feet, adding shoulders, strengthening the runway, and updating equipment including lighting and navigational aids. The runway improvements were completed in February of 2009 based on matching $11 million grants from the Federal and Provincial Governments. The Prince George Airport Authority also purchased a snow-clearing vehicle and added a cargo refuelling pad, while making continuous and ongoing improvements to the lighting and navigational aid systems. The estimated $36 million dollar project has now created the third longest commercial runway in Canada, after Calgary and Vancouver.

The longer runway will provide the opportunity to refuel cargo flights to and from Japan, China, and the eastern United States. Currently, the major refuelling points on the "Great Circle Routes" flights are Anchorage and Fairbanks Alaska, so the expansions serve as a starting point to enticing a share of these flights to instead land in Prince George. It is estimated that as many as 1,560 cargo flights per year could be landing at the airport with the improvements that have been made. The runway expansion project will benefit the study area by aiding in the expansion of existing, and attraction of new, export businesses by provided new shipping options.

To make the case for Prince George, the Airport Authority has summarized the strategic advantages:

- 12 to 40 hours closer to Asia than other west coast marine ports
- 82 rail hours from Chicago
- 17 rail hours from Prince Rupert
- 12 to 26 truck hours access to major North American markets
- Only hours to major North American destinations by air
- Quick access to the Prince George CN Worldwide Distribution and Intermodal Centre, opened in 2007

With both Prince George Airport and the Prince Rupert Port facilities, the RDBN may be well-placed to take advantage of low-cost "backhauling" opportunities. Ships and cargo planes coming from Asia to North America are largely full, carrying Asian-made goods to the large North American market. However, the volume of cargo making the return trip from North America to Asia is relatively small; this low demand for "backhauling" items to Asia on the return leg of the trip translates into reduced cargo shipping costs. This has the net impact of making the RDBN one of the lowest-cost jurisdictions in North America for shipping goods, materials, resources and produce to Asian markets.

By working with these agencies and interests, the RDBN could develop a target list of backhaul opportunities based on local products and resources, and proactively seek to connect these products to external markets. Perishable items should be directed toward the Prince George Airport for rapid transport to Asia, while non-perishable goods should be directed to Prince Rupert for transport by sea. The RDBN's enviable position on this front may lead to other opportunities as well, such as product assembly and light manufacturing. Often, products are shipped in a disassembled format to cut down on the space (and number of shipping containers) required to transport them. Closer to their final destination, it is often necessary to operate assembly plants and facilities in order to prepare those goods for delivery to market. Bulkley-Nechako may be well-positioned to attract these kinds of assembly operations.

6 Infrastructure and Utilities

6.1 Hydro

As the third largest electric utility in Canada, BC Hydro serves an area containing approximately 94% of the provinces population, including the Regional District of Bulkley-Nechako. The primary business of BC Hydro is the generation and distribution of electricity, as well as ownership of the Provincial transmission system including towers, poles, and substations with the BC Hydro service area. BC Hydro provides hydro to customers at either the distribution (less than 35 kV) or the transmission level, depending on lead requirements. The BC Transmission Corporation (BCTC) plans, operates, and maintains public hydro infrastructure assets within British Columbia. The primary mandate of the BCTC is to maintain fair and equitable access to the provinces hydro transmission system for all electricity providers.

Both BCTC and BC Hydro have policies in place to construct new transmission lines for approved industrial and other development, as demand requires. Regardless of load requirements, BC Hydro is the primary contact for hydro and hydro infrastructure for industrial customers. For services above the distribution level, BC Hydro coordinates with BCTC on connections and service delivery.

There are also opportunities for interconnections to the provincial distribution system for area industries that have excess capacity or energy generation capabilities, such as wind power or diesel generation. These customers are referred to as Independent Power Producers (IPPs), and both BCTC and BC Hydro support the development of these projects around the province, with recent support going towards clean energy projects. Generally, industries wishing interconnections to the transmission network must apply through BCTC.

Potentially all areas served by the public transmission network have access to three-phase power, including existing and future industrial areas within the Regional District. However, existing infrastructure in the area is limited, as development is sporadic through the District. One major overhead hydro line runs from the Houston Substation (138 kV) southwest to the Imperial Metals Huckleberry Site. The lack of public infrastructure at the transmission level is likely due to the fact that many industries within Electoral Area E operate with diesel generators or other power generation processes not associated with the public grid.

New Infrastructure

No major capital expansions are planned for BC Hydro within the Regional District, but the current capital projects to increase generation at various stations around the province will have a positive effect on hydro distribution within the RDBN. The BCTC is planning several capital projects, with a horizon of 2010/2011 and beyond, however none are within the study area.

Establishing price quotations for industrial connections or the construction of hydro infrastructure in rural areas depends on a wide variety of factors including access, the type of industry, required loads, power consumption, and distance from connection points. It should be noted that since all new connections are unique, BC Hydro reviews all connections separately to

determine the best method for connection, as well as the extent of any system reinforcements that might be needed.

Industries can minimize costs for new connections by utilizing existing infrastructure or locating close to existing substations. In this case, customers are responsible for the design, construction, maintenance, and ownership of the transmission line from the customer to the point of interconnection with the transmission grid, as well as any associated costs based on BC Hydro policies. BC Hydro is responsible for the design, construction, maintenance, and ownership of the interconnection facilities as well as any reinforcements or upgrades to the system. The customer covers all associated costs, less the projected revenue of the service extension or any other allowances from BC Hydro.

There is also an opportunity for operational cost savings by purchasing hydro at the transmission level from BC Hydro or other hydro providers (35 kV or Higher). Industries wishing to do this can construct an on-site transformer to step down the hydro to a suitable level. In this case, the customer is responsible for the design, construction, maintenance, and ownership of the on-site substation (As noted above, also the transmission line connections to the system), as well as any associated costs. Existing infrastructure up to 138 kV in the Electoral Area could facilitate a range of industrial uses that require connections to the grid.

6.2 Rail Access

The CN mainline follows the Highway 16 corridor to the North of the study area, from Prince George to Prince Rupert. Based on the sporadic industrial developments throughout the Electoral Area, there is little opportunity for bulk rail service shared between industries, so there is potentially little opportunity for expansion of rail into the Electoral Area. However, there is quick access to freight services along the CN mainline out of Fraser Lake, Burns Lake, and Houston based on the existing road network.

New Infrastructure

Industry settling in the area or local authorities may request that a siding be constructed to service existing industrial facilities or greenfield development. This process involves initial contact with CN, development of detailed design, review of design by CN officials, construction, and final review by CN officials as constructed (completion). Costs through initial site preparation and final construction are paid for by the contractor/developer. As stated before, since there is little existing rail infrastructure within the district, it is assumed that these costs would likely be prohibitive of rail expansion.

6.3 Telecommunications

Public telecommunications coverage in parts of Electoral Area E includes a variety of digital cellular, as well as dial-up, wireless, DSL, and cable internet services. Communications infrastructure is mainly provided by Telus Communications and Navigata Communications, with each operating backbone fibre-optics and wireless infrastructure to the North. Additional communications services in the Electoral Area are provided by small ISPs or cable providers that have purchased or leased fibre-optics, or operate wireless access points/towers.

Cable and DSL internet is largely restricted to areas in close proximity to municipalities with fibre-optic availability. Telus' national IP network includes fibre-optics passing in close proximity to the study area, between switching stations in Prince George and Prince Rupert. Navigata Communications also operates a national IP network that passes through the Regional District. Both Navigata Communications and Telus Communications have been involved in the expansion of fibre-optics in the northern interior through their Northern BC and Connecting Communities initiatives, respectively. Since 2004, these efforts have brought high speed internet to rural locations and some First Nations communities in the Regional District. Despite this, fibre-optic coverage still approximately follows the Highway 16 corridor through the Regional District, limiting availability in Electoral Area E.

Lakes Communications provides wireless access in parts of the Electoral Area, namely along the highway 35 corridor and around Francois Lake to the Northern shore of Ootsa Lake. Coverage through the rest of the Regional District includes a variety of digital cellular, as well as dial-up, wireless, DSL, and cable internet services. Due to the lack of infrastructure availability, industries wishing to establish in remote areas of the Electoral Area would likely have to employ satellite telecommunications technology, which is typical in some of the more remote parts of the Regional District.

6.4 Natural Gas

Natural Gas within the Regional District is provided by Pacific Northern Gas (PNG). The closest communities with natural gas connections include Burns Lake and Houston, with Burns Lake having one of five compressor facilities along the PNG mainline. With the lack of existing infrastructure, natural gas connections in the Electoral Area could prove to be costly for new industries. Typically, industries within the Electoral Area are mining and forestry projects that use alternative energy sources, so there has been little need for expansion.

Costs to install natural gas connections are dependent upon the location of the parcel, distance between the new use and existing infrastructure, required loads, and the time of year that the line is being installed. Different industrial types require different sizes of gas lines and pressure required to deliver the gas, so PNG can only provide rough estimates regarding the installation of Natural Gas.

6.5 Roads

The main transportation corridor in the Electoral Area is Highway 35, which connects with Highway 16 in Burns Lake. Highway 35 provides access to the Francois Lake Ferry, which provides an alternative to travelling around Francoise Lake. The Ferry landing on the South shore of Francoise Lake provides access to the rest of the Electoral Area including Ootsa Lake.

In the rural areas of the Regional District, the Ministry of Transportation and Infrastructure (MoT) is responsible for transportation planning and development for all public roads. Through its transportation planning activity, the Ministry ensures that industrial development does not have an unacceptable impact on the existing road infrastructure and that unsafe conditions are not created. Ministry involvement in industrial development is typically at the subdivision, rezoning, and access approval stages.

The Ministry of Transportation and Infrastructure is the subdivision approval authority in the rural areas of the Regional District. As part of final approval, the Ministry ensures that all new lots are serviced by a road, and that the existing road network will not adversely be affected by the traffic generated from the new development. As a condition of final subdivision approval, the Ministry may require the construction of new roads or improvement of existing roads. If the subdivision is proposed for land adjacent to a municipality, the Ministry may refer the application to that municipality for comment, in order to facilitate cross-jurisdictional cooperation for factors like road networks.

The Regional District is the approval authority where land requires a Rural Official Community Plan or Zoning Bylaw amendment for industrial development. Applications are referred to the MoT for comment on road related issues. As a condition of approval, the Ministry or the Regional District may require construction of new roads, or improvements to existing roads for Zoning Bylaw or Rural OCP amendments.

7 Industrial Land Requirements

7.1 Introduction

This section identifies the industrial uses that have potential to locate in Electoral Area E and includes uses being targeted by local economic development initiatives. It also identifies the estimated land requirements for each use identified. The industrial uses identified are organized into either the 'Forestry', 'Mining', 'Agriculture,' or 'Other Special' resource sectors.

An evaluation is then made of the industrial uses considered most likely to locate in the study area in the near future. This information provides a basis for understanding the industrial land needs in Electoral Area E.

It should be noted that light industrial uses (particularly those with a service, retail, or office component) are not specifically encouraged within this area, as they are often linked to larger communities and municipalities. Please refer to the relevant Zoning Bylaws for industrial zoned properties within those municipal boundaries. General descriptions of the following relevant zones can be found in Section 3 of this study:

- Regional District's M1, M2, M3, H1 B, H2, Ag1 and RR1 zones

It is noted that this information is based upon literature reviews and extensive consultation with community stakeholders and industry experts. It is not a scientific study and is intended only to provide a rough estimate of land needs within the study area.

7.2 Forestry and Forest Products Sector

The Canadian forestry industry, long one of the stalwarts of the Canadian resource-based economy is at a significant tipping point. Of all sectors of the resource economy, the decline of forestry seems to be one of the most severe. An estimated 25% of the total workforce in the industry has been displaced from 2003 to 2008, as the industry continues to restructure in an attempt to stay competitive. In British Columbia, perhaps the most devastating factor to the provincial industry has been the Pine Beetle epidemic. Despite this, forestry still remains one of the focal industries in British Columbia, especially in the rural areas of the Northern mainland. Several factors are contributing to shape the Canadian forestry industry:

Increased international competition

Over the past few years, there has been increasing competition in the global forestry industry, decreasing Canada's market share. From 2004 to 2008, export revenue in the forestry and logging industry fell by approximately 37%[1]. This is in part based on the rise in forestry exports from nations like Brazil, New Zealand, China, Russia, and Chile.

[1] Industry Canada, Trade Data Online

Rising energy costs

As with all resource-based industries, a determinate of success is in part the ease with which the comparatively lower cost raw materials are moved to their processing destinations. With the rise in the cost of energy over the past few years, especially in transportation and fuel, there has been added stress on the industry to both harvest sawlogs and transport them.

Decline in Home Building

The U.S. subprime mortgage crisis and the subsequent decline in U.S. and Canadian home building over the past year has had a negative effect on the Canadian Industry, as access to credit for homebuilders is down, and foreclosures offer new home buyers a comparative bargain price for housing. Demand has decreased significantly, and most reports until recently have forecasted only moderate, if any, recovery over the short term. When paired with the increasing value of the Canadian dollar putting stress on commodity export, it becomes evident that even with an uptick in demand the U.S. market can likely be supplied by multi-nationals in Canada, or comparatively lower cost sawmills in the U.S. On the positive side, emerging Asian markets offer an opportunity to supplement this loss of demand for home building materials.

Increase of value-added niche products

The forestry industry has benefitted from the rise in value-added niche products, especially for beetle damaged wood. Perhaps the most notable product in this regard is the increase in production of wood pellets. The demand for many of these value added products is based in the increased use of forestry residue in alternative energy projects, and to some extent, biotechnology applications (bioplastics, biofibres, and biopolymers). The move towards environmental sustainability will drive increased demand for these value-added niche products.

Decline in demand from pulp and paper industry

In addition to the housing industry, the decline of the paper manufacturing industry has contributed to the shape of the Canadian forestry industry over the past few years. As a major consumer of forestry products, pulp and paper mills form an important part of the forestry value chain. The main drivers forcing the decline of the paper industry (and thus the forestry industry) are the rise in electronic media, as well as the increased prevalence of paper recycling.

Relevance to RDBN

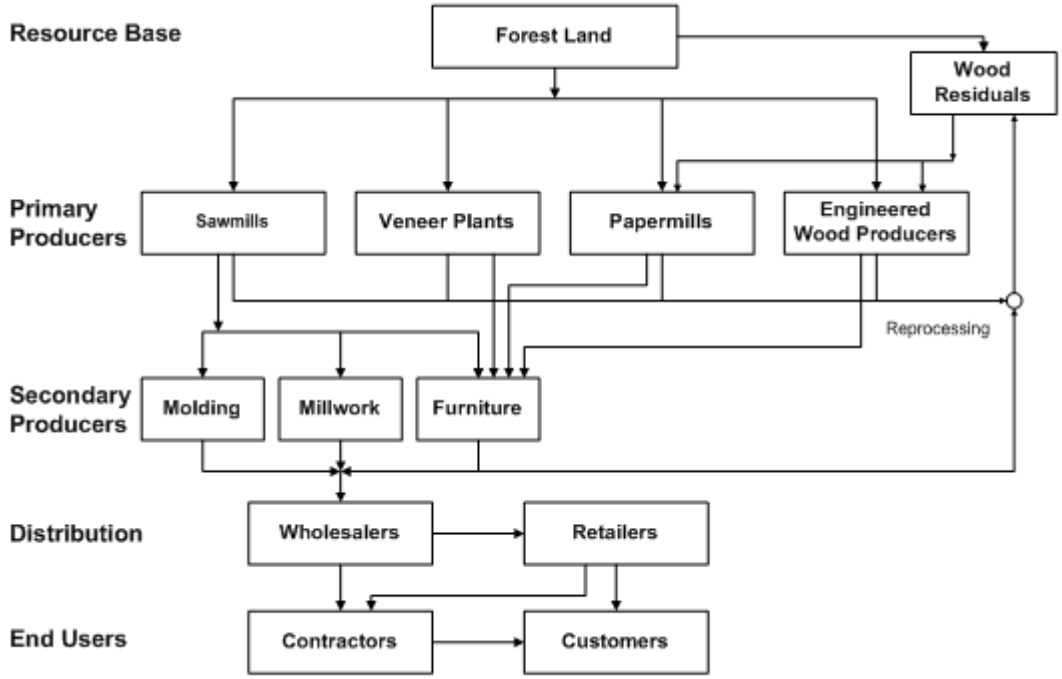
Common to the rural areas of the Northern interior, forestry forms a significant part of the economy of Bulkley-Nechako. With almost 23% of the workforce engaged in the forestry and logging; wood products manufacturing, or paper manufacturing industries, the local economy remains susceptible to these industry trends, as has been noted by the idling and closure of local sawmills in recent years. However, based on good access to raw materials, a slowly recovering domestic home building market, an increasing number of value-added applications for beetle damaged wood, and new back-haul opportunities to emerging Asian markets, the forestry industry in the RDBN may be poised for a good recovery.

7.2.1 Forestry and Forest products in the Regional District of Bulkley-Nechako

Due to the Mountain Pine Beetle epidemic, the forest sector will be facing a lack of sawlog quality fibre and an abundance of dead Mountain Pine Beetle affected timber within six to ten years. The decrease in sawlogs presents a significant threat to existing sawmill operations; however, it presents a unique opportunity to diversify from lumber production into other forest sector operations while making use of the abundance of poor quality fibre.

The RDBN's Economic Development Action Plan includes the following depiction of the forest industry value chain, displaying information regarding possible activities in the value-adding arena. These opportunities may apply to beetle-affected fibre, to normal fibre, or to both. In general, new industrial opportunities will fit within this schematic

Forest Industry Value Chain



Some examples of new businesses that could capitalize on the available wood waste are listed below:

- Pulp/Paper Mill
- Large Scale Secondary Manufacturing
  - Pellet Plant
  - Plywood Plant
  - Fibreboard
  - Log Home Building
  - Fence Post Manufacturing
- Small Scale Secondary Manufacturing

  - Furniture Manufacturing
  - Flooring/Wainscoting Manufacturing
  - Decking Manufacturing
- Bioenergy Plant

The construction of the Prince Rupert Port (section 5.3) will also assist in the sustainability of large and small scale manufacturing plants. It will provide a close ground shipping point (500 km) for product export, as well as the shortest shipping route to Asia and decreased export costs in the utilization of empty backhaul containers. Small-scale manufacturing plants could include light manufacturing and treatment/processing of wood products. In the case of specialty mill operations, a wood window/door manufacturer has been previously identified in RDBN's Economic Development Action Plan, and could be the type of value added process suitable for the Electoral Area. In addition, the rural nature of Electoral Area E allows the development of Heavy Industrial uses, subject to the site being suitable for that activity. Examples of this could include a pellet plant, or fibreboard, plywood, and fencepost manufacturing activities. Most notably, these uses could be directly linked to co-generation/biomass projects in the surrounding larger centres, like Burns Lake. Both the warehousing and community kiln operations provide support to smaller operators that may wish to undertake a niche activity within the forest products industry (furniture for example).

In summary, Electoral Area E is one of the stronger areas regarding availability of biomass. The existing community forest ensures the long-term sustainability and access to fibre products for a range of users. This offers further opportunity for all types of manufacturing, from large scale pellet or pulp and paper mills, to small niche manufacturers that selectively utilize forest resources on a very small scale. The latter opportunity could include specialty industries like furniture manufactures, and are especially valuable when looking at opportunities for pine beetle damaged wood.

Specific industry types are indicated below with infrastructure, zoning and parcel size requirements.

Industry Type	Special Infrastructure Requirements	Zoning	Parcel Size Requirements
Large-scale Secondary (Value Added) Manufacturing[1]	▪ 3-Phase Power ▪ Good Road Access ▪ Rail Access ▪ Water	M2	80 ha. +/-
Small-scale Secondary (Value-added) Manufacturing[2]	▪ 3 Phase Power ▪ Road/Rail Access	M2	2-8 ha.
Pulp-Mill – Pulp and Paper manufacturing	▪ 3-Phase Power ▪ Good Road Access ▪ Rail Access ▪ Water	M2	100 ha. +/-
Log yard	▪ Good Road Access	M2	2-4 ha.
Community Kiln	▪ Road Access	M2	2 ha.
Portable sawmill and Lumber Kiln	▪ Road Access	Ag1 H2	G.F.A. < 45m^2

		RR1	
Small-scale Specialty manufacturers – i.e. furniture	▪ 3-Phase power, depending on operation ▪ Road Access	M1	1 ha.
Warehousing	▪ Good Road Access	M1	1-2 ha.

[1] Large-scale Secondary Manufacturing includes: Pellet plants, plywood, fibreboard, and fence post manufacturing.
[2] Small-scale Secondary Manufacturing could include specialty mill operations, furniture manufacturing, flooring, and treated wood products (poles, posts, decking, etc.).

7.3 Mining and Subsurface Resource Sector

The Canadian and global mining industry are not immune to the global economic downturn, especially over the last several financial quarters. However, leading up to the last quarter of 2008, the mining industry has enjoyed one of the most prosperous periods on record. Exploration levels in Canada were high, and global metal prices were at or near historically high levels. As well, emerging markets offered good growth prospects over the medium term. By far the largest threat to the mining industry and many other Canadian industries is a prolonged economic downturn. Despite the downturn, British Columbia remains one of the best-positioned to meet the growing mineral needs of the emerging markets, and the Provincial government is committed to supporting the industry. However, there are several broad issues of note that affect the mining industry, with particular relevance to British Columbia:

Shifting Demographics

Over the next decade, the industry faces a serious human resource challenge. The projected increases in demand paired with the generally aging population of the industry will place pressure on the ability to meet the increased demand. The mining association of Canada suggested in 2008 that over the next decade there will be an opportunity for approximately 9,000 new workers in the sector, while at the same time approximately 65% of the skilled core in the mining industry (especially geoscientists) will be reaching retirement age[2]. There will be a greater need to attract a wider range of workers to the industry, as the mining sector is traditionally underrepresented in females, youth, and minorities[3].

Volatile commodity/mineral prices

Over the last few months, there has been a significant drop in the price of commodities, from the rapid increase buoyed by demand from emerging markets leading up to the downturn. For example, copper has fallen from a high of $4.00 USD per pound to as low as $1.30 USD per pound[4]. Many analysts predict that these low prices will continue for some time, but could also stabilize based on the recovered demand from markets and the cancellation or postponement of several projects. Overall, this uncertainty may keep prices volatile until there is a well established market in place again.

Lack of access to financing

[2] The Mining Association of Canada, Facts and Figures, 2008
[3] ibid
[4] Mining Economic Taskforce Report, 2009

Among other things, the global economic downturn has affected the ability of businesses to secure financing and credit. In the mining sector, access to finances is paramount to exploration, and thus growth. In BC, a significant portion of activity is in mineral exploration, so a protracted economic downturn could potentially affect the ability of the industry to grow.

Increasing environmental sustainability pressures

Among other factors, the environmental sustainability movement has been one of the main drivers in the increase of capital costs in the mining sector. Mining involves relatively major intrusions into natural environments, as well as significant greenhouse gas emissions. So, investments in environmentally sustainable practices, as well as open project review policies and community relations will continue to increase costs for both exploration and mining activities.

Deteriorating Infrastructure

Across Canada, municipalities and regional governments are dealing with a growing infrastructure deficit. Due to historic lack of funding from the federal government, infrastructure in many areas has fallen into disrepair. As Canada's largest customer for the transportation sector, much of the success of the mining industry is dependent on infrastructure allowing efficient movement of products. However, British Columbia may be slightly ahead of the curve in this regards, as effects have somewhat been mitigated by federal infrastructure stimulus, as well as funding through the Asia-Pacific Gateway and Corridor Initiative, and major construction projects in advance of the Vancouver 2010 winter Olympics. The challenge will be to maintain these government investments in infrastructure.

Demand from emerging markets

Overall, based on the rapid industrialization of emerging markets, there was a steady increase in the demand for minerals, especially those in steel-making, coal, and metals. As noted before, BC is well poised to capitalize on this growth, as a major supplier of these minerals, and the close geographic proximity to the major markets (China and India).

Relevance to RDBN

These trends have specific relevance to the rural areas of the RDBN. Generally speaking, the population within Bulkley-Nechako is aging at a faster rate than the province. Paired with the loss of youth in some Electoral Areas, the mining industry in Bulkley-Nechako may be subject to major human resource challenges, in order to meet potential demand. In addition, a number of projects within the Regional District are at the exploratory/environmental assessment stage. A significant threat lies in the possible continuation of the downturn, translating into further delays or cancellations of projects. In addition, depressed commodity prices could further the layoffs and closures already seen in the Regional District.

On the positive side, the demand from emerging markets lines up well with the mineral strengths of the Electoral Area. As demand surges for steel-making and metals, the mining strengths of the Regional District in copper, molybdenum, and to some extent gold, could begin

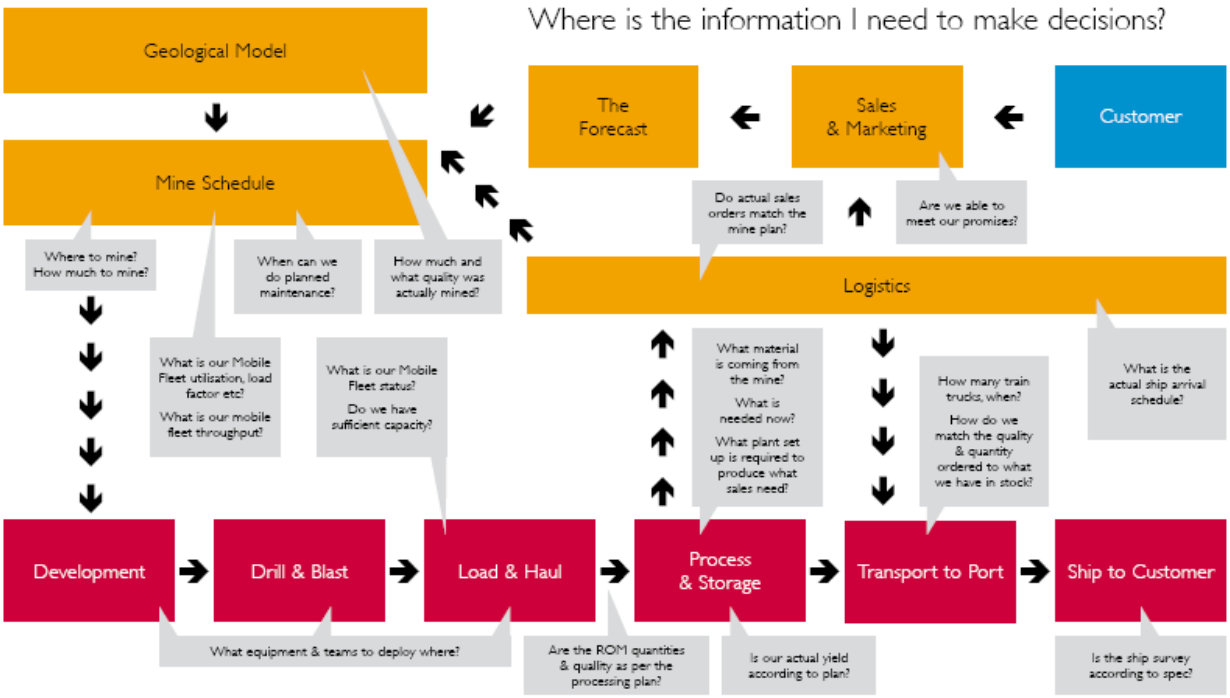
to assist in the recovery of the sector, perhaps at a faster rate that other areas of Canada dependant on other materials. As well, with the growth of the Port of Prince Rupert, the RDBN is well positioned geographically to meet the needs of these markets.

7.3.1 Mining and Subsurface Resources Sector in the Regional District of Bulkley-Nechako

The Huckleberry Mine is the only mine that is presently operational in Electoral Area E. There are also numerous exploration sites and considerable mineral showings within Electoral Area E, including the Seel site, and others close proximity to Electoral Area E, including the Lucky Ship (Electoral Area G) and Nithi Mountain (Electoral Area D) sites. If mining activity expands in the area, it will present significant new opportunities for existing skilled trade workers and other support businesses in the area, including new industrial operations.

The RDBN's Economic Development Action Plan includes the following depiction of the mining industry value chain, displaying information regarding possible activities in the value-adding arena. In general, new industrial opportunities will fit within this schematic.

Mining Industry Value Chain



Some of the support business opportunities in the mining sector include:

- Drilling & Blasting Support
- Welding & Fabricating
- Processing & Warehousing/Storage
- Transportation & Logistics (Ore Hauling)
- Lab Analysis (Samples)
- Environmental Remediation
- Industrial Park Development

Given the potential for the Smithers-Telkwa Region to develop, as well as the potential mine developments in the Electoral Area, and supporting educational opportunities at the College campuses in Smithers, Houston, and Burns Lake, there could be potential for the development of a range of activities across the traditional mining value chain.

Specific industry types are indicated below with infrastructure, zoning and parcel size requirements.

Industry Type	Special Infrastructure Requirements	Zoning	Parcel Size Requirements
Warehouse Facilities for Sample Storage/Explosives/Equipment	▪ Good Road Access	M1	1-2 ha.
Labs or Other Analysis/Testing Facilities	▪ Road Access ▪ High-speed internet and Telecommunications	M1	0.5-1 ha.
Maintenance, Heavy Equipment Repair, Welding, Fabricating	▪ Road Access	M1	0.5-1 ha.

7.4 Agricultural Sector

Canada is in the fortunate position of having a diverse agricultural landscape from coast to coast. In nearly 230,000 farms across the country, Canadian agricultural operators produce a wide range of grains, oilseeds, vegetables, fruit, and livestock. However, even as a large and diverse agricultural producer, Canada is still part of the global food market. As both an exporter and importer of food, Canada is subject to global trends. Some of the largest trends are presented below, but underlying and connecting most of these are factors including food safety, consumer demand, climatic pressures, and industry restructuring. Examples of broad themes in agriculture include:

Concerns/perceptions about Agricultural Products

From Bovine Spongiform Encephalopathy (BSE or "Mad Cow Disease") to Escherichia coli (E. Coli) there is a growing concern about food safety across Canada and the world. Compounding this is the increased globalization and consolidation in the industry, making it more difficult to trace where products originate. Therefore, in Canada, the response to this is through traceability standards, which begin to pinpoint the exact origin of products, and thus, increase food safety[5]. However, while this movement towards automation saves costs over the longer term, it presents a relatively high cost to producers at the introduction of the technology.

Perhaps less a problem currently, the Canadian livestock industry has been subject to price and demand volatility based on the presence of BSE. Despite the fact that the disease has only shown up intermittently in Canadian livestock, Canada has been subject to severe sanctions in the past. While markets have re-opened to some extent, Canadian beef farmers are only slightly starting to recover.

Consolidation and industry restructuring

Generally speaking, there has been both a global and national movement in agriculture towards consolidation and industrialization. Essentially, the trend has been to increase in size, whether it is acreage farmed or livestock headcount, in an effort to stay competitive within an increasingly

[5] OMAFRA, Benefits of Traceability for Agriculture, 2009

consolidated agricultural industry. Evidence of the consolidation is shown through the 2006 census, where there was a 5.5% decrease in Canadian farm operators (approx. 20,000) from 2001 to 2006[6]. The number of larger farms (with gross receipts over $250,000) increased by 13.8% over the same time period[7].

Increase in value-added niche products

Based on changing consumer demands, there has been an increase in value-added niche products in Canadian agriculture. Most notably, there has been an increase in the number of certified organic products, in an effort to meet the demands of a population that is more concerned with the way food is produced. In June 2008, Statistics Canada reported that total sales of certified organic products in Canada grew 28% overall, with sales of pre-packaged organic products up 31% and fresh products up 22%[8]. As well, like any other industry, agricultural producers are looking for effective ways to gain the most value for their products, and often the best way to do that is through farm-scale pre-processing of products – for example, selling pre-packaged certified organic fruits and vegetables rather than the raw products.

Buy Local Initiatives

Related to the above is an increasing demand to buy food and agricultural products locally. Drivers for this movement range in nature, but they are mostly based in concerns over food safety and food production practices, as well as increasingly discerning customers, and environmental concerns associated with transportation. As well as recognition of where products come from, an additional driver of this movement is the need to support local farmers. In 2003, the Region of Waterloo Public Heath found that the portion of the final buyer's price paid to the farmer increased from approximately $0.09 for every dollar spent, to as much as $0.80 or $0.90 for every dollar in direct marketing initiatives[9]. So, the movement towards "buy local" initiatives has the potential to benefit both local farmers and consumers.

Aging population, lack of succession

Like all Canadian industries, the agricultural industry is subject to the generally aging population, namely that the age of farmers in Canada is increasing. From 2001 to 2006, the average age of farm operators in Canada grew from 49.9 years old to 52.0 years old[10]. Coupled with the lack of youth engagement in agriculture as a viable career, and pressures of youth retention in rural areas, Canada may be at a tipping point with regards to replacing the aging workforce, and thus supplementing food production in Canada.

[6] Statistics Canada, 2006 Census of Agriculture
[7] ibid
[8] Statistics Canada, Canadian Agriculture at a Glance, Organic: From Niche to Mainstream, 2008
[9] Region of Waterloo Public Health 'Growing food and economy' 2003
[10] Statistics Canada, 2006 Census of Agriculture

Increasing costs

The Canadian agricultural industry is also subject to the same rising cost pressures being extended on most other Canadian industries. Perhaps the most pressing issues are the increasing cost of fuel, which is placing stress on both harvesting and transporting agricultural products, and the volatility of the Canadian dollar, which is affecting the export of agricultural products. However the trend towards alternative energy, most notably through biomass, should offset energy costs to some extent over the coming years. Also pressing is the generally increasing cost of animal feed (drought, crop diversion to energy), which is placing stress on the profitability of livestock operations[11].

Relevance to RDBN

As a Region with a comparatively smaller agricultural sector based mainly in livestock production, Bulkley-Nechako is generally susceptible to these national and global trends. Especially of note to the Regional District is the volatile market for livestock operations, as well as increasing consolidation of operations – leading to an increase in acreage/size of farms and operations paired with a decrease in operators. However, as a smaller industry, which still maintains some diversity in operations (livestock, grains, vegetables, tree fruits), the agricultural sector in Bulkley-Nechako maintains a certain level of agility and stability. Smaller operations can offer more specialized niche products, which could be a relative strength for the Regional District given backhaul opportunities, access to local markets, and the growing local demand and potential international demand for niche products.

7.4.1 Agricultural Sector in the Regional District of Bulkley-Nechako

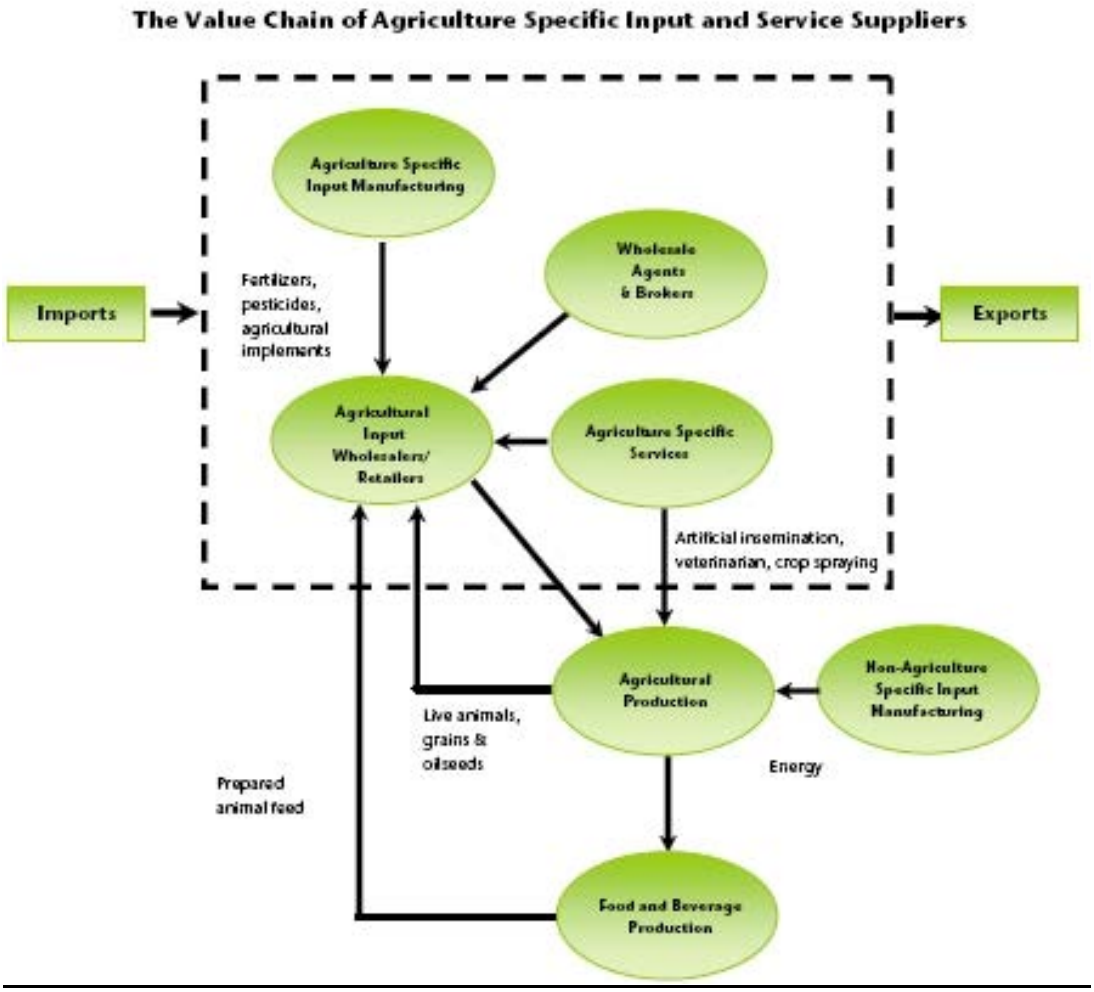
Agriculture, though present in the RDBN for many years, is still in many ways an emerging industry. According to the 2006 Census of Agriculture, approximately 20% of the farmland in the Bulkley-Nechako census district is contained within Electoral Area E. There is a relative strength in both food and feed crops, with moderate proportion of the Regional livestock activities. Thus, there may be some opportunity for large and small-scale agriculture industries such as greenhouses or processing and packaging facilities. Many industrial uses closely related to agriculture do not require industrial zoning, and do not need to be accommodated in this strategy given the abundance of Agricultural Land Reserve (ALR) parcels throughout the region and abundant zoning that allows agricultural related industry. Only a limited number of agriculture related uses require industrial zoning.

With the future restructuring of the forest sector in the area, there is potential for local farmers to secure more crown land for farming purposes. Also, collaboration with the local educational institutions (e.g. College of New Caledonia) for the purposes of offering agriculture training programs may assist in retaining youth locally to pursue farming opportunities.

The RDBN's Economic Development Action Plan includes the following depiction of the agricultural sector value chain, displaying information regarding possible activities in the value-adding arena. In general, new industrial opportunities will fit within this schematic.

[11] CBC, From wheat to meat: cattle producers anxious over jumping feed prices, 2008

Agriculture Sector Value Chain



Input and service suppliers, ranging from multinational firms and commodity brokers to small local businesses, play a vital role in the agriculture and agri-food system. Improvement in inputs and changing production technologies will create opportunities to develop different types of

value added products for the market. The value chain needs to be emphasized in program design and implementation. Some of the opportunities outlined for the region include:

- green house operations
- bio-energy
- livestock, ranching and related slaughterhouse operations
- food and beverage packaging and processing
- warehousing
- Transportation and logistics

Specific industry types are indicated below with infrastructure, zoning and parcel size requirements.

Industry Type	Special Infrastructure Requirements	Zoning	Parcel Size Requirements
Greenhouse facilities	▪ Good Road Access ▪ 3-phase power ▪ Rail access - depending on products ▪ Water	Ag1 H2 RR1	1-2 ha.
Small-scale food processing/packaging facilities	▪ Good Road Access ▪ Rail Access – depending on products ▪ Water	M1	0.5-1 ha.

7.5 Other Special Uses

There are opportunities that do not fit clearly within one single, or any traditional industrial sectors. These include:

- Business opportunities related to co-generation and/or bio-mass facilities and the energy sources created
- Opportunities for the development of an industrial park in order to attract industrial uses
- The development of the Prince Rupert Container Port and Prince George inland container facilities may provide opportunities for the development of transportation businesses to support future resource industries in and around the region

As noted, the Mountain Pine Beetle epidemic will result in an abundance of bio-mass (wood residue) that is no longer of saw log quality but can be utilized for power production. There is increasing interest in the projected wood waste volumes in the study area from independent power producers. This new interest, coupled with opportunities and assistance presented by the Province of British Columbia (detailed below) can result in new industry for the area and diversification for the forest sector.

Over the next 20 years, British Columbia is projecting an increase of 45% in energy requirements beyond what is currently produced in the province. The Provincial Government

has made a commitment in the BC Energy Plan that British Columbia will be electrically self-sufficient by 2016. As a result of this commitment, in early March 2007, BC Hydro issued a Request For Expression Of Interest (RFEOI) for bioenergy power production utilizing wood waste. As well, BC Hydro announced the Standing Offer Program to purchase power from small producers in any format (wind, water, wood waste etc) for power plants producing less than 10 MW of power.

The RFEOI from BC Hydro is assisting the Province with the projected energy shortfalls as well as aiding in the Mountain Pine Beetle epidemic by capturing value from affected timber that may otherwise not be useable. There are several opportunities in the bioenergy sector including combined heat/power plants for community heating systems, or power production specifically for selling to the grid. A combined heat/power plant could be utilized to heat such facilities as housing complexes (apartments, senior's homes, etc.) hospitals, recreation centres, and large scale green houses. There is potential for joint ventures between the local governments and independent power producers. There is also potential for the local governments to move forward on these initiatives on their own, owning the assets and collecting revenues from power sales to offset taxation in the area. However, the lack of transmission level hydro infrastructure in the study area this could potentially raise the cost of initial infrastructure construction for Independent Power Producers (IPPs) or local/regional governments. As well, it may limit the size of IPPs to small producers, rather than large facilities requiring significant infrastructure.
Economic development staff should work with partners with the Prince Rupert Port and the Prince George airport, as well as international trade officials, to explore opportunities for assembly and light manufacturing. Often, products are shipped in a disassembled format to cut down on the space (and number of shipping containers) required to transport them. Closer to their final destination, it is often necessary to operate assembly plants and warehousing and logistics facilities in order to prepare those goods for delivery to market. Bulkley-Nechako may be well-positioned to attract these kinds of assembly operations.

Also, building on the strengths of the local campuses of both the College of New Caledonia and the Northwest Community College, there could be an opportunity to build a partnership between industry and the schools to offer programs more specifically suited to a business through their contract training programs. Currently, courses offered from the campuses in an industrial context include both foundation level and apprenticeship training in: Aboriginal Environmental Technician, Basic Prospecting, Carpentry, Contractor Certifications, Driving/Transport, Electrical, Excavator Operation, Heavy equipment Maintenance, Automotive maintenance, Mining Exploration, Oil & Gas, Plumbing, Residential Construction Framing, and welding. The close proximity to associated apprenticeship programs in Smithers and Houston offers businesses in the Electoral Area the option to secure entry-level employees early, and send them for apprenticeship training within the Regional District.

There may also be an opportunity for a satellite educational facility associated with either the NWCC or College of New Caledonia. Based on the existing forestry and mining operations around the Electoral Area a trades training facility or small incubator may be able to develop, with a focus on small secondary processes associated with either industry. In a forestry context,

this may be the type of infrastructure required to support new and innovative solutions for beetle damaged wood.

Specific industry types are indicated below with infrastructure, zoning and parcel size requirements.

Industry Type	Special Infrastructure Requirements	Zoning	Parcel Size Requirements
Log Home building	▪ Good Road Access	M1	1-2 ha.
Trades Training facility	▪ High Speed Internet ▪ 3-Phase Power, depending on the trades	M1	1 ha.
Mining/Environmental Remediation – offices/storage/operations	▪ Good Road Access ▪ 3-Phase Power, possibly ▪ Telecommunications, High-speed internet	M1	1-2 ha.
Residential/Commercial Building Contractors (Framers, Plumbers, Electricians) – Associated Storage	▪ Good Road Access	M1	0.5-1 ha.
Trucking/Transportation – related storage	▪ Telecommunications ▪ Good Road Access	M1	1-4 ha.

7.6 Key Industrial Users

It is not expected that all of the industry noted above will locate in the study area within the next 10 years. Based on the volatility of the primary and processing manufacturing industries, projects could be delayed for an undetermined amount of time, as is evident now with the low price of commodities and the mining sector. However, the following key industrial uses have been selected as the most likely to locate in the area within the next 5-10 years. It should be noted that for some of these key industries, there may be infrastructure upgrades required before development can take place; most notably the expansion of three-phase power into the Electoral Area or improved telecommunications.

Industry Type	Special Infrastructure Requirements	Zoning	Parcel Size Requirements
Large-scale Secondary (Value Added) Manufacturing	▪ 3-Phase Power ▪ Good Road Access	M2	80 ha. +/-

	▪ Rail Access ▪ Water		
Small-scale Specialty manufacturers – i.e. furniture	▪ 3-Phase Power, depending on operation ▪ Road Access	M1	1 ha.
Small-scale Secondary (Value-added) Manufacturing	▪ 3 Phase Power, depending on operation ▪ Road/Rail Access	M2	2-8 ha.
Trades Training facility - Mining	▪ High Speed Internet ▪ 3-Phase Power, depending on the trades	M1	1 ha.
Log Home Building	▪ Good road Access	M1	1-2 ha.
Residential/Commercial Building Contractors (Framers, Plumbers, Electricians) – Associated Storage	▪ Road Access	M1	0.5-1 ha.
Community Kiln	▪ Road Access	M2	2 ha.
Portable sawmill and Lumber Kiln	▪ Road Access	Ag1 H2 RR1	G.F.A. < 45m^2
Log yard	▪ Good Road Access	M2	2-4 ha.
Mining/Environmental Remediation – offices/storage/operations	▪ Good Road Access ▪ Telecommunications, High-speed internet	M1	1-2 ha.
Trucking/Transportation – related storage	▪ Telecommunications ▪ Good Road Access	M1	1-4 ha.
Warehousing	▪ Good Road Access	M1	0.5-1 ha.

7.7 Adequacy of Existing Industrial land Supply to Meet Future Demand

The purpose of this section is to estimate the amount of land that will be required by any of the key industries that are likely to establish within the Electoral Area, based on reviews of existing studies, reports, and consultations with local industries and experts. Presently, there is approximately only 4.1 ha. of vacant useable industrial land in Electoral Area E. If demand increases, this supply will almost certainly be inadequate to meet the needs of industrial development over the long-term.

It is difficult to forecast the total amount of land that will be required for industry over the next 5 to 10 years given the highly variable nature of the core business activities in the Regional District and the lack of historical data from which to base land absorption rates. It is not entirely practical to expect that all of the activities identified in this report will locate in the Region, but it is almost certain that there will be some demand above the current supply of industrial lands.

As Table 4.2 indicates there are already some minor existing industrial lands in Area E which are underutilised, these are primarily zones Light Industrial (M1), 4.130 ha, across 3 parcels. These parcels may be suitable for further development to meet the needs of key industrial uses as outlined in section 7.7. The following chart summarizes the amount of land that could potentially be needed over the next 5 to 10 years.

Industry Type	Amount of Land	Parcel Size Requirements

Land for Light Industrial Use (warehousing, light manufacturing, transportation, etc)	10 ha.	0.5 ha. – 5 ha.
Land for small to average Heavy Industrial Use (abattoir and other Agriculture Industry, log home building, asphalt plant, etc)	10 ha.	4 ha. – 10 ha.
Land for large scale Heavy Industrial use (pellet plant, large wood products manufacturing, etc)	40 ha.	20 ha. – 40 ha.
Agricultural Industrial use (greenhouses, other large scale agricultural activities)	1 ha.	1 ha. – 3 ha.

8 Potential Industrial land Location Inventory

8.1 Vacant Existing Industrial Land Inventory

The parcels discussed in Section 8.1 are zoned industrial by the Regional District for Industrial Use, but are not yet developed for Industrial Use, or have significant redevelopment potential. The following table provides an overview of the parcels discussed. It is noted that the information below is an estimate and should not be relied upon for any purpose.

Table 8.1

Vacant Industrial Land Inventory Overview

Parcel No.	Civic Address	Zoning	Site Size (ha)	Usable Vacant (ha)
1	3685 Tchesinkut Road East, Tchesinkut Lake	M1	2.141	1.606
2	Hospital Road, Southside	M1	1.335	1.335
3	26378 Danskin Rd, Danskin	M1	3.962	1.189
Total			**7.438**	**4.130**

These are all very small sites, though on the Southside they represent some of the only land available for industrial uses and development.

8.2 Potential Future Industrial Land Inventory

The parcels discussed in Section 8.2 are not zoned by the Regional District for Industrial Use and are not yet developed for Industrial Use. The lands are those identified as having the potential for industrial use, however, these lands may be found, upon further review and consultation with the public, to be unsuitable for a particular, or any industrial use. The following table provides an overview of the parcels identified.

Parcel	Address	Property Area	Potential Useable Industrial Land	Zoning
E1	Highway 35 and Gilgan Road	51.2 ha.	51.2 ha.	H2
E2	Highway 35 and Guyishton FS Road	66.1 ha.	66.1 ha.	H2
E3	Keefe's Landing Road and Tatalrose Road, Grassy Plains	37.3 ha.	37.3 ha.	N/A

Parcels No E1 through E3 are shown in greater detail in Appendix B. The information regarding parcel descriptions, infrastructure, and special considerations is provided for convenience only and should not be relied upon for any purpose. All information should be independently verified.

9 Conclusions

There are a total of 5.4 hectares of Existing Industrial Land in the study area. Approximately 1.3 hectares, or 24%, of the Existing Industrial Land is developed. Approximately 4.1 hectares, or 100%, of the remaining 4.1 hectares of Vacant Industrial Land is considered usable based upon preliminary site evaluations. The majority of the usable portions of all vacant industrial parcels are smaller than 2 ha in size.

The study has identified a potential demand for up to:

- 10 ha. of land in parcels that are from 0.5 ha. – 5 ha. in size for Light Industrial Use (warehousing, light manufacturing, transportation, etc.)
- 10 ha. of land in parcels that are from 4 ha. – 10 ha. in size for Heavy Industrial Use (abattoir and other Agricultural Industry, log home building, asphalt plant, etc.)
- 40 ha. of land in parcels that are from 20 ha. – 40 ha. in size for large scale Heavy Industrial Use (pellet plant, large wood products manufacturing, etc)
- 1 ha. of land in parcels that are 1 ha. – 3 ha. for Agricultural Industrial Use (greenhouses, other large scale agricultural activities)

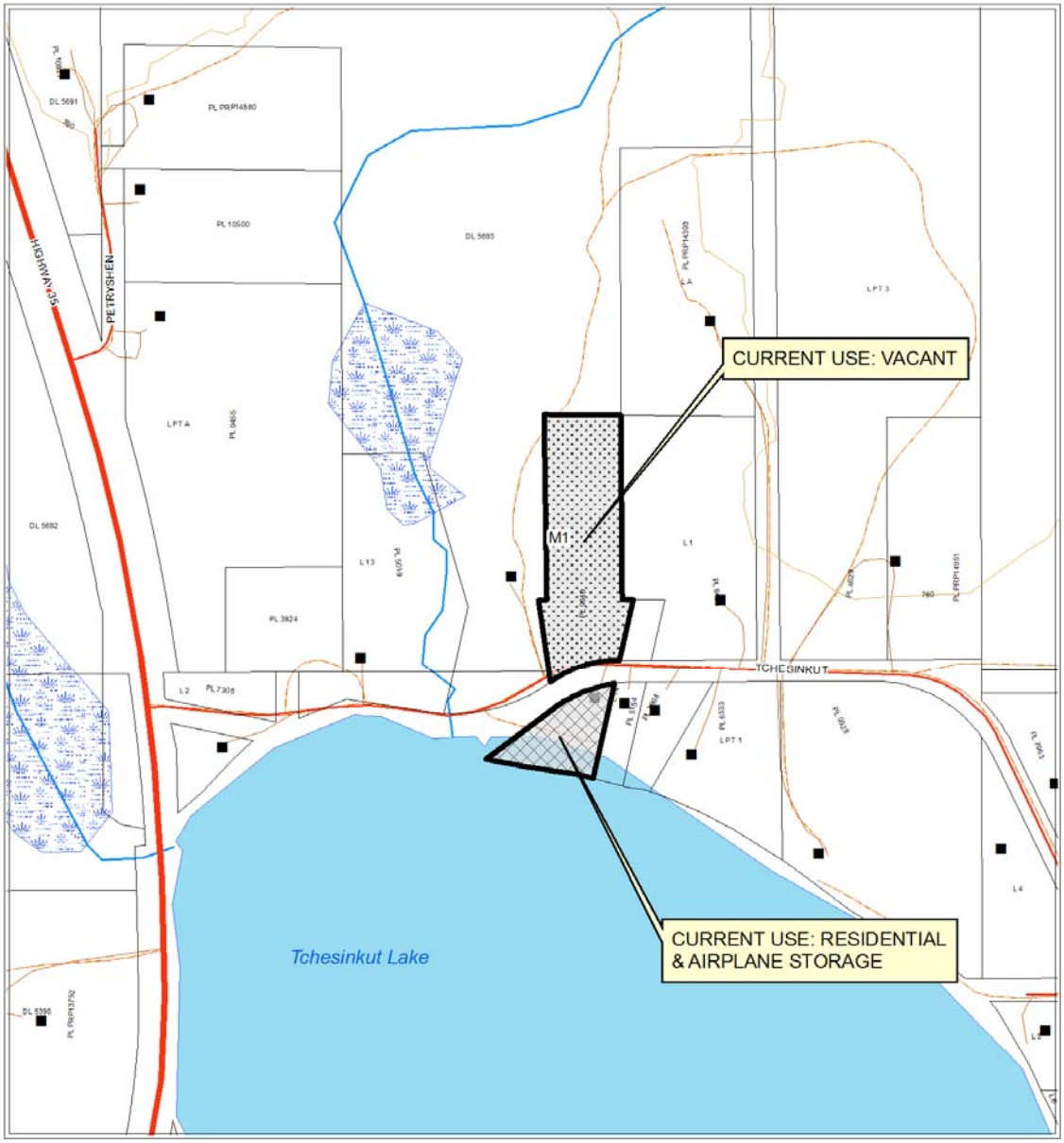
The study has identified, in Section 8 and Appendix B, properties that have some potential for industrial development. These properties total over 154.8 ha. of potential usable area. As part of the Official Community Plan review process for Electoral Area E, these lands will be further evaluated regarding their potential suitability for industrial designation. If designated for industrial use, the rezoning process will then be required to allow for further evaluation of each property's suitability for a specific industrial purpose. Both the OCP designation and rezoning process include a public review and input component.

Appendix A – Existing Rural Industrial Lands

Area E - Industrial Land Use Study

Appendix A: Exisiting Rural Industrial Lands

Map 1



Legend

- Road
- Highway
- Driveways
- Forestry Roads
- Railways
- Hydro_Lines
- Municipalities
- Cadastre
- Provincial Parks
- Indian Reserves
- Agricultural Land Reserve
- Buildings

Industrial Zoning

- M1
- M2
- M3

Industrial Use

- DEVELOPED
- VACANT

N W E S

SCALE 1:5,000

ELECTORAL AREA: E

PARCEL DESCRIPTION				
Legal Description:	L A DL 5693 R5C PL 9640			
Civic Address:	3685 Tchesinkut Road East			
PID:	005898251		**BCAA Folio Number:**	26-755-13894000
Zoning:	M1		**ALR Status:**	No
Parcel Size:	2.141 ha		**Ownership:**	Private
Industrial Land:	**Total**	**Developed**	**Vacant**	**Usable Vacant**
	2.141 ha	0.535 ha	1.606 ha	1.606 ha
Current Uses:	Vacant, residential and airplane storage			
Description:	A long narrow site to the north of Tchesinkut Road East in a primarily residential area with the property bounded on either side by residential properties. The site is primarily wooded and relatively level, though there is a slight grade up to the site from the road. There are no existing buildings on it. The site extends across Tchesinkut Road East and covers a residential property (3685). This property also has a large shed which seems to be an airplane hangar for a pontoon plane. The residence and hangar are on the lakeshore.			

INFRASTRCUTURE			
Road Access:	Highway 35 is 2.5kms away	**3 Phase Power:**	Undetermined
Rail Access:	No	**Natural Gas:**	Undetermined
Other:	Burns Lake is 14.8kms away and Francois Lake Ferry is 10.5kms away		

ASSESSMENT

A site is in a residential area and is too small to be of use for industrial purposes.

Vacant industrial parcel north of Tchesinkut Road (from road)

Vacant industrial parcel north of Tchesinkut Road (from middle of site)

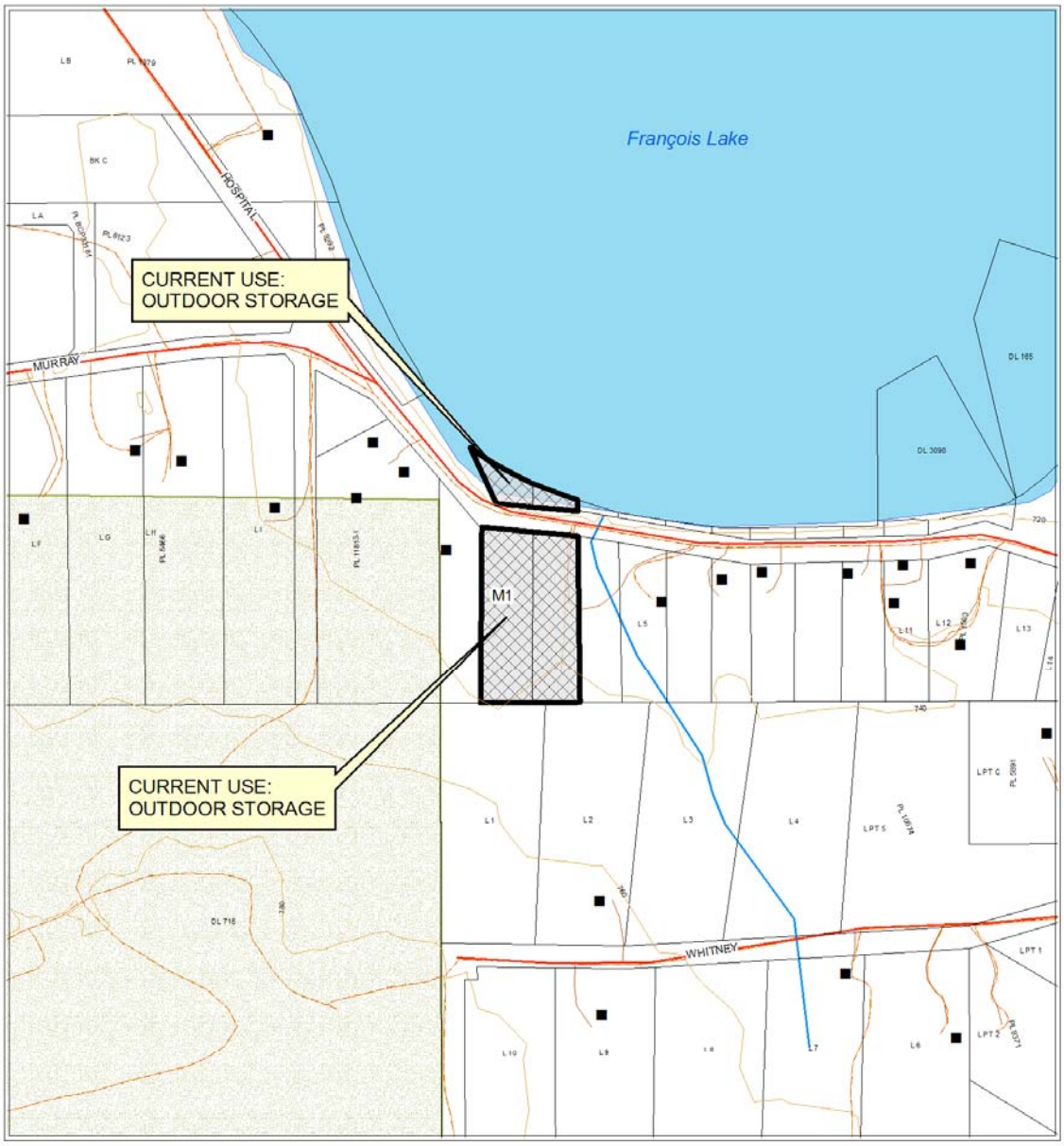
Residential property to the south of Tchesinkut Road

Airplane hangar to south western boundary of the property on Tchesinkut Lake

Area E - Industrial Land Use Study

Appendix A: Exisiting Rural Industrial Lands

Map 2



ELECTORAL AREA: E

PARCEL DESCRIPTION				
Legal Description:	L 3 DL 716 R4C PL 1503 & L 2 DL 716 R4C PL 1503			
Civic Address:	Hospital Road, Southbank			
PID:	008378011 008378002	**BCAA Folio Number:**	26-755-10482000	
Zoning:	M1	**ALR Status:**	No	
Parcel Size:	1.335 ha	**Ownership:**	Private	
Industrial Land:	**Total**	**Developed**	**Vacant**	**Usable Vacant**
	1.335 ha	0.0 ha	1.335 ha	1.335 ha
Current Uses:	Storage			
Description:	A small site which rises from Hospital Road and lake front to the back of the lot over three tiered levels. Each level has a very steep rise followed by a relatively flat area. The lowest level has a small shed near the road, which was at one time a gas station, as well as a two bay storage shed to the western boundary of this level. The back two levels have large storage sheds on them along with substantial amount of disused vehicles. The middle tier has a couple of large workshops which connects up to the residential property to the east (not part of the site). Activity at these workshops is unknown. The highest tier contains a large storage shed housing a recreational vehicle, as well as other disused vehicles and machinery.			

INFRASTRCUTURE			
Road Access:	No	**3 Phase Power:**	Undetermined
Rail Access:	No	**Natural Gas:**	Undetermined
Other:	The property is approximately 0.5kms from the ferry dock in Southbank. Burns Lake is approximately 27kms away.		

ASSESSMENT

The size, multi-tiered nature make this site unlikely to be developed for industrial uses, this property should probably be re-zoned to residential

Site from Hospital Road to the southern boundary of the site showing upper levels

Road to upper levels of site

Middle level of site with storage of machinery and vehicles

Middle level, with workshops to eastern boundary

Middle and upper levels vehicle and machinery storage

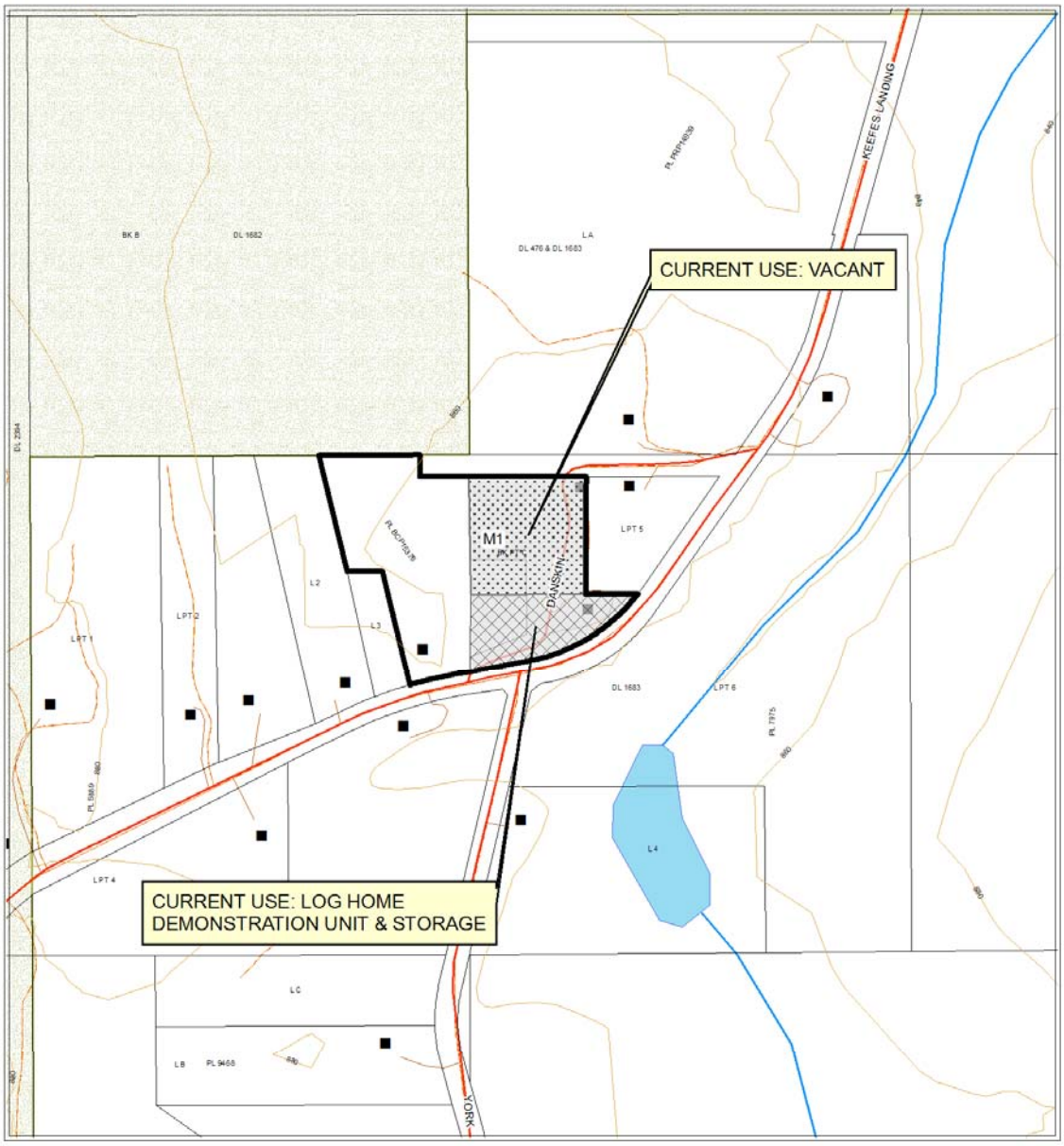
Top level of site, storage of recreational vehicle and other machinery

Area E - Industrial Land Use Study

Map 3

Appendix A: Exisiting Rural Industrial Lands

Page 3



Legend

- Road
- Highway
- Driveways
- Forestry Roads
- Railways
- Hydro_Lines
- Municipalities
- Cadastre
- Provincial Parks
- Indian Reserves
- Agricultural Land Reserve
- Buildings

Industrial Zoning

- M1
- M2
- M3

Industrial Use

- DEVELOPED
- VACANT

N W E S

SCALE 1:5,000

ELECTORAL AREA: E

PARCEL DESCRIPTION				
Legal Description:	BK C DL 1683 R4C EXC FIRSTLY PT SUBDIVIDED BY PL 5889 SECONDLY PT SUBDIVIDED BY PL 7975 THIRDLY PT SRW PL 9980 FOURTHLY PT SUBDIVIDED BY PL BCP15376 & L A DL 1682 & 1683 R4C PL BCP15376			
Civic Address:	26378 Danskin Rd 27195 Keefes Landing Rd			
PID:	015525783 026163888		**BCAA Folio Number:**	26-755-11399000 26-755-11384000
Zoning:	M1		**ALR Status:**	No
Site Size:	1.642 ha 2.320 ha Total: 3.962 ha		**Ownership:**	Private
Industrial Land:	**Total**	**Developed**	**Vacant**	**Usable Vacant**
	1.981 ha	0.792 ha	1.189 ha	1.189 ha
Current Uses:	Log home demonstration unit			
Description:	A small site which is off Keefes Landing Road in Danskin, and is located beside the general store and other commercial operations. The site currently has a log home demonstration unit with other storage (primarily logs and building material) surrounding it. The site is mainly flat thought there is a rise at the back of the property up towards Danskin Road.			

INFRASTRCUTURE			
Road Access:	No	**3 Phase Power:**	Undetermined
Rail Access:	No	**Natural Gas:**	Undetermined
Other:	The site is 4.8kms from the ferry port in Southbank and 31.4kms from Burns Lake.		

ASSESSMENT

A small site which offers some potential for industrial development.

View to main part of site containing a log home demonstration unit

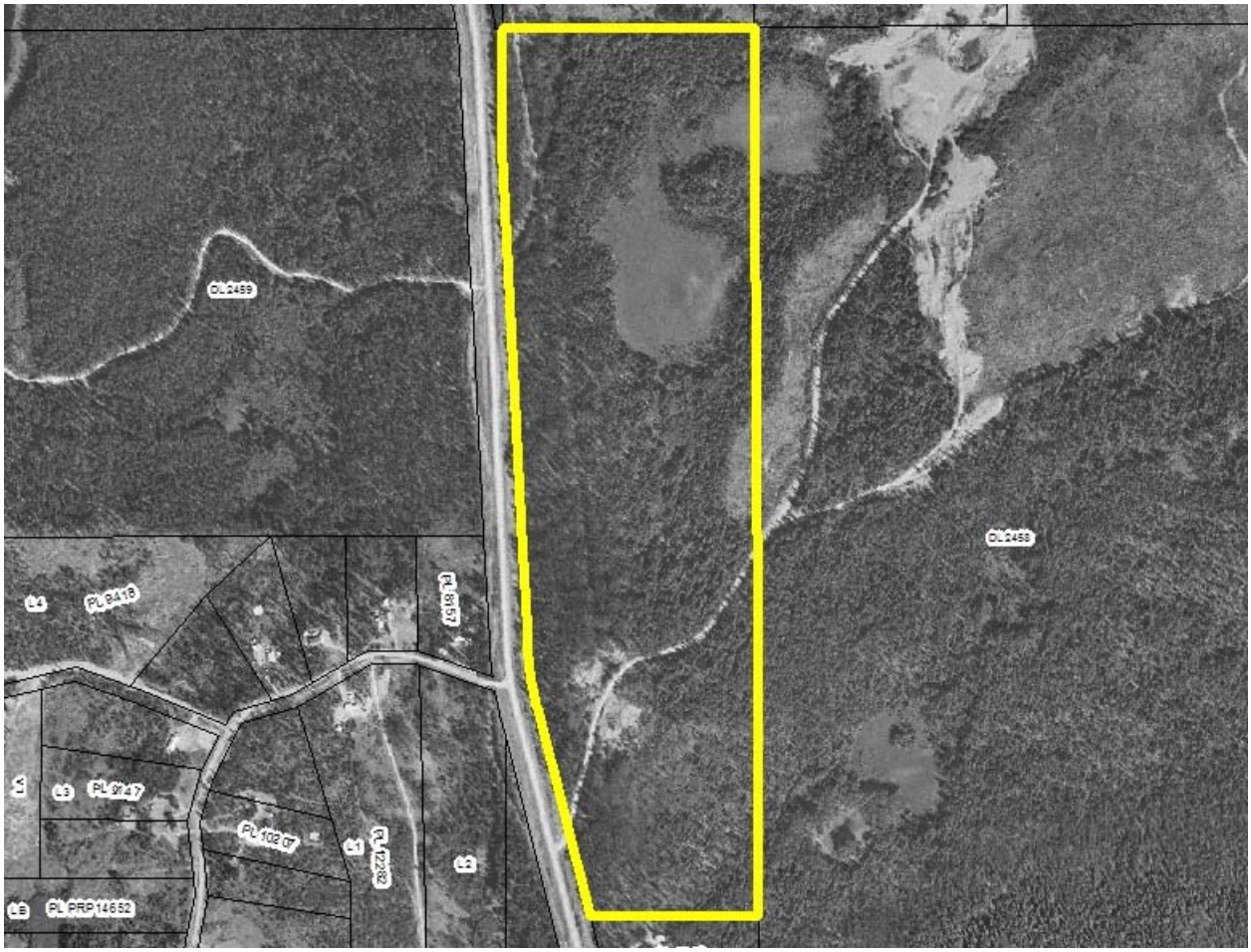
Building material storage to western boundary of industrial parcel

Vacant industrial land to the southern boundary of the parcel

Retail and commercial activities to the west of the site

Appendix B – Potential Industrial Land

PARCEL E1



PARCEL DESCRIPTION			
Legal Description:	L2459 REM DL		
Civic Address:	Highway 35 and Gilgan Road		
PID:	N/A	**BCAA Folio Number:**	
Parcel Size:	51.5 ha.	**ALR Status:**	Out of ALR
Zoning:	H2	**Ownership:**	Crown
Current Uses:	Vacant		
Description:	A large plot of land that is east of Highway 35 between Burns Lake and Francois Lake, close to the Burns Lake Community Forest. The plot is lightly wooded and slopes down towards the highway. Gilgan Road runs from the southern part of the site up towards the community forest. The road however is currently closed.		

INFRASTRCUTURE			
Road Access:	Yes on Highway 16	**3 Phase Power:**	N/A
Rail Access:	No	**Natural Gas:**	N/A
Other:	Gilgan Road is currently closed to traffic.		

SPECIAL CONSIDERATOINS

Rezoning Required:	Yes	**ALR Application Required:**	No
Other:	Frontage on Highway 35 and its proximity to Burns Lake, Francios Lake and the community forest make this a suitable site for developments, particularly those which are complementary to the community forest. The terrain of this site may be somewhat limiting.		

Site from Highway 16

Site from junction of Highway 16 and Gilgan Road

Site from Gilgan Road

Site from Gilgan Road

PARCEL E2

PARCEL DESCRIPTION			
Legal Description:	NW 1/4 OF DL 2459 R5C EXC PL 7008		
Civic Address:	Highway 35 and Guyishton Road		
PID:	015-372-278	**BCAA Folio Number:**	
Parcel Size:	66.0 ha.	**ALR Status:**	Out of ALR
Zoning:	H2	**Ownership:**	Crown
Current Uses:	Vacant		
Description:	A large parcel which lies to the west of Highway 35 between Burns Lake and Francois Lake. The site is heavily wooded and slopes down from the highway for most of the length of the site. To the southern boundary there are a number of properties (not on the site) which come off of Bald Hill Road. Guyishton Lake FS Road cuts through the middle of the site. This site is opposite another potential site along Highway 35 and combined would offer significant development potential, particularly linked to the Community Forest.		

INFRASTRCUTURE			
Road Access:	Yes, Highway 35	**3 Phase Power:**	N/D
Rail Access:	No	**Natural Gas:**	N/D
Other:			

SPECIAL CONSIDERATOINS			
Rezoning Required:	Yes	**ALR Application Required:**	No
Other:	With frontage on Highway 35 and being between Burns Lake and Francois Lake and being adjacent to the community forest make this suitable for uses which are complementary to the forest.		

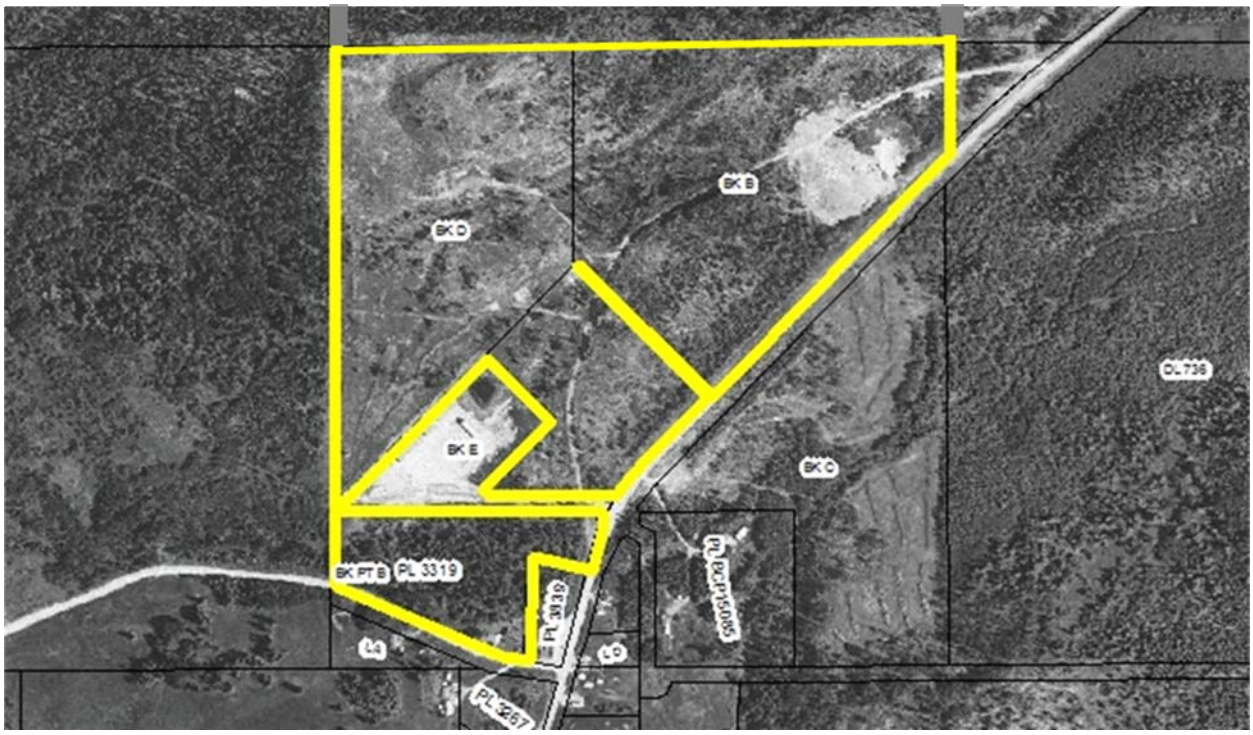
Site from junction of Bald Hill Road and Highway 16

Site from Highway 16

Guyishton FS Road from Highway 16

Site along Guyishton FS Road

PARCEL E3



PARCEL DESCRIPTION			
Legal Description:	BK E OF THE SE 1/4 OF DL 450 R4C & BK B DL 450 R4C PL 3319 EXC PL 3839 & BK B DL 450 R4C & BK D OF THE SE 1/4 OF DL 450 R4C		
Civic Address:	Keefe's Landing Road & Tatalrose Road, Grassy Plains		
PID:	Various	**BCAA Folio Number:**	Various
Parcel Size:	37.3 ha	**ALR Status:**	In ALR
Zoning:	N/A	**Ownership:**	PRIVATE AND
Current Uses:	Mostly vacant apart from a maintenance yard and small logging operation		
Description:	A large site which is just to the west of Keefe's Landing Road as entering Grassy Plains. There are a number of existing uses on the site, but potential for development around these. The site is relatively flat with few wooded areas.		

INFRASTRCUTURE			
Road Access:	Keefe's Landing Road	**3 Phase Power:**	N/D
Rail Access:	No	**Natural Gas:**	Yes
Other:			

SPECIAL CONSIDERATOINS			
Rezoning Required:	?	**ALR Application Required:**	Yes
Other:	Currently there is a maintenance yard and a small logging operation on this site. There is however some additional land around these two operations which may be suitable for some small scale industrial development. The site is mainly open, with some residential properties to the southern boundary along Tatalrose Road.		

Entrance to maintenance yard, with potential development sites in either side

Site from entrance to maintenance yard

Logging operation with site beyond

Site from entrance to logging operation along Keefe's Landing Road