BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT

Strong, Hall and Associates Ltd., Cornerstone Planning Group Ltd. and Urban Systems Ltd. - Hat Creek Project - Detailed Environmental Studies - Inventory and Projections of Regional Social and Economic Conditions - Appendices - June 1978

ENVIRONMENTAL IMPACT STATEMENT REFERENCE NUMBER: 23b

ERRATA

Inventory and Projections of Regional Socio Economic Conditions - Appendices

Table L6 - standard of 4.25 hospital beds per 1000 population should only apply to acute beds.

Preliminary Inventory of Indian Socio-Economic Conditions

P 4.3, paragraph 1, line 2 - 60% should read 50%.

P 4.3, paragraph 2, line 8 - should read: high participation rates and levels etc.

P 3.2, paragraph 1, line 3 - Band membership should read 2548.

B.C. HYDRO &
POWER AUTHORITY

HAT CREEK
SOCIO-ECONOMIC STUDIES
APPENDICES

INVENTORY & PROJECTIONS
OF REGIONAL SOCIAL &
ECONOMIC CONDITIONS

by:
STRONG HALL & ASSOCIATES LTD.
and
CORNERSTONE PLANNING GROUP LIMITED
and
URBAN SYSTEMS LIMITED

June 1978

APPENDICES

APPENDIX A	EMPLOYMENT AND POPULATION FORECAST METHODOLOGY
APPENDIX B	REGIONAL INCOME AND EMPLOYMENT MODEL
APPENDIX C	SUMMARY OF RECENT FORECASTS
APPENDIX D	INVENTORY OF EXISTING SERVICES: HAT CREEK STUDY AREA
APPENDIX E	AGRICULTURAL CAPABILITY
APPENDIX F	CRITERIA FOR EVALUATING MUNICIPAL WATER AND SANITARY SEWERAGE SYSTEMS
APPENDIX G	LOCAL GOVERNMENT - EXPENDITURES AND REVENUE
APPENDIX H	HAT CREEK AREA RESIDENT SURVEY
APPENDIX I	RESULTS OF LOCAL NEWSPAPER SURVEY 1976-77
APPENDIX J	RESIDENT COMMENTS ON THE PROPOSED HAT CREEK MINE AND THERMAL GENERATING STATION

APPENDIX A

EMPLOYMENT AND POPULATION FORECAST METHODOLOGY

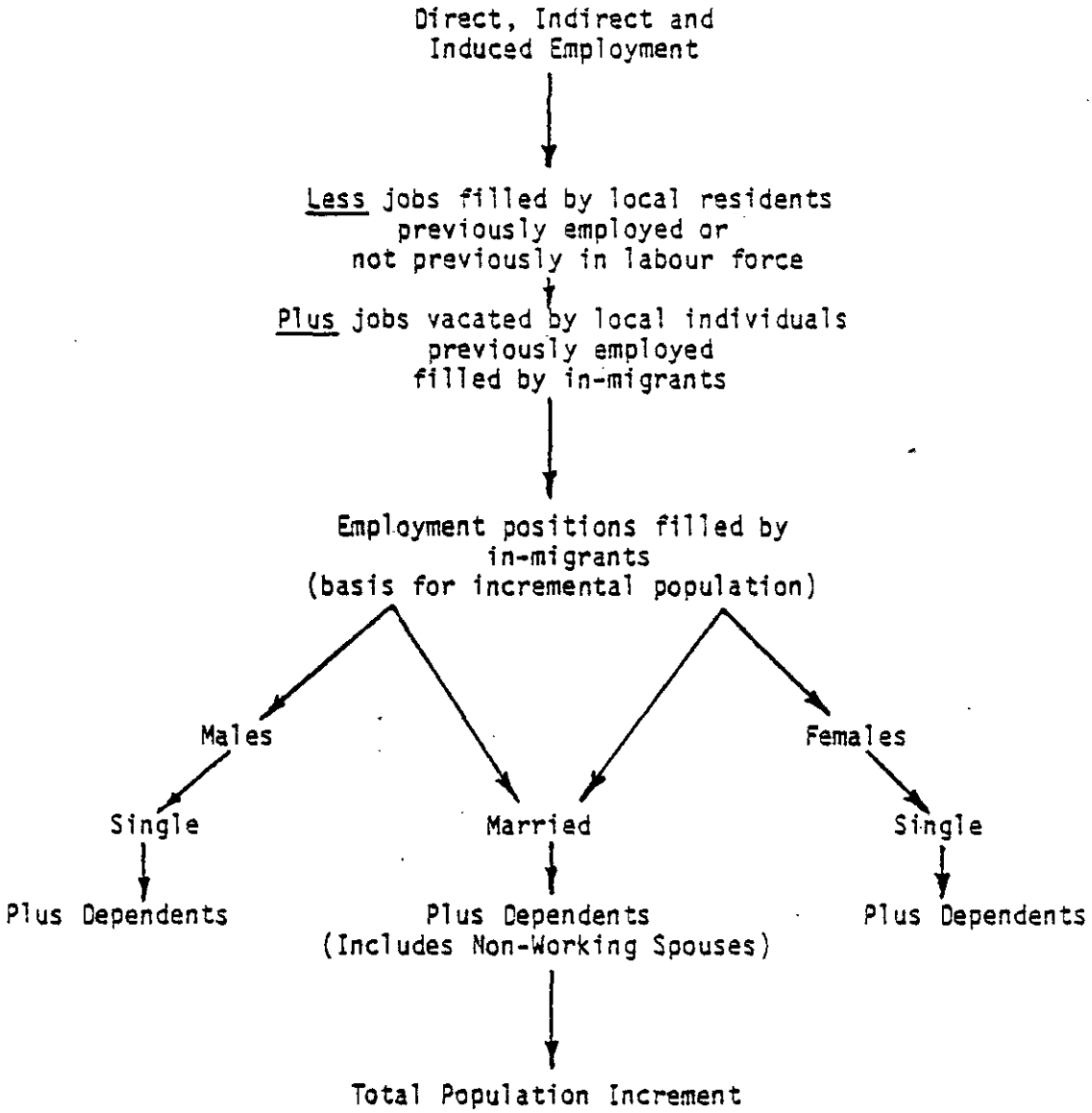
The basic assumption underlying the population forecast for the local study area is that natural population change (the residual of births over deaths) is virtually zero. With this assumption, population change can be considered a function of net in-migration. If migration, in turn, is primarily determined by job availability, then population growth becomes basically a function of employment creation*.

With these assumptions, the following population model has been utilized for forecasting growth in the local study area. The model relates population growth (the dependent variable) to employment creation (the independent variable) and permits the inclusion of direct, indirect and induced employment in the forecast.

---

* Results from the Cornerstone Planning Group Ltd. Survey essentially support the assumed relationship between in-migration and employment creation. A high proportion of respondents indicated that job opportunities were the prime consideration in their moving to the area.

POPULATION FORECASTING MODEL



The main advantage of the model sketched above over the more commonly adopted procedure of applying a constant population "spinoff" factor to employment increases is that it does not assume that all incremental employment induces incremental population. This adjustment is important if (a) the local pool of unemployed is sizeable; (b) the female participation in the work force locally is low due to a lack of suitable employment opportunities; and (c) there is a high rate of emigration among school-leavers. In addition, provision is made for cases where marital status, stage in the family life style and social demographic characteristics of the induced population differ significantly from those of the existing population.

The major difficulty in operationalizing the model involves the question of who (in-migrants or existing residents) fills which job. If there is nearly full employment locally, or if the number of jobs created is very large relative to the local supply of surplus labour, then a large influx of in-migrants will occur. However, it cannot be determined from the gross estimate who fills which vacant positions. Different positions will attract in-migrants having different demographic and social characteristics with resulting implications for the size of population increment.

The question of how people fit themselves to a given set of jobs is a difficult one. For example, something would have to be known about the propensity of the local unemployed and those not in the work force to fill the jobs created (and the jobs vacated by local individuals shifting to the new jobs) and those factors which might inhibit their entry into employment (for example, inadequate job skills). Other things being equal, it would be expected that the probability of drawing from the local pool of unemployed to fill vacant jobs will be correlated positively with the unemployment rate. However, as far as is known, "labour reaction" coefficients for a small area have never been empirically estimated. The coefficients assumed in this analysis are derived on the basis of judgement.

In spite of these practical difficulties, the model provides a useful way of conceptualizing the population forecasting problem, and it can be operationalized, using judgemental assumptions.

The first step involves identifying, by community, likely future direct and indirect employment and then applying a multiplier to determine induced employment. (A technical problem arises here, since one portion of induced employment is strictly related to consumer spending, while the other, public services, is dependent on population). This is discussed in the Appendix on the multiplier.

Having developed the first component of the population model (that is, direct and indirect employment), the following outlines the other assumptions utilized in its operation:

1. The employment multiplier, which refers to employment induced in the trade, finance, community, business and service sectors, was determined at 1.42 for Ashcroft/Cache Creek; 1.42 for Lillooet; and 1.35 for Clinton. See Appendix B.

2. Incremental mining sector employment was divided among males and females in the proportion 97%:3%. It is accepted that some redefinition of female employment roles will likely occur over the forecast period, but any likely changes in the representation of women in the mining work force would not significantly alter the quantitative results of the forecasts.

3. Induced employment has been split between males and females in the proportion 45%:55%.

4. The married:single proportion for males in the work force has been set at 75%:25% and for females at 65%:35%.

5. No dependents have been assigned to either single working males or females. This assumption appears to be valid for the mining sector according to data obtained on employees' dependents, supplied by the mining industry. The average size of family household has been set at 3.5 persons.

6. The population living in unincorporated areas (excluding Indian Reserves) was assumed to remain constant over the forecast period at 1,390 persons. Although it is highly likely that some new residents will live outside the present community boundaries, it is implicitly assumed that future boundary extensions will incorporate these persons in the long run.

7. The simplifying assumption has been made that job shifting within the region will not cause any internal redistribution of population.

At this juncture, it would be appropriate to briefly examine the job-filling process and to formulate the assumption needed about the process for completing the population model. The creation of a new set of employment positions (direct, indirect and induced) in the region will encourage some people who were unemployed or not previously in the work force to seek employment, while others may be encouraged to change jobs (because of better pay, better opportunity for advancement, etc.).

Any given new job position may be filled either by an in-migrant or by an existing resident who might be a school-leaver, an unemployed person, a housewife, or an employed person. If a new position is filled by an existing resident who changes jobs, then that individual's position will become vacant and may, in turn, be filled by either an in-migrant or an existing resident.

After several iterations, the initial set of new employment positions and the positions vacated by job shifting will be filled, unless there are labour supply bottlenecks, in which case there will be an accumulation of unfilled vacancies.

If population changes are to be projected on the basis of net employment creation, it is necessary to know something about these 'employment chains'. Although no definitive research has been carried out on the labour force dynamics of this particular region, it is possible to construct plausible employment chains through educated judgement. For the purpose of this forecast, separate chains were developed for direct plus indirect employment and for induced employment.

In-migrants were assumed to fill 75% of the new direct and indirect jobs, the balance going to existing residents. It was assumed further that half of the jobs obtained by existing residents were filled by individuals who were previously employed (and thus vacated jobs) and half by school-leavers, housewives, or previously unemployed persons.*

If the job-filling process is viewed as a stationary Markov chain, in which the employment proportions obtained by in-migrants versus existing residents and employed versus unemployed existing residents represent the 'transition probabilities', then about 85% of the total direct, indirect and vacated jobs would be obtained by in-migrants and about 15% by existing residents.**

The chain for induced employment assumes that 40% of the new induced jobs accrue to existing residents, while 60% would be obtained by

---

* Female school-leavers and housewives are, of course, quantitatively unimportant in terms of direct employment in the mining sector.

** For a more complete description of the process, see Evans, A. W., "Measuring the Total Impact of a New Factory in Furness: A Markovian Approach", Regional Studies, Volume 7, 1973.

in-migrants. It was assumed further that 50% of the jobs obtained by existing residents were filled by either former housewives, school-leavers, or the previously unemployed. Again, assuming a stationary Markov process, 70% of the induced jobs plus vacated positions would be filled by in-migrants and 30% by existing residents.

As an illustration of the Markov chain process, the figure following traces the direct and indirect employment chain through three iterations, given 100 new employment positions.

It can be seen from the figure that in-migrants obtain 75 jobs in the first iteration, while existing residents obtain 25. Half of the latter are filled by local residents who change jobs and thus vacate an equivalent number of positions within the region. These 12.5 vacated positions are fed into the second iteration and are again assigned to either in-migrants or existing residents and so on, until there are no vacant positions remaining. The boxes marked "in-migrants" and "previously unemployed residents" are called "absorbing states" since no employment positions are vacated within the region as a result of these being filled, that is, those portions of the employment chain are truncated. The "transition probabilities" are simply the proportions which determine how many jobs are assigned to each box. Although the transition probabilities may vary at each stage of the process, these coefficients are assumed constant for this forecast.

Having explained the methodological tools employed in the forecast, it is now possible to present the final set of assumptions used to separate in-migrants from local residents and to allocate in-migrants among settlement communities in order to derive community specific population forecasts associated with expected employment creation in the region. The industrial developments forecast to occur are presented in Table A.1. The allocative assumptions are summarized as follows:

Figure A.1

JOB FILLING PROCESS

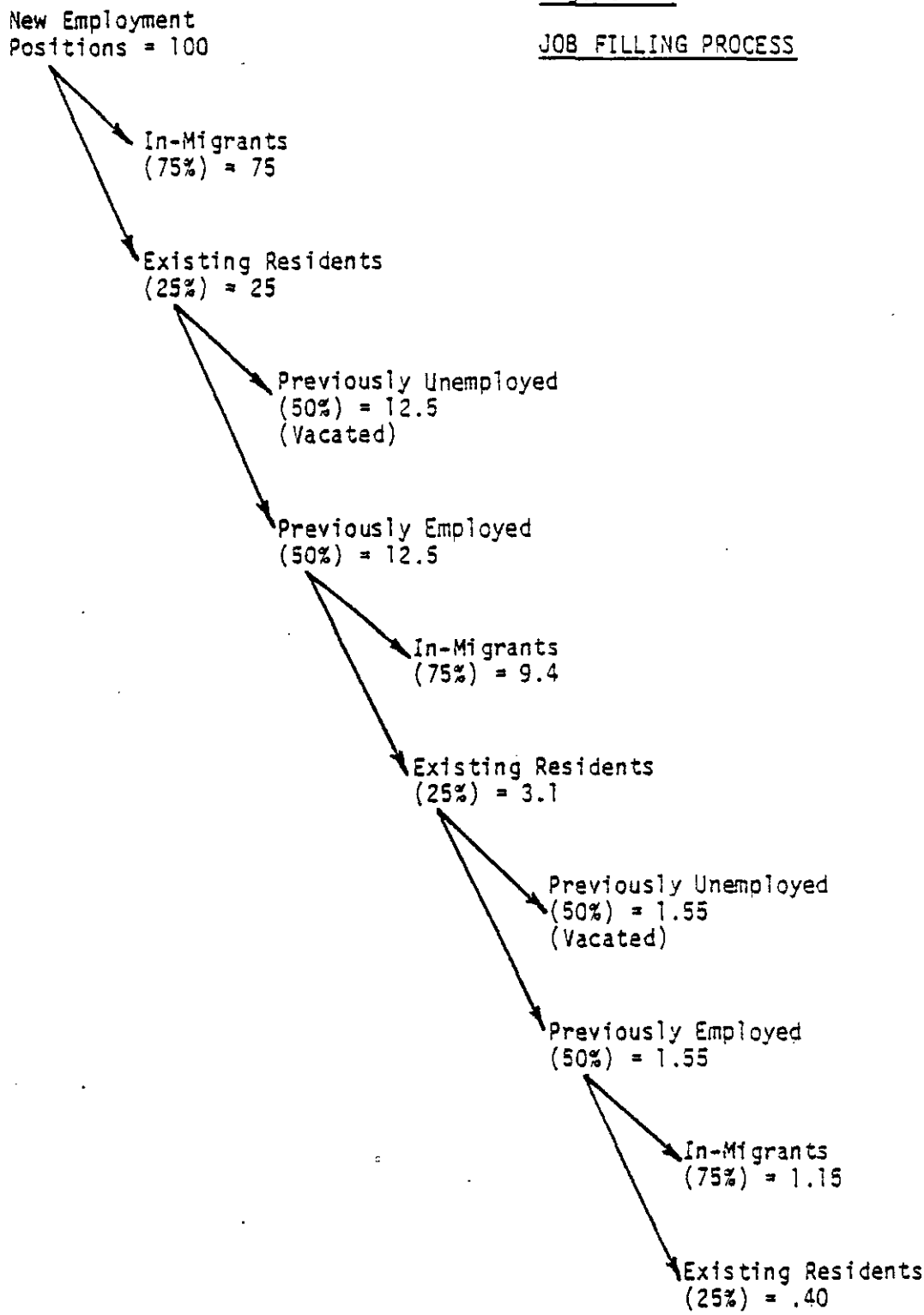


Figure A.1

ECONOMIC DEVELOPMENT PROJECTS, 1976-90

Project	Location	In Service Year	Construction Labour Force Peak	Direct Operating Labour Force
1. Rock Crushing Plant	Ashcroft/MacAbee	1977	50	40
2. Columbia Lime	Clinton	1981	100	125
3. Bethlehem Lake Zone	Highland Valley	1979	1,050	180*
4. Lornex Expansion	Highland Valley	1979	1,600	400
5. Lillooet Prison	Lillooet	1982	150	200
6. Valley Copper Phase II	Highland Valley	1985	2,050	550
7. Copper Processing Plant	Highland Valley	1987	1,000-1,500	425
8. Highmont Mine	Highland Valley	1990	1,050	425
9. Kelly Lake/Nicola Transmission Line	Kelly Lake to Nicola		285	-

* In addition, 20 indirect jobs in equipment repair and maintenance and steel ball manufacturing have been assumed.

SOURCE : Strong Hall & Associates Ltd.

1. The 40 jobs associated with the CNR rock-crushing plant at MacAbee, and the associated induced employment, are assumed to accrue 60% to Ashcroft and 40% to Cache Creek.

2. Bethlehem/Valley Copper expansion by 180 employees is allocated 40% to ex-Craigmont employees residing in Merritt, and 60% to Ashcroft/Cache Creek. Since Bethlehem will provide housing in Ashcroft, 85% of the latter group is allocated to Ashcroft.

3. Twenty-five percent of the Lornex expansion labour force is allocated to Ashcroft/Cache Creek. This group is split 60% to Ashcroft and 40% to Cache Creek.

4. All employment associated with the Columbia Lime plant in Clinton and the Lillooet prison are allocated to these communities.

5. It is assumed Ashcroft/Cache Creek will attract 25% of the employment associated with the second phase Valley Copper, the copper processing facility and the Highmont Mine. These, in turn, are allocated 60% to Ashcroft and 40% to Cache Creek.

6. For all of the above projects, 15% of the direct industrial jobs are assumed to be taken by existing residents and 85% are allocated to in-migrants. For induced jobs, 30% are assumed taken by existing residents and the remainder by in-migrants.

The population forecasts resulting from the methodology described above are presented in Section 3.1 of this report.

APPENDIX B

REGIONAL INCOME AND EMPLOYMENT MODEL

Introduction

The project based forecasts of population, income and employment for the Hat Creek sub-region entailed the use of a modified Keynesian-type multiplier in the determination of induced effects. Two important modifications were made to the standard Keynesian-type multiplier:

1. Separate determination of the first and subsequent rounds of the multiplier to highlight the dominance of first round effects in a region exhibiting high income leakages (i.e. non-local spending by consumers plus the 'import content' of goods consumed locally).

2. The addition of income and employment effects related to changes in population rather than simply changes in spending (i.e. public sector activity related to purely local needs).

The methodology adopted ignores the income and employment effects of changes in inter-industry purchases. Given the paucity of inter-industry linkages in the economy of the Hat Creek sub-region, the inclusion of purchases among industries has a negligible effect on the results. The multiplier also ignores accelerator effects (i.e. the contribution of induced investment to regional income). If the 'import content' of investment is high (i.e. the bulk of materials, equipment and construction labour is brought in from outside of the region) and/or pressure to expand the region's capital stock (e.g. housing, public infrastructure, commercial facilities) is not sustained, then accelerator effects can safely be ignored. It should be noted further that the multiplier is a short-run model

which is strictly limited in its application to changes within a given output capacity (i.e. changes in the economic structure of a region resulting from major additions to its capital stock and labour force will cause changes in the size of the multiplier). The consideration of such changes is usually excluded from multiplier analysis.

A number of assumptions underly the multiplier concept which tend to limit its reliability. These include:

1. A constant marginal propensity to consume.
2. Neutrality of expectations.
3. Instantaneous operation (i.e. no time lags).

The Model

Given that the leakages through imports are likely to be high for the Hat Creek sub-region, it is clear that the first round of the multiplier is the crucial one. Since in-migrants often account for the bulk of employment on large projects occurring in small regions, average rather than marginal coefficients were used for savings and import propensities and the tax rate. In addition to the standard first round income multiplier, which is dependent on consumer spending, additional income and employment will be generated by demand for publicly provided services which are population dependent and, hence, related to changes in direct and consumption related induced employment.

If, for any given project:

E_D = direct employment

W_D = average earnings of direct employees (or the proportion which represents additional income)

W_p = weighted average of earnings in the public sector

l = increase in local value added needed to create an additional job in retail trade and services

P = ratio of public sector employment to other employment

s = average propensity to save

t = average tax rate

M = average propensity to import

V = proportion of a change in income which represents local value added = $(1-s-t)(1-M)$

AV = change in local value added generated by direct employees = $E_D W_D V$

Then, the first round increase in induced employment, E_I, is

$$E_I = E_D P + \frac{AV}{l}(1+P)$$

and the first round multiplier, k_1, is

$$k_1 = 1 + V + \frac{(E_D + \frac{AV}{l})\, PW_P}{E_D W_D} .$$

To determine the subsequent rounds of the multiplier, a standard Keynesian-type model was adopted. Again, average rather than marginal coefficients were employed given the high proportion of jobs which will likely be filled by in-migrants. The regional income equation may be written as:

1. $y = \overline{G} + G + \overline{I} + C + \overline{X} - M$

   Where y = income; C = consumption; $\overline{G}$ = government expenditures other than wages and salaries of public sector employees (exogenously determined); G = government expenditures on public sector wages and salaries; $\overline{I}$ = investment (exogenously determined) and M = imports.

Assume that consumption and imports are linear functions of income:

2. $C = a + c^{yd}$

   Where yd = disposable income; c = average propensity to consume.

3. $^{yd} = Y(1-t-u)$

   Where t = average tax rate; u = unemployment benefits.

4. $M = b + M^{yd}$

   Where M = average propensity to import.

5. $G = g^{Y}$

   Where $g = (\frac{V}{T})\ PW_p$.

Substitution and rearrangement of equations (2) through (4) into (1) gives the income multiplier, k_s,

$$k_s = \frac{1}{1-g-c\ (1-t-u)\ (-M)}$$

and the overall income multiplier, k, is

$$k = 1 + k_s\ (k_1 - 1).$$

The increase in regional income (AY) resulting from any given project is thus

$$AY = E_D W_D k$$

The increase in induced employment (AE_I) is the first round increase in employment generated by direct employment creation (i.e. E_I), plus income generated in subsequent rounds divided by the increases in income needed to support an additional job in retail trade and services (1) and in the public sector (W_p).
Therefore,

$$^{-}AE_I = E_D P + \frac{AV}{1}\ (1+P) + \frac{E_D W_D\ (k_1-1)\ (k_s-1)}{1(1-P) + W_p P}$$

and the overall employment multiplier, k_e, for any given project is:

$$k_e = 1 + \frac{AE_I}{ED}$$

The data and procedures used in operationalizing the model are summarized below:

Direct employment (E_D) and Wages (W_D)

Estimates of direct operating employment associated with given development projects were obtained from industry sources.

To determine the income and employment multipliers, it was necessary only to establish relative wages in the various employment sectors (assuming that differentials are maintained over the period covered by the analysis). This information has been obtained from a special tabulation of employment income by sector for the Hat Creek sub-region from the 1971 Census.

The average wage in the mining sector (covering seven of the eight projects considered) was $8,429, in 1970 dollars.

It was assumed that the average wage for employees at the Lillooet penitentiary would be higher than the weighted average public sector wage for the Hat Creek region. The average wage in public administration of $6,343, in 1970 dollars, for the Kamloops centered region was taken as an estimate.

Average Propensity to Consume : (c)

The average propensity to consume was determined as a residual, that is, (1-s) which gives a value of .94 for (c). (See over for determination of the propensity to save.)

Average Propensity to Save : (s)

The savings coefficient was obtained from the National Income Accounts estimates of savings and personal income, averaged over the period 1969-1974, which yields a value of .06. It should be noted that savings are determined as a residual in the National Income Accounts and thus the estimates contain an error term. If disaggregated, savings would include stocks and bonds, bank balances, insurance policies, pension funds and repayments of the principal on mortgages.

Average Propensity to Import : (M)

The important coefficient has two components:

a) non-local consumption expenditures
b) the import content of goods consumed locally

In order to estimate these components, a detailed breakdown of consumer expenditures by commodity relating to all urbanization classes in British Columbia was obtained.* An informal survey of business was conducted in Ashcroft and Cache Creek to estimate the local proportion of expenditures on the various consumption items. Applying these proportions to the percentage breakdown of consumption expenditures of the average household, provides an estimate of overall local consumption expenditures.

To determine the proportion of commerical revenues that constitute Local Value Added in the retail trade and service sector (the remaining portion of revenue being the import content of local consumption expenditures), the assistance of the Kamloops accounting firm of Munroe, Kent, Almond and Company was enlisted. Although the data they compiled referred to stores in Kamloops, their estimates of the

---

* Statistics Canada, "Family Expenditure in Canada, Volume II, Regions", 1969.

proportion of gross revenue going to wages and salaries, the largest component of Local Value Added, are considered to be applicable to the same categories of establishments in Ashcroft and Cache Creek.

Applying these proportions to local consumption expenditures provides an estimate of the Local Value Added portion of these expenditures.

Subtracting this proportion from unity produced a value of .88 for (M), for Ashcroft and Cache Creek.

It should be noted that (M) was calculated directly only for Ashcroft and Cache Creek. For Clinton and Lillooet (M) was estimated by adjusting the Ashcroft and Cache Creek (M) coefficient to take account of variations in trade area size. The estimates of (M) thus determined were: Clinton .9; Lillooet .85.

The Average Tax Rate : (t)

The estimate of the average tax rate (t) was derived from the National Income Accounts. The estimates of personal income and direct taxes were averaged over the period 1969-1974 to determine the taxation coefficient. This gave an average tax rate of .176.

Increase in Local Value Added Required to Create an Additional Job : (l)

It was assumed that (l) is equal to the weighted average wage in the retail trade and service sector. The 1971 Census indicated that average retail and service wages were $3,448, in 1970 dollars, in the Hat Creek sub-region. This figure slightly understates the cost to the employer of hiring an additional employee as it excludes the employer's Unemployment Insurance and Canada Pension Plan contributions.

Ratio of Public Sector Employment to Other Employment : (P)

The value of (P) for the various communities was derived from a special tabulation from the 1971 Census. The value of the co-efficients determined were: Ashcroft/Cache Creek .122; Clinton .108; and Lillooet .276. Lillooet was subsequently adjusted downward to the Ashcroft/Cache Creek level in the belief that this more accurately reflected the long-run relative employment conditions in Lillooet.

Average Earnings of Public Sector Employees : (W_p)

The weighted average earnings in the Education, Health and Public Administration employment sectors was calculated at $5,634, in 1970 dollars, from a 1971 Census special tabulation.

Loss of Unemployment Benefits : (u)

The loss of unemployment benefits resulting from employment creation in the retail trade and services sector is included in the second and subsequent rounds of the multiplier.

To estimate (u), it is assumed that 30% of induced jobs accrue to local residents, all of whom are considered to be either former recipients of unemployment benefits or former non-participants in the work force. Job shifting effects were removed prior to estimating the 30%. It is assumed that 50% of these newly employed local residents were receiving unemployment benefits and that the average benefit was 15% of the average wage in the retail trade and service sector, or $1,100 in 1976 dollars. Thus, the loss of unemployment benefits resulting from an additional induced job, (u),

is:

$$u = \frac{\text{average unemployment benefit}}{\text{average retail trade and service wage}} \times \text{\% of induced jobs filled by local residents formerly receiving unemployment benefits.}$$

$$= \frac{1,100}{7,500} \times .15 = .02$$

Summary and Results

The multipliers determined are project-based multipliers, not standard community multipliers. This is so since the value of the multiplier in any particular case is determined in large part by the average wage level in the sector in which expansion occurs.

The estimated income and employment multipliers resulting from the application of the model are shown in the following table for each community:

APPENDIX TABLE 1

INCOME AND EMPLOYMENT MULTIPLIERS
ESTIMATED FOR SELECTED COMMUNITIES
IN THE HAT CREEK STUDY REGION

	Income Multiplier	Employment Multiplier
Ashcroft/Cache Creek	1.22	1.42
Lillooet	1.28	1.42
Clinton	1.18	1.35
Kamloops	1.50	1.66

SOURCE: Strong Hall & Associates Ltd.

APPENDIX C

SUMMARY OF RECENT FORECASTS

A number of recent forecasts and projections have been prepared for areas in the central region of the province, utilizing one or more of the commonly identified aspects of growth; that is, population labour force and employment. These forecasts are reviewed briefly below, outlining the approaches employed, the underlying assumptions, and the results:

1. Department of Economic Development*

   The IPA Study Group of the Provincial Department of Economic Development has constructed development scenarios for the interior region of the province on spatial and sectoral bases.** The report provides alternative estimates of employment creation by sector to 1995; one alternative (Profile I) assumes no government intervention to redress regional economic imbalance, the other (Profile II) that certain government initiatives are pursued to encourage developments which would not otherwise be forthcoming. Since the change of government in December 1976, there has been no indication that the present government intends to pursue specific regional development policies, therefore, the relevance of the 'intervention' scenario is questionable. Although the report contains no population forecasts, it does provide an indication of the employment creation prospects in the Kamloops central region.

---

* Department of Economic Development, "A Summary Report of Development Possibilities in the Central Region of British Columbia", Queens Printer, Victoria, 1976.

** Interior as defined in the IPA Study covers an area much greater than the Hat Creek region. Although the southern boundaries are similar, the northern boundaries extend to communities such as Prince George, Vanderhoof and Valemount.

The report suggests that the region's economic progress is primarily a function of the level of resource extractive and processing activity. There seems to be some suggestion, however, that Kamloops' growth is, in part at least, independent of resource exploitation in the hinterland.

Major potential industrial developments expected to occur over the next 20 years are identified, direct project employment is determined and a multiplier is utilized to estimate "indirect" employment associated with the developments.

The IPA Study indicates that the wood supply in the Kamloops centered region is fully committed and that further expansion in the forestry sector can be achieved only through refinement of logging practices, improved sawmilling technology, improved raw material distribution and flow of intermediate materials (eg, chips), and increased diversification of wood products manufacturing. Under Profile I, an expansion of a kraft pulp mill at Kamloops is envisaged leading to the creation of 400 additional jobs in the period 1979-82. This expansion is predicated on chip production from proposed sawmill expansions at 70 Mile House and Williams Lake, and completion of the Ashcroft-Clinton rail link to obtain these chips at reasonable cost. The completion of the rail link is highly doubtful at this time. The more optimistic Profile II suggests that an integrated forest products complex could be established in Kamloops, creating 645 new jobs in the period 1978-85. However, tariffs and internal freight rates are seen as major impediments to the realization of this opportunity.

The mining sector (excluding the Hat Creek project) was expected to generate 1,750 direct jobs during the period 1977-1986 under Profile I conditions. This total included a smelter to be located at Clinton, which would have provided 500 direct jobs, but the project appears to have no future in

that location. An estimated 1,300 jobs were expected to result from mining activity in the Highland Valley, with the resulting population growth occurring primarily in Ashcroft and Logan Lake. The Afton mine and smelter near Kamloops were expected to create 350 additional direct jobs by 1979. In addition, the Craigmont Mine at Merritt was expected to close in 1980, with a resultant loss of 400 jobs.

Profile II brought the Highland Valley developments and the Clinton smelter forward in time to around 1980, and delayed the Craigmont closure to 1982. The profile added a lime plant, cement plant and associated quarrying activity, providing 125 direct jobs in Clinton in 1985-86.

Industrial construction employment linked to forestry and mining sector expansion would peak at 2,380 in 1982 under Profile I conditions and at 3,190 under Profile II conditions.

Profile I envisaged no net employment growth in the agricultural sector during the scenario period. Profile II suggested the following projects as possibilities: A central livestock sales yard in either Kamloops or Ashcroft in 1977-1978; a vegetable bulk freezing plant at Cache Creek around 1985-1990; and a cattle slaughtering and processing plant at Kamloops around 1985-1990. In total, the agriculture sector would generate between 60 and 75 jobs.

Tourism and recreation are expected to generate an additional 400 jobs in the Kamloops area in the period to 1995.

The IPA study did not produce labour force estimates for the Southern Kamloops portion of their Central Interior region. However, for their overall region, they have forecast an incremental 30,360 jobs over the 1975-1995 period for Profile I. On a 1975 base labour force of 110,600 persons,

this increment represents an average growth of about 1.3% annually. Under Profile II, labour force is forecast to increase at 1.9% annually. Assuming a continuation of the trends in birth rates and in male and female participation rates, labour force should continue to grow more rapidly than population. No population forecasts have been produced in the IPA Study.

2. British Columbia Telephone Company *

The B. C. Telephone Company has prepared a set of regional population and labour force projections for the period 1975-1995. The company's Kamloops-centered region (the Interior) is, however, considerably larger than the area defined for the Hat Creek study. Since it is not possible to disaggregate these population and labour force projections, the value of this document is limited to its assessment of future growth potential in the Interior, which can be expressed in terms of an average rate of population growth and labour force increases; that is, the interaction between the age/sex composition of the population and the labour force participation rate for each age/sex cohort. The changes assumed in the population-labour force ratio at the regional level are identical to those which are expected to occur provincially. The key assumptions relating to labour force participation are as follows:

- A slower rate of growth in the female participation rate despite postponement of marriage, increased part-time employment, increased demand for clerical positions and increased availability of day care. Family commitments and an increased proportion of women obtaining post-secondary education will be the major constraints.

- Despite a fall in the male participation rate, the overall rate will increase as a result of the increased proportion of the population which will be in the working age group.

---

* British Columbia Telephone Company, "B. C. Economic Environment", 1975.

- The trend towards early retirement will stabilize slightly below the present average retirement age, thus the effect on the overall participation rate will be small.

- Increased enrollment in post-secondary education by young males will reduce their labour force participation rate, but again, the impact on the overall rate will be small.

Labour force as a percentage of population is forecast to increase from 44.4% in 1976 to 48.6% in 1990.

As these regional projections are simply disaggregations of the provincial projections, it is useful to summarize their scenario for provincial growth during the next two decades. In the provincial context it is envisaged that B.C. will experience an annual rate of growth in Gross Provincial Product of 4.5%, down from 6.3% during the previous decade, reflecting increased competition and slower growth in world markets for the province's products. The rate of population growth will drop to 2.2% per annum in ther period 1975-1995, down from the annual rate of 3.2% experienced in the last decade, reflecting lower fertility rates and reduced immigration from both International and Candian source areas.

The Interior region is expected to continue growing at a faster rate than the province during the next 20 years, with a forecast annual rate of population increase of 2.6%, despite softer world markets for minerals and wood products. Labour force is expected to increase at 3.1% annually during the same period. The continued decentralization of administration and manufacturing from the Lower Mainland is expected to provide a basis for continued growth.

3. Canada Manpower

A third set of labour force and population projections has been prepared by Canada Manpower for the Kamloops CMC area.* The short-term projections are developed intermittently for internal planning purposes. The most recent projections cover the fiscal periods 1976-77 to 1980-81.

Labour force in the CMC area is projected to increase from 42,850 in 1976-77 to 47,550 during 1980-81, representing an average growth of 2.7% annually. The future ratio of labour force to population is expected to increase slightly from 44.2% to 44.4%. This relationship results in a population growth of 2.5% annually, increasing from 96,900 in 1976-77 to 107,200 in 1980-81.

Although the Manpower projections are relatively short-term, the area of coverage is similar to the Hat Creek region and it thus provides a useful guide for estimating future labour force and population in the study region.

---

* Kamloops CMC Economic Analysis and Forecasting Branch, October/November 1976. The area of coverage is very similar to the total Hat Creek region with the main difference being that the CMC area extends somewhat north and east of Kamloops.

APPENDIX D

INVENTORY OF EXISTING SERVICES: HAT CREEK STUDY AREA

Introduction

In Chapter 2.5, the approach taken to determine the existing services and the projected services 'without the project' was identified. The data collection questionnaire and the list of interviews are included on the following pages.

This is followed on page D - 11 by the detailed inventory of existing services in the Hat Creek study area and is identified according to each of the defined service delivery agencies. This provides the supporting base for Chapter 3.5 Services. On page D - 21 each of these services is projected 'without the project' following the same sequence of services as in the existing inventory of services.

HAT CREEK SERVICE INVENTORY

Contact _____ Location _____

Position _____ Service _____

Interviewer _____ Date _____

Time _____

I. EXISTING FACILITY

1. Type of Facility:
2. Number in Community:
3. Size of Facility: in sq. ft.
   other criteria
4. Area Serviced:
5. Flexible Use:
6. Special Facilities or Equipment:

II. EXISTING PROGRAMS

7. Specific Programs:
8. Target Groups:
9. Hours of Operation:

III. EXISTING STAFF

10. Professional/Management:
    number & position
11. Line Staff:
    number & position
12. Support Staff:
    number & position
13. Volunteer Staff:
    number & position

IV. USERS

14. Number Entering:
per day/week/month/year

15. Number Leaving:
per day/week/month/year

16. Length of Stay: maximum
minimum
average

V. COSTS

17. Capital Costs:

18. Operating Costs:

VI. FUNDING

19. Funding Source:

VII. ADMINISTRATION

20. Administering Agency:

VIII. STANDARDS

21. Any Standards:

IX. COMMUNITY ACCESSIBILITY

22. With respect to the distance that people using this service have to travel, is this service:
. very convenient
. convenient
. inconvenient

23. Do you consider this service to be
. more than adequate
. adequate
. in adequate
in terms of meeting the immediate needs of the community?

X. EXPECTATIONS

24. Where there any effects on this service from development in Highland Valley?

25. Will there be any changes in this service over the next 5 years:
    . facilities
    . programs
    . staff

XI. OTHER

26. Any other information about this service that may be of use:

HAT CREEK: SERVICE REPRESENTATIVES CONTACTED TO DATE

1. Representatives in Hat Creek Region

Mr. W.A. Munro
Secretary Treasurer
Board of School Trustees
School District 30
Ashcroft

Keith Souster
District Superintendent
School District 30
Ashcroft

Mr. Taylor
School District 30
Ashcroft

Mr. Krider
Principal
Ashcroft Secondary School

Mrs. Sidwell
School Counsellor
Ashcroft Secondary School

Gary Temoin
Principal
Clinton Junior Secondary School

Mr. J. Smith
Past Principal
Clinton Junior Secondary School

Norm Vennard
Principal
Cache Creek Elementary School

Mr. Rolston
Principal
Ashcroft Elementary School

Joe Fedorak
Cariboo College
Continuing Education
Kamloops

Pat Mazurkiwick
Community Coordinator
Cariboo College
Continuing Education
Ashcroft

Dr. Campbell
Clinton Medical Centre

Bob Precis
Kamloops Mental Health Centre

Arthur Nichol
Administrator
Lillooet District Hospital

Dr J.D. Garry
Director
South Central Health Unit
Kamloops

Victoria Orchard
Senior Public Health Nurse
South Central Health Unit
Ashcroft Office

Ken Christian
Public Health Inspector
South Central Health Unit
Ashcroft Office

Dr. Bennett
Ashcroft Medical Centre

Mr. Richardson
Administrator
Ashcroft and District General Hospital

Patricia Woroch
Coordinator of Services
Kamloops Family Life Association

Dr. D. Olson
Cache Creek Veterinary Clinic

Mr. W.R. Anderson
Treasurer
Clinton Curling Club

Rusty O'Sullivan
Ashcroft-Cache Creek Old Age
Pensioners' Club

Cliff Moore
Past Secretary
Ashcroft Elks Hall

John Spanier
Clerk Treasurer
Village of Ashcroft

Mr. C. Cameron
Clerk Treasurer
Village of Cache Creek

Mayor M.E. Yewchin
Village of Ashcroft

Mr. Don Fehr
Mr. Dave Benna
Mr. Dave Debert
Mr. Jim Riley
Cache Creek Recreation Commission

Finley Anderson
Ashcroft Recreation Commission

Dennis Long
Clerk Treasurer
Village of Clinton

Manager
Royal Canadian Legion
Branch 194
Clinton

Manager
Royal Canadian Legion
Branch 113
Ashcroft

Fred Madden
Facilities Manager
Drylands Arena
Ashcroft

Elaine Hodder
Correspondence Secreatry
Ashcroft Curling Club

Mr. J. Friend
Supervisor
Cache Creek Office
Ministry of Human Resources

Bill Griffin
Manager
Canada Manpower and Immigration
Ashcroft

Legal Aid Society of B.C.
Kamloops

Norman Littlewood
Lawyer
Cache Creek

Terry Bepple
Lawyer
Rogers and Hunter Co.
Ashcroft

Sgt. Jim Aird, Officer in Charge
Corp. McCallum
Ashcroft RCMP Detachment

Colin Jolly
Court Administrator
Clinton Provincial Court

Stan Hensworth
Court Administrator
Ashcroft Provincial Courts

Secretary
Ashcroft Cache Creek Journal

Dale Ginther
Probation Officer
Ashcroft

Mrs. Dorothy Pears
Ashcroft Probation Office

Gordon Chappel
Regional Manager
Corrections Branch
Kamloops

Harry Newson
Cariboo Thompson Nicola Library System
Kamloops

Colleen Mierau
Head Librarian
Ashcroft Library

Head Librarian
Cache Creek Library

Head Librarian
Clinton Library

Ken Finstad
Cache Creek Pentecostal Church

Mrs. D. Lange
Clinton Pentecostal Church

C.E. Robertson
St. John's United Church
Clinton

Leslie Powell
Curator
Ashcroft Museum

David Krocker
Sage Hills Evangelical Free Church

Rev. T. Neil Vant
St. Christopher's Anglican Church
Clinton

John Bryson
Deputy Clerk
Village of Lillooet

Elks Lodge No. 262
Cache Creek

Postmaster
Ashcroft Post Office

Postmaster
Cache Creek Post Office

Postmaster
Clinton Post Office

Father Emil Lasage
St. Gerard's Roman Catholic Church
Ashcroft

Rev. Dan Wong
Zion United Church
Ashcroft

Rev. Robert Chist
The Church of St. Alban's
Ashcroft

Jehovah's Witness
Cache Creek Unit

Roman Catholic Church
Clinton

Dr. M.D. Clark
Dr. J.F. Brooks
Dr. M.J. McBride
Lillooet Medical Clinic

Secretary Treasurer
Board of School Trustees
School District No. 29
Lillooet

Glen Charlesworth
Travelodge
Cache Creek

Mr. Dickinson
Esso Station
Cache Creek

Doug Skinner
Swimming Instructor
Ashcroft

Murray Kane
Hardware Store
Ashcroft

Jack Kirkpatrick
Hardware Store
Ashcroft

2. Representatives in Vancouver and Victoria

Mr. Kandy
Ministry of Education

Tom Buckham
Research Officer
Ministry of Education

Valerie Forbes
Ministry of Education

Robert May, Coordinator
Connie Clark, Research Officer
Educational Data Services
Ministry of Education

Larry Rudofsky
Ministry of Education

Chris Eve
Research Officer
B.C. School Trustees Association

Dr. Don Fernandez
Research and Planning Officer
Mental Health Programs
Ministry of Health

W. Selwood
Research Officer
Research Division
Hospital Programs
Ministry of Health

Norm Dickson
Administrative Assistant to Assoc.
Deputy Minister of Public Health Programs
Ministry of Health

Dr. Arnold
B.C. College of Physicians and Surgeons

Mr. Gillespie
B.C. Medical Association

Dr. McFarlane
College of Dental Surgeons of B.C.

Mr. Benjamin
Hospital Programs
Ministry of Health

Raymond Goodacre
Director
Research Division
Hospital Programs
Ministry of Health

Mrs. Jo Winter
Nursing Consultant
Community Health Programs Branch
Ministry of Health

Mrs. Diane Ouston
Public Health Nursing Consultant
Health Branch
Ministry of Health

Mr. K.E. Steeves
Vice President Finance and Treasurer
Bethlehem Copper Corporation

Bill Macbeth
Manager
Management Information Services
Ministry of Human Resources

Mr. T.D. Bingham
Executive Director
Ministry of Human Resources

Donna Watts
Program Development Group
Ministry of Health

John Talbot
Program Development Group
Ministry of Health

Jerry Merner
Research Officer
Ministry of Human Resources

Supt. M.N. McCulloch
Supt. Scott
Staff Sgt. Anderson
Caroline Olson
RCMP
"E" Division Headquarters

Dorthea Atwater
Insp. Fullerton
B.C. Police Commission

John Welson
Courts Planning Group
Courts Division
Ministry of the Attorney General

Nicholas Watkins
Facilities Management Unit
Ministry of the Attorney General

Mr. Smith
Executive Director
Mr. Baxter
Director of Ambulance Services
B.C. Emergency Health Services Commission

Dave Montadori
Supt. of Special Risks
Insurance Advisory Organization

B.C. Fire Marshall
Vancouver Office

Mr. G. Fisher
Director of Hospital Construction and Planning
Hospital Programs
Ministry of Health

George Gamble
Financial Services Division
Ministry of Education

3.5 b) EDUCATION

FORECASTS OF STUDENT ENROLMENTS FOR SEPTEMBER 1977 - SEPTEMBER 1990 FOR HAT CREEK STUDY AREA

	Ashcroft		Cache Creek		Clinton		Unincorporated		Total	
Year	Elementary*	Secondary	Elementary	Secondary	Elementary	Secondary	Elementary***	Secondary	Elementary	Secondary
1976**	335	173	174	89	134	69	230	118	873	449
1977	346	178	181	93	134	69	230	118	890	458
1978	346	178	181	93	134	69	230	118	890	458
1979	401	207	198	102	134	69	230	118	963	496
1980	401	207	198	102	134	69	230	118	963	496
1981	401	207	198	102	106	95	230	118	1,014	522
1982	401	207	198	102	106	95	230	118	1,014	522
1983	401	207	198	102	106	95	230	118	1,014	522
1984	401	207	198	102	106	95	230	118	1,014	522
1985	438	226	220	114	106	95	230	118	1,074	553
1986	438	226	220	114	106	95	230	118	1,074	553
1987	467	241	238	122	106	95	230	118	1,120	576
1988	467	241	238	122	106	95	230	118	1,120	576
1989	467	241	238	122	106	95	230	118	1,120	576
1990	496	255	255	131	106	95	230	118	1,165	599

---

* An average of one school age child per four residents has been used to determine projected school enrolments in the study area. That proportion was obtained from Administrative Services Branch, Ministry of Education, Province of British Columbia and represents B.C. averages. The ratio for School District 30 from 1971 Census data was 1:3.4.
An estimate of 66% elementary students and 34% secondary students has been used in determining the forecasts of enrolments. This estimate was obtained from the B.C. Research Enrolment Model, September, Form B. B.C. Research identified a trend of changing elementary and secondary enrolments. Although those figures have not been applied specifically, the trend has been noted and applied as an average to this forecast.

** Figures for 1976 are based on Statistics Canada Census data.

*** Elementary students from unincorporated areas are distributed throughout schools in study area according to 1976 distribution: 0.2 to Ashcroft, 0.5 to Cache Creek, 0.3 to Clinton.

Source: Strong, Hall and Associates, Population Projections, 1977.

3.5 b) EDUCATION

INVENTORY OF EXISTING SERVICES HAT CREEK STUDY AREA[1,2]

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES							
									ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FUNDING SOURCE
3.5 b) EDUCATION												
i) Elementary Education	Elementary school classes, kindergarten to Grade 7	Ashcroft and surrounding unincorporated areas, as part of School District 30	September enrolments 933 elementary students (Ashcroft Elementary - 151 Coppervale Elementary - 87 Cache Creek Elementary - 311 Clinton Elementary - 333)	School Dist. 30: Pupil Teacher Ratio (PTR) 17.98 Ashcroft Elem. PTR - 21.6 Coppervale Elem. PTR - 14.5 Cache Creek Elem. PTR - 19.6 Clinton Elem. PTR - 22.8	Ashcroft Elementary School - 12 classrooms, activity room, library, soccer field, softball backstop, playground	Size of each school facility is not available.	The following are not capacities approved by Ministry of Education for (1) 360 students (Includes 50 kindergarten students)	Ashcroft	1 principal 1 vice-principal 10 teacher 1 teachers aid 1 secretary 2 janitors	Board of School Trustees School District 30	Operating costs are not available for each school. Total operating costs for School District 30 - $3,843,303.	Dept. of Education Prov. of B.C.
					Coppervale Elementary School - 6 classrooms, gymnasium with stage, library, play area, playing field		120 students	Ashcroft	2 teachers	Board of School Trustees School District 30		Dept. of Education Prov. of B.C.
		Cache Creek and surrounding unincorporated areas, as part of School District 30.			Cache Creek Elementary School - 12 classrooms, music room, activity room, soccer field, baseball stop, running track, playfields, children's play area		333 students (Includes 56 kindergarten students)	Cache Creek	1 principal 15 teachers 1 teacher's aid part-time 1 secretary 2 janitors	Board of School Trustees School District 30		Dept. of Education Prov. of B.C.
		Clinton and surrounding unincorporated areas, as part of School District 30			Clinton Elementary School - 11 classrooms, gymnasium library, playground, ice rink, baseball-soccer area, playground		255 students (Includes 50 kindergarten students)	Clinton	1 principal 9 teachers 1 teacher's aid part-time 1 secretary 1 janitor	Board of School Trustees School District 30		Dept. of Education Prov. of B.C.
ii) Secondary Education	Secondary school classes grades 8, 9 and 10 (junior secondary), or grades 8 to 12	Ashcroft, Cache Creek, Clinton and surrounding unincorporated areas, as part of School District 30	September enrolment 633 secondary students (Ashcroft Secondary - 571, David Stoddart Jr. Sec. - 104)	Ashcroft Secondary PTR 19.1	Ashcroft Secondary School - classrooms, gymnasium, library, multi-purpose room, cafeteria, craft rooms, 2 tennis courts, soccer field, playing field, running track		595 students	Ashcroft	1 principal 1 vice-principal 30 teachers 2 secretaries 1 janitors	Board of School Trustees, School District 30		Dept. of Education, Province of B.C.
		Clinton and surrounding unincorporated areas, as part of School District 30		David Stoddart Jr. Sec. PTR 13.8	David Stoddart Junior Secondary School - 9 classrooms, library, science room, music room, craft rooms, typing room, gymnasium, soccer field, baseball diamond, playing field		325 students	Clinton	1 principal 8 teachers 1 secretary 1 1/2 janitors	Board of School Trustees, School District 30		Dept. of Education, Province of B.C.
iii) Continuing Education	Night courses in leisure activities, crafts, upgrading and physical fitness	Ashcroft, Cache Creek, Clinton, Lytton and unincorporated areas in study area	Enrolment 446 people in 42 courses, July 1, 1976 to June 30, 1977.	Student/ instructor ratio 1.94			The following capacities are for the school facilities. The capacity of the schools for continuing education programs must take into consideration the existing usage by School Board.					
					Ashcroft Elementary School		360 elementary and kindergarten students	Ashcroft	1 instructor	Cariboo College Continuing Education Department	Not available. Presume janitorial provided by School District 30	Cariboo College & entrance fees
					Ashcroft Secondary School		595 students	Ashcroft	1 instructors	Cariboo College Continuing Education Department	Not available	Cariboo College & entrance fees
					Cache Creek Elementary School		333 elementary and kindergarten students	Cache Creek	3 instructors	Cariboo College Continuing Education Department	Not available	Cariboo College & entrance fees
					Clinton Elementary School		255 elementary and kindergarten students	Clinton	6 instructors	Cariboo College Continuing Education Department	Not available	Cariboo College & entrance fees
					David Stoddart Junior Secondary School		325 students	Clinton	2 instructors	Cariboo College Continuing Education Department	Not available	Cariboo College & entrance fees

1: All figures given are for 1976 unless otherwise noted.
2: All sources of information displayed in this table are documented by surveys in Section 3.5 of this report.

CASES AND CORRESPONDING PATIENT DAYS BY DIAGNOSTIC GROUP
ASHCROFT AND DISTRICT GENERAL HOSPITAL, 1974 - 1976

Diagnostic Group	1974				1975				1976			
	Cases	% Dist.	Days	% Dist.	Cases	% Dist.	Days	% Dist.	Cases	% Dist.	Days	% Dist.
1. Infective and parasitic diseases	110	9.4	595	8.0	39	4.8	262	3.9	34	4.7	228	3.8
2. Neoplasms	16	1.4	403	5.4	11	1.4	123	1.8	13	1.8	383	6.3
3. Endocrine, nutritional and metabolic diseases	17	1.5	156	2.1	12	1.5	106	1.6	11	1.5	173	2.9
4. Diseases of the blood and blood-forming organs	17	1.5	130	1.8	9	1.1	46	0.7	5	0.7	28	0.5
5. Mental disorders	52	4.5	344	4.6	45	5.5	452	6.8	23	3.2	224	3.7
6. Diseases of the nervous system and sense organs	39	3.3	220	3.0	10	1.2	67	1.0	19	2.6	131	2.2
7. Diseases of the circulatory system	102	8.7	928	12.5	68	8.4	863	12.9	60	8.3	870	14.4
8. Diseases of the respiratory system	229	19.6	1,364	18.4	143	17.6	1,031	15.4	95	13.2	926	15.3
9. Diseases of the digestive system	109	9.3	677	9.2	76	9.3	600	9.0	60	8.3	384	6.3
10. Diseases of the genito-urinary system	48	4.1	203	2.7	33	4.1	101	1.5	36	5.0	126	2.1
11. Complications of pregnancy, childbirth and the puerperium	133	11.4	573	7.7	108	13.3	673	10.1	109	15.1	601	9.9
12. Diseases of the skin and subcutaneous tissue	29	2.5	174	2.4	24	3.0	254	3.8	13	1.8	142	2.3
13. Diseases of the musculoskeletal system and connective tissue	47	4.0	394	5.3	26	3.2	461	6.9	30	4.2	296	4.9
14. Congential anomalies	-	-	-	-	-	-	-	-	3	0.4	6	0.1
15. Certain causes of perinatal morbidity and mortality	1	0.1	10	0.1	1	0.1	10	0.1	1	0.1	21	0.3
16. Symptoms and ill-defined conditions	21	1.8	65	0.9	37	4.6	168	2.5	25	3.5	100	1.7
17. Accidents, poisonings and violence; supplementary classifications	196	16.8	1,163	15.7	171	21.0	1,479	22.1	183	25.4	1,418	23.4
TOTAL	1,166	100.0	7,398	100.0	813	100.0	6,696	100.0	720	100.0	6,057	100.0

CASES AND CORRESPONDING PATIENT DAYS BY DIAGNOSTIC GROUP
RURAL BRITISH COLUMBIA, 1974 - 1976

Diagnostic Group	1974 Cases	1974 % Dist.	1974 Days	1974 % Dist.	1975 Cases	1975 % Dist.	1975 Days	1975 % Dist.	1976 Cases	1976 % Dist.	1976 Days	1976 % Dist.
1. Infective and parasitic diseases	3,630	3.9	21,265	3.0	3,332	3.7	20,591	2.9	3,104	3.4	18,360	2.6
2. Neoplasms	4,269	4.6	53,121	7.4	4,245	4.7	54,710	7.7	4,593	5.0	57,323	8.2
3. Endocrine, nutritional and metabolic diseases	1,665	1.8	18,746	2.6	1,700	1.9	18,672	2.6	1,628	1.8	18,125	2.6
4. Diseases of the blood and blood-forming organs	627	0.7	4,230	0.6	586	0.6	4,145	0.6	577	0.6	3,712	0.5
5. Mental disorders	4,493	4.9	45,580	6.4	4,505	4.9	44,592	6.2	4,593	5.0	47,241	6.8
6. Diseases of the nervous system and sense organs	3,528	3.8	26,305	3.7	3,510	3.8	24,424	3.4	3,695	4.0	26,675	3.8
7. Diseases of the circulatory system	7,809	8.5	95,466	13.3	7,948	8.7	99,657	13.9	7,743	8.5	93,122	13.3
8. Diseases of the respiratory system	12,659	13.7	76,875	10.7	11,832	13.0	73,043	10.2	11,901	13.0	70,902	10.1
9. Diseases of the digestive system	9,479	10.3	76,747	10.7	9,369	10.3	73,688	10.3	9,006	9.8	69,859	10.0
10. Diseases of the genito-urinary system	8,033	8.7	50,683	7.1	7,630	8.4	50,686	7.1	7,150	7.8	45,471	6.5
11. Complications of pregnancy, childbirth and the puerperium	11,387	12.3	56,465	7.9	11,392	12.5	56,317	7.9	11,549	12.6	55,586	8.0
12. Diseases of the skin and subcutaneous tissue	1,445	1.6	12,009	1.7	1,367	1.5	12,083	1.7	1,383	1.5	11,241	1.6
13. Diseases of the musculoskeletan system and connective tissue	3,855	4.2	39,572	5.5	4,085	4.5	43,692	6.1	4,071	4.5	41,578	5.9
14. Congential anomolies	921	1.0	8,938	1.2	988	1.1	9,709	1.4	956	1.0	8,063	1.2
15. Certain causes of perinatal morbidity and mortality	81	0.1	975	0.1	108	0.1	1,364	0.2	129	0.1	1,450	0.2
16. Symptoms and ill-defined conditions	2,857	3.1	13,656	1.9	3,053	3.3	14,501	2.0	3,442	3.8	15,149	2.2
17. Accidents, poisonings and violence; supplementary classifications	15,518	16.8	116,484	16.2	15,602	17.1	112,987	15.8	15,916	17.4	115,004	16.5
TOTAL	92,264	100.0	717,117	100.0	91,252	100.0	714,861	100.0	91,436	100.0	698,861	100.0

3.5 c) HEALTH

INVENTORY OF EXISTING SERVICES HAT CREEK STUDY AREA

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES				ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FUNDING SOURCE
3.5 c) HEALTH												
i) Hospital	- general hospital services, no major surgery - acute care and extended care patients	School District 30, excluding Spences Bridge and Lytton	total patient day volume [illegible] days and [illegible] cases admitted in [illegible]	[illegible] beds per 1000 population for School District 30. Hospital occupancy rate [illegible]	Ashcroft and District General Hospital	[illegible] sq. ft. [illegible] acute care beds [illegible] extended care beds	[illegible] occupancy of the [illegible] beds giving patient day volume of approximately [illegible] - [illegible] days per year	Ashcroft	[illegible] nursing staff [illegible] medical laboratory technicians [illegible] radiologists [illegible] physiotherapists [illegible] administration staff [illegible] medical records [illegible] dieticians [illegible] laundry staff [illegible] housekeeping staff [illegible] plant operation	Hospital Non-Profit Society	$[illegible] budgeted for [illegible]. Actual [illegible] operating costs not finalized	Provincial grants, hospital assessments through Regional District
ii) Medical	general medical practice	Ashcroft, Cache Creek, and surrounding unincorporated areas	[illegible] - [illegible] people per week per doctor	1 doctor per [illegible] population	Ashcroft Medical Centre	not available		Ashcroft	[illegible] doctors [illegible] nurses [illegible] bookkeepers [illegible] secretary	private practice	not available	B.C. Ministry of Health
		Clinton and surrounding unincorporated areas	[illegible] - [illegible] people per week		Clinton doctor's office	[illegible] sq. ft.	[illegible] doctors	Clinton	1 doctor 1 nurse/receptionist	private practice	$[illegible]-$[illegible] per year (incl. rent, light, tel insurance, office help)	B.C. Ministry of Health
iii) Dental	no service in study area at time of inventory	-	-	-	-	-	-	-	-	-	-	-
iv) Public Health	Environmental inspection and consultation, hospital replacement, home care, public health and epidemiology	School District [illegible] and [illegible] (study area is within School District [illegible])	For service area: [illegible] inspections per year [illegible] public health clients per month as well as student population [illegible] home care patients per month	1 health inspector per [illegible] population, 1 public health nurse per [illegible] population	South Central Health Unit - Ashcroft Branch Office in leased space in Church	[illegible] sq. ft.	operating at capacity at present	Ashcroft	For service area: 1 health inspector 1 senior public health nurse [illegible] public health nurses [illegible] home care nurses [illegible] clerks	South Central Health Unit Head Office - Kamloops	$[illegible] per year not including rent	B.C. Ministry of Health
v) Mental Health	no service in study area at time of inventory	-	-	-	-	-	-	-	-	-	-	-
vi) Ambulance	Emergency ambulance services	Ashcroft, Cache Creek and surrounding unincorporated areas	[illegible]-[illegible] calls per year from Ashcroft	1 vehicle per [illegible] population (approximately)	Ambulance Unit	information not available	[illegible] vehicles	Ashcroft	1 full-time employee plus volunteer staff	B.C. Emergency Health Services Commission	Approximately $[illegible] per call Ashcroft - $[illegible]-$[illegible] per year	B.C. Emergency Health Services Commission & charge to users of $[illegible] per call
		Clinton and surrounding unincorporated areas	no records yet for Clinton as service started in early [illegible]	1 vehicle per [illegible] population (approximately)	Ambulance Unit - leased space in fire hall	information not available	1 vehicle	Clinton	volunteer staff	B.C. Emergency Health Services Commission	Clinton - no records for [illegible] as operations started in [illegible]	B.C. Emergency Health Services Commission & charge to users of $[illegible] per call

3.5 d) RECREATION

INVENTORY OF EXISTING SERVICES ASHCROFT/CACHE CREEK STUDY AREA

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES							
									ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FUNDING SOURCE
3.5 d) RECREATION												
1) Public Recreation	public outdoor leisure time activities such as picnics, children's play, ball games, tennis, athletic events. These events are either unorganized in nature or organized by recreation clubs in the community.	Village of Ashcroft	no record of users for parks or swimming pool	Ashcroft - 4.4 - 7.6 acres of park per 1000 population	Ashcroft Park - picnic tables, tennis court, grassed area	1.5 acres	not applicable	Ashcroft	Parks are maintained by Village staff	Village of Ashcroft	$16,041 total expenses for all Ashcroft parks	Village of Ashcroft
					Park in North Ashcroft - children's playground, fountain, grassed area	3.1 acres	not applicable	Ashcroft		Village of Ashcroft		Village of Ashcroft
					Ashcroft Stampede Grounds - baseball diamond, stampede grounds	30-20 acres	not applicable	Ashcroft		Village of Ashcroft		Village of Ashcroft
	outdoor swimming for the general public and special programs for groups in the community			1 swimming pool per 2030 population	Ashcroft Swimming Pool - (outdoors)	30 m 12 metres	not applicable	Ashcroft	1 pool coordinator 7 staff	Village of Ashcroft	$37,750 expenses $12,986 revenue	Village of Ashcroft, memberships and entrance fees
	community banquets, dances, dinners, meetings	Village of Ashcroft	community hall booked for use 5 times per week by a varying number of people	1 community hall per 2030 population	Ashcroft Community Hall - hall, village office, meeting room, and lawyer's office	community hall 3300 sq. ft. Village office 960 sq. ft.	375 seats	Ashcroft	hall maintained by Village staff	Village of Ashcroft	$6,037 expenses $13,180 revenue from rental for social events and office space	Village of Ashcroft
	public indoor and outdoor recreation activities such as ball games, tennis, track. Activities are unorganized, organized by recreation clubs in the community, or organized by the Continuing Education Co-ordinator		no information available on number of users from general public of school facilities after school hours	actual area of recreation space in schools not available	Ashcroft Secondary School - gymnasium, multi-purpose room, 2 tennis courts, soccer field, playing field and running track	school site - 17 acres, actual area of recreation space not available	not applicable	Ashcroft	Maintained by staff of School District 30. Organized programs are administered by volunteers in the community of by Cariboo College Continuing Education Co-ordinator	School District 30	operating costs not broken down for these facilities	School District 30
					Ashcroft Elementary School - large activity room, soccer field, softball backstop, and children's playground	school site - 3.7 acres, actual area of recreation space not available	not applicable	Ashcroft		School District 30	Operating costs not broken down for these facilities	School District 30
					Coppervale Elementary School - gymnasium, playing field and children's playground	school site - 0 acres, actual area of recreation space not available	not applicable	Ashcroft		School District 30	Operating costs not broken down for these facilities	School District 30
	skating and hockey programs and general skating	Village of Ashcroft	Arena opened early 1977, no records of number of users available	1 arena per 2030 population	Doylcole Arena - box lounge facility not in operation yet, and a concession stand	ice surface 180 ft x 80 ft, building 33,100 sq. ft.	500 people seating capacity	Ashcroft	1 facilities manager 2 maintenance staff	Village of Ashcroft	$1,030 expenses, no revenue for 1976 because operations began in 1977	Village of Ashcroft, yearly memberships and entrance fees
	public outdoor leisure time activities such as picnics, children's play, tennis, shuffleboard, lawn bowling. Activities are both unorganized in nature and organized by community recreation clubs.	Village of Cache Creek	no records available of number of users	5 acres of park for 1000 population (approximately	Cache Creek Park - children's playground, lawn bowling, shuffleboard, tennis court (skating rink in winter), outdoor swimming pool, and picnic tables	5 acres	not applicable	Cache Creek	paths are maintained by Village staff	Village of Cache Creek	$600 budgeted for 1976	Village of Cache Creek
	outdoor swimming for the general public and special programs groups in the community		250 users per day in summer	1 swimming pool for 1050 population	Cache Creek Swimming Pool - outdoors	25 metres	not applicable	Cache Creek	6 operations staff	Village of Ashcroft	$20,016 expenses $1443 revenue budgeted for 1976	Village of Cache Creek, memberships entrance fees
	community dances, banquets dinners, meetings, indoor recreation activities such as volleyball and badminton		varying number of users 6 nights per week	1 community hall for 4050 population	Cache Creek Community Hall - community hall, meeting rooms, activity rooms and fire hall	3713 sq. ft.	500 seats	Cache Creek	maintained by Village staff	Village of Cache Creek	$8,065	Village of Cache Creek
	public indoor and outdoor recreation activities such as ball games, track and field, children's play. Activities are unorganized and organized by recreation clubs in the community or the Continuing Education Co-ordinator		no information available on number of users	actual area of recreation space in school not available	Cache Creek Elementary School - large activity room, soccer field, baseball stop, undeveloped running track, play fields, children's play area	school site - 9 acres, actual area of recreation space not available	not applicable	Cache Creek	maintained by staff of School District 30	School District 30	operating costs not broken down for these facilities	School District 30
	indoor and outdoor leisure time activities for Old Age Pensioners	Ashcroft, Cache Creek and surrounding unincorporated areas	Membership of 60 in Old Age Pensioners Group	not applicable	Rental space in old hospital in Ashcroft	900 sq. ft.	not applicable	Ashcroft	volunteers from Old Age Pensioners Group	Old Age Pensioners Group	not available	donations, & funds raised through bake sales, activity nights, etc

INVENTORY OF EXISTING SERVICES HAT CREEK STUDY AREA

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES							
									ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FINANCING SOURCE
	Public outdoor leisure time activities such as picnics, water play, horseshoes, ball games	Village of Clinton	no records available	16 acres per 1000 population	Centennial Park - wading pool, creek, pond, picnic tables, horseshoe pitches & concession building	3 acres	not applicable	Clinton	parks maintained by Village staff	Village of Clinton	1981 total for Clinton parks	Village of Clinton
					Clinton Park - baseball diamond	10 acres	not applicable	Clinton				
	Indoor	Village of Clinton	410	1 indoor ground per 1010 population	Indoor Grounds	not available	not applicable	Clinton	undefined number of volunteers	Agricultural Association	not available	Agricultural Association
	hockey and general skating	Village of Clinton	810	1 skating rink per 1010 population	Skating Rink - outdoors	80' x 200'	not applicable	Clinton	maintained by Village staff	Village of Ashcroft	$1010	Village of Clinton
	Community dances, banquets, dinners, and meetings	Village of Clinton	810	1 community hall per 1010 population	Clinton Community Hall	not available	not available	Clinton	maintained by Village staff	Village of Clinton	$1534	Village of Clinton
	public indoor and outdoor recreation activities, such as ball games, children's play, track and field	Village of Clinton	no records available	actual area of recreation space in schools not available	Clinton Elementary School - baseball/soccer area, gymnasium, playground	school site - 3 acres, actual area of recreation space not available	not applicable	Clinton	maintained by staff of School District 10	School District 10	operating costs not broken down for these facilities	School District 10
			no records available		David Stoddart Junior Secondary School - gymnasium, soccer field, baseball diamond, playing fields	school site - 10 acres, actual area of recreation space not available	not applicable	Clinton	maintained by staff of School District 10	School District 10	operating costs not broken down for these facilities	School District 10

The Ashcroft Curling Rink was rebuilt subsequent to the completion of this inventory report.

3.5 e) SOCIAL & 3.5 f) CULTURAL

INVENTORY OF EXISTING SERVICES :AT CREEK STUDY AREA

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES							
									ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FUNDING SOURCE
3.5 e) SOCIAL	social assistance, unincon- day care, homemaker, foster homes, adoptions, child welfare, family services, BPIA	83 Mile House to Hat Creek Valley to south of Spences Bridge, west to Merritt and south to Deadman's Creek. Ashcroft and Cache Creek and surrounding unincorporated areas	Caseload of 69 (as of September, 1976)		Human Resources Office	not available	not available	Cache Creek	1 supervisor 2 social workers 1 financial assistance worker 1 clerical	B.C. Department of Human Resources	$98,383	B.C. Ministry of Human Resources
	day care and play school		6-12 children per day. Number fluctuates because of play school. Maximum number on day care - 8 children	1 day care centre for 3088 people	Ashcroft-Cache Creek Day Care Centre - leased space in old Ashcroft hospital 1 large playroom 1 large room for eating and playing 2 small rooms for sleeping and office 2 bathrooms 1 bathroom for storage 1 storage area 1 janitor room fenced in outside area	not available	licensed for 25 children	Ashcroft	2 staff	Ashcroft-Cache Creek Day Care Society	approximately $900 - $1000 per month	Ashcroft-Cache Creek Day Care Society through charges
3.5 f) CULTURAL	displays of local and regional historic events	Ashcroft and surrounding area	no information available	1 museum for 3838 population	Ashcroft Museum	not available	not available	Ashcroft	1 staff	Village of Ashcroft	$1886 expenses $575 revenue, not including rent or salary	Village of Ashcroft and public donations
	arts and crafts shows	Ashcroft and surrounding unincorporated areas	no information available	1 community hall for 2838 population	Ashcroft Community Hall	2400 sq. ft.	276 seats	Ashcroft	hall maintained by Village staff	Village of Ashcroft		Village of Ashcroft
	travelling musical and theatrical events		no information available	not available	Coppervale Elementary School - gymnasium with stage	size of gymnasium not available	capacity of gymnasium not available	Ashcroft	maintained by staff of School District 30	School District 30	costs not broken down for this facility	School District 30
	library book loans, magazine circulations, and reading programs		no information available on number of users, 33,710 volumes circulated in 1976	1 library for 2838 population	Ashcroft Library	3500 sq. ft. approximately	15,000 volumes	Ashcroft	1 staff part-time	Cariboo Thompson Nicola Library System	operating costs not broken down for this facility	B.C. Library Development Commission through Cariboo Thompson Nicola Library System
	travelling musical and theatrical events	Cache Creek and surrounding unincorporated areas	no information available	not available	Cache Creek Elementary School - activity room	size of activity room not available	capacity of activity room not available	Cache Creek	maintained by staff of School District 30	School District 30	costs not broken down for this facility	School District 30
	library book loans, magazine circulations and reading programs		no information available on number of users, 850 volumes circulated in 1976	1 library for 1850 population		2500 sq. ft. in leased space	7,500 volumes	Cache Creek	2 staff part-time	Cariboo Thompson Nicola Library System	operating costs not broken down for this facility	B.C. Library Development Commission
	displays of local and regional historic events	Clinton and surrounding unincorporated areas	no information available	1 museum for 850 population	Clinton Museum	not available	not available	Clinton	1 staff	Village of Clinton	not available	Village of Clinton & public donations
	library book loans, magazine circulation, and reading programs	Clinton and surrounding unincorporated areas	no information available on number of users, 8599 volumes circulated in 1976	1 library for 850 population	Clinton Library	12,000 sq. ft.	8,000 volumes	Clinton	1 staff part-time	Cariboo Thompson Nicola Library System	operating costs not broken down for this facility	B.C. Library Development Commission

3.5 g) CORRECTIONS & 3.5 h) COURT/JUDICIAL

INVENTORY OF EXISTING SERVICES HAT CREEK STUDY AREA

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES							
									ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FUNDING SOURCE
3.5 g) CORRECTIONS	Family courts, probation, diversion, Regional and B.C. Parole	Spences Bridge to Pavilion, to 60 Mile House to Montana's Creek	687 probationary supervision cases, 301 family court cases	1 probation officer for 5166 people (approximately	Ashcroft Probation Office - rented space in old Ashcroft Hospital	600 sq. ft. approximately	not available	Ashcroft	1 probation officer 1 clerk, half-time	Corrections Branch, Ministry of the Attorney-General	$35,600 per year	Corrections Branch of Ministry of Attorney-General and Ministry of Solicitor General, Government of Canada
3.5 h) COURT/JUDICIAL	County Court, Provincial Court, Small Claims Court, Family and Juvenile Court and Supreme Court	Ashcroft Provincial Courts: Marble Canyon, Upper Hat Creek, Thompson River to Boston's Lake and Cheyenne, including Ashcroft and Cache Creek	Ashcroft Provincial Courts: no information available on actual number of users. Case initiations are given below: Adult Provincial Criminal - 313 Minor motor vehicle offences - 169 Small Claims initiations - 48 Small Claims trials - 11 Family & Juvenile applications - 38 Family & Juvenile Proceedings - 38 County Court - 31 Supreme Court - 3 Divorce - 6 Number of sitting days 5½-6 per month	1 courtroom for approximately 5000 population	Ashcroft Provincial Court - in rented space - includes barristers' room, judge's office, 1 sheriff's room, 1 space for court administrator, 1 space for deputy administrator, 1 courtroom	3100 sq. ft.	court capacity depends on the type of cases before the court and therefore could vary over time. A rough estimate of capacity for the Ashcroft and Clinton courts combined, given existing case types, is 16 sitting days per month	Ashcroft	1 Provincial Court Judge, 1 day per week from Kamloops 1 County Court Judge, 1 day per month from Williams Lake 1 court administrator 1 deputy administrator 1 sheriff's deputy 1 official court reporter from Kamloops 1 Crown Counsel ad hoc from Kamloops	Courts Division, Ministry of the Attorney-General	$13000-$13200 per sitting day	Ministry of Attorney-General, Prov. of B.C. funds Prov. Courts except for Judges' salaries which are funded by Ministry of Justice, Gov. of Canada
		Clinton Provincial Courts: extends from mountainous country in west into plateau and around Gang Ranch and Big Bar Creek to Bonaparte and Fish Lake on the east. Includes Clinton and 70 Mile House	Clinton Provincial Courts: no information available on actual number of users. Case initiations are given below: Adult Provincial Criminal - 83 Minor motor vehicle offences - 18 Small Claims initiations - 24 Small Claims trials - 4 Family and Juvenile applications - 3 Family and Juvenile proceedings - 3 County Court - 31 Supreme Court - 0 Divorce - 3 Number of sitting days 1½ per month	1 courtroom for approximately 2667 population	Clinton Provincial Court - in provincial government building - 1 space for court administrator, 1 judge's room, 1 courtroom	360 sq. ft.	capacity of Clinton Court is given above in combination with the Ashcroft Court because as of July 1, 1977, it will operate as a satellite court serviced on circuit from Ashcroft	Clinton	1 Provincial Court Judge, 1 day per month from Kamloops 1 County Court Judge, 1-3 times per year from Williams Lake 1 court administrator 1 official court reporter from Kamloops 1 Crown Counsel ad hoc from Kamloops	Courts Division, Ministry of the Attorney-General	$13000 - $13200 per sitting day	Ministry of Attorney-General funds Prov. Courts except for Judges' salaries which are funded by Ministry of Justice, Gov. of Canada

3.5 i) LEGAL , 3.5 j) POLICE , 3.5 k) FIRE & 3.5 l) COMMUNICATION

INVENTORY OF EXISTING SERVICES HAT CREEK STUDY AREA

SERVICE SYSTEM	EXISTING SERVICE				EXISTING RESOURSES							
									ADMINISTRATION		FINANCIAL	
	PROGRAMS OFFERED	SERVICE AREA	NUMBER OF USERS	RATIO	FACILITY	SIZE	CAPACITY	LOCATION	STAFF	AGENCY	OPERATING COSTS	FUNDING SOURCE
3.5 i) LEGAL	agents for Kamloops Legal Aid Society provide legal aid services for criminal cases, family law, foreclosures and legal advice	Ashcroft, Cache Creek, Clinton and unincorporated areas	Ashcroft - no information available	2 law offices for 5300 population	Law Office - in rented space above community hall	350 sq. ft. approximately	not applicable	Ashcroft	1 lawyer part-time from Kamloops	Legal Aid Society of B.C., Kamloops Office	no information available	Legal Service Commission, Province of B.C., federal government, B.C. Law society and individual contributions
		Ashcroft, Cache Creek, Clinton and unincorporated areas	Cache Creek - no information available		Law office - in rented space above stores	400 sq. ft. approximately	not applicable	Cache Creek	1 lawyer 1 secretary	Legal Aid Society of B.C., Kamloops Office	no information available	
3.5 j) POLICE	police protection, safety education courses, public relations	Ashcroft, Cache Creek, to Pavilion, Loon Lake and Bachin	Ashcroft Detachment offences recorded: Criminal Code - 489 Fed. Statutes - 50 Prov. Statutes - 43 Persons charged: (Adult's Juvenile) Criminal Code - 310 Fed. Statutes - 39 Prov. Statutes - 21	Ashcroft Detachment: police to population ratio 1:937	RCMP Ashcroft Detachment - 3 cells, 1 holding unit, ½ basement, general office 500 sq. ft., office for officer 2nd in command, exhibit room, 1 office for highway patrol, 1 office for steno, 3 washrooms, 1 garage	4572 sq. ft.	Ashcroft Detachment total capacity of 3 cells - 6 people capacity of holding unit - 3 people	Ashcroft	17 officers 3 stenographers	RCMP Headquarters, Victoria	1976-77 costs are approximately $35,000 per police officer, including rent. Of this total, the Prov. of B.C. pays 53% and the federal gov. pays 47% of the cost.	Ministry of Solicitor General, Gov. of Canada, and Ministry of Attorney-General, Prov. of B.C.
		Loon Lake to 70 Mile House, Gang Ranch to Table Lake	Clinton Detachment Offences recorded: Criminal Code - 175 Fed. Statutes - 11 Prov. Statutes - 21 Persons charged: (Adult's Juvenile) Criminal Code - 33 Fed. Statutes - 3 Prov. Statutes - 1	Clinton Detachment police to population ratio 1:768	RCMP Clinton Detachment - 1 house 2 stories with kitchen, dining room, living room, 3 bedrooms. Adjoining house 1 office, 1 exhibit room, 1 office for officer in command, 1 interview room, 1 stationery room, 1 washroom, 2 cells	2262 sq. ft.	Clinton Detachment total capacity of 2 cells - 4 people	Clinton	4 officers 1 stenographer	RCMP Headquarters, Victoria		
3.5 k) FIRE	volunteer fire protection	Village of Ashcroft	1 call per month	1 fire truck per 1000 population (approx.)	Ashcroft Fire Hall - 2 fire trucks	1600 sq. ft. (approximately)	3 fire trucks	Ashcroft	1 fire chief 25 volunteer firemen	Village of Ashcroft	$13,640	Village of Ashcroft
		Village of Cache Creek	1 call per month	1 fire truck per 1000 population (approx.)	Cache Creek Fire Hall - 1 fire truck	1112 sq. ft.	2 fire trucks	Cache Creek	1 fire chief 1 deputy fire chief 16 volunteer firemen	Village of Cache Creek		Village of Cache Creek
		Village of Clinton	1 call per month	1 fire truck per 618 population	Clinton Fire Hall - 1 fire truck	no information available	2 fire trucks	Clinton	1 fire chief 1 deputy fire chief 35 volunteer firemen	Village of Clinton	$6,370	Village of Clinton
3.5 l) COMMUNICATION	7 day receipt and dispatch of mail, Post office lock boxes, general delivery	Ashcroft, Highland Valley, part of Upper Hat Creek Valley	3000 people per month	1 Post Office per 1000 people	Ashcroft Post Office - in federal government building	1716 sq. ft.	not applicable	Ashcroft	1 postmaster 2 senior assistants 2 full-time assistants 3 part-time assistants 2 casuals	Postmaster General, Government of Canada	no information available	Postmaster General Gov. of Canada
	7 day receipt and dispatch of mail, lock boxes, general delivery, rural routes, main distribution, centre for transferring, redistributing and sorting mail	Cache Creek, part of Upper Hat Creek Valley	2000 people per month	1 Post Office per 2000 people	Cache Creek Post Office	3000 sq. ft.	not applicable	Cache Creek	1 postmaster/zone manager 1 assistant postmaster 1 shift supervisor 5 full time postal clerks 4 part-time postal clks	Postmaster General, Government of Canada	no information available	Postmaster General Gov. of Canada
	receipt and dispatch of mail, Post office drawers	Chasm to 16 Mile House Jesmond, Big Bar and Gang Ranch	no information available	no information available	Clinton Post Office	1400 sq. ft.	not applicable	Clinton	3 full-time staff	Postmaster General, Government of Canada	no information available	Postmaster General Gov. of Canada
	CPC pacific network radio prog'mme	5 mile radius of Ashcroft, Cache Creek, Clinton	no information available	not applicable	low power radio transmitters in Ashcroft, Cache Creek, Clinton	not applicable	5 mile radius of service	Ashcroft, Cache Creek, Clinton	not applicable	Canadian Broadcasting Corporation	no information available	Government of Canada
	CBC affiliate T.V. from Kamloops	service area varies depending on topography	no information available	not applicable	T.V. repeaters at Ashcroft, Cache Creek, Clinton	not applicable	depends on topography	Ashcroft, Cache Creek, Clinton	not applicable	Kamloops T.V. station	no information available	no information available

ELEMENTARY EDUCATION - ASHCROFT - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976*	1976-77 enrolment: 391 students (354 in Ashcroft Elementary and 37 in Coppervale Elementary)	elementary education	2 elementary schools. Total capacity 480 students (capacity of Ashcroft Elementary is 360 and Coppervale Elementary is 120 students)	average enrolment for an elementary school is 330 students, building size is 26,200 sq. ft., and acreage is 6 acres. Pupil-teacher ratio (PTR) is 19 for province, 24.4 for elementary schools in Ashcroft.	existing facilities total space not available	total teaching staff 1976-77 is 16**	existing land total not available	no information available for 1976-77 capital costs by community or school	operating costs are not available by community or school. Total operating costs for School District 30 for 1976-1977: $3,042,361
1977	405 students				no additional facilities required	no additional staff required	no additional land required	no additional capital costs	$20,660 (approx.) for 14 additional students***
1978	405 students				no additional	no additional	no additional	no additional	no additional
1979	460 students				no additional	total staff required for 1979-1980 is 19 (3 additional staff required)	no additional	no additional	$81,950 (approx.) for 55 additional students
1980	463 students				no additional	no additional	no additional	no additional	no additional
1981	460 students				no additional	no additional	no additional	no additional	no additional
1982	460 students				no additional	no additional	no additional	no additional	no additional

* The 1976 data provide existing information for elementary education in Ashcroft. Data for 1977-1990 are forecasts and numbers have been rounded.

** The pupil-teacher ratio for 1976-77 in Ashcroft's elementary schools was assumed in determining all staff projections.

*** All costs are given in 1976 dollars. $1,490 is the estimated cost per student for 1975-1976 academic year.

ELEMENTARY EDUCATION - ASHCROFT - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1983	460 students				no additional	no additional	no additional	no additional	no additional
1984	460 students				no additional	no additional	no additional	no additional	no additional
1985	495 students				require minimum of 450 sq. ft. extra space in portables to accommodate 15 students	total staff required for 1985-1986 is 20 (1 additional staff required)	no additional	no additional	$52,150 (approx.) for 35 additional students
1986	495 students				no additional	no additional	no additional	no additional	no additional
1987	525 students				require minimum of 840 sq. ft. extra space in portables to accommodate additional 28 students	total staff required for 1987-1988 is 22 (2 additional staff required)	no additional	no additional	$44,700 (approx.) for 30 additional students
1988	525 students				no additional	no additional	no additional	no additional	no additional
1989	525 students				no additional	no additional	no additional	no additional	no additional
1990	560 students				require minimum of 1,050 sq. ft. extra space in portables to accommodate additional 35 students	total staff required for 1990-1991 is 23 (1 additional staff required)	no additional	no additional	$52,150 (approx.) for 35 additional students

ELEMENTARY EDUCATION - CACHE CREEK - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976*	1976-1977 enrolment: 313 students	elementary education	elementary school - total capacity of 337	average enrolment for an elementary school is 330 students, building size is 26,200 sq. ft. and acreage is 6 acres. *Pupil-teacher* ratio (PTR) is 19 for province, 19.6 for elementary school in Cache Creek	existing facility total not available	total teaching staff 1976-1977 is 15	existing land total not available	no information available for 1976-1977 capital costs by community or school	operating costs not available by community or school. Total operating costs for School District 30 for 1976-1977: $3,042,323
1977	320 students				no additional facilities required	no additional staff required**	no additional land required	no additional capital costs	$10,430 (approx.) for 7 additional students***
1978	340 students				no additional	no additional	no additional	no additional	no additional
1979	340 students				facility at capacity	total staff 1979-1980 is 17 (2 additional staff required)	no additional	no additional	$29,000 (approx.) for additional 20 students
1980	340 students				facility at capacity	no additional	no additional	no additional	no additional
1981	340 students				facility at capacity	no additional	no additional	no additional	no additional
1982	340 students				facility at capacity	no additional	no additional	no additional	no additional

* 1976 data provide existing information for elementary education in Cache Creek. Data for 1977-1990 are forecasts, and numbers have been rounded.

** The pupil-teacher ratio for 1976-1977 in Cache Creek's elementary schools was assumed in determining all staff projections.

*** All costs are given in 1976 dollars. $1,490 is the estimated cost per student for 1975-1976 academic year.

ELEMENTARY EDUCATION - CACHE CREEK - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1983	340 students				facility at capacity	no additional	no additional	no additional	no additional
1984	340 students				facility at capacity	no additional	no additional	no additional	no additional
1985	365 students				require minimum of 750 sq. ft. extra space in portables for 25 students	total staff 1985-1986 is 19 (2 additional staff required)	no additional	no additional	$37,250 (approx.) for additional 25 students
1986	365 students				no additional	no additional	no additional	no additional	no additional
1987	385 students				require minimum of 600 sq. ft. extra space in portables to accommodate excess of 20 students	total staff 1987-1988 is 20 (1 additional staff required)	no additional	no additional	$29,800 (approx.) for 20 additional students
1988	385 students				no additional	no additional	no additional	no additional	no additional
1989	385 students				no additional	no additional	no additional	no additional	no additional
1990	435 students				require minimum of 1,500 sq. ft. extra space in portables to accommodate 50 additional students	total staff 1990-1991 is 22 (2 additional staff required)	no additional	no additional	$74,500 (approx.) for additional 50 students

ELEMENTARY EDUCATION - CLINTON - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976*	1976-1977 enrolment: 217 students	elementary education	elementary school - total capacity of 225	average enrolment for an elementary school is 300 students, building size is 26,200 sq. ft. and acreage is 6 acres. Pupil-teacher ratio (PTR) is 19 for province, 22.8 for elementary school in Clinton.	existing facility total not available	total teaching staff 1976-1977 is 9	existing land total not available	no information available for 1976-1977 capital costs by community or school	operating costs not available for community or school - total operating costs for School District 30 for 1976-1977: $3,042,303
1977	215 students				no additional facilities required	no additional staff required**	no additional land required	no additional capital costs	no additional operating costs
1978	215 students				no additional	no additional	no additional	no additional	no additional
1979	215 students				no additional	no additional	no additional	no additional	no additional
1980	215 students				no additional	no additional	no additional	no additional	no additional
1981	280 students				require minimum of 1,650 sq. ft. extra space in portables to accommodate 55 students	total staff 1981-1982 is 12 (3 additional staff required)	no additional	no additional	$96,850 (approx.) for additional 65 students***
1982	280 students				no additional	no additional	no additional	no additional	no additional
1983	280 students				no additional	no additional	no additional	no additional	no additional
1984	280 students				no additional	no additional	no additional	no additional	no additional
1985	280 students				no additional	no additional	no additional	no additional	no additional

* 1976 data provide existing information for elementary education in Clinton. Data for 1979-1990 are forecasts, and numbers have been rounded.

** The pupil-teacher ratio for 1976-1977 in Clinton's elementary school was assumed in determining all staff projections.

*** All costs are given in 1976 dollars. $1,490 is the estimated cost per student for 1975-1976 academic year.

ELEMENTARY EDUCATION - CLINTON - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS CAPITAL	COSTS OPERATING
1986	280 students				no additional	no additional	no additional	no additional	no additional
1987	280 students				no additional	no additional	no additional	no additional	no additional
1988	280 students				no additional	no additional	no additional	no additional	no additional
1989	280 students				no additional	no additional	no additional	no additional	no additional
1990	280 students				no additional	no additional	no additional	no additional	no additional

SECONDARY EDUCATION - ASHCROFT - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS CAPITAL	COSTS OPERATING
1976*	1976-1977 enrolment: 573 students**	secondary education	secondary school - total capacity 595 students	average enrolment for a secondary school is 1,000 students, building size is 90,000 sq. ft. and acreage is 9 acres. Pupil-teacher ratio for province is 19 and 19.1 for secondary school in Ashcroft	existing facility total not available	total teaching staff 1976-1977 30 teachers	existing land total not available	no information available for 1976-1977 capital costs by community or school	operating costs not available by community or school. Total operating costs for School District 30 for 1976-1977: $3,642,203
1977	585 students***				no additional facilities required	total teaching staff 1977-1978 31 teachers (1 additional)*****	no additional land required	no additional capital costs	$17,880 (approx.) for additional 12 students****
1978	585 students				no additional	no additional	no additional	no additional	no additional
1979	645 students				require minimum of 1,500 sq. ft. extra space in portables to accommodate 50 students	total teaching staff 1979-1980 34 teachers (3 additional)	no additional	no additional	$83,490 (approx.) for additional 60 students
1980	645 students				no additional	no additional	no additional	no additional	no additional

* 1976 data provide existing information for secondary education in Ashcroft. Data for 1979-1996 are forecasts.

** Existing enrolment and forecasts are for all secondary school age children from Ashcroft and Cache Creek and for age children from Clinton. The proportion of junior and senior secondary students is based on existing figures. senior-secondary school

*** An average of one school age child per four residents has been used to determine projected school enrolments in the was attained from Administrative Data Services Branch, Ministry of Education, Province of B.C. and represents the study area. That proportion actual number of school age children in the study area is higher than the 1 4 used in calculating the forecasts. B.C. average ratio. The from 1971 Census data is 1:3 4. Also, an average of 66% elementary students and 34% secondary students was used The ratio for School District 30 in fact, these proportions are not constant, but change as birthrate, in-migration, drop-out rates, etc. vary in developing the forecasts. the area.

**** All costs are given in 1976 dollars. $1,490 is the estimated cost per student for 1975-1976 academic year.

***** The pupil-teacher ratio in Ashcroft secondary school was assumed in determining all staff projections.

SECONDARY EDUCATION - ASHCROFT - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1981	685 students				require minimum of 1200 sq. ft. extra space in portables to accommodate 40 students	total teaching staff 1981-1982 36 teachers (2 additional)	no additional	no additional	$59,600 (approx) for additional 40 students
1982	685 students				no additional	no additional	no additional	no additional	no additional
1983	685 students				no additional	no additional	no additional	no additional	no additional
1984	685 students				no additional	no additional	no additional	no additional	no additional
1985	725 students				require minimum of 1,200 extra space in portables to accommodate students	total teaching staff 1985-1986 38 teachers (2 additional)	no additional	no additional	$59,600 (approx.) for additional 40 students
1986	725 students				no additional	no additional	no additional	no additional	no additional
1987	755 students				require minimum of 900 sq. ft. extra space in portables to accommodate 30 students	total teaching staff 1987-1988 40 teachers (2 additional)	no additional	no additional	$44,700 (approx.) for additional 30 students
1988	755 students				no additional	no additional	no additional	no additional	no additional
1989	755 students				no additional	no additional	no additional	no additional	no additional
1990	785 students				require minimum of 900 sq. ft. extra space in portables to accommodate students	total teaching staff 1990-1991 41 teachers (1 additional)	no additional	no additional	$44,700 (approx.) for additional students

SECONDARY EDUCATION - CLINTON - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976*	1976-1977 enrolment: 104 students**	secondary education	junior secondary school - total capacity 225 students	average enrolment for junior secondary school is 750 students, building size is 61,400 sq. ft. and acreage is 9 acres. Pupil-teacher ratio (PTR) for province is 19 and 13 for junior secondary school in Clinton.	existing facility total not available	total teaching staff 1976-1977 is 8	existing land total not available	no information available for 1976-1977 capital costs by community or school	operating costs not available by community or school. Total operating costs for School District 10 for 1976-1977: $3,042,303
1977	105 students ***				no additional facilities required	no additional staff required	no additional land required	no additional capital costs	$1,490 (approx.) for additional students****
1978	105 students				no additional	no additional	no additional	no additional	no additional
1979	115 students				no additional	total teaching staff 1979-1980***** 9 teachers (1 additional)	no additional	no additional	$14,900 (approx.) for additional 10 students
1980	115 students				no additional	no additional	no additional	no additional	no additional

* 1976 data provide existing information for secondary education in Clinton. Data for 1979-1990 are forecasts.

** Existing enrolment and forecasts are for junior-secondary school age children from Clinton only. The proportions of junior secondary school age children in the population are based on existing figures.

*** An average of one school age child per four residents has been used to determine projected school enrolments in the study area. This proportion was attained from Administrative Data Services Branch, Ministry of Education, Province of B.C. and represents the B.C. average ratio. The actual number of school age children in the study area is higher than the 1:4 used in calculating the forecasts. The ratio for School District 30 from 1971 Census data is 1:3.4. Also, an average of 60% elementary students and 34% secondary students was used in developing the forecasts. In fact, these proportions are not constant, but change as birthrate, in-migration, drop-out rates, etc. vary in the area.

**** All costs are given in 1976 dollars. $1,490 is the estimated cost per student for 1975-1976 academic year.

***** The pupil-teacher ratio in Clinton's junior secondary school was assumed in determining all staff projections.

SECONDARY EDUCATION - CLINTON - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1981	125 students				no additional	total teaching staff 1981-1982 10 teachers (1 additional)	no additional	no additional	$14,900 (approx.) for additional 10 students
1982	125 students				no additional	no additional	no additional	no additional	no additional
1983	125 students				no additional	no additional	no additional	no additional	no additional
1984	125 students				no additional	no additional	no additional	no additional	no additional
1985	130 students				no additional	no additional	no additional	no additional	$7,450 (approx.) for an additional 5 students
1986	130 students				no additional	no additional	no additional	no additional	no additional
1987	135 students				no additional	no additional	no additional	no additional	$7,450 (approx.) for 4 additional students
1988	135 students				no additional	no additional	no additional	no additional	no additional
1989	135 students				no additional	no additional	no additional	no additional	no additional
1990	140 students				no additional	total teaching staff 1990-1991 11 teachers (1 additional)	no additional	no additional	$7,450 (approx.) for additional 5 students

HOSPITAL - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280 - total patient day volume 6,057 days - 720 cases admitted	hospital	Ashcroft and District General Hospital - capacity patient day volume of 9,000-10,000 days*	4.25 hospital beds per 1,000 population. Ashcroft hospital had 6.25 beds per 1,000 population in 1976 and a hospital occupancy rate of 46.2%	existing facility - 370,784 sq. ft. 33 acute care beds 8 extended care beds	total 1976 staff: 22 nursing staff 2½ medical lab technicians 2¼ radiologists ½ physiotherapist 5½ administration staff 1 medical records 6 dieticians 2 laundry staff 5½ housekeeping staff 1 3/4 plant operation	existing land: 17 acres	1976 capital costs are not available	$932,809 budgetted for 1976. Actual 1976 operating costs not available
1977	5,395				no additional facilities required	no additional staff required**	no additional land required	$8,000 approved for 1977 capital expenditures	no estimates available for projections of operating costs
1978	5,395				no additional	no additional	no additional	no additional	
1979	5,860				no additional	1-5 additional	no additional	no additional	no estimates available for projections
1980	5,860				no additional	no additional	no additional	no additional	
1981	6,205				no additional	1-3 additional	no additional	no additional	
1982	6,205				no additional	no additional	no additional	no additional	

* A 70% occupancy rate was assumed to be a suitable rate for a hospital of 33 beds. Source: Research Division, Hospital Programs, Ministry of Health, Province of B.C.

** An examination of historical data shows a decline in hospital occupancy over the past few years which may be a trend that continues in the future. However, the 1976 occupancy rate of 46.2% was assumed in determining all projected requirements.

HOSPITAL - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1983	6,205				no additional	no additional	no additional	no additional	no additional
1984	6,205				no additional	no additional	no additional	no additional	no additional
1985	6,585				no additional	1-3 additional	no additional	no additional	no additional
1986	6,585				no additional	no additional	no additional	no additional	no additional
1987	6,930				no additional	1-3 additional	no additional	no additional	no additional
1988	6,880				no additional	no additional	no additional	no additional	no additional
1989	6,880				no additional	no additional	no additional	no additional	no additional
1990	7,175				no additional	1-3 additional	no additional	no additional	no additional

MEDICAL - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,230	medical	medical centre/ physician's office	1 general practitioner for 2,200 population. Existing ratio for service study area is 1 general practitioner for 1,320 population.	medical centre - sq. ft. physician's office - 500 sq. ft.	medical centre has: 3 doctors 1 bookkeeper 2 receptionists physician's office has: 1 doctor 1 nurse/receptionist	existing land usage not available	no information available	medical centre physician's office - $20,000-$22,000/year
1977	5,395				no additional facilities required	no additional physicians required*	no additional land required		
1978	5,395				no additional	no additional	no additional		
1979	5,860				no additional	no additional	no additional		
1980	5,860				no additional	no additional	no additional		
1981	6,205				no additional**	1 additional physician needed	no additional		
1982	6,205				no additional	no additional	no additional		
1983	6,205				no additional	no additional	no additional		
1984	6,205				no additional	no additional	no additional		
1985	6,585				no additional	no additional	no additional		
1986	6,585				no additional	no additional	no additional		
1987	6,880				no additional	no additional	no additional		
1988	6,880				no additional	no additional	no additional		
1989	6,880				no additional	no additional	no additional		
1990	7,175				no additional	no additional	no additional		

* The practitioner to population ratio for 1976 was assumed in determining all staff projections.

** The Medical Centre in Ashcroft has space for one additional physician.

DENTAL - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	Dental	dentist's office	1 dentist for 2,500 people	no service in study area in 1976	-	-	-	-
1977	5,395				500 sq. ft. each, total 1,000 sq.ft	2 dentists 2 receptionists 2 dental assistants 2 chairside dental assistants	no land required	$80-90,000 (in rented facility)	$140,000 - $160,000
1978	5,395				no additional space required	no additional staff required	no additional land required	no additional	no additional
1979	5,860				no additional	no additional	no additional	no additional	no additional
1980	5,860				no additional	no additional	no additional	no additional	no additional
1981	6,205				no additional	no additional	no additional	no additional	no additional
1982	6,205				no additional	no additional	no additional	no additional	no additional
1983	6,205				no additional	no additional	no additional	no additional	no additional
1984	6,205				no additional	no additional	no additional	no additional	no additional
1985	6,585				no additional	no additional	no additional	no additional	no additional
1986	6,585				no additional	no additional	no additional	no additional	no additional
1987	6,880				no additional	no additional	no additional	no additional	no additional
1988	6,880				no additional	no additional	no additional	no additional	no additional
1989	6,880				no additional	no additional	no additional	no additional	no additional
1990	7,175				no additional	no additional	no additional	no additional	no additional

PUBLIC HEALTH - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	7,500* (including Lillooet)	public health	South Central Health Unit, Ashcroft Branch Office	1 Public Health Inspector (PHI) for 15,000 people 1 Public Health Nurse (PHN) for 4,000 people No standard available for Home Care Nurses (HCN). Ashcroft office has 1 PHI for 11,800 people and 1 PHN for 4,000 people.	existing facility in 2,266 sq. ft. of leased space	existing staff: 1 PHI 1 Senior PHN 2 PHN 2 HCN 1½ clerks	no land (in leased space)	no figures available	$109,200 per year not including rent
1977	7,615				4,500 sq. ft. total needed	no additional PH inspectors 1 additional PHN 1 HCN required	no additional land required	no additional capital costs	$144,600 per year not including rent
1978	7,615				no additional space required	no additional staff required	no additional	no additional	no additional operating costs
1979	8,080				no additional	no additional	no additional	no additional	no additional
1980	8,080				no additional	no additional	no additional	no additional	no additional
1981	8,425				no additional	no additional	no additional	no additional	no additional
1982	8,990				no additional	no additional	no additional	no additional	no additional
1983	8,990				no additional	no additional	no additional	no additional	no additional
1984	8,990				no additional	no additional	no additional	no additional	no additional
1985	9,370				no additional	no additional	no additional	no additional	no additional
1986	9,370				no additional	no additional	no additional	no additional	no additional
1987	9,665				no additional	no additional	no additional	no additional	no additional
1988	9,665				no additional	no additional	no additional	no additional	no additional
1989	9,665				no additional	no additional	no additional	no additional	no additional
1990	9,960				no additional	no additional	no additional	no additional	no additional

* Spences Bridge is included in Public Health Service Area but is not included in the figures in this table.

MENTAL HEALTH - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	mental health	no facility in area presently	1 Mental Health Worker for 10,000 population	-	-	-	-	-
1977	5,395				250 sq. ft. (in rental space)	1 Mental Health Worker 1 clerical	none	$3,000 (for establishment)	$26,000 (not including rent)
1978	5,395				no additional space required	no additional staff required	no additional	no additional capital costs	no additional operating costs
1979	5,860				no additional	no additional	no additional	no additional	no additional
1980	5,860				no additional	no additional	no additional	no additional	no additional
1981	6,205				no additional	no additional	no additional	no additional	no additional
1982	6,205				no additional	no additional	no additional	no additional	no additional
1983	6,205				no additional	no additional	no additional	no additional	no additional
1984	6,205				no additional	no additional	no additional	no additional	no additional
1985	6,585				no additional	no additional	no additional	no additional	no additional
1986	6,585				no additional	no additional	no additional	no additional	no additional
1987	6,880				no additional	no additional	no additional	no additional	no additional
1988	6,880				no additional	no additional	no additional	no additional	no additional
1989	6,880				no additional	no additional	no additional	no additional	no additional
1990	7,175				no additional	no additional	no additional	no additional	no additional

AMBULANCE - ASHCROFT AND CACHE CREEK - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	3,080	Ambulance	Ambulance Unit	1 ambulance for 5,000 population. Ashcroft and Cache Creek have 1 ambulance for 2,000 population.	existing facility space not available	1 full-time employee	no land	no capital costs available	$150/call. Approximately $30,000 - $45,000/year for Ashcroft and Cache Creek
1977	3,195				no additional space required	1 additional full-time employee for Ashcroft and Cache Creek	no additional land required	no additional capital costs	operating costs will increase as the number of calls per year increases
1978	3,195				no additional	no additional	no additional	no additional	
1979	3,660				no additional	no additional	no additional	no additional	
1980	3,660				no additional	no additional	no additional	no additional	
1981	3,660				no additional	no additional	no additional	no additional	
1982	3,660				no additional	no additional	no additional	no additional	
1983	3,660				no additional	no additional	no additional	no additional	
1984	3,660				no additional	no additional	no additional	no additional	
1985	4,040				no additional	no additional	no additional	no additional	
1986	4,040				no additional	no additional	no additional	no additional	
1987	4,335				1 additional ambulance required	1 additional full time employee	no additional	no additional	
1988	4,335				no additional	no additional	no additional	no additional	
1989	4,335				no additional	no additional	no additional	no additional	
1990	4,630				no additional	no additional	no additional	no additional	

AMBULANCE - CLINTON - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	810	Ambulance	none	1 ambulance for 5,000 population	-	-	-	-	-
1977	810		ambulance unit		facility space not available	volunteer	no land	approximately $15,000	no records as operations began early 1977
1978	810				no additional space required	no additional staff required	no additional	no additional	
1979	810				no additional	no additional	no additional	no additional	
1980	810				no additional	no additional	no additional	no additional	
1981	1,155				no additional	no additional	no additional	no additional	
1982	1,155				no additional	no additional	no additional	no additional	
1983	1,155				no additional	no additional	no additional	no additional	
1984	1,155				no additional	no additional	no additional	no additional	
1985	1,155				no additional	no additional	no additional	no additional	
1986	1,155				no additional	no additional	no additional	no additional	
1987	1,155				no additional	no additional	no additional	no additional	
1988	1,155				no additional	no additional	no additional	no additional	
1989	1,155				no additional	no additional	no additional	no additional	
1990	1,155				no additional	no additional	no additional	no additional	

RECREATION - ASHCROFT - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	2,050	Public Recreation	13.6 - 23.6 acres of park 1 swimming pool 1 community hall 1 arena secondary school gymnasium elementary school activity room children's playground 2 tennis courts stampede grounds baseball diamond Secondary school: - soccer field - playing field - running track Elementary school - soccer field - baseball backstop - children's playground - playing field	Open Space Standards Sub-neighbourhood park - less than 1 acre/1000 population Neighbourhood park - 4 acres/1000 population Community park - 3 acres/1000 population Activities/facilities Standards badminton - 1500-1800 sq.ft. basketball - 6000 baseball field - 90,000 bowling - 14,400 (8 lanes) community hall - 40,000 curling rink - 8,400 football field - 93,600 indoor pool - 25 metres 5 lanes outdoor pool - 25 metres 5 lanes soccer field - 64,000-86,000 sq.ft. skating rink - 17,000 softball diamond - 62,500 tennis court - 7,200 volleyball court - 4,000	See projections given below.	Staff projections have not been prepared as staffing requirements depend on type of programs being offered and the type of recreation facilities provided.	See projection given below.		$52,658 (not including operating costs of recreation resources in schools)
1977	2,100				No additional open space needed to meet projected population to 1990 however, existing parks could upgraded. Upgrade swimming pool, and perhaps add removable cover.		1 acre required for 5,000 sq. ft. community hall. 8,400 sq. ft. for curling rink. 14,400 sq. ft. for bowling alley.	Capital costs for upgrading of open space and swimming pool not determined. Capital costs for expansion and upgrading of community hall not determined.	
1978	2,100								
1979	2,455								
1980	2,455								
1981	2,455								
1982	2,455								

RECREATION - ASHCROFT - WITHOUT PROJECT (cont'd.)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1983	2,455				Upgrade existing community hall and enlarge to approx. 5,000 sq. ft. Add curling rink and bowling alley (could be located in either Ashcroft, Cache Creek or Clinton for joint use).			Capital costs for curling rink $600,000. Capital costs for bowling alley not available.	
1984	2,455								
1985	2,685								
1986	2,685								
1987	2,860								
1988	2,860								
1989	2,860								
1990	3,035								

RECREATION - CACHE CREEK - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	1,050	Public Recreation	5 acres of park 1 swimming pool 1 community hall elementary school activity room children's playground lawnbowling tennis court skating rink (outdoor) Elementary school: - soccer field - baseball backstop - children's playground - playing field	Open Space Standards Sub-neighbourhood park - less than 1 acre/1000 population Neighbourhood park - 4 acres/1000 population Community park - 3 acres/1000 population Activities/Facilities Standards badminton - 1500-1800 sq.ft. basketball - 6000 baseball field - 90,000 bowling - 14,400 (8 lanes) community hall - 40,000 curling rink - 8,400 football field - 93,600 indoor pool - 25 metres 5 lanes outdoor pool - 25 metres 5 lanes soccer field - 64,000-86,000 sq.ft. skating rink - 17,000 softball diamond - 62,500 tennis court - 7,200 volleyball court - 4,000	See projections given below.	Staff projections have not been prepared as staffing requirements depend on type of programs being offered and the type of recreation facilities provided.	See projections given below.		$36,661 (not including operating costs of recreation resources in schools)
1977	1,095				5-10 acres of additional park needed to meet 1990 population. Possibly add removable cover to swimming pool. Upgrade community hall. Add curling rink and bowling alley (could be located in Ashcroft, Cache Creek or Clinton for joint use)		5-10 acres for park. 8,400 sq. ft. for curling rink. 14,400 sq. ft. for bowling alley.	Approx. $10,000 for additional parks. $600,000 for curling rink. Capital costs not available for bowling alley.	
1978	1,095								
1979	1,205								
1980	1,205								
1981	1,205								
1982	1,205								
1983	1,205								

RECREATION - CACHE CREEK - WITHOUT PROJECT (cont'd.)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1984	1,205								
1985	1,355								
1986	1,355								
1987	1,475								
1988	1,475								
1989	1,475								
1990	1,595								

RECREATION - CLINTON - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	810	Public Recreation	13 acres of park 1 community hall secondary school gymnasium elementary school activity room skating rink (outdoor) wading pool rodeo grounds baseball diamond Secondary school: - soccer field - playing field Elementary school: - soccer field - baseball backstop - children's playground	Open Space Standards Sub-neighbourhood park - less than 1 acre/1000 population Neighbourhood park - 4 acres/1000 population Community park - 3 acres/1000 population Activities/Facilities Standards badminton - 1500-1800 sq.ft. basketball - 6000 baseball field - 90,000 bowling - 14,400 (8 lanes) community hall - 40,000 curling rink - 8,400 football field - 93,600 indoor pool - 25 metres 5 lanes outdoor pool - 25 metres 5 lanes soccer field - 64,000-86,000 sq.ft. skating rink - 17,000 softball diamond - 62,500 tennis court - 7,200 volleyball court - 4,000	See projections given below.	Staff projections have not been prepared as staffing requirements depend on type of programs being offered and the type of recreation facilities provided.	See projection given below.		$2,518 (not including operating costs of recreation resources in schools)
1977	810				No additional open space needed to meet projected population to 1990. However, existing parks could upgraded. Add outdoor swimming pool. Upgrade community hall. Add curling rink or bowling alley (could be located in either Ashcroft		9,000 sq.ft. for outdoor pool. 8,400 sq. ft. for curling rink. 14,400 sq. ft. for bowling alley.	$250,000 for pool. $600,000 for curling rink. No capital costs available for bowling alley.	
1978	810								
1979	810								
1980	810								
1981	1,155								
1982	1,155								
1983	1,155								
1984	1,155								

RECREATION - CLINTON - WITHOUT PROJECT (cont'd.)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1985	1,155				Cache Creek or Clinton for joint use)				
1986	1,155								
1987	1,155								
1988	1,155								
1989	1,155								
1990	1,155								

SOCIAL (HUMAN RESOURCES) - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,200	Social	Human Resources Office	No standards - an average of 1 social worker for 2,600 people.	Existing facility size not available	Existing staff: 1 supervisor 2 social workers 1 financial assistance worker 2 clerical	Existing land usage not available.	Captial cost not available.	Operating cost: $98,707
1977	5,395				no additional required	no additional required	no additional required	no additional required	no additional required
1978	5,395				no additional	no additional	no additional	no additional	no additional
1979	5,860				no additional	no additional	no additional	no additional	no additional
1980	5,860				no additional	no additional	no additional	no additional	no additional
1981	6,205				no additional	no additional	no additional	no additional	no additional
1982	6,205				no additional	no additional	no additional	no additional	no additional
1983	6,205				no additional	no additional	no additional	no additional	no additional
1984	6,205				no additional	no additional	no additional	no additional	no additional
1985	6,585				no additional	no additional	no additional	no additional	no additional
1986	6,585				no additional	no additional	no additional	no additional	no additional
1987	6,880				no additional	no additional	no additional	no additional	no additional
1988	6,880				no additional	no additional	no additional	no additional	no additional
1989	6,880				no additional	no additional	no additional	no additional	no additional
1990	7,175				no additional	no additional	no additional	no additional	no additional

LIBRARY - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	Cultural	Ashcroft, Cache Creek and Clinton libraries	1 library for 10,000 population 2 volumes per capita	Existing space 3,500 sq. ft. in Ashcroft, 1,500 sq. ft. in Cache Creek (in leased space), 2,000 sq. ft. in Clinton.	Existing staff at part-time; 3 in Ashcroft, 2 in Cache Creek, 3 in Clinton.	existing land total not available	Capital costs not available.	Operating costs not broken down for this facility.
1977	5,395				no additional required	no additional required	no additional required		no additional required
1978	5,395				no additional	no additional	no additional		no additional
1979	5,860				no additional	no additional	no additional		no additional
1980	5,860				no additional	no additional	no additional		no additional
1981	6,205				no additional	no additional	no additional		no additional
1982	6,205				no additional	no additional	no additional		no additional
1983	6,205				no additional	no additional	no additional		no additional
1984	6,205				no additional	no additional	no additional		no additional
1985	6,585				no additional	no additional	no additional		no additional
1986	6,585				no additional	no additional	no additional		no additional
1987	6,880				no additional	no additional	no additional		no additional
1988	6,880				no additional	no additional	no additional		no additional
1989	6,880				no additional	no additional	no additional		no additional
1990	7,175				no additional	no additional	no additional		no additional

CORRECTIONS - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	Corrections	Probation Office	No standard.	Existing space approximately 400 sq. ft. (leased space)	Existing staff: 1 probation officer 1 clerk, half-time	No land utilized presently.	No capital costs available	$22,400 annually (excluding rent)
1977	5,395				no additional space required	no additional staff required	no additional land required		
1978	5,395				no additional	no additional	no additional		
1979	5,860				no additional	no additional	no additional		
1980	5,860				no additional	no additional	no additional		
1981	6,205				no additional	no additional	no additional		
1982	6,205				no additional	no additional	no additional		
1983	6,205				no additional	no additional	no additional		
1984	6,205				no additional	no additional	no additional		
1995	6,585				no additional	no additional	no additional		
1986	6,585				no additional	no additional	no additional		
1987	6,880				no additional	no additional	no additional		
1988	6,880				no additional	no additional	no additional		
1989	6,880				no additional	no additional	no additional		
1990	7,175				no additional	no additional	no additional		

COURTS - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	Court/ Judicial	Provincial Court Ashcroft and Cache Creek	No standards available.	Existing space: 2,788 sq. ft. in Ashcroft and 760 sq. ft. in Clinton	Existing staff: Ashcroft - 1 Prov. Court Judge, 1 day/wk. 1 County Court Judge, 1 day/mo. ½ court administrator 1 deputy court administrator 1 sheriff's deputy 1 official court reporter from Kamloops 1 crown counsel ad hoc from Kamloops Clinton - 1 Prov. Court Judge, 1 day/mo. 1 County Court Judge, 2-3 times per year 1 court administrator 1 official court reporter from Kamloops 1 crown counsel ad hoc from Kamloops	No existing land utilized.	No capital costs available	Approximately $1,000-$1,200 per day, presently 5½ sitting days per month in Ashcroft, 1¾ days per month in Clinton.
1977	5,395				no additional space required	no additional staff required	no additional land required		
1978	5,395				no additional	no additional	no additional		
1979	5,860				no additional	no additional	no additional		
1980	5,860				no additional	no additional	no additional		
1981	6,205				no additional	no additional	no additional		

COURTS - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1982	6,205				no additional	no additional	no additional		
1983	6,205				no additional	no additional	no additional		
1984	6,205				no additional	no additional	no additional		
1985	6,585				no additional	no additional	no additional		
1986	6,585				no additional	no additional	no additional		
1987	6,880				no additional	no additional	no additional		
1988	6,330				no additional	no additional	no additional		
1989	6,830				no additional	no additional	no additional		
1990	7,175				no additional	no additional	no additional		

LEGAL - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	Legal	Legal offices in Ashcroft and Cache Creek	No standards available.	Existing space: Ashcroft office 150 sq. ft. (approx.), Cache Creek office 400 sq. ft. (approx.)	Existing staff: Ashcroft office - 1 lawyer part-time from Kamloops Cache Creek office - 1 lawyer 1 secretary	No existing land utilized (in rental facilities)	No capital costs available.	No operating costs available
1977	5,395				no projections have been made of facility space requirements	on additional lawyer could be required over the next 14 years	no projections have been made of land requirements. One additional facility would probably be in rented space.		
1978	5,395								
1979	5,460								
1980	5,860								
1981	6,205								
1982	6,205								
1983	6,205								
1984	6,205								
1985	6,585								
1986	6,585								
1987	6,880								
1988	6,880								
1989	6,890								
1990	7,175								

POLICE - ASHCROFT - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,500	Police	Ashcroft R.C.M.P. Detachment	1 police officer/1,000 population Existing police to population ratio is 1:917	Existing facility is 4,572 sq. ft.	Existing staff: 12 officers 2 stenographers	No information available on existing land usage.	No information available on capital costs.	Existing operating costs approx. $420,000.
1977	5,730				no additional space required	2 additional officers needed in the next 2-3 years	no additional land required		additional operating cost of $70,000 - total operating cost of $490,000
1978	5,730				no additional	no additional staff required	no additional		no additional
1979	6,195				proposed new facility of 4,932 sq. ft.*	no additional	no additional	$750,000 projected cost for new facility	no additional
1980	6,195				no additional	no additional	no additional		no additional
1981	6,195				no additional	no additional	no additional		no additional
1982	6,195				no additional	no additional	no additional		no additional
1983	6,195				no additional	no additional	no additional		no additional
1984	6,195				no additional	no additional	no additional		no additional
1985	6,575				no additional	no additional	no additional		no additional
1986	6,575				no additional	no additional	no additional		no additional
1987	6,870				no additional	no additional	no additional		no additional

* A new facility for the Ashcroft R.C.M.P. Detachment has been proposed by R.C.M.P., E Division Headquarters, Victoria, B.C. for completion in 1979.

POLICE - ASHCROFT - WITHOUT PROJECT (cont'd.)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1988	6,870				no additional	no additional	no additional		no additional
1989	6,870				no additional	no additional	no additional		no additional
1990	7,165				no additional	no additional	no additional		no additional

POLICE - CLINTON - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	3,000	Police	Clinton R.C.M.P. Detachment	1 police officer/1,000 population. Existing police to population ratio is 1:768.	Existing facility space is 2,263 sq. ft.	Existing staff: 4 officers 1 stenographer	No information available on existing land usage.	No information available on capital costs.	Existing operating costs approx. $140,000.
1977	3,000				no additional space required	no additional staff required	no additional land required		no additional operating costs
1978	3,000				no additional	no additional	no additional		no additional
1979	3,000				no additional	no additional	no additional		no additional
1980	3,000				no additional	no additional	no additional		no additional
1981	3,345				no additional	no additional	no additional		no additional
1982	3,345				no additional	no additional	no additional		no additional
1983	3,345				no additional	no additional	no additional		no additional
1984	3,345				no additional	no additional	no additional		no additional
1985	3,345				no additional	no additional	no additional		no additional
1986	3,345				no additional	no additional	no additional		no additional
1987	3,345				no additional	no additional	no additional		no additional
1988	3,345				no additional	no additional	no additional		no additional
1989	3,345				no additional	no additional	no additional		no additional
1990	3,345				no additional	no additional	no additional		no additional

FIRE - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	2,930 Ash. 1,050 C.C. 810 Clin.	Fire	Volunteer Fire Departments - Ashcroft, Cache Creek, Clinton	No standards available for fire protection. A paid fire chief would be needed when a community reaches 4-5,000 people	Existing facility space: Ashcroft - 1,600 sq. ft. (approx.) Cache Creek - 1,112 sq. ft. Clinton - no information	Existing volunteer staff: Ashcroft - 1 fire chief 25 volunteer firemen Cache Creek - 1 fire chief 1 deputy fire chief 16 volunteer firemen Clinton - 1 fire chief 1 deputy fire chief 25 volunteer firemen	No information on land utilized.	No information on capital costs.	Ashcroft - $12,648 Cache Creek - $5,750 Clinton - $6,370
1977	2,100 1,095 810				no additional space required in any town*	no additional or full-time staff required in any town		**	
1978	2,100 1,095 810				no additional	no additional			
1979	2,455 1,235 810				no additional	no additional			
1980	2,455 1,235 810				no additional	no additional			
1981	2,455 1,205 1,155				no additional	no additional			

* If new facilities for Village Offices are provided in Ashcroft, Cache Creek or Clinton, new facilities for the Fire Departments could be included.
** An auxiliary fire truck may be required in Cache Creek and Clinton in the next five years.

FIRE - WITHOUT PROJECT (cont'd.)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS CAPITAL	COSTS OPERATING
1982	2,455 Ash. 1,235 C.C. 1,155 Clin.				no additional	no additional			
1983	2,455 1,235 1,155				no additional	no additional			
1984	2,455 1,235 1,155				no additional	no additional			
1985	2,685 1,355 1,155				no additional	no additional			
1986	2,685 1,355 1,155				no additional	no additional			
1987	2,860 1,475 1,155				no additional	no additional			
1988	2,860 1,475 1,155				no additional	no additional			
1989	2,860 1,475 1,155				no additional	no additional			
1990	3,035 1,595 1,155				no additional	no additional			

COMMUNICATION (POSTAL) - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	6,000 people per month (Ashcroft - 3,000, Cache Creek - 2,000, Clinton - 1,000)	Communication	Post office in Ashcroft, Cache Creek and Clinton	No standard available.	Existing space: Ashcroft - 1,714 sq. ft. Cache Creek - 3,000 sq. ft. Clinton - 1,400 sq. ft.	Existing staff: Ashcroft - 1 postmaster 2 senior assists. 2 full-time assistants 2 part-time assistants 2 casuals Cache Creek - 1 postmaster/ zone manager 1 assistant postmaster 1 shift supervisor 5 full time postal clerks 4 part-time postal clerks Clinton - 3 full-time staff	No information on existing land utilized.	No information available.	No information available.
1977	6,115				Ashcroft post office planned to be moved to new facility of 3,500 sq. ft.	no additional staff required	no information available on land utilized for new facility in Ashcroft		
1978	6,115				no additional space required	no additional			
1979	6,580				no additional	no additional			
1980	6,580				no additional	no additional			
1981	6,925				no additional	no additional			
1982	6,925				no additional	no additional			
1983	6,925				no additional	no additional			

COMMUNICATION (POSTAL) - WITHOUT PROJECT (cont'd)

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1984	6,925				no additional	no additional			
1985	7,305				no additional	no additional			
1986	7,305				no additional	no additional			
1987	7,603				no additional	no additional			
1988	7,600				no additional	no additional			
1989	7,600				no additional	no additional			
1990	7,895				no additional	no additional			

COMMUNICATION (RADIO AND TELEVISION) - WITHOUT PROJECT

YEAR	SERVICE POPULATION	SERVICE	FACILITY	STANDARD	FACILITY SPACE REQUIREMENT	STAFF REQUIREMENT	LAND REQUIREMENT	COSTS	
								CAPITAL	OPERATING
1976	5,280	Communication	CBC Radio transmitters in Ashcroft, Cache Creek, Clinton. T.V. repeaters at Ashcroft, Cache Creek, Clinton.	No standards available.	No facility space required.	No staff required	No information available on land requirement.	No information available.	No information available.
1977	5,395								
1978	5,395								
1979	5,860								
1980	5,860								
1981	5,860								
1982	6,205								
1983	6,205								
1984	6,205								
1985	6,585								
1986	6,585								
1987	6,630								
1988	6,880								
1989	6,380								
1990	7,175								

SECTION E.1

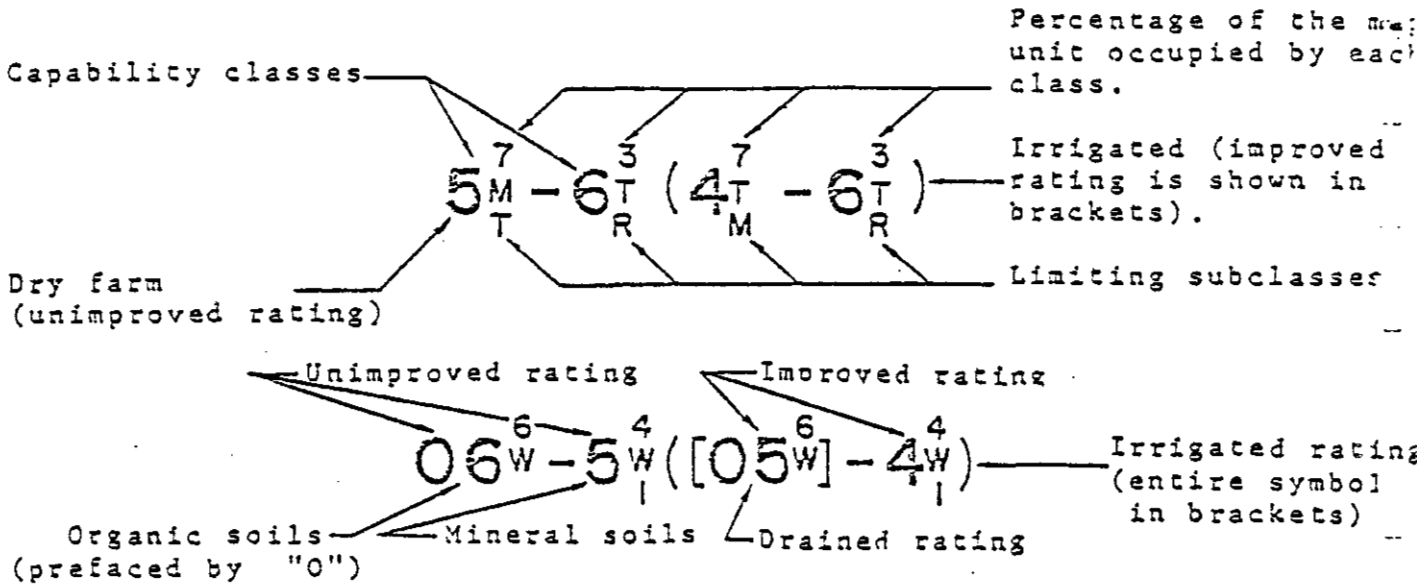
AGRICULTURAL CAPABILITY CLASSIFICATIONS

In the maps presented in Section 3.6, reference is made to soils classifications derived from the B.C. agricultural capability manuscript maps. The following is a copy of a key for interpretation of these maps.

KEY FOR INTERPRETATION OF AGRICULTURE CAPABILITY MANUSCRIPT MAPS (B.C.)

There are 7 capability classes for agriculture with 1 representing the highest class and 7 representing the lowest. In some areas of the province, two ratings are shown: one for dry farming and a second for irrigated or drained (improved) conditions. The irrigated ratings are shown enclosed in round brackets while the drained ratings appear in square brackets. In all cases improved ratings have precedence over dry farm ratings.

Example Classifications



The agriculture capability classes are determined on the relative range of crops the land can produce.

a) Capability Classes

Class 1 - widest range of crops
Class 2 }
Class 3 } reduced range of crops caused by a number of limiting
Class 4 } factors (subclasses)
Class 5 - only permanent pasture or forage
Class 6 - natural grazing
Class 7 - no productivity

b) Limiting Subclasses

C - adverse climate
D - undesirable soil structure
E - erosion
F - low fertility
I - inundation (flooding)
M - moisture deficiency (droughtiness)
N - salts
P - stoniness
R - bedrock near the surface
T - topography (slope)
W - excess water
X - combination of soil factors

Tree fruit and grape growing areas: these crops are tolerant of soil conditions that limit field crops. Steep and stonier soils in suited climates have been upgraded to accommodate the expanded range of crops. e.g. A class 5T soil dry farmed becomes a 3T irrigated in an area climatically suited to tree fruits.

Note: A more detailed 16 page manual entitled Soil Capability Classification for Agriculture is available from the Lands Directorate, Lands Forests and Wildlife Service, Department of the Environment, Ottawa, Ontario, K1A 0H3.

B.C. Land Inventory, Victoria

May, 1973

SECTION E.2

The following is a copy of a letter from the B.C. Land Commission outlining in general terms the Commissions policy regarding the release of prime agricultural lands for urban development in the communities under consideration. It was on the basis of this letter and subsequent discussions with the Commission that the assumption was made that development of Class 1 lands in Ashcroft and Cache Creek would not be permitted, and that alternate locations for new development would have to be established.

British
Columbia
Land Commission

Telephone (604) 294-5211

4333 Ledger Avenue, Burnaby, B.C., V5G 3T3

February 1, 1977

Urban Systems Ltd.
180 Seymour Street
Kamloops, B.C.
V2C 2E2

Attention: Mr. Gordon Peterson

Dear Mr. Peterson

RE: Hat Creek Socio-Economic Studies

Thank you for your letter regarding the possible expansion of the communities of Ashcroft, Cache Creek and Clinton as a result of the proposed Hat Creek coal development.

On a general note, the Commission is hoping to have future discussions with B.C. Hydro officials on this development and its associated impacts on agricultural land. The Commission is as concerned about the secondary impacts of the development, for example the expansion of nearby communities which you are dealing with, as it is with the primary impacts of the development in the Hat Creek Valley itself. The Commission therefore expects to receive a presentation from B.C. Hydro which documents in some detail all the direct and indirect impacts on Agricultural Land Reserve land associated with this project.

In reference to the specific items mentioned in your letter, I offer the following:

1. The Commission would likely be most reluctant to release Class 1 lands in these areas for urban development. Less than 1/2 of 1% of the total land area of the Province has a capability for agriculture of Class 1. Thus lands of this quality are an extremely scarce resource and the Commission will make every effort to protect these lands from encroachment. If other lower capability lands are available the Commission would most certainly suggest directing development away from any Class 1 lands.

2. If blocks of land comprised of several properties held by different owners are requested for exclusion, the Commission would prefer that the application be made by the Municipality or Regional District pursuant to Section 9(1) of the Land Commission Act. If several municipalities are involved, and indeed if the request is a result of a large

continued...

scale development project which has regional and even province wide impacts, then the Regional District would likely be the body best suited to making an application. However, requests for exclusion of "isolated areas" held under one ownership are perhaps best handled by the owner making application under Section 9(2).

3. A list of information to be supplied by municipalities or regional districts when making 9(1) applications is enclosed for your reference.

4. It seems unlikley that the Commission or the Lieutenant-Governor in Council would be prepared to release land to accommodate the "highest population projections based on the most optimistic assumptions regarding the extent of industrial development in the future". Because of the uncertainties involved in long range forcasts the Commission would be reluctant to sacrifice high capability lands to satisfy roughly computed long range demand projections. However, the Commission would be prepared to look at a 5 year time horizon for estimated demands. In general the Commission endorses the idea of seeking out non-A.L.R. lands for urban development, or at the very most, lower capability lands within the Agricultural Land Reserve. If a service corridor were required through the Agricultural Land Reserve in order to develop non-Agricultural Land Reserve lands beyond, then certainly the Commission might give consideration to a release or conditional use of the area required for a corridor, provided no other alternatives exist.

We appreciate the difficulties you are facing in trying to define areas for potential development in these communities. However from the Commission's point of view the Agricultural Land Reserve boundary is, in most cases, 'given' and only under exceptional circumstances, where no alternatives exist, would consideration be given to release these lands from the provisions of the Land Commission Act.

I hope the above comments can provide some direction for your work.

Yours very truly,

G. G. Runka
Chairman

JG/js

enc.

SECTION E.3

AGRICULTURAL LAND RESERVE - CACHE CREEK

The following is a copy of a letter from the B.C. Land Commission clarifying the status of the Agricultural Land Reserve classification in the Village of Cache Creek.

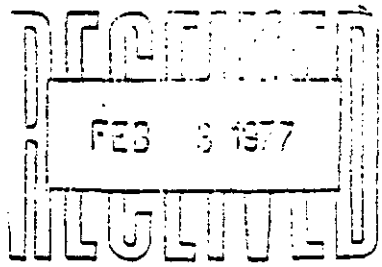
British
Columbia
Land Commission

Telephone (604) 294-5211

4333 Ledger Avenue, Burnaby, B.C., V5G 3T3

January 31, 1977

Please reply for the attention of:
Jane Perch



Urban Systems Ltd.
Consulting Engineers & Planners
180 Seymour Street
Kamloops, B.C.
V2C 2E2

Attention: Mr. Gordon Petersen

Dear Sir:

Re: Your File KS-76-A063

In reply to your letter of 17 January 1977 regarding the Agricultural Land Reserve in the Cache Creek area, I forward the following information.

The area outlined in yellow on the attached map has been granted permission for unspecified development purposes. The Commission has not yet received a plan of the proposed development but any plan acceptable to the local authorities would be approved by the Land Commission. The area still remains within the boundaries of the Agricultural Land Reserve.

The area outlined in red was granted permission to be subdivided into four parcels, one of 35 ± acres, one of 2 ± acres, one of 16 ± acres and one of 59 ± acres. Of these newly created lots the 59 ± acre parcel, the 16 ± acre parcel and a portion of the 35 ± acre parcel still remain within the Agricultural Land Reserve.

The area outlined in green is available for urban development as applied for under Order-in-Council 2218 even though the property still remains within the Agricultural Land Reserve.

I trust this is the information you require.

Yours truly,

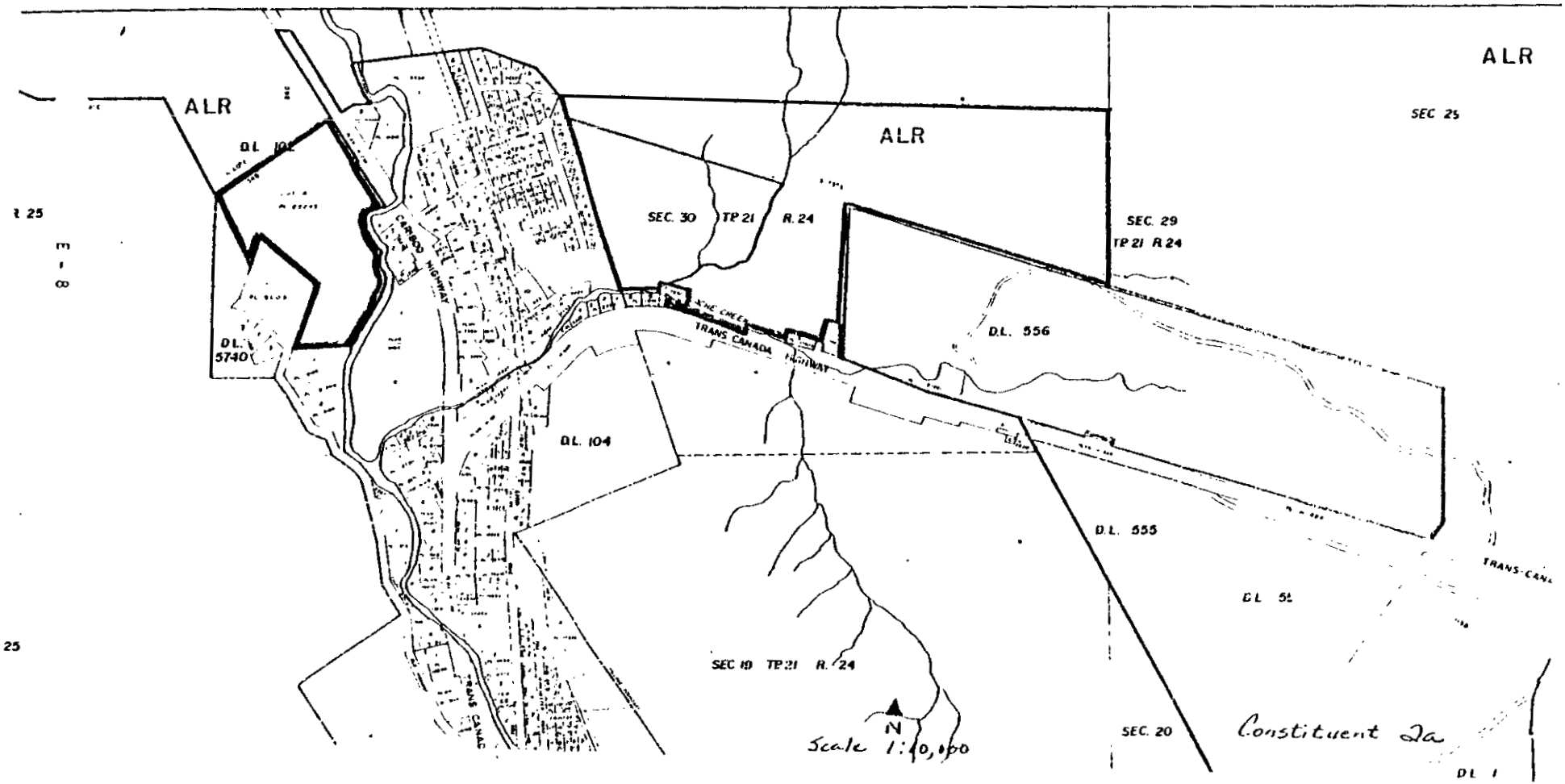
G. G. Runka
Chairman

JP/kj

c.c. Files: 0/S-Zz-74-01078
75-23
114-Zz-76-01907
Zz-4/V Village of Cache Creek

E - 7

THOMPSON-NICOLA REGIONAL DISTRICT



APPENDIX F

SECTION F.1

CRITERIA FOR EVALUATING MUNICIPAL WATER AND SANITARY SEWERAGE SYSTEMS

To provide a basis for evaluating the condition and capacities of existing municipal systems, and for calculating future service requirements to accommodate population increase, consideration of design principles for municipal utility systems is warranted.

1. Water

Municipal water supplies must comply with the water quality standards established by the B.C. Department of Health. In addition to the chemcial and physical water quality standards, the Health Department requires that all surface water supply sources undergo chlorination if bacteriological testing produces positive results.

Capacity design of municipal water systems is generally based on per capita water usage criteria. Per capita water consumption varies widely within the Province and is dependent on factors such as climate, industrial water usage, water quality and average lot size. Of the preceding factors affecting water consumption, climate is the most significant consideration. Since all four municipalities under consideration experienced the same climatic patters, and industrial water usage is in all cases relatively insignificant, the per capita water usage is assumed to be identical in all four municipalities. Based on overall water consumption data for Cache Creek and Ashcroft, the following water consumption criteria has been utilized for service population computations.

Average Day Water Demand - 200 gpcd
Maximum Day Water Demand - 500 gpcd

Basic water supply facilities are generally sized for maximum day consumption rates where adequate storage is available to meet peak hour fluctuations in the water demand.

Water storage facilities are provided to satisfy peak hour water demands, to provide water for fire protection, and to provide a reserve for emergency purposes. The fire protection aspect of water storage reservoirs is the most important function. Standards set forth by the Insurers Advisory Organization (I.S.O.) are the basis for calculation of fire storage requirements.

2. Sanitary Sewerage

The Pollution Control Branch of the B.C. Department of the Environment has direct jurisdiction over all aspects of sanitary sewage collection, treatment and disposal. The Pollution Control Branch was set up in 1967 and as a result present standards of the Branch do not in some cases comply with design practices prior to 1967. As an example, the use of 6-inch diameter sewage collection mains once considered acceptable, is now not considered good practice. The sewage collection systems of Ashcroft and Lillooet constructed in the early 1060's are comprised to a large degree of 6-inch diameter collection mains. To differing degrees the municipalities under consideration are victims of changing design standards relative to sewage collection and treatment.

As with water consumption, sewage collection and treatment systems are designed on the basis of a per capita waste water contributions. In the municipalities under consideration, the sanitary sewerage systems are separated from storm sewerage facilities and groundwater infiltration is insignificant. Therefore, a common wastewater contribution of 80 gallons per capita per day is accepted as applicable to all the municipalities.

All four municipalities utilize sewage treatment systems with discharges to surface waters. Pollution Control Branch standards for

municipal wastewater discharges to surface water courses established in September 1975 are as follows:

	Minimum Dilution Ratio			
	20:1 200:1	200:1 2000:1	2000:1
Level AA BOD5	30	45	100
Suspended Solids	40	60	100
Disinfection	Yes	Yes	Yes
Dechlorination	Yes	No	No
Total Phosphorous	1.5	1.5	-
Level BB BOD5	45	130	130
Suspended Solids	60	130	130
Disinfection	Yes	Yes	Yes
Dechlorination	No	No	No

All existing municipal effluent discharges which do not meet the Level AA standards are to be upgraded and on an individual basis upgrading on an interim basis to Level BB standards will be permitted. The effluent quality standards basically require that all municipalities shall provide secondary biological treatment with disinfection and dechlorination if adverse affects to fish populations are anticipated. Further, in sensitive areas, phosphorous removal may be required.

SECTION F.2

DETAILED DESCRIPTION OF EXISTING COMMUNITY WATER AND SEWER SYSTEMS

a) Ashcroft

(i) Water System

A. Water Supply

1. Source - intake on the Thompson River at bridge. The intake is equipped with two pumps having a combined capacity of about 1,500 gallons per minute (gpm), which is sufficient capacity to supply a population of about 4,000. Silt accumulation in the intake pump is an operational problem and requires regular cleaning.

2. Quality - water quality data presented in Appendix F, Section F.3 indicates that quality is excellent for all chemical parameters. Hardness is one-eighth that of the Bonaparte River at Cache Creek. The aesthetic quality of the Thompson River as measured by parameters such as turbidity and color is questionable. Concern is being expressed regarding the effect of up-stream waste water discharges in Kamloops on Thompson River quality at Ashcroft.

3. Quantity - although the Village is deficient in licenced quantity, this is of little concern considering the quantity of water available in the Thompson River.

B. Water Distribution System - illustrated in Figure A.2.1.

The water system is comprised of four pressure zones, two on each side of the Thompson River, and pressures within each zone are controlled by a reservoir. The lower reservoirs (both 83,000 gallon buried concrete)

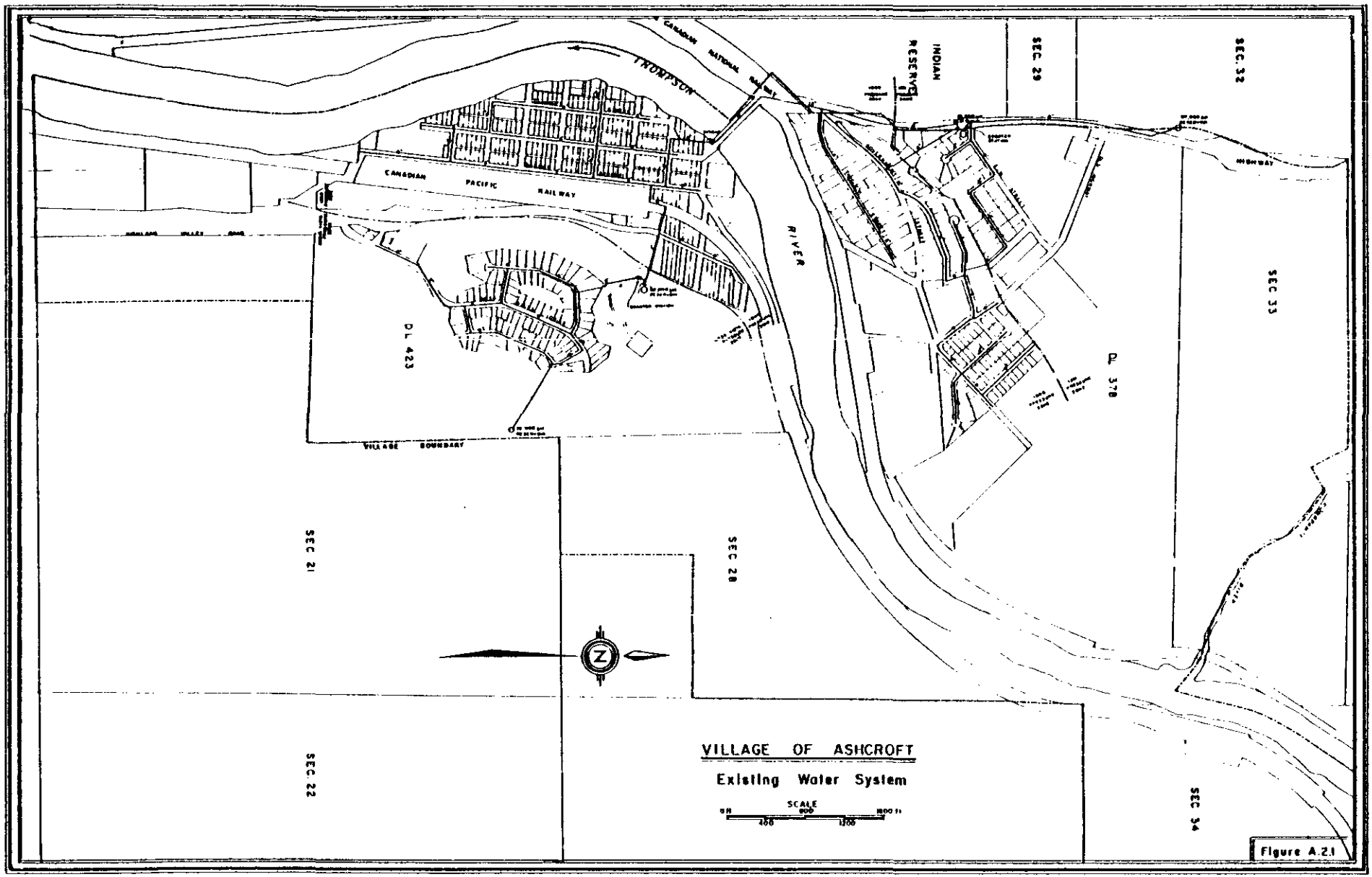

THOMPSON
CANADIAN NATIONAL RAILWAY
CANADIAN PACIFIC RAILWAY
RIVER
INDIAN RESERVE
SEC 29
SEC 32
SEC 33
D.L. 423
P. 378
VILLAGE BOUNDARY
SEC 21
SEC 28
SEC 22
SEC 34
N
VILLAGE OF ASHCROFT
Existing Water System
SCALE
0
400
800
1200
1600 ft

Figure A.2.1

in both North and South Ashcroft are in hydraulic balance thereby enabling simultaneous pumping from the intake into both reservoirs. Booster stations at the lower reservoirs pump water to the higher pressure zone in both North and South Ashcroft.

In North Ashcroft, the Elm Street booster station has capacity to pump 300 gpm (adequate to serve a population of 600) through a 6-inch line to a 83,000 gallon steel reservoir at El 1,331. This reservoir is inadequate in consideration of the fire flow requirements of the Hospital.

In South Ashcroft, the booster station at the 1,090 reservoir has capacity to pump 350 gpm (adequate to serve a population of 1,100) through 8 and 6-inch lines to the 42,000 gallon Mesa Vista reservoir at El 1,390. The service area of this reservoir can only be expanded by about 200 persons before static pressures become inadequate. In addition, existing storage in this reservoir is inadequate for fire flow requirements.

C. Water System Improvements Without the Project

The following improvements are required to adequately service the existing population, as well as the incremental population anticipated to 1990 without the Hat Creek project. As outlined previously, the approximate population levels anticipated are an increase from 2,000 to 2,600 by 1985, and a further increase to 3,000 by 1990.

1. Water Intake - Rehabilitative work on the existing water intake to correct present operational difficulties will be required within 5 to 10 years, regardless of the amount of growth within the municipality. Modifications to provide additional capacity at the water intake are considered incidental to the work required to correct operational problems. It is assumed that the Thompson River will continue to serve as the sole source of water.

2. Water Distribution - The extent of improvements to the distribution system to 1990 will be depend largely on the distribution of the incremental population of 1,000 between North and South Ashcroft. If the incremental population on the Mesa Vista bench does not exceed 200, the existing waterworks in this area will be adequate. It should be noted, however, that existing inadequacies in available fire flows would remain uncorrected. For the purposes of this analysis, it is assumed that the incremental population on the Mesa Vista bench will be limited to 200, and as such, no capital works will be required in South Ashcroft before 1990.

In North Ashcroft, with an increase in population of 800, the following improvements will be required:

. Reconstruction of Elm Street Booster Station to provide adequate flow to upper pressure zone	$120,000
. Supply main improvements	40,000
Total	$160,000

(ii) Sanitary Sewerage System

A. Treatment and Disposal

Sanitary sewage in North Ashcroft is presently provided secondary treatment by a small activated sludge plant, then discharged to the Thompson River via an outfall located near the Highways bridge. The North Ashcroft plant has not operated satisfactorily over the last three to five years due to a severe hydraulic overloading situation. Sanitary sewage from South Ashcroft will continue to be discharged without treatment to the river until completion of the new treatment facilities.

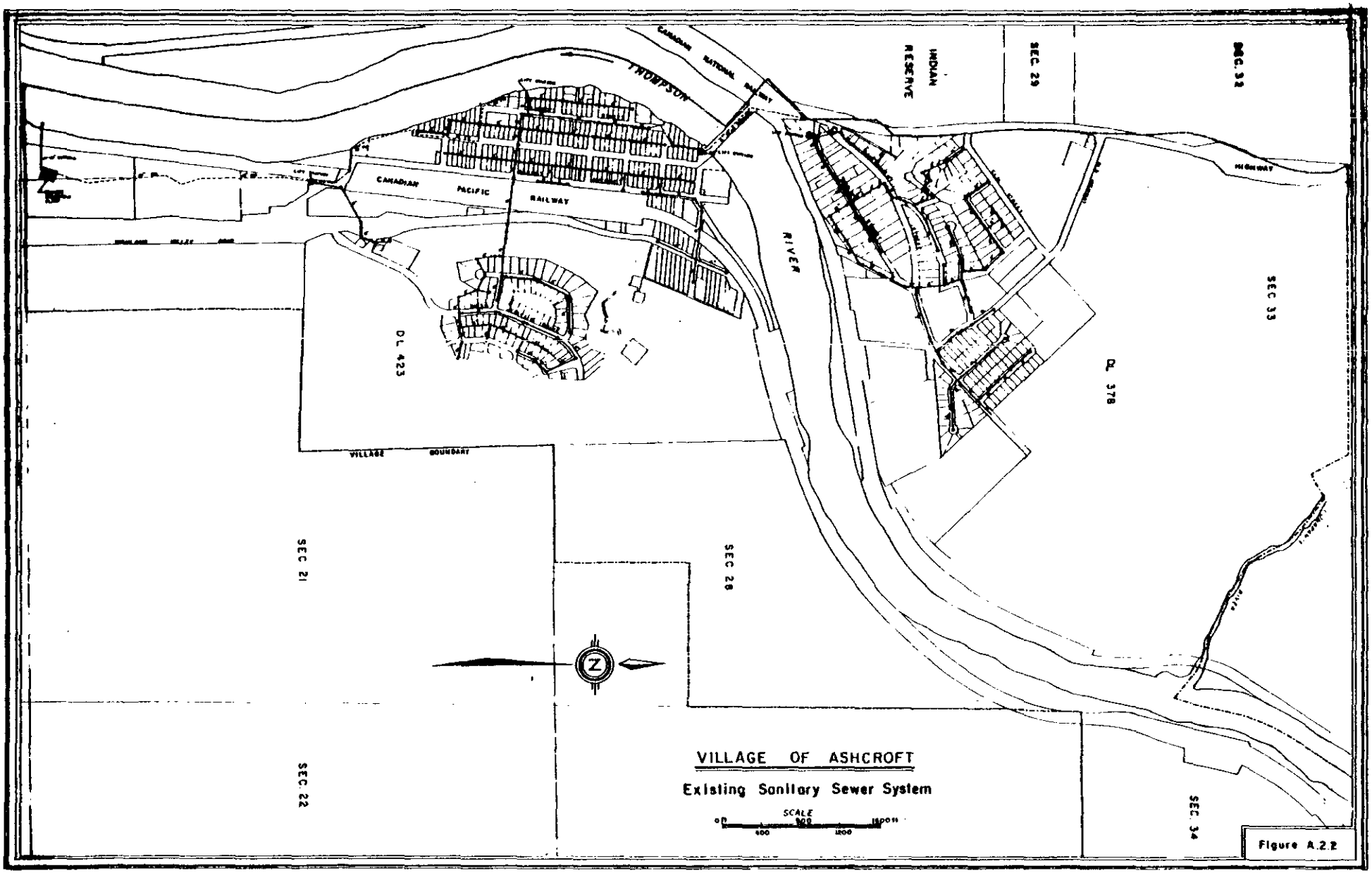
The pollution control permit held by the Village of Ashcroft for the treatment plant under construction authorizes the discharge of 500,000 gpd of secondary effluent to the Thompson River. In population equivalent, the new activated sludge treatment facility will be capable of serving a population of up to 6,200. Chlorination of the effluent discharge is not at present required owing to concern expressed by the Fish and Wild Life Branch with respect to possible effects of the chlorine residuals on the Salmon fishery. Further, phosphorus removal facilities may be required at some future date as the governmental evaluation of the environmental condition of the Thompson River continues. Provision for eventual inclusion of phosphorus removal in the Ashcroft treatment plant has been made.

B. Collection

Trunk sewer improvements currently being undertaken in Ashcroft and the existing collection system are illustrated in Figure A.2.2. Sanitary sewerage upon completion of the upgrading program will be carried to the treatment facility by a series of four lift stations, 10 and 12-inch forcemains and a 12-inch gravity main. The trunk sewer facilities under construction include the lift station at the east approach to the Highways bridge, the 12-inch gravity main on Bancroft Street, the Sixth Street lift station, the lift station near the CPR and the 12-inch forcemain to the treatment plant.

The reported capacity of the trunk sewer system from the Highways bridge south to the treatment plant is 875 gpm which is equivalent to a service population of 5,000. The capacity determining factor is the pump capacity available in the three South Ashcroft lift stations. Provision has been made in each of these three lift stations for additional pumps which, if installed, would increase the trunk sewer capacity through South Ashcroft to a population equivalent of 7,500.

Sewerage collection system capacity in North Ashcroft is presently limited by the lift station on Tingley Street and the 6-inch steel


THOMPSON
CANADIAN NATIONAL RAILWAY
INDIAN RESERVE
SEC 29
SEC 32
CANADIAN PACIFIC RAILWAY
RIVER
DL 423
DL 378
SEC 33
VILLAGE BOUNDARY
SEC 21
SEC 28
SEC 22
SEC 34
N
VILLAGE OF ASHCROFT
Existing Sanitary Sewer System
SCALE
0
400
800
1200
1600
Figure A.2.2

forcemain crossing the Thompson River bridge. The present population equivalent capacity of the lift station and forcemain is about 1,800. Adequate gravity collection main capacity as provided by a 12-inch sewer on Tingley and a 10-inch sewer on Government Street exists for a service population in North Ashcroft of about 4,000.

b) Cache Creek

(i) Water System

A. Water Supply

Water supply is derived from an infiltration gallery located in the community park adjacent to the Bonaparte River. The infiltration gallery (constructed in 1968) enables the Bonaparte River water to be drawn through filter beds prior to transmission in the distribution network. The maximum service population of the existing water intake is approximately 1,800.

Two water licences authorizing a total water use of 1,774,000 gpd for domestic purposes from the Bonaparte River are held by the Village. In terms of population equivalent, the licenced quantity available to Cache Creek would be adequate for a service population of at least 4,500 at maximum daily demand rates. Water quality data for the water supply are contained in Appendix F, Section F.3. From this data the Cache Creek water can be classified as moderately hard and alkaline and generally meets the Department of Health Standards.

B. Water Distribution System - illustrated in Figure A.2.3

The Cache Creek infiltration gallery and pumphouse is equipped with three vertical turbine pumps, two pumping into the 1,680 pressure zone and the third into the 1,827 pressure zone. Present pressure zone boundaries within Cache Creek are defined in Figure A.2.3. The combined pump capacity available in the 1,680 pressure zone is 460 gpm

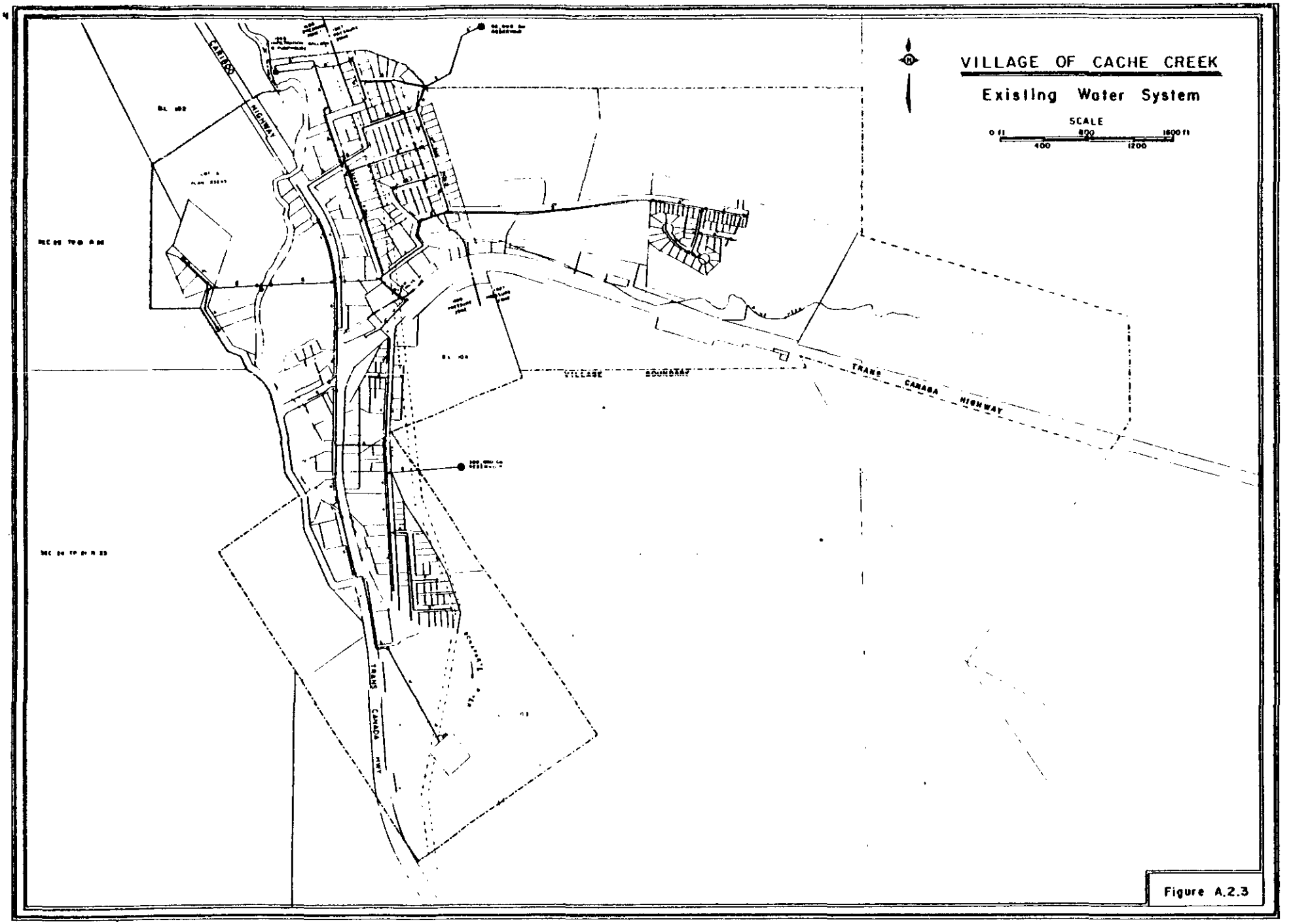

VILLAGE OF CACHE CREEK
Existing Water System
SCALE
0 ft
800
1600 ft
400
1200
CARIBOO HIGHWAY
VILLAGE BOUNDARY
TRANS CANADA HIGHWAY
TRANS CANADA HWY

Figure A.2.3

which is adequate for a population of 1,300. Storage within the 1,680 pressure zone is provided by the 300,000 gallon Collins Road reservoir which was constructed in 1975. Adequate storage is available from the Collins Road reservoir to support a population of at least 2,000 people in the 1,680 pressure zone with adequate fire storage reserves. The present service population within the 1,680 pressure zone is about 1,000, and therefore, excess capacity (limited by the supply pump capacity) exists for an additional population of 300.

Pump capacity to the 1,827 pressure zone is 300 gpm which is adequate for a population of about 800. Storage within the 1,827 pressure zone is provided by the 62,000 gallon Sun Valley reservoir which was constructed in 1969. The Sun Valley reservoir and its potential service area (1,827 pressure zone) is shown in Figure A.2.3. As illustrated, the potential service area of the Sun Valley reservoir is limited to the area between McLean Road and the eastern boundary of Lot A, Plan 26691.

Insufficient service pressure would be provided by the Sun Valley reservoir for development within the D.L. 556 area. Further, insufficient storage capacity is available from the Sun Valley reservoir to service development east along the north side of the Trans Canada Highway, particularly with respect to fire storage reserves.

C. Water System Improvements Without the Project

The approximate population levels anticipated are an increase from 1,050 to 1,350 by 1985, and a further increase to 1,600 by 1990.

The water supply components serving East Cache Creek have been identified as the major servicing deficiency in the Village affecting growth. Although there is adequate pumping capacity to accommodate an additional population of 300 in this pressure zone, the elevation of the Sun Valley reservoir is not sufficient to give adequate service pressures to proposed development areas east and north of the new

Battel Subdivision on Lot A, Plan 26691.

If Council were to adopt a policy of limiting development in East Cache Creek to an additional population of 300 persons, and to direct the remaining development into the several vacant areas in the lower level pressure zones where adequate capacity exists for complete infilling, there would be no need for upgrading of the existing water system components. It should be noted, however, that the existing inadequacies in available fire flows in the east sector would remain uncorrected.

(ii) Sanitary Sewerage System - constructed in 1969

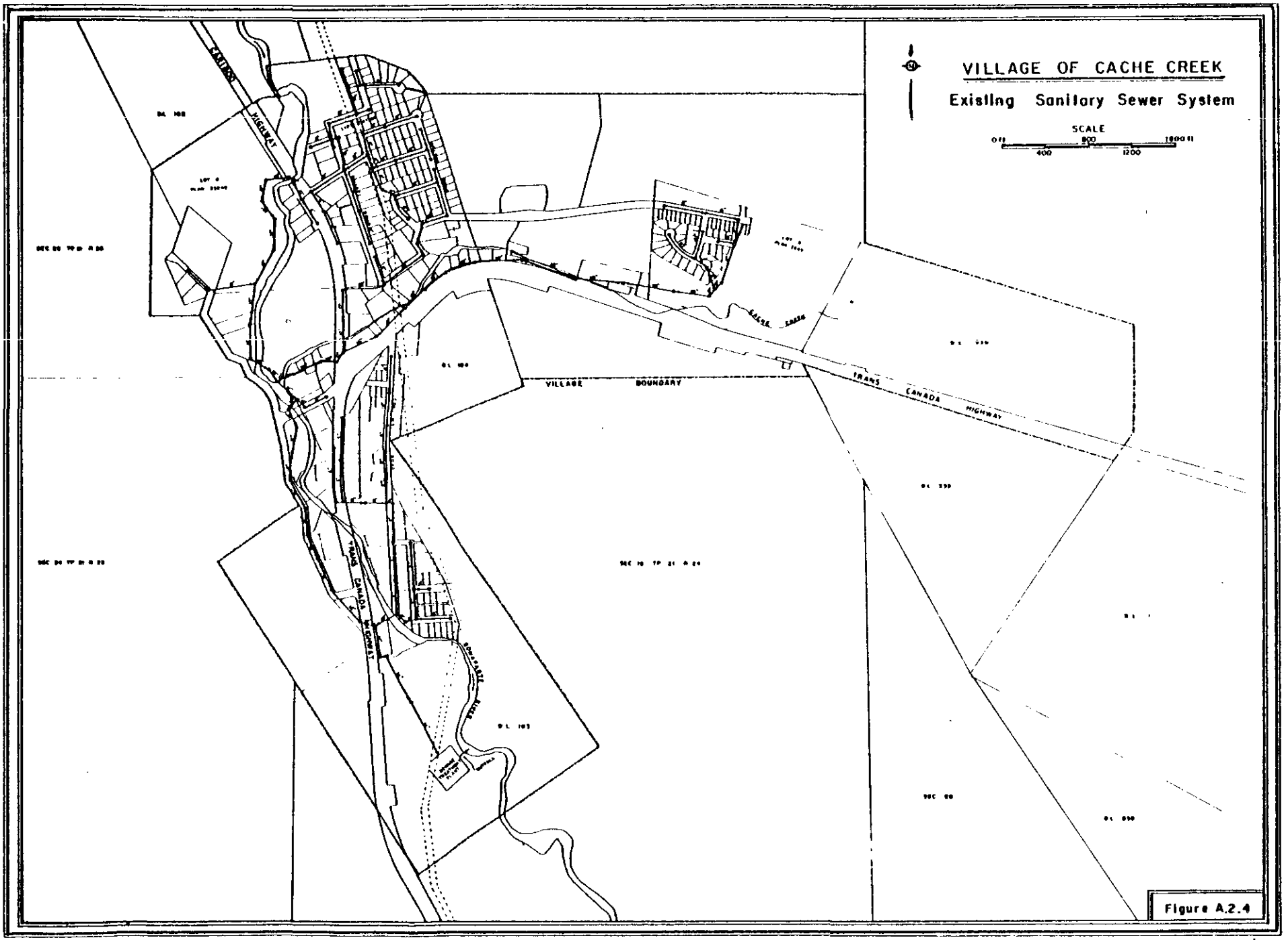
A. Treatment and Disposal

Treatment is provided by a mechanical treatment plant utilizing a modified activated sludge type process. The rated capacity of the plant is 400,000 gpd which is equivalent to a service population of about 5,000. A pollution control permit (PE 264) issued in April 1972 to the Village authorizes the discharge of 320,000 gpd of secondary effluent to the Bonaparte River. The conditions of the pollution control branch with respect to flow will not be exceeded until the Village population exceeds 4,000.

Operation of the sewage treatment plant has been complicated somewhat by the low ratio of actual population to design population and under-sized waste sludge digestor and disposal capacity. Improvements have been undertaken to construct a gravity thickener and sludge drying beds to alleviate the sludge handling problems. Enlarged operator facilities and extension of the treatment roof have been identified as future improvements necessary at the treatment plant.

B. Collection System

Existing sanitary sewer collection and trunk mains in Cache Creek are illustrated in Figure A.2.4. The sewer trunk facilities to the


VILLAGE OF CACHE CREEK
Existing Sanitary Sewer System
SCALE
400
1200
VILLAGE BOUNDARY
TRANS CANADA HIGHWAY
CACHE CREEK
Figure A.2.4

sewage treatment plant from Todd Road are 14-inch and 12-inch diameter mains and are of adequate size to accommodate a service population of 3,600. A 10-inch diameter secondary trunk main to the northern areas of the Village and originating at Todd Road has a capacity equivalent to a service population of 2,500. A 10-inch diameter sewer main installed in 1976 to service the first phase of development in the D.L. 556 area east of the Village has a population equivalent of 6,800. In general, sanitary sewer trunk main facilities exist in all areas of the Village with adequate capacity to service potential development areas in the respective sectors.

C. System Improvements

No improvements to the existing system will be required assuming the population projections to 1990 outlined previously.

c) Clinton

(i) Water System

A. Water Supply

The Clinton water supply is derived by gravity from a dam and water impoundment area on Clinton Creek. The watershed of Clinton Creek above the water intake comprises an area of about 30 square miles and generally includes the north facing slopes of Mount Soues up to an elevation of 6,500. Approximately 50% of the Clinton Creek watershed above the water intake is typical of Cariboo plateau terrain varying in elevation between 4,000 and 5,500 feet.

Three water licences on Clinton Creek are held by the Village authorizing the diversion of a total water volume of 45,500 gpd for domestic water usage. A fourth water licence issued in July 1964 to the Village authorizes the storage of 9 acre-feet of water associated with the Village diversion licences. A water licence application by the Village in September 1969 for a further diversion of 100,000 gpd

of domestic water from Clinton Creek was refused in February 1976. Refusal of the water licence application dated September 1969 was made in consideration of the prior rights of existing irrigation licences and the fact that Clinton Creek is fully licenced.

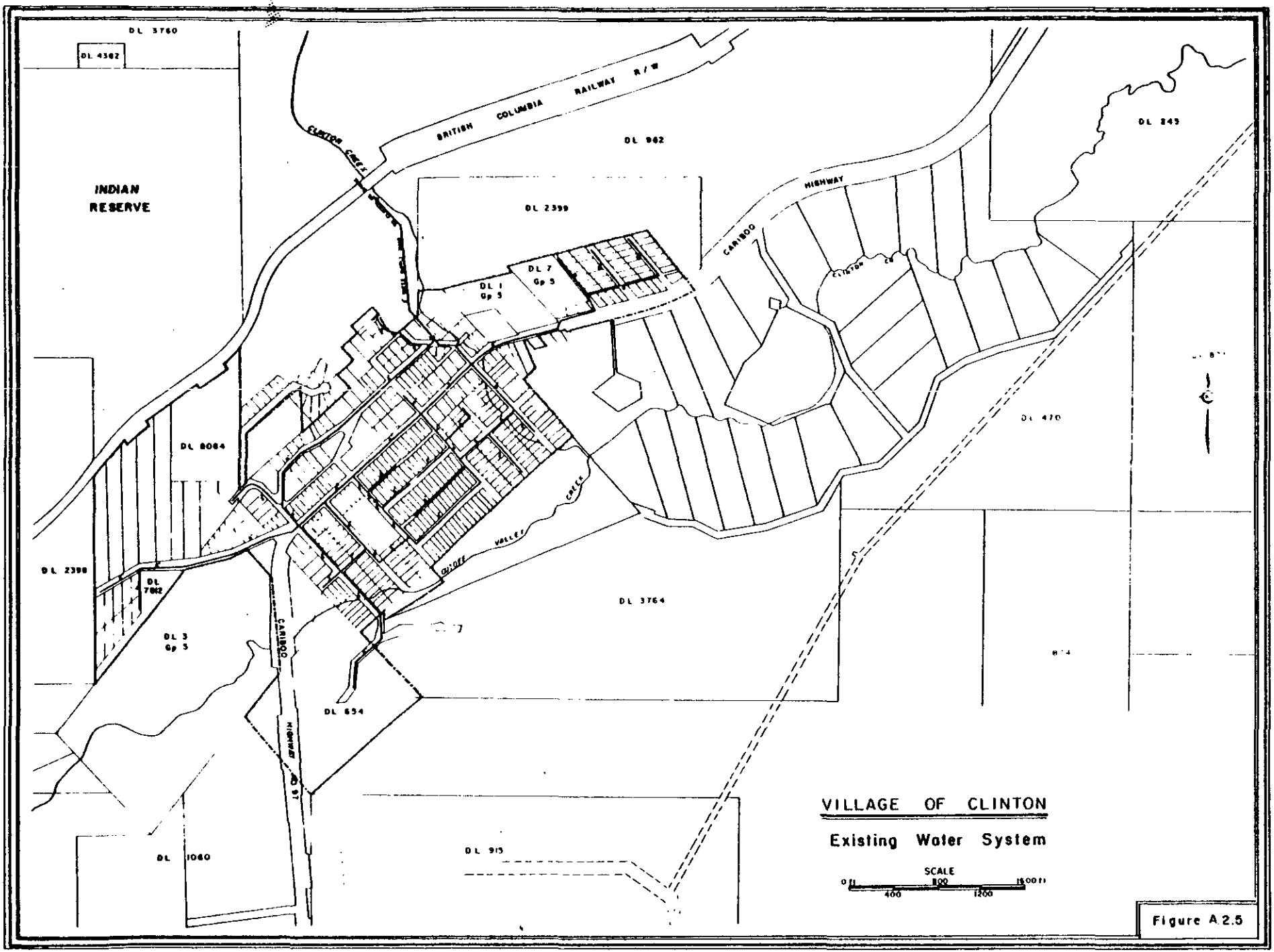
The present average daily water usage by the Village from Clinton Creek, based on an existing service population of 800, is estimated to be about 120,000 gpd. It is therefore suggested that insufficient water licences are held by the Village for the present Village population. Conversations with representatives of the Village, however, indicate that to date no significant drawdowns of the water level behind the water intake have been experienced. Adequate flow therefore appears to be available in Clinton Creek for water service to the present Village population.

A study of potential groundwater sources within the Village was undertaken in 1972. The study identified several drill target areas adjacent to Cutoff Creek with anticipated water yields per well of about 100 gpm. Apart from some test drilling, no work has been undertaken by the Village to develop alternative groundwater sources.

Water quality data for Clinton Creek is presented in Appendix F - Section F.3, and indicates the water to be moderately hard with significant concentrations of calcium and magnesium. Significant turbidity concentrations are anticipated during freshet periods. Turbidity is suggested by the need for the Village to clean out silt accumulation within the intake water impoundment area every two to three years. Should groundwater sources be developed in Clinton, a hardness nature significantly in excess of that obtained in Clinton Creek is probable which may necessitate the installation of softening equipment at each well location.

B. Distribution - illustrated in Figure A.2.5

Domestic water for the Village of Clinton is drawn by gravity from the intake on Clinton Creek through an 8-inch diameter supply main.


DL 3760
DL 4362
BRITISH COLUMBIA RAILWAY R/W
CLINTON CREEK
DL 962
INDIAN RESERVE
DL 2399
DL 1 Gp 5
DL 7 Gp 5
CARIBOO HIGHWAY
DL 845
DL 8084
DL 470
DL 2398
DL 7982
DL 3 Gp 5
DL 3764
DL 654
DL 1060
DL 915
VILLAGE OF CLINTON
Existing Water System
SCALE
0 ft 800 1600 ft
400 1200
Figure A.2.5

Pressure reducing stations on the supply main maintain an average service pressure withir the Village of 85 psi. Under maximum day domestic water demand conditions, the 8-inch diameter supply main is capable of delivering a fire flow of about 1,200 gpm to the Village. The completed available fire flow of 1,200 gpm is considered to be adequate for the present Village population. Storage provided behind the water intake is estimated to be 2.5 M gal and is more than adequate for the present Village fire protection and peak hour demand storage requirements.

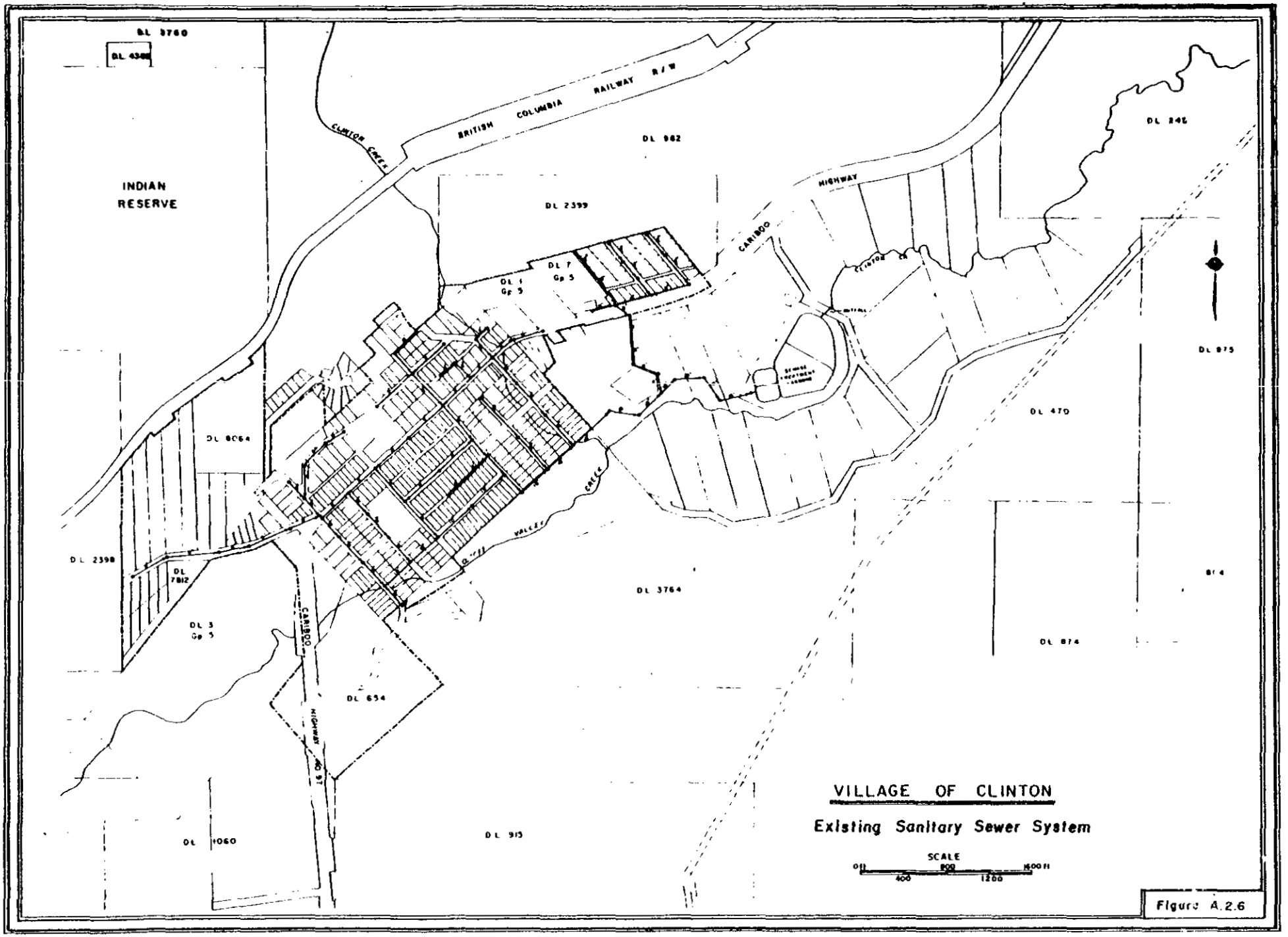
Although the water distribution system provides adequate domestic water service, the capacity of the system to deliver adequate fire flow is limited to some extent by "unlooped" and inadequately sized mains. Inadequately sized and "unlooped" mains are particularly prevalent in the area south of the Cariboo Highway. The extent of improvements necessary to provide at a minimum a continuous 6-inch main service through the area depends to a large degree on the location and associated supply components of the proposed groundwater sources.

(ii) Sanitary Sewerage System - constructed in 1966

A. Treatment and Disposal

Treatment is provided by a series of anaerobic and aerobic lagoons adjacent to Clinton Creek east of the Village. A pollution control permit is held by the Village (PE 170) authorizing the discharge of an average day effluent volume of 100,000 gpd (equivalent to 1,200 people) to Clinton Creek. Further, the pollution control permit authorized the disposal of up to 100,000 gpd of effluent to ground by irrigation on lands outlined on Figure A.2.6. No plan has been adopted by the Village to institute the practice of effluent irrigation.

The treatment system comprises two anaerobic lagoons, each 0.5 acres in size, and two aerobic lagoons covering 12.1 acres. As the efficiency


DL 3760
DL 4366
INDIAN RESERVE
BRITISH COLUMBIA RAILWAY R/W
CLINTON CREEK
DL 982
DL 2399
DL 1 Gp 5
DL 7 Gp 5
CARIBOO HIGHWAY
DL 845
DL 875
DL 470
DL 8064
DL 2398
DL 7812
DL 3 Gp 5
DL 3764
DL 874
DL 654
DL 1060
DL 915
VILLAGE OF CLINTON
Existing Sanitary Sewer System
SCALE
0
400
800
1200
1600 ft
Figure A.2.6

of the treatment system depends largely on natural processes such as wind, hours of sunlight, and air temperature, calculation of the treatment systems maximum capacity is not straight forward. Utilizing a maximum BOD5 loading in the aerobic lagoons of 20 pounds per acre and assuming a continuous BOD5 reduction through the anaerobic cells of 30%, the service capacity of the Clinton lagoons is estimated in equivalent population to be between 1,800 and 2,000. The present system capacity is, therefore, limited by the conditions of the Village Pollution Control Permit rather than the capacity of the treatment system.

B. Collection

The primary component of the collection system is the 10-inch diameter trunk sewer roughly paralleling Cutoff Valley Creek and leading to the treatment lagoons. The capacity of the 10-inch main averages 1.5 cfs which is adequate for a service population of 2,700. The location of the trunk sewer to the lagoons is such that gravity extensions are possible to all potentially developable properties on either side of Cutoff Valley Creek.

d) Lillooet

(i) Water System - illustrated in Figure A.2.7

A. Water Supply

The Village derives its water supply by gravity from an intake on Town Creek. Town Creek has a watershed area of about 5.2 square miles varying in elevation from 2,000 feet to 7,000 feet. The natural drainage path of Town Creek effectively bisects the municipality thereby making it a convenient water source for the Village. The watershed of Town Creek is a designated water supply area reserve thereby providing the Village a degree of protection against activity in the watershed.

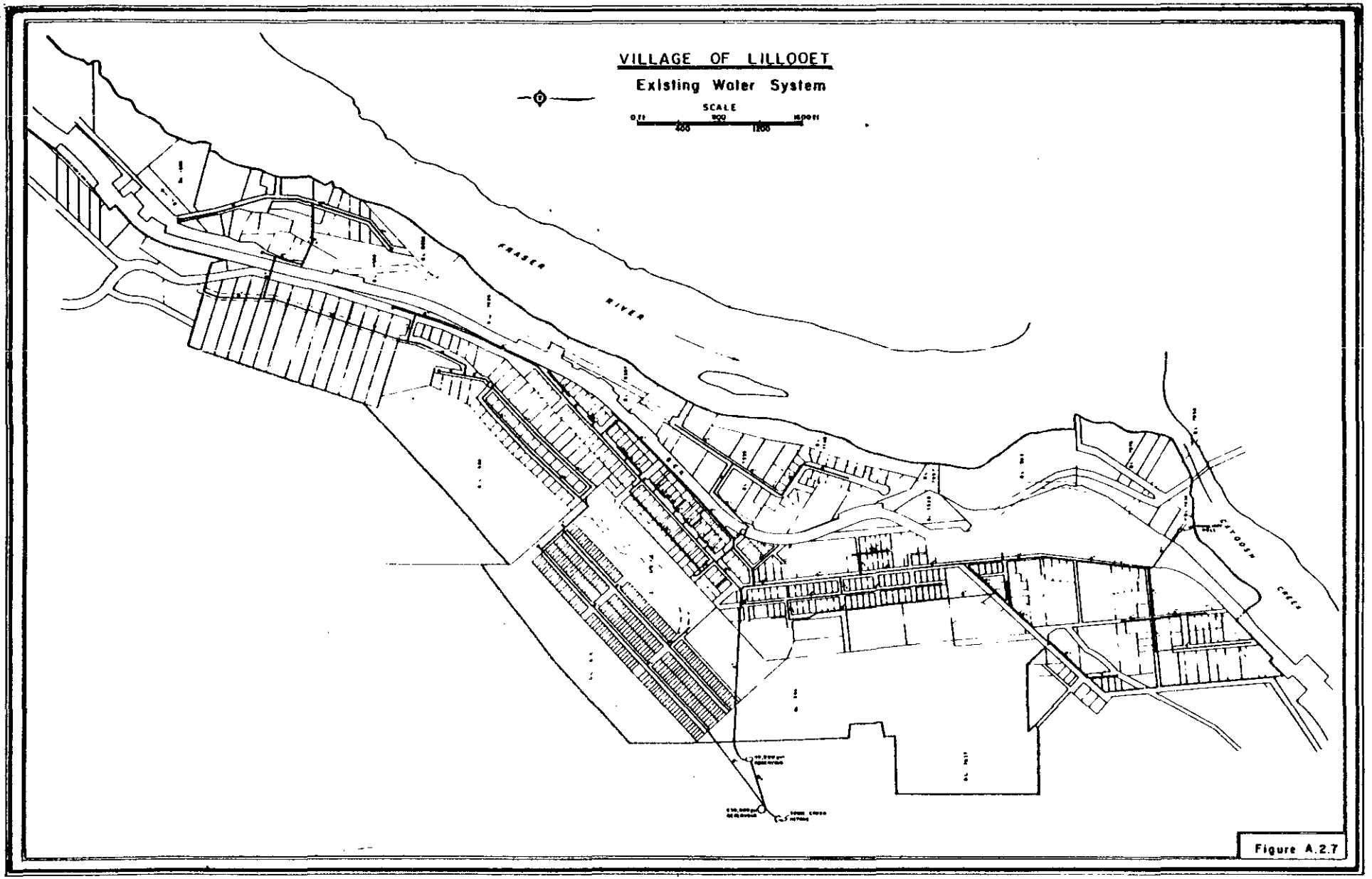

VILLAGE OF LILLOOET
Existing Water System
SCALE
FRASER
RIVER
CAYOOSH
CREEK

Figure A.2.7

B. Distribution

The water distribution system consists primarily of 4-inch and 6-inch mains of various materials and age. The length of 4-inch and smaller mains in service in the Village represents about 41% of the total system. A significant distribution system upgrading program, therefore, appears warranted in Lillooet to improve fire flow capacities. It should be noted that the minimum distribution main size generally accepted for municipal use where minimum fire flows are to be provided is 6-inch diameter.

(ii) Sanitary Sewerage System - illustrated in Figure A.2.8

A. Treatment and Disposal

Treatment is provided by a spiragestor located on D.L. 8397. Effluent from the spiragestor is discharged via a 10-inch concrete pipe to the Fraser River. The capacity of the spiragestor is adequate to service a population of 2,700.

The treatment works are covered by permit issued in 1964 which authorizes an effluent discharge of 220,000 gpd to the Fraser River. The spiragestor system is capable of providing only primary treatment. As such, the PCB has issued permit amendments requiring upgrading to provide the equivalent of biological secondary treatment. The dea-line for completion of upgrading is the end of 1977. (This is an extension by two years of a previous dealing.) As of January 1977, no planning to upgrade the sewage treatment works had been undertaken by the Village. It is possible that the PCB will not approve of ex-tentions to the collection system until firm commitments are made by the Village to upgrade the treatment system.

The Village holds three water licences on Town Creek authorizing a total diversion of 246,600 gpd. The water licences on Town Creek were issued to the Village between 1861 and 1876. Water requirements in the Village often exceed (particularly in August) the natural flow

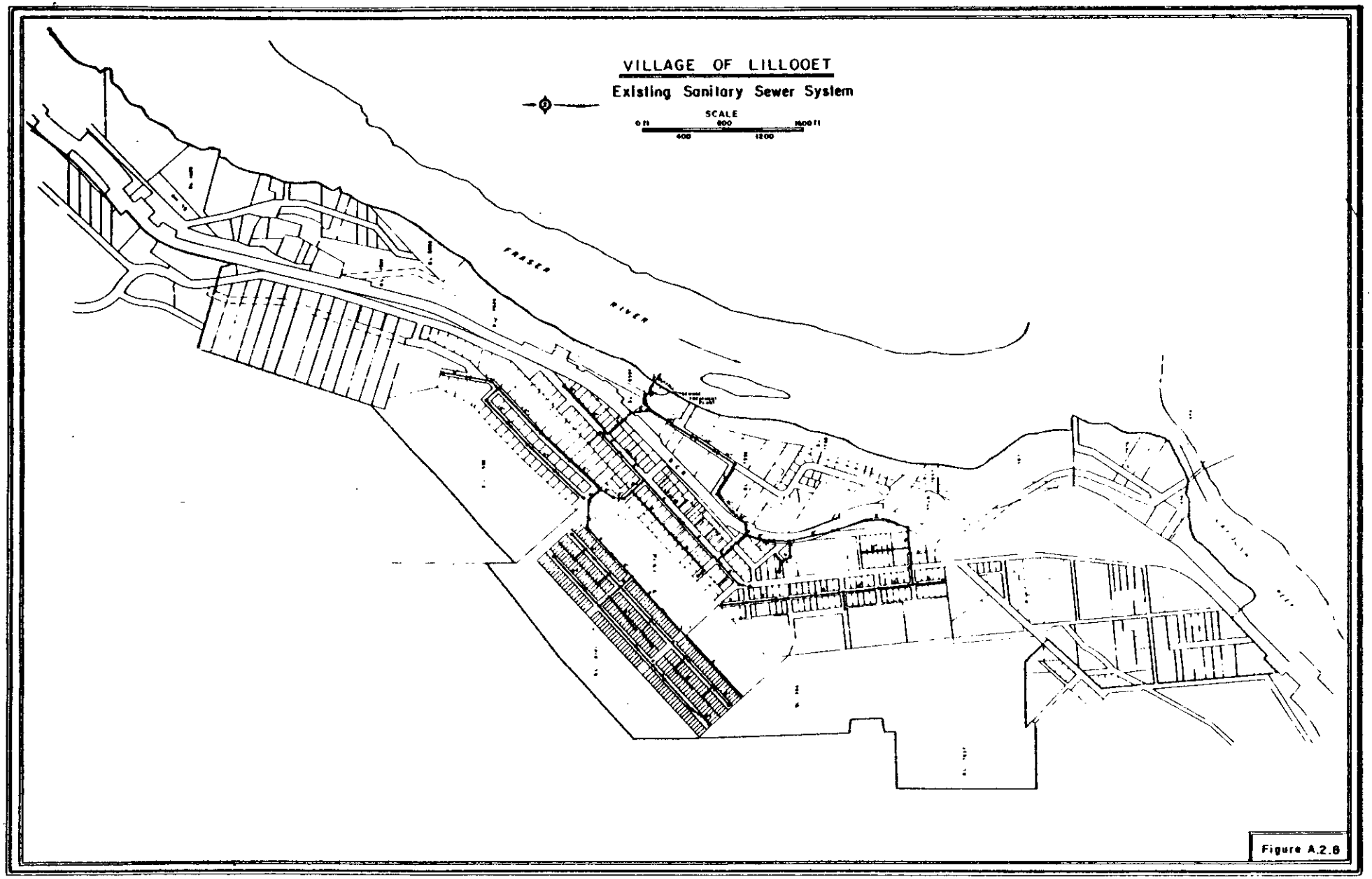

VILLAGE OF LILLOOET
Existing Sanitary Sewer System
SCALE
0 ft
800
1600 ft
400
1200
FRASER
RIVER

Figure A.2.8

of Town Creek. Supplemental water supplies from the Seton River and Dickey Creek have therefore been developed by the Village. The supplemental system from Dickey Creek consists of gravity flow flume at El 3,500 which simply diverts water from Dickey Creek to Town Creek. Although the date of construction of the diversion flume is unknown, it is known that it was constructed originally for Placer mining operations in the area. The Seton River auxiliary water source consists of an infiltration gallery and pump which simply pumps into the distributive system. To date, the Seton River pump facility has only been utilized under emergency conditions.

Water is derived from Town Creek into a 250,000 gallon woodstave reservoir located adjacent to the creek diversion works. A 10-inch water supply main conveys water from this reservoir to a lower 40,000 gallon reservoir. The lower 40,000 gallon reservoir is directed through a series of 6-inch steel and 8-inch asbestos cement water lines into the Village distribution system.

Present maximum day water requirements in the Village of Lillooet based on a population of 1,800 are estimated to be about 900,000 gpd. The present Village water supply system is considered to be more than adequate for the existing population. Upgrading of supply mains from the Town Creek intake is necessary to provide a substantial increase in supply capacity. The existing 6-inch supply main from Town Creek is a major constriction in the supply system and severely limits fire flow available in the Village although adequate storage is provided. Replacement of this 6-inch main with a 10-inch line would make sufficient water available for a service population of about 3,000.

B. Collection

The sewage collection system in Lillooet is ideal in layout in view of the fact that the system is totally gravity flow. Primary collector mains include a 10-inch line on 2nd Avenue paralleling the BCR right-of-way and an 8-inch main crossing under the BCR tracks to Main Street. The combined capacity of these collectors is equivalent to a service

population of 3,200.

Extension of the collection system is complicated by the large proportion of 6-inch collectors. The total length of 6-inch sewer mains is about 65% of the total length of existing sewer mains. Use of 6-inch sewer mains is not considered good engineering practice, therefore, to enable sewer main extensions in Lillooet will require replacement of many of the existing 6-inch lines.

SECTION F.3

CHEMICAL WATER ANALYSIS OF EXISTING WATER SUPPLIES

a) Village of Ashcroft

Sampling Point: Main Pumphouse
Source of Water: Thompson River
Date Sampled: June 25, 1974
Collected By: Wayne McGrath

(ppm = Parts Per Million)

Iron (September 1, 1974)		0.2	ppm
Manganese	less than	0.02	ppm
Total Alkalinity		-	ppm
Calcium		10.8	ppm
Chloride		2.2	ppm
Colour		5.	true units
Fluoride	less than	0.10	ppm
Total Hardness		33.6	ppm
Magnesium		1.97	ppm
Nitrate and Nitrite (as N)		-	ppm
pH		-	ppm
Potassium		0.8	ppm
Total Residue		76.	ppm
Total Fixed Residue		54.	ppm
Filterable Residue		56.	ppm
Sodium		1.4	ppm
Sulphate		5.6	ppm
Turbidity		13.	turbidity units

b) Village of Cache Creek

Source of Water: Bonaparte River
Date Sampled: October 16, 1974
Collected By: Ken Christian

(ppm = Parts Per Million)

Iron	Less than	0.1	ppm
Manganese	Less than	0.02	ppm
Total Alkalinity		231.	ppm
Calcium		63.	ppm
Chloride		1.9	ppm
Colour	less than	5.	true units
Flouride		0.17	ppm
Total Hardness		280.	ppm
Magnesium		29.8	ppm
Nitrate and Nitrite (as N)		0.08	ppm
pH		8.0	ppm
Potassium		3.0	ppm
Total Residue		374.	ppm
Total Fixed Residue		328.	ppm
Filterable Residue		372.	ppm
Sodium		18.0	ppm
Sulphate		83.6	ppm
Turbidity		0.1	turbidity units

c) Village of Clinton

Sampling Point: Reservoir Intake
Source of Water: -
Date Sampled: June 25, 1974
Collected By: Wayne McGrath

(ppm = Parts Per Million)

Iron		0.1	ppm
Manganese	less than	0.02	ppm
Total Alkalinity		-	ppm
Calcium		47.8	ppm
Chloride		0.7	ppm
Colour		10.	true units
Fluoride	less than	0.10	ppm
Total Hardness		180.	ppm
Magnesium		14.9	ppm
Nitrate and Nitrite (as N)		-	ppm
pH		-	ppm
Potassium		0.9	ppm
Total Residue		216.	ppm
Total Fixed Residue		130.	ppm
Filterable Residue		214.	ppm
Sodium		3.8	ppm
Sulphate		7.5	ppm
Turbidity		1.0	turbidity units

d) Village of Lillooet

Sampling Point: Municipal Water Sources
Source of Water: Town Creek/Standby Well
Date Sampled: August 29, 1967 - Town Creek
September 13, 1969 - Standby Well
Collected By: Health Branch - Town Creek
Robinson, Roberts and Brown - Standby Well

(ppm = Parts Per Million)

	Town Creek		Standby Well	
Iron	0.03	ppm	0.01	ppm
Manganese	-	ppm	0.005	ppm
Total Alkalinity	176.	ppm	158.	ppm
Calcium	48.8	ppm	22.7	ppm
Chloride	-	ppm	10.6	ppm
Colour	5.	true units	-	ppm
Fluoride	-	ppm	-	ppm
Total Hardness	220.	ppm	194.8	ppm
Magnesium	24.1	ppm	33.0	ppm
Nitrate and Nitrite (as N)	0.0005	ppm	Trace	ppm
pH	7.6	units	8.45	ppm
Potassium	-	ppm	5.2	ppm
Total Residue	225.	ppm	-	ppm
Total Fixed Residue	152.	ppm	270.	ppm
Filterable Residue	73.	ppm	3.5	ppm
Sodium	-	ppm	20.	ppm
Sulphate	26.4	ppm	92.8	ppm
Turbidity	2.3	Turbidity units	Trace	ppm

APPENDIX G

LOCAL GOVERNMENT - EXPENDITURES AND REVENUES

TABLE G.1

Village of Ashcroft - Summary of Expenditures: 1970 - 1976

ITEM	1970	1972	1974	1976
Estimated Population	1900	1950	2000	2005
1. General Government	23,458	33,661	72,445	109,826
2. Protective Services	12,486	17,278	26,145	29,439
3. Transportation	22,145	39,093	39,978	77,134
4. Environmental Health	20,090	35,414	49,081	56,103
5. Public Health & Welfare (includes cemetery)	-	-	4,301	4,297
6. Environmental Development	-	-	22	5,850
7. Recreation and Cultural	13,763	31,660	108,529	102,034
8. Fiscal Services	25,027	28,660	43,261	40,811
9. Transfers to Reserves	-	11,500	-	12,500
10. Capital from Reserves	45,604	25,661	43,238	74,715
11. Transfers to other Governments		- Omitted -		
12. Other Services	2,280	-	-	950
13. Water Works	24,865	43,998	65,123	89,355
TOTALS	189,718	266,925	452,123	603,014

TABLE G.2

Village of Ashcroft - Projection of Expenditures*: 1978 - 1990

Without Hat Creek Project.

ITEM	1978	1980	1982	1984	1986	1988	1990
Estimated Population	2070	2405	2405	2405	2620	2795	2970
1. General Government	130,000	145,000	145,000	145,000	155,000	165,000	170,000
2. Protective Services	30,000	40,000	40,000	40,000	44,000	50,000	55,000
3. Transportation	120,000	140,000	140,000	140,000	150,000	160,000	170,000
4. Public Health & Welfare	4,500	5,000	5,000	5,000	5,200	5,400	5,500
5. Recreation & Cultural	125,000	135,000	135,000	135,000	140,000	145,000	155,000
6. Environmental Development	6,000	8,000	8,000	8,000	10,000	10,000	10,000
7. Other Fiscal Services (short term debt)	2,300	2,500	2,500	2,500	2,500	2,500	2,500
8. Other Services	1,000	1,500	1,500	1,500	1,500	1,500	1,500
TOTAL	418,500**	477,000	477,000	477,000	508,200	539,400	569,500

* All estimates in constant 1976 dollars.

** Projections exclude expenditures on sewer, water, garbage, contributions to reserve funds, and transfers to other governments.

TABLE G.3

Village of Ashcroft - Summary of Revenues: 1970 - 1976

ITEM	1970	1972	1974	1976*
Estimated Population	1900	1950	2000	2005
1. Property Tax	44,090	67,130	138,910	145,087
2. Grants-in-lieu	1,626	2,847	1,670	7,798
3. Provincial Grants	36,530	57,780	76,789	130,725
4. User fees-sewer, & garbage	50,239	67,353	85,897	97,283
5. Other revenue from own sources	18,000	31,240	96,703	130,466
6. Waterworks	28,084	39,912	59,910	89,355
TOTAL	178,569	266,144	459,879	600,714

* From 1976 budget.

TABLE G.4

Village of Ashcroft - Projection of Non-Property Tax Revenues: 1978 - 1990
Without Hat Creek Project

ITEM	1976	1978	1980	1982	1984	1986	1988	1990
Estimated Population	2000	2070	2405	2405	2405	2620	2795	2970
A. Grants								
1. Grants-in-lieu	7,800	8,000	9,000	9,000	9,000	10,000	11,000	12,000
2. Per Capita Grant	70,300	70,500	81,800	81,800	81,800	89,100	95,000	101,000
3. Revenue Sharing	50,900	51,000	54,000	54,000	54,000	56,000	58,000	59,000
4. Cond. Transfers	1,800	2,000	2,500	2,500	2,500	3,500	3,500	4,000
B. From own sources								
1. Licences & Permits	16,100	16,500	18,000	18,000	18,000	19,000	20,000	21,000
2. Rentals	27,000	30,000	32,000	32,000	32,000	33,000	34,000	35,000
3. Return on Invest.	2,000	2,000	2,000	2,000	2,000	2,500	2,500	2,500
4. Penalties & Interest	4,500	4,500	5,000	5,000	5,000	5,500	5,500	6,000
5. Other Sales of Service	13,500	14,000	16,000	16,000	16,000	17,000	18,000	19,000
6. Misc. Revenue	11,500	12,000	14,000	14,000	14,000	15,000	16,000	17,000
7. Revenue from reserve fund	53,600	---------- Assume no contribution from Reserve Funds ----------						
8. Cont. from Water-works	2,400	---------- Assume no contribution from Waterworks Utility ----------						
C. Sales of Services								
1. Sewer	86,300	----------						
2. Water	89,400	----------						
3. Garbage Collection and disposal	21,100	---------- Assume Water, Sewer, and Garbage Services are totally self-sustaining.						
TOTAL	458,200	210,500	234,300	234,300	234,300	250,600	263,500	276,500

TABLE G.5

Village of Cache Creek - Summary of Expenditures: 1970 - 1976***

ITEM	1970	1972	1974	1976
Estimated Population	1,000	1,100*	1,200*	1,040**
1. General Government	14,600	23,896	37,208	53,074
2. Protective Services	7,822	6,403	6,764	9,810
3. Transportation	5,461	19,312	35,718	51,047
4. Environmental Health	18,416	31,426	41,187	50,196
5. Public Health & Welfare	-	20	100	100
6. Environmental Development	-	-	-	5,500
7. Recreation and Cultural	1,295	1,767	45,417	47,590
8. Fiscal Services	15,232	48,284	55,460	152,700
9. Transfers to Reserves	23,989	6,726	7,100	-
10. Capital from Reserves and Revenue	-	61,526	39,970	-
11. Other Services	4,194	938	-	6,945
12. Waterworks	39,565	33,724	51,663	102,822
TOTAL	130,574	231,022	320,387	479,784

* Municipal Estimate
** 1976 Census Population
*** From 1976 Budget.

TABLE G.6

Village of Cache Creek - Projection of Expenditure*: 1978 - 1990
Without Hat Creek Project

ITEM	1978	1980	1982	1984	1986	1988	1990
Estimated Population	1,080	1,185	1,185	1,185	1,330	1,450	1,570
1. General Government	55,000	75,000	75,000	75,000	80,000	85,000	90,000
2. Protective Services	11,000	22,000	22,000	22,000	24,000	26,000	28,000
3. Transportation	85,000	95,000	95,000	95,000	100,000	105,000	110,000
4. Public Health and Welfare	500	500	500	500	1,000	1,000	1,000
5. Environmental Dev.	6,000	7,000	7,000	7,000	8,000	9,000	10,000
6. Recreation & Cultural	65,000	70,000	140,000	140,000	145,000	145,000	150,000
7. Fiscal Services (short term debt)	2,500***	2,500	2,500	2,500	2,500	3,000	3,000
8. Other Services	7,000	8,000	8,000	8,000	9,000	10,000	11,000
TOTAL	232,000	280,000	350,000	350,000	369,500	384,000	403,000

* All figures expressed in 1976 dollars.

** Projections exclude expenditures on sewer, water, garbage, contributions to reserve funds, and transfers to other governments.

*** Assumes majority of short-term loans are for water and sewer projects.

TABLE G.7

Village of Cache Creek - Summary of Revenues: 1970 - 1976

ITEM	1970	1972	1974	1976
Property Tax	27,032	44,577	101,762	116,352
Grants-in-lieu	1,484	2,472	3,401	4,895
Provincial Grants	24,599	34,440	34,946	40,022
User Fees-Sewer and Garbage	32,994	77,432	57,200	80,063
Other Revenues from own sources	6,200	12,310	16,755	18,383
Water Works	39,565	33,724	51,663	162,339
TOTAL	131,874	204,955	265,727	422,054

TABLE G.8

Village of Cache Creek - Projection on Non-Property Tax Revenue: 1976 - 1990
Without Hat Creek Project

ITEM	1976	1978	1980	1982	1984	1986	1988	1990
Estimated Population	1,040	1,080	1,185	1,185	1,185	1,330	1,450	1,570
A. Grants								
1. Grants-in-lieu	4,900	5,000	5,200	5,200	5,200	5,400	5,500	5,600
2. Per Capita Grant	35,400	36,700	40,300					
3. Revenue Sharing	41,000	42,000	43,000					
4. Cond. Transfers from Government	-	2,000	2,000	2,000	2,000	2,100	2,200	2,300
B. From Own Sources								
1. Licences & Permits	6,500	6,700	6,900	6,900	6,900	7,000	7,200	7,900
2. Rentals	300	500	700	700	700	800	900	1,000
3. *Return on Invest.*	*500*	*600*	*700*	*700*	*700*	*800*	*900*	1,000
4. Penalties & Interest	4,200	4,500	4,700	4,700	4,700	4,900	5,200	5,400
5. Other Sales of Service	5,100	5,500	6,000	6,000	6,000	6,200	6,400	6,600
6. Misc. Revenues	2,100	2,500	2,800	2,800	2,800	3,000	3,100	3,300
C. Sales of Services								
1. Sewer	---							
2. Garbage Coll. and disposal	---	Assume water, sewer, and garbage services are totally self-sustaining.						
3. Water	---							
TOTAL	100,000	106,000	112,300	112,300	112,300	119,300	125,700	132,000

TABLE G.9

Village of Clinton - Summary of Expenditures: 1970 - 1976

ITEM	1970	1972	1974	1976
Estimated Population	1,150	890	920	806
1. General Government	13,400	15,100	24,400	40,700
2. Protective Services	7,700	2,500	2,900	6,400
3. Transportation	13,500	11,500	23,800	41,500
4. Environmental Health	5,900	14,500	19,000	34,400
5. Public Health & Welfare	-	100	1,600	1,500
6. Environmental Dev.	-	200	400	1,000
7. Recreation & Cultural	3,500	5,500	16,900*	16,600
8. Fiscal Services	21,100	23,700	32,700	29,200
9. Transfers to Reserves	-	-	-	-
10. Capital from Reserves and Revenues	33,800	20,300	-	-
11. Other Services	100	-	-	-
12. Waterworks	19,400	18,600	15,900	45,800
TOTAL	118,400	112,000	138,600	216,900

* A large portion of this was work carried out under a L.I.P. Grant.

TABLE G.10

Village of Clinton - Projection of Expenditures*: 1978 - 1990
Without Hat Creek Project.

ITEM	1978	1980	1982	1990
Estimated Population	805	805	1,120	1,120
1. General Government	42,000	42,000	50,000	
2. Protective Services	10,000	10,000	12,000	
3. Transportation	45,000	45,000	55,000	
4. Public Health & Welfare	1,500	1,500	2,000	
5. Environmental Dev.	1,000	1,000	2,000	
6. Recreation and Cultural	10,000**	10,000	13,000	
7. Fiscal Services	1,000	1,000	1,500	
8. Other Services	1,000	1,000	1,500	
TOTAL	110,500	110,500	137,000	137,000

* All figures expressed in 1976 dollars.
** Assume no more L.I.P. work.

TABLE G.11

Village of Clinton - Summary of Revenues: 1970 - 1976

ITEM	1970	1972	1974	1976
Property Tax	12,000	13,000	15,900	26,800
Grants-in-lieu	1,500	3,000	3,700	4,200
Provincial Grants	30,500	27,600	54,600*	60,400
User Fees and Grants Sewer and Garbage	34,800	40,000	56,300	56,500
Other Revenue from own sources	19,500	9,500	10,400	14,500
Waterworks (excluding surplus)	19,400	20,800	20,100	21,800
TOTAL	117,700	113,900	161,000	184,200

* Included L.I.P. Grants to Recreation Commission.

TABLE G.12

Village of Clinton - Projection of Non-Property Tax Revenues: 1978 - 1990
Without Hat Creek Project.

ITEM	1976	1978	1980	1982	1990
Estimated Population	805	805	805	1,120	1,120
A. Grants					
1. Grants-in-lieu	4,200	4,500	4,500	5,000	
2. Per Capita Grant	27,300	27,300	27,300	33,100	
3. Revenue Sharing	22,300	32,500	32,500	39,800	
4. Cond. Transfers	2,300	2,500	2,500	2,500	
B. From Own Sources					
1. Licences & Permits	4,050	4,100	4,000	4,500	
2. Rentals	1,200	1,200	1,200	1,500	
3. Return on Investment	5,000	5,000	5,000	5,500	
4. Penalties & Interest	1,000	1,000	1,000	1,200	
5. Other Sales of Services	400	400	400	500	
6. Miscellaneous	1,200	1,200	1,200	1,400	
7. Reserve fund & Tax arrears	14,700	-------- Assume no contribution from reserve fund or Tax arrears Revenue			
C. Sales of Services & Grants					
1. Sewer	------				
2. Garbage Coll. & Disposal	------	Assume water, sewer, and garbage services are totally self-sustaining.			
3. Water	------				
TOTAL	88,700	79,700	95,000	----------	95,000

APPENDIX H

HAT CREEK AREA RESIDENT SURVEY

Introduction

Chapter 2.10 discusses a number of approaches which were utilized in the collection of data for the identification and discussion of the Social Environment in the Study Area.

The interview schedule of key persons and the survey instrument utilized for this data collection are the same as those identified in Chapter 2.5 Services and are located in Appendix D.

The detailed Hat Creek and Area Resident Survey methodology and sampling procedures discussed in Chapter 2.10 are detailed more extensively on page H - 2 of this appendix. This is followed by the field information package used by the interviewers to collect the information. A summary of the characteristics of the residents surveyed in the study area commences on page H - 31.

The final portion of this appendix includes the proposed committee structures identified by the consultants in conjunction with the Community Relations Department of B.C. Hydro for the proposed community education and information exchange programs.

HAT CREEK AND AREA RESIDENT SURVEY: SAMPLING PROCEDURES, FIELD WORK AND PROCEDURES FOR STATISTICAL ANALYSIS

1. INTRODUCTION

Section 2 outlines the sampling procedures utilized for the Hat Creek and Area Resident Survey. The theoretical framework is discussed in Section 2, followed by Section 3 which provides a description of the actual field work that took place. Finally, Section 4 summarizes the statistical analysis used in this survey.

2. SAMPLING FRAME

a) Determination of Eligible Sample

From the sampling frame, it was estimated that there were approximately 2,115 households in the region. This figure approximated that of Statistics Canada's 1971 census and provided a population estimate of approximately 7,400 people in the study region.

It was decided that, for purposes of this study, those interviewed would be 15 years of age and older. This resulted in an estimate of 5,500 individuals eligible for the survey (N = 5,500).

b) Derivation of the Sampling Fraction

For statistical purposes, a sample size of 2% was thought to be appropriate. Based on this, the sample size was determined to be approximately 50 households. This assumed an estimate of 2.6 eligible persons per household, resulting in a total of 131 individual interviews. From these figures, it was estimated that a sampling fraction of 1/42 would be appropriate. The calculation was:

$$n = 5,500 \times \frac{1}{42} = 131$$

In reviewing the size of the community strata, however, it was determined that a number of the strata were too small to provide the required statistical validity for the survey. These problems were identified in Table 1 which illustrated the communities' strata, their population, the estimated number of households in each community, the anticipated number of eligible households, and respondents required for survey purposes.

TABLE 1. Eligible Respondents Based on Sampling Fraction of 1/42

Community	Population	Estimated No. of hhlds (3.5/hhld)	Estimated No. of Eligible Respondents (2.6/hhld)	No. of Eligible Respondents per Community (Sampling Fraction = 1/42)
Ashcroft	2005	573	1490	35.5
Cache Creek	1040	297	772	18.5
Lillooet	2185	624	1622	38.6
Clinton	805	230	598	14.3
Rural	1370	391	1017	24.2
TOTAL	7405	2115	5499 ≈ 5500	131.1

To provide the required statistical accuracy for this survey, a minimum of 100 elements, or 100 individual respondents, was required for each community strata. This resulted in 500 individual interviews. Due to the survey constraints, it was impossible to sample 500 individual respondents. For this reason the communities of Ashcroft and the surrounding rural area and Cache Creek and the surrounding rural area had 100 interviews each, while Clinton, Lillooet, and their surrounding rural areas had 50 interviews each. Lillooet and Clinton, therefore, could be grouped to provide the necessary statistical validity, or left independently and the resulting data utilized in descriptive terms only. With approximately 310 interviews required, the formula was modified as follows:

$$N = 5{,}500 \times \frac{1}{18} = 310$$

This resulted in every 18th eligible person being interviewed in the study region. To provide the coverage necessary for the survey area, however, a disproportionate sampling of the community strata was desired. This allowed for undersampling in the communities of Lillooet and Clinton while oversampling in the primary areas of Ashcroft, Cache Creek, and the Hat Creek Valley itself. Table 2 displays the disproportionate sampling required for each community strata. This approach resulted in approximately 119 households representing 310 eligible respondents to be interviewed.

TABLE 2. Eligible Respondents to Provide Statistical Validity

Community	Population	Estimated No. of Households	No. of Interviews Required For Statistical Validity	No. of Households Required (2.6/hhld)	Resulting Sampling Fraction
Ashcroft	2005	573	80	31	1/18
Cache Creek	1040	297	80	31	1/10
Lillooet	2185	624	50	19	1/33
Clinton	805	230	50	19	1/12
Rural (Ashcroft & Lillooet)	1370	391	50	19	1/21
TOTAL	7405	2115	310	119	

c) Sampling Fraction Adjustments

The sampling fractions were adjusted for the estimated inadequacies in the sampling frame. These were defined by the consultants as follows:

- The Expected Coverage Rate: Experienced sample designers recommended a figure of 90% expected coverage.
- The Eligibility Rate: In this study, the only eligible elements were households or dwellings. Others such as commercial establishments represented 15% of the Hydro list.

- The Expected Response Rate: A representative of Statistics Canada estimated that, based on their employment surveys, the refusal rate would be no greater than 10%.

d) The Adjusted Sampling Rate

The adjusting equation to determine the adjusted sampling rate is as follows:

$$F = \frac{n}{N} = \frac{n}{(N \times \text{response rate} \times \text{coverage rate} \times \text{eligibility rate})}$$

If a proportionate random sample were being completed, the adjusted sampling fraction would be:

$$F = 310/5,500(.9 \times .85 \times .9)$$
$$= 310/3,787$$
$$= 1/12$$

The final sampling fraction of 1/12, therefore, provided that every 12th dwelling noted in the B.C. hydro listing would be included in the sample selection.

However, as a disproportionate sample of the community strata was being undertaken, each of the sampling fractions identified in Table 2 was modified by the same adjusting factors. Table 3 outlines the adjustments required to oversample by 35%.

TABLE 3. Total Households Required for Survey

Community	Actual Households	Estimated No. of Households Required (n)	Estimated No. of Households Required For Oversample (n x 1.35)	Adjusted Sampling Fraction
Ashcroft	573	31	42	1/14
Cache Creek	297	31	42	1/7
Lillooet	624	19	26	1/24
Clinton	730	19	26	1/9
Rural	391	19	26	1/15
TOTAL	2115	119	162	

e) Selection of Dwellings

As previously mentioned, for the purposes of this study, a disproportionate sample of the population in the communities was selected. Furthermore, for reasons of administrative simplicity, it was decided to use a systematic rather than random selection technique. This entailed:

- Requesting B.C. Hydro to run their computer listing of serviced dwellings by individual community within the study area.
- Determining the initiation point for each community listing.
- Selecting the dwellings from this point throughout the listing.

Step One: B.C. Hydro's listings were divided into the following community strata: Cache Creek, Ashcroft, Clinton, and Lillooet. The rural farms and areas were grouped with the appropriate community with the exception of the Hat Creek Valley residents. They were treated separately with 100% coverage, reflecting the emphasis of the study and the small size of that group.

Step Two: A starting point was selected from a table of random numbers. This number was used to commence each of the community strata in question.

Step Three: Each strata was treated separately. The starting point was determined and then households were selected based on the appropriate adjusted sampling fraction. In the case of Ashcroft, every 14th household on the listing was selected. It was felt that the sampling fractions were conservative and resulted in a larger sample than actually required. As the sampling fractions allowed for 135% of the actual sample desired, or an oversampling of 35%, this oversample was divided into two interview draws. The first, and major draw, represented 125% of the total. The remaining 10% was used as a supplementary sample should the survey fall short. This approach reduced the time required to complete the field work, hence reducing the administration and field costs of the study. Table 4 indicates the breakdown of the first and second interview draws.

TABLE 4. Breakdown of First and Second Interview Draws

	Total Sample (135%)			
Community	Total No. of Households	First Draw (125%)	Second Draw (10%)	
Ashcroft	42	39	3	set aside every 14th
Cache Creek	42	39	3	actual draw
Lillooet	26	24	2	set aside every 13th
Clinton	26	24	2	drawn for
Rural	26	24	2	supplementary
TOTAL	162	150	12	

f) Procedures for Drawing Supplementary Samples in the Field

It was assumed that there would be a number of occasions where B.C. Hydro's listing of metered dwellings would provide inadequate coverage. The following procedures were implemented to accommodate these cases:

. A meter serviced address where more than one household was located. The procedure in this case was to count the number of households and then interview the following proportion of households:

1-3 households - 100% coverage
4-5 households - 75% coverage
6-10 households - 50% coverage
11+ households - 25% coverage

. Where a number of households were serviced with power, while others were not, those having power were interviewed if their name appeared on the B.C. Hydro listing. Those households without power were then listed and interviewed following the prescribed sampling procedures.

3. FIELD PROCEDURES

a) Extent of Survey

The field work was completed during the month of April, 1977. Six field workers spent eight days in the study area and interviewed 310 residents. This represented 145 households containing over 400 people in the study area communities of Ashcroft, Cache Creek, Clinton, Lillooet, the Hat Creek Valley, and the rural areas surrounding these communities.

b) Introductory Letter

Once the sample was drawn, master lists were prepared for each community and for each interviewer. As an introduction to the survey and the field personnel, a letter was prepared and mailed to all households to be surveyed. The letter was sent under the auspices of the B.C. Hydro and Power Authority. The letter outlined the project and requested the cooperation of the residents. The individuals' names and addresses were included on the envelope and in the letter to make it a more personal request. This letter went to all households that had been drawn in the sample. A copy of the letter is included following this section.

c) Field Workers

The field team consisted of five interviewers plus a coordinator. Three interviewers were hired specifically for the survey, the remainder were provided through the consultant's office.

d) Field Training

A training seminar was held in Cache Creek for all the interviewers. The field instruments were distributed and a thorough review of the questionnaire and its contents was undertaken. Pilot interviews were held, where the interviewers administered the questionnaire to each other as part of the familiarization. An information package was distributed which included an outline of examples of the objectives of the study, interviewing techniques, introductory telephone and at-the-door scripts, questionnaire, supplementary sampling procedures, and definitions and terminology. The final task was the establishment of a scheduling and monitoring system to obtain regular feedback on the progress of all interviewers.

e) Interviewing Procedures

Once the interviewing commenced, all interviewers used the master lists for their assigned community. Where phone numbers were listed, contact was initially made by telephone so that a convenient interview time could be established. Of those with no telephones, contact was made at the doorstep. If no one was home, a calling card was left, indicating when and where the interviewer could be contacted to arrange a meeting. Three return calls at different times of the day were made before assuming a "no contact" for that household.

The B.C. Hydro listing contained postal as well as actual addresses. In the event that an address was difficult to locate, the B.C. Hydro Regional Office was contacted and provided the interviewers with assistance in locating the household. This approach also was used with the RCMP office in the study area.

Once an interviewer arrived at the house, the introductory remarks included a discussion of the objective of the study. The interviewer presented an information sheet, a map of the study area, a photograph montage of actual mining jobs, and an artist's sketch of the proposed Hat Creek development. Copies of these follow this section.

Following this, the household enumeration was completed. This enumeration included documentation of all those residing in the household, their age and sex. From this, the interviewer then determined those defined as eligible for the survey: those age 15 or older. Individual enumerations were then completed for each of the eligible individuals in the household.

Administration was relatively straightforward. Several questions required that the interviewers present printed cards to those being interviewed so that they could rate a particular response or select from a series of answers. The questions related to outdoor recreation

activities required that the residents indicate on a detailed regional map where they go for recreational activities. The map was coded according to specific regions. Samples of the cards and the recreational map follow this section.

4. STATISTICAL ANALYSIS

On completion of the field work, coding of the written responses was completed. In all cases, coding was based on Statistics Canada format and codes, thus allowing for comparison between the two sets of data. The occupation and industry categories were coded to the most detailed level and grouped into the major groupings as defined by Statistics Canada. This approach allowed more detailed analysis of the industry and occupational categories.

Several sets of computer runs were initiated. The purpose of the first run was to examine the total data set to determine the overall response to each question and to group insignificant data categories before the major analysis occurred. In the second run, the data was cross tabulated by the major communities in the region. Following this, a series of cross tabulations was made with the subsamples, including women, the unemployed, specific employment groups, as well as those favouring or opposing the proposed project. Based on the data analysis, it was assumed that there may be up to 1% error in coding and keypunching of the final data.

Hat Creek and Area

Resident Survey

A. Household Characteristics

(Reminder to the interviewer: this section of the interview to be conducted with head of household, spouse, or representative of head, as arranged beforehand.)

Interviewer (I): through conversation, list all persons including children now residing in the dwelling unit by their relation to the head. Indicate the eligible respondents (R) by a check (✓) in right hand column.
For adults' age: show Card 1 for responses.
For children under 15, ask age in years, record "8" for 6-14 years
"9" for 5 and under

Code responses later.
Say: May I assure you that your answers will be treated in strict confidence.

How many people live here?

All persons, by relation to head	Sex	Age Code	Indicate all eligible R's
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

1a. Type of household			
1b. Number of persons 15 years and over		M.	F.
	Age Categories	1.	
		2.	
		3.	
		4.	
		5.	
		6.	
		7.	
1c. Number of persons under 15 years		8.	
		9.	

Prepared by Cornerstone Planning Group Limited

2a. Do you rent or own your home? I: code response 1. rent 2. own 3. don't know	
2b. I: code type of dwelling unit by observation. 1. single family dwelling on acreage 2. single family dwelling on lot 3. mobile home on acreage 4. mobile home on lot 5. mobile home in park 6. duplex 7. apartment 8. other	
3. Do you own a recreation cottage? I: check yes ____ → Q3a. to 3c., no ____ → Q.4 3a. Where is it located? _____ I: record response to be coded later.	
3b. Is it on land: 1. owned by you 2. leased by you 3. other 4. don't know I: code response	
3c. What do you estimate its current market value to be? _____ I: record response	
4. In which city, town, or village does your family normally shop for the following items? I: code responses from I Card 2; can code two place options for each.	
4a. groceries	
4b. clothing	
4c. gas for car	
4d. household furnishings	
4e. drugs	
4f. hardware/building materials	
5. How satisfied are you with each of these shopping facilities? I: show Card 2 and ask 1-5 satisfaction measure for each, code "6" if not applicable.	
5a. groceries	
5b. clothing	
5c. gasoline	
5d. household furnishings	
5e. drugs	
5f. hardware/building materials	

5g.	Are there types of shopping facilities I haven't mentioned which are particularly satisfactory or unsatisfactory? I: check yes _____, or no _____ ⟶ Q.5h if yes, which facilities? I: record response _____	
5h.	Are there other shopping facilities not present in the community which you feel the community needs? I: check yes _____, or no _____ ⟶ Q.6 if yes, what are they? I: record response _____	
6.	Which city, town or village do <u>you and your family</u> use for the following services? I: code responses from I Card 2; can code two place options for each.	
6a.	medical	
6b.	dental	
6c.	legal	
6d.	educational	
6e.	religious	
6f.	entertainment	
7.	These and other services may change over the next few years and we need to know how you feel about them now. How satisfied are you with each of the following services in your area? I: show Card 2 and ask 1-5 satisfaction measure for each, code "6" if not applicable.	
7a.	law enforcement	
7b.	fire protection	
7c.	water supply	
7d.	sewer service	
7e.	garbage collection	
7f.	streets and roads	
7g.	medical services	
7h.	dental services	
7i.	indoor sports	
7j.	amusements (restaurants, movies, etc.)	
7k.	shopping facilities	
7l.	local government	
7m.	legal service	

7n.	civic and service clubs	
7o.	schools	
7p.	mental health services	
7q.	availability of housing	
7r.	quality of housing	
7s.	social services	
7t.	Are there other services I haven't mentioned which are particularly satisfactory or unsatisfactory? I: check yes _____, no _____ → Q.8 If yes, which services? I: record response _____	
7u.	Are there other services that are not available which you feel the community needs? I: check yes _____, or no _____ → Q.8 If yes, what are they? I: record response _____	
8.	How many vehicles do you have for use by the members of this household? I: code response, code "9" for "none".	
9.	Now, I'd like to ask you a question about your household income. I realize this information is personal, but please remember that all of the information you give me will be kept entirely confidential. I: show Card 3. Please tell me the number of the group on this card that would indicate income for you and your family last year - 1976 - before taxes, that is. I: code response.	

Resident Survey

B. Individual Characteristics

I: "In addition to the questions I have just asked about your family/household, I would like to ask you some questions about yourself and this area in which you live." (or refer R to information sheet and after they have read, say) "I'd like to ask you a few questions about yourself and this area."

1a. I: check and code relation to head of house from Q.A.1.	
1b. I: code sex of R. 1. Male 2. Female	
1c. I: if necessary, show Age Card 1 and ask: What is your age? Code response.	
2. I: if necessary ask: What is your marital status? I: may be able to take from Q.A.1. Code response. 1. single 3. divorced/separated 2. married 4. widowed	
3. Are you working at this time? I: if yes, code "1" and → Q.4, if no, ask if unemployed, retired, homemaker, or student, then code response, proceed. 1. employed → Q.4 5. student → Q.6 2. unemployed → Q.4 6. other (I: record response _____ and proceed to relevant Q.) 3. retired → Q.4 4. homemaker → Q.5	
4a. What kind of work do you do/did you do? I: probe for specific job, e.g. bank teller, record response: _____	
4b. What kind of business/industry is/was that in? I: probe, record response _____	
4c. Would you describe your work as: 1, full-time, 2. part-time, or 3. seasonal. 4. other, I: record _____	
4d. In which town or area do you/did you last work? I: record response _____ I: if R is unemployed → Q.4f if R is retired → Q.7	
4e. How long have you been working on your present job? I: code and → Q.7 1. less than 3 months 4. 1-2 years 2. 3-6 months 5. 3-5 years 3. 7-12 months 6. 6 years or greater	
4f. How long have you not been working? I: code and → Q.7 1. less than 3 months 4. 1-2 years 2. 3-6 months 5. greater than 2 years 3. 7-12 months	

5. Did you work before you became a homemaker?
I: check yes _____ → Q.5a., 5b., no _____ → Q.7

5a. What kind of work did you do?
I: probe for specific job. Record response.
_____

5b. Would you have described your work as: 1. full time, 2. part-time, or 3. seasonal. 4 other, I: record _____
I: code and → Q.7

6. Are you attending a school at this time?
Yes _____ → Q.6a., no _____ → Q.6c.
I: check response.

6a. What kind of classes are you taking? I: code response.
1. attending high school
2. taking vocational training
3. correspondence: high school
4. attending college or university
5. correspondence: college or university
6. special classes, I: record response _____

6b. What do you plan to do when you finish your schooling?
1. work in this area
2. work elsewhere, I: record where if said _____
3. go to college or university (more school)
4. go to vocational school
5. take special job training
6. travel
7. get married
8. other, I: record response _____
I: code and → Q.6d

6c. You said that you are a student yet you are not attending a school at this time. Are you waiting for a course to begin? I: record response _____

6d. How interested are you in working in this area when you have finished school? I: code response.
1. very interested
2. interested
3. uncertain
4. not interested
5. definitely not interested
6. don't know

6e. What are your reasons? I: record response _____
_____

7. How many years of school or university did you/have you completed?
I: code response.
1. 0-8 grade
2. 9-11 grade
3. 9-11 + vocational
4. 12/high school graduation
5. 12 + some vocational
6. 13-15/some university
7. 16/university graduation
8. 17 + graduate training
9. other, I: record response _____

8. You said that presently you were (I: refer to Q.3), do you engage in other activities such as ranching/attending night school/occupational training? I: probe, check yes _____, no _____ → Q.9 if yes, record response _____	
9. Would you indicate about what your individual income was last year, 1976, before taxes. Please indicate the number of the group on the card (I: show Card 3 and if not R who was interviewed for the household, say:) I realize this information is personal, but please remember that all the information you give me will be kept entirely confidential. Code response.	
10a. How long have you lived in this area? I: code response. 1. less than 6 months 2. 6-12 months 3. 1-2 years 4. 3-5 years 5. 6-10 years 6. 11-15 years 7. 16-20 years 8. over 20 years	
10b. I: if necessary, ask: Have you lived in this area all your life? I: code 1. yes _____ → Q.11, 2. no _____ → Q.10c	
10c. Where did you live before you moved here? I: code response. 1. other Interior B.C. 2. Lower Mainland, B.C. 3. Vancouver Island, Coastal B.C. 4. Northern B.C. 5. other province, I: record response _____ 6. other country, I: record response _____	
10d. Would you describe the area you lived in as: 1. urban 2. rural 3. suburban 4. other 5. don't know I: code response.	
10e. Why did you move here? I: record response. _____	
11a. Howlong do you plan to stay in this area? I: code response. 1. less than 6 months 2. 6-12 months 3. 1-2 years 4. 3-5 years 5. 6-10 years 6. over 10 years 7. the rest of my life 8. don't know	
11b. Under what conditions would you leave this area? I: record response. _____	

12a. Are most of your best friends here people who:
1. have lived here longer than you have,
2. moved here at about the same time you did, or
3. are newer to the area than you.
4. don't know
5. other, I: record response _____

I: code response.

12b. Where do you meet most of your friends, or people with whom you visit most frequently, in this area? I: rank top 3 choices and code in that order.

1. at work
2. at church
3. at local bar/pub
4. at clubs or community activities
5. at recreational activities
6. through relatives
7. in the neighbourhood
8. at school
9. other

13a. In this past week, about how many times have you spent an afternoon or evening with friends, or gone to a meeting or social event or something like that? I: code response.

1. once
2. twice
3. three or four times
5. five or six times
7. seven or more times
8. not at all
9. uncertain

13b. Was this about the usual activity for a week? I: code response.

1. yes
2. no
3. uncertain
4. other

14. In which city, town or village do you normally go for the following recreational and social activities and facilities? I: code response from I Card 2, can code two place options for each.

14a. movies/theatre

14b. dances

14c. restaurants

14d. pubs/bars

14e. watching sports events

14f. participating in sports

15. How adequate to you consider these recreation and social activities and facilities in your area? I: show Card 4, code "6" if D/K, code "7" if N/A.

15a. movies/theatre

15b. dances

15c. restaurants

15d. pubs/bars

15e. watching sports events	
15f. participating in sports events	
15g. other activities not mentioned above	
16a. I'd like to ask you how you feel about this region as a place to live. (I: show Map Card 5). From your own point of view, how would you rate this area as a place to live? Is it: 1. excellent, 2. good, 3. average, 4. below average, or 5. poor. 6. don't know I: code response and ask:	
16b. In what way? I: record response. _____ _____	
17. What would be your reaction to the following conditions if they affected the area in which you live in the next five years? I: show map and Card 6, code response, code "6" if D/K and code "7" if N/A.	
17a. the population were to double	
17b. there was steady population growth	
17c. the population were to remain stable	
17d. the population were to decline	
17e. a large shopping centre was to be developed	
17f. a large industry employing 1,000 people was to be developed	
17g. a new town was to be developed	
17h. an airport was to be developed	
18a. As I have mentioned, at present, a considerable amount of research is being done on the possible environmental, economic and socio-logical effects of coal mining and related developments in the Hat Creek Valley. If a coal mine and electric generating station are developed in the Hat Creek Valley, some people say some advantages would be: . general increased economic benefits to area, . jobs for local residents, and . improved highways in the area. Some people say some disadvantages would be: . the end of the present state of the valley, . overcrowding of community facilities and services, and . settlement of newcomers in towns in the area.	

How do you feel about this possible project? 1. Do you generally speaking, favour the development of the mine and generating station? 2. Do you generally speaking, oppose the development of the mine and generating station? or, 3. Do neither of the above adequately express your feelings and instead, (I: record response) _____ _____ _____	
18b. How strongly do you feel about the statement you made in the last question? How would you indicate the strength of your feelings if "1" represents no feelings and "7" would indicate extremely strong feelings? I: show Card 7, code response.	
18c. Are there any additional comments which you would like to make concerning the issue? I: check yes _____, no _____ → Q.19, record response _____ _____ _____	
19. I: "Now I'd like to ask you a few questions about outdoor recreation in the area." Here is a list of outdoor activities (I: show Card 8). About how many days or part-days did you take part in these activities in this area during the past year? I: record response for each.	
19a. fishing	
19b. hunting	
19c. lakeshore activities	
19d. backroad travel, etc.	
19e. other	

I: if R did not participate in any outdoor activity → Q.26

use space for Q.18

This map shows recreational sites in this region (I: show Map Card 5). I'd like to know which, if any, of these sites you visited within the last year to take part in these activities. You can select up to four sites. (I: complete Q.20 for three or four sites, if possible, then pursue Q.21 through Q.25 for each site mentioned.)

20.	Where did you go to take part in these activities? I: record from Map Card 5.	20a.	20b.	20c.	20d.
21.	It would be really helpful if you would estimate how many days or part day visits you made during the past year to _____ (I: name site 20A. then ask Q.22 - Q.25 for site a. Repeat for sites b. and c. Record response.	21a.	21b.	21c.	21d.
22.	What were your main activities at _____? (I: record from Card 8)	22a.	22b.	22c.	22d.
23.	Would your enjoyment of a visit to _____ be reduced if there were perhaps 50% more people there as you experienced last year? (I: record 1. yes 2. no 3. uncertain 4. don't know)	23a.	23b.	23c.	23d.
24.	Would you continue to visit _____ under such circumstances? I: record and proceed after 20d. 1. no ⟶ Q.25 2. yes ⟶ Q.26 3. uncertain ⟶ Q.26 4. don't know ⟶ Q.26	24a.	24b.	24c.	24d.
25.	Which area would you visit as an alternative should you not desire to visit _____ because of the increase in population? I: record from Map Card 5, plus undertain or don't know	25a.	25b.	25c.	25d.

I: if the Hat Creek Valley has been recorded as one of the sites above ⟶ Q.26b.

26. Did you visit the Hat Creek Valley for any type of recreation during the past year? I: check response, proceed.
yes _____ Q.26a., no _____ → Q.29

26a. How many times did you visit the valley for recreational purposes during the past year? I: record response. _____ times

26b. To which area(s) of the Hat Creek Valley did you go during these visits? I: show Map Card 9, record response.

_____

Of the visits you made to the Hat Creek Valley last year, how many days or part-days would you have engaged in (I: record for each).

26c. fishing _____

26d. hunting _____

26e. other _____

27. If you were not able to visit the Hat Creek Valley, where would you go for a similar type of recreational experience? I: show Map Card 5, record response.

_____

28. Keeping in mind the other recreational opportunities available to you, please place what you consider to be a fair dollar value on your day's recreational experience in the Hat Creek Valley. This question is not designed for use in setting any charges. I: record response

_____

29a. If the project went ahead and there were job opportunities related to the development, would you be interested in some aspect of this employment? I: code response.
1. yes → Q.29b.
2. no → end of interview statement
3. uncertain → end of interview statement
4. don't know → end of interview statement

29b. Would this interest be in jobs relating to:
1. the construction of the mine or generating station,
2. the operation of the mine,
3. the operation of the generating station,
4. related commercial services, or
5. a combination of the above.
6. uncertain
7. don't know
8. other, I: record response _____

I: code response.

END INTERVIEW

Thank you very much for your cooperation. As I mentioned at the beginning of this interview, this information will be kept in the strictest confidence. Your cooperation has been greatly appreciated.

I: record length of interview _____ minutes and code your ID#

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

970 BURRARD STREET
VANCOUVER, B.C.
V6Z 1Y3
TELEX 04-54395

15 March 1977

Dear

The British Columbia Hydro and Power Authority is looking into the possible development of a coal mine and thermal electric generating plant in the Hat Creek Valley. We consider it our responsibility to obtain the fullest information possible before decisions are made. We are therefore undertaking detailed environmental studies to determine the possible effects of this development.

Cornerstone Planning Group Limited has been retained by B.C. Hydro as consultants to study the social and economic effects this project could have in the region. Your household has been randomly selected to participate in a survey related to this study. They would appreciate the opportunity to talk with you to learn what you, a resident of the region, feel about the possible coal mine, plant and related growth. Your views and opinions on this topic will be most helpful in obtaining a thorough assessment of the project's potential impact. Your comments will be kept confidential by the consultants.

A member of the consultant's survey team will be in your community during the next two weeks and will contact you to arrange a meeting. We do hope that you will be able to participate in the discussions.

Yours sincerely,

J. C. Dawson
Manager
Community Relations Department

Information Regarding the Proposed Hat Creek Coal Mine and Generating Plant

- The coal mine would be located in the Hat Creek Valley south of the junction of Hat Creek Road and Highway No. 12 (see map).
- Coal would be mined by open pit methods with the mining activity possibly extending south in the valley to Anderson Creek.
- The generating plant, designed to produce 2000 MW of electricity, would be located in the hills at Harry Lake, east of the mine.
- Construction of the generating plant and preparation of the coal mine would take about seven years, and would require the employment of about 1,500 people. Most of these people would be living in a construction camp located in the Hat Creek Valley.
- Operation of the mine and generating plant would begin in the mid-1980's, and would produce electricity for approximately 35 years. During this time, about 850 people would be employed at the mine and generating plant.
- It is expected that, as a result of the Hat Creek project, a total of 3,000 people would be added to the population of the Ashcroft/Cache Creek area over the next 15 years. This population increase would be over and above the normal growth of about 2,000 people predicted for the area during that time period.

QUESTIONNAIRE CARDS GIVEN TO INTERVIEWEE TO RESPOND TO SPECIFIC QUESTIONS

1

1. 15 - 18
2. 19 - 24
3. 25 - 34
4. 35 - 44
5. 45 - 54
6. 55 - 64
7. 65 and over

Q.A1,B1

2

1. very satisfied
2. satisfied
3. uncertain
4. dissatisfied
5. very dissatisfied

Q.A5,A7

3

1. none
2. under $3000
3. $3000 - $5999
4. $6000 - $9999
5. $10,000 - $14,999
6. $15,000 - $24,999
7. $25,000 and over

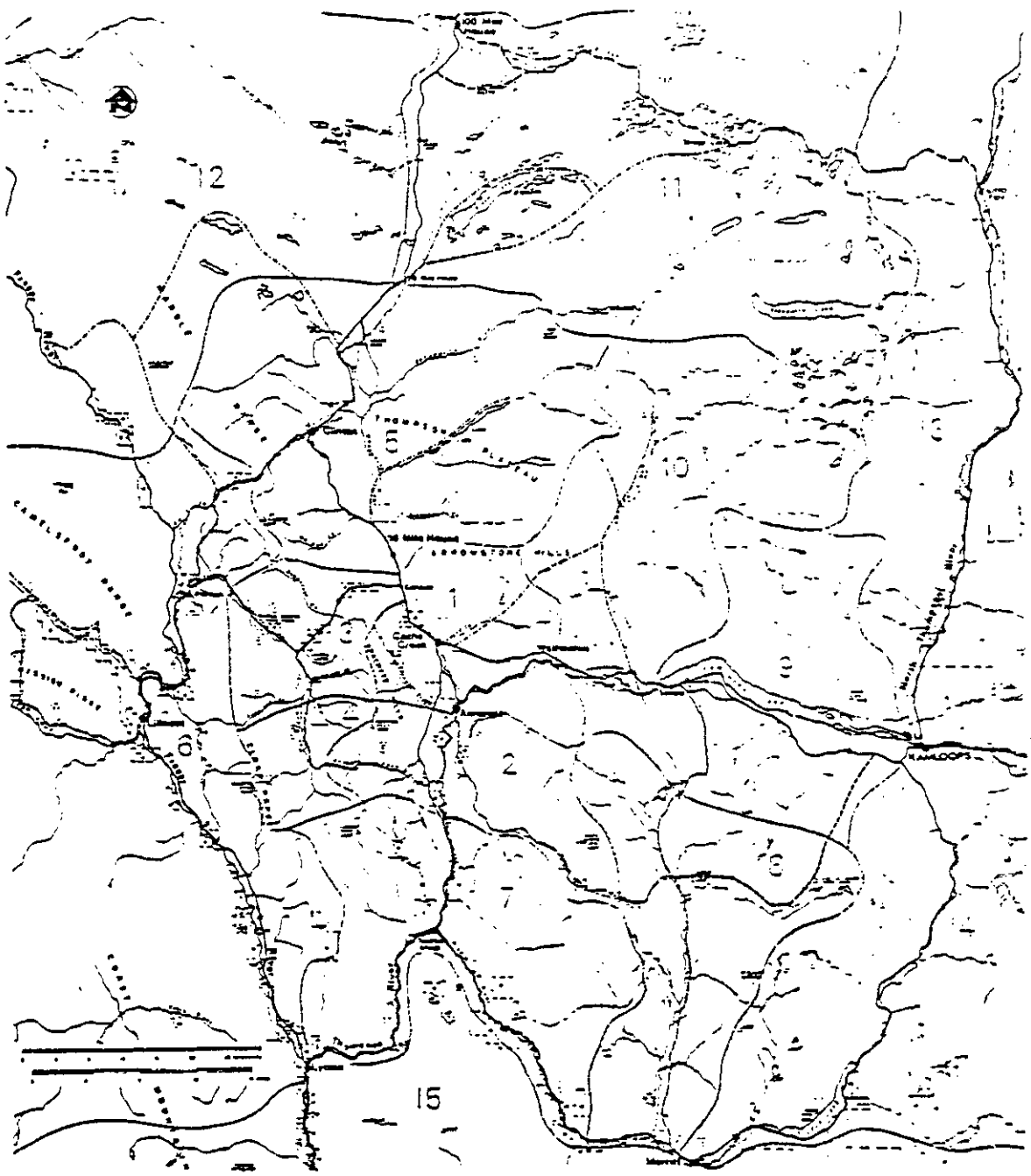
Q.A9,B9

4

1. very adequate
2. adequate
3. uncertain
4. inadequate
5. very inadequate

Q.B15

5 Map of the Region



6

1. very favourable
2. favourable
3. uncertain
4. unfavourable
5. very unfavourable

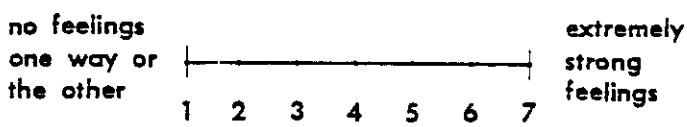
Q.817

8

1. fishing
2. hunting
3. lake and lakeshore activities (swimming, water skiing boating, beach activities)
4. backroad travel, camping, hiking, racing cars, trail biking, snowmobile, plant collecting, gem and rock collecting, picknicking, photography
5. other

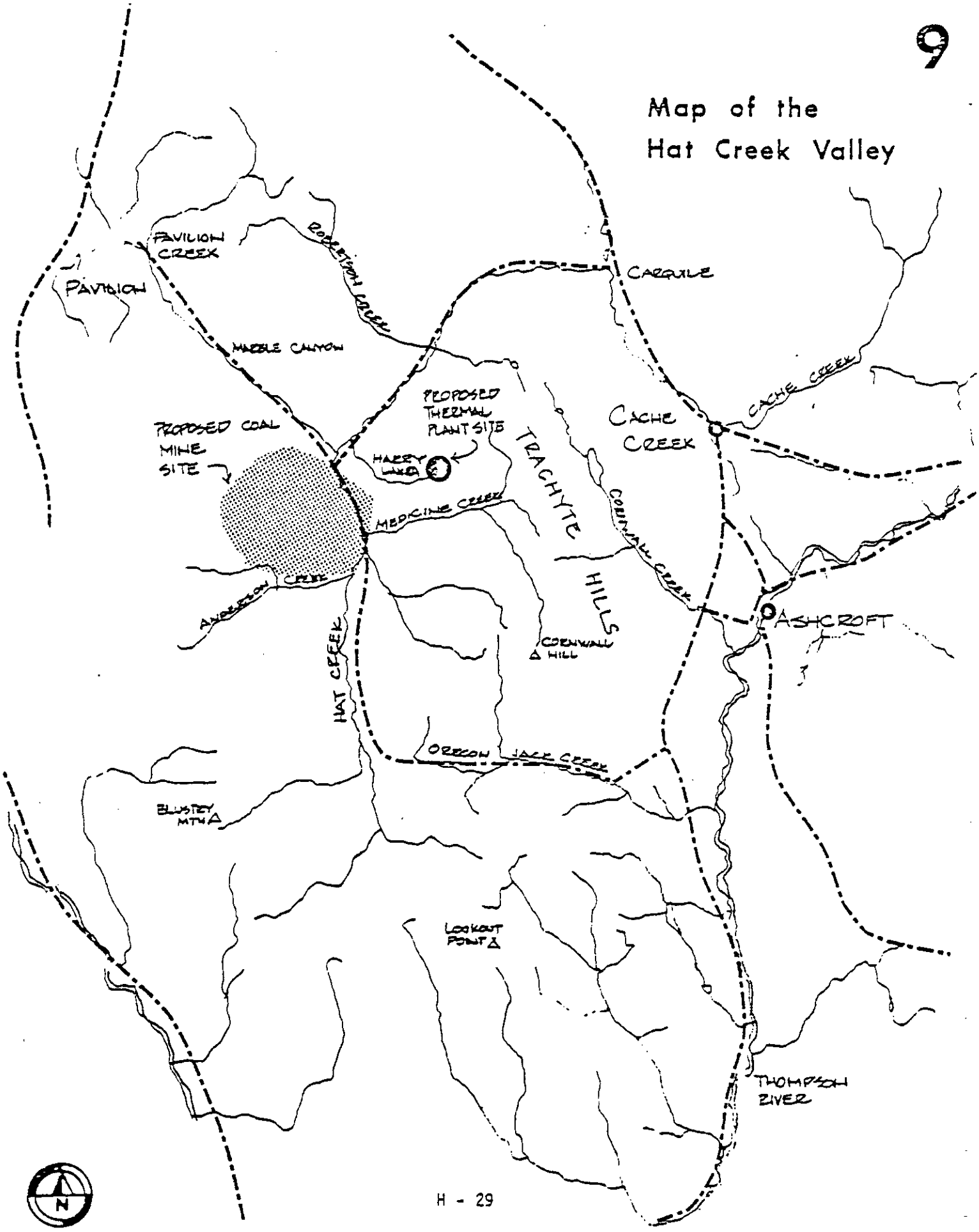
Q.819,822

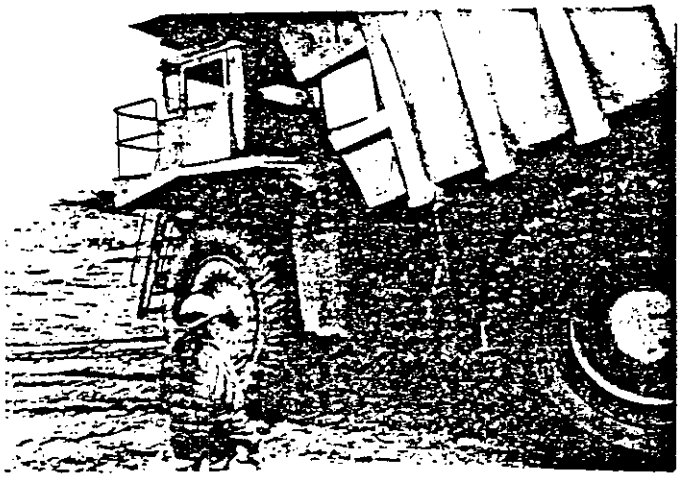
7

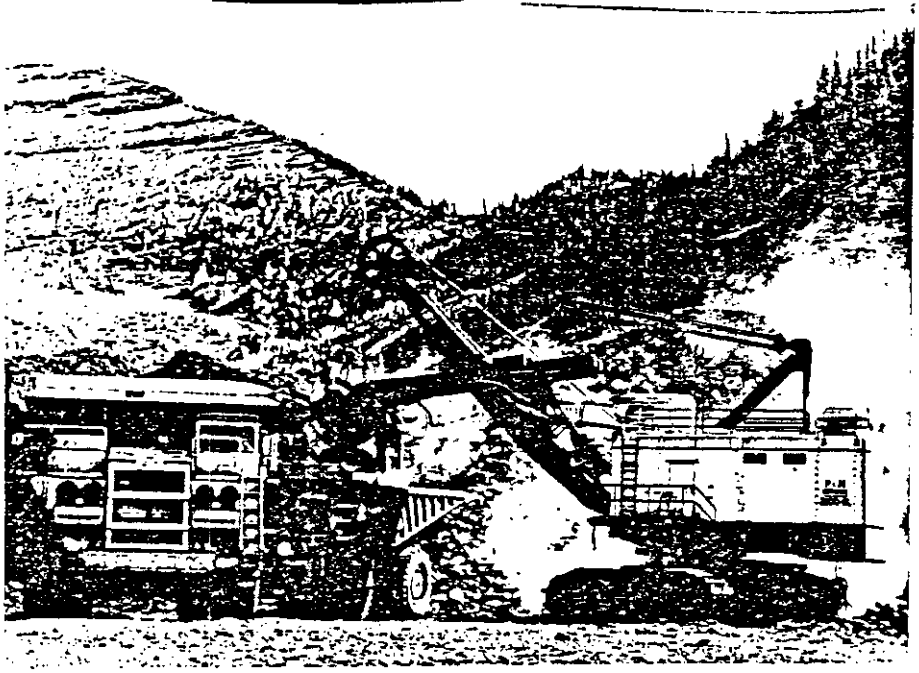


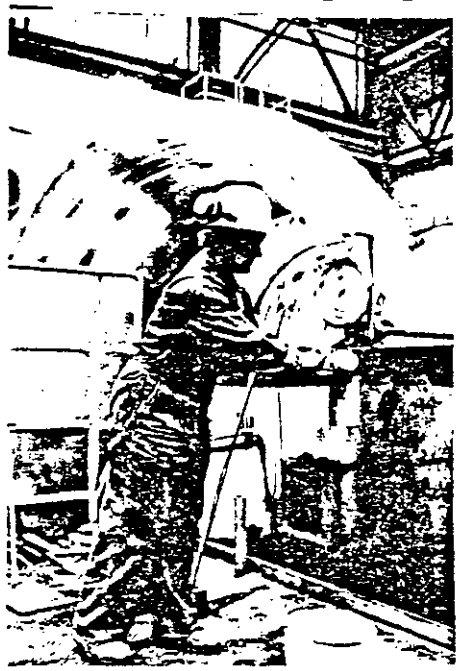
Q.818

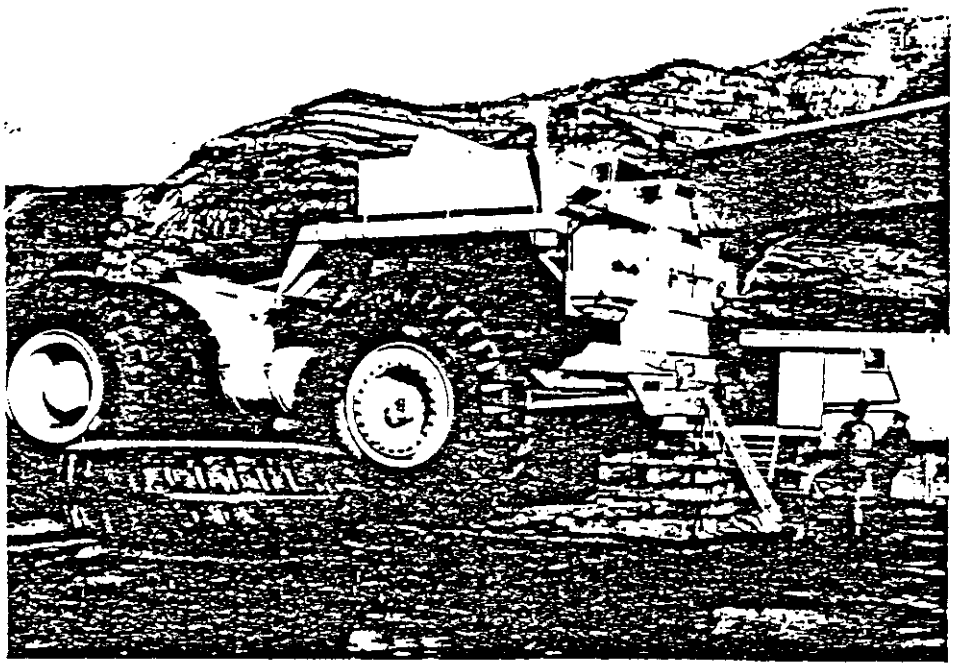
Map of the Hat Creek Valley

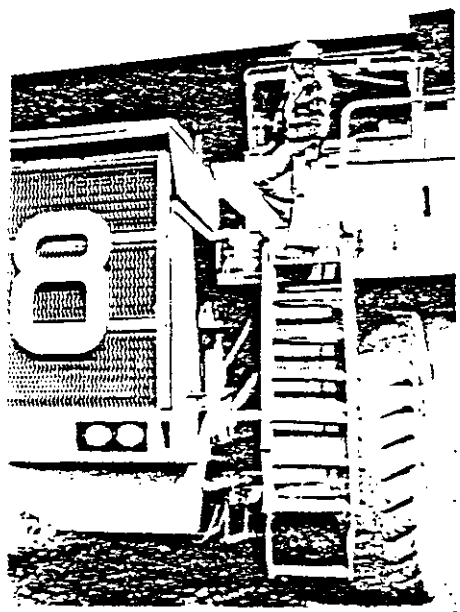


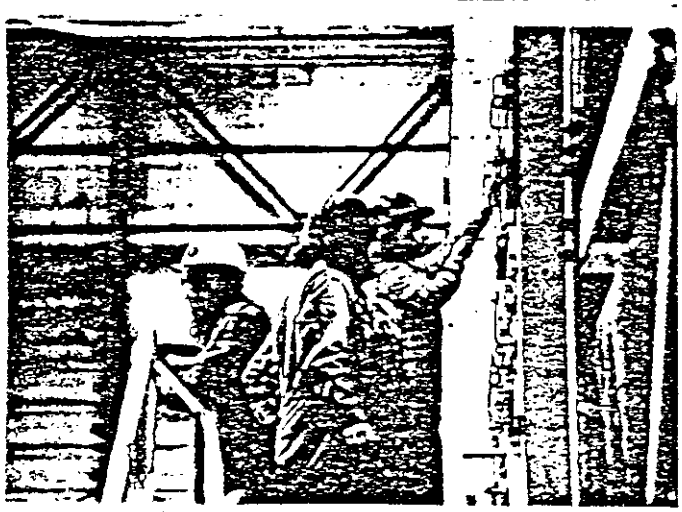


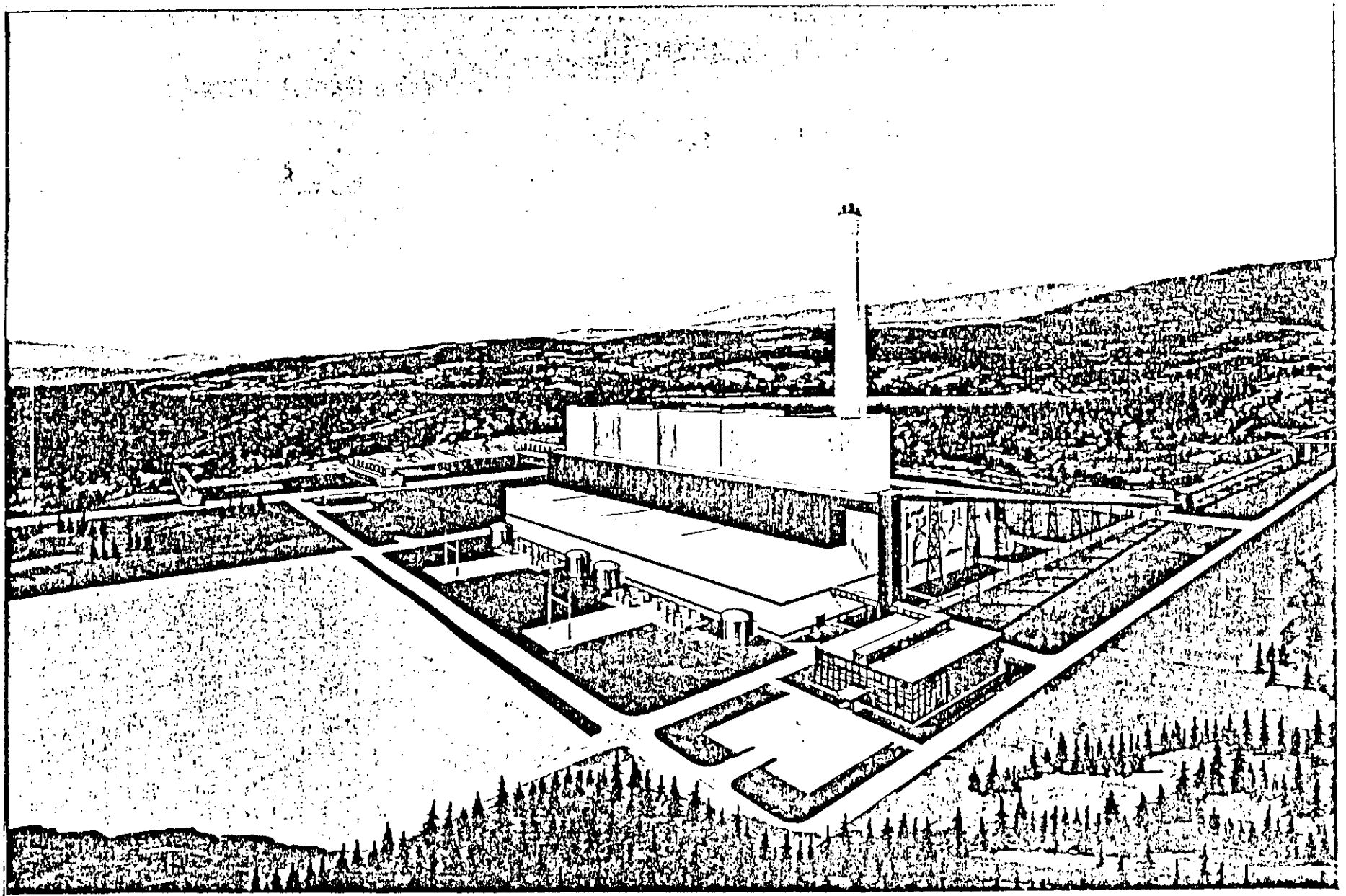







8





BRITISH COLUMBIA HYDRO & POWER AUTHORITY - HAT CREEK PROJECT, UNITS 1-4 NORTH-EAST VIEW

INTEG-TGASCO

SUMMARY OF CHARACTERISTICS OF THE RESIDENTS IN THE STUDY AREA

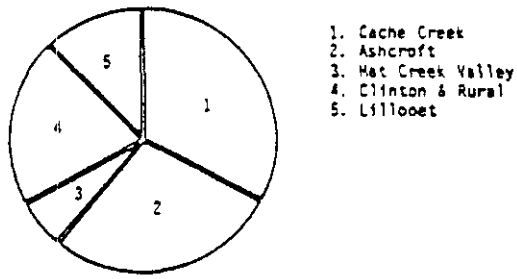
This appendix summarizes the demographic characteristics of the residents surveyed in the study area by the consultants, and provides the reader with more information for a comprehensive picture of the residents who may be directly affected by project decisions. As well, it provides material to supplement the population characteristics outlined in Section 3.3, Population. Indications are that a representative cross-section of the population responded to the questionnaire although no attempt has been made to use this data to represent the demographic or economic characteristics of the entire population in the study area. This appendix is divided into two sections, characteristics of households, and characteristics of individual respondents.

(i) Characteristics of Households

The households in the study population surveyed were selected in the study area according to the sampling process.* Thus, the proportion of the sample in each community reflects somewhat the parent population or total population of that area. However, special consideration was given the ranchers in the Hat Creek Valley where an attempt was made to contact all residents.

Figure H.1 illustrates the proportion of the survey population in each community and Map H.1 shows the geographic distribution of these households and residents. The major focus, as expected, is on Ashcroft and Cache Creek.

FIGURE H.1
SURVEY POPULATION



SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

There were families with children living at home, primarily between six and 14 years of age, in well over half (59%) of the households surveyed. Another major group contained childless couples (19.3%) and singles comprised about 10%. This compares with census data for the region on households with one or two occupants.

Over 460 persons were noted as residing in the 145 households surveyed, giving an average study household size of 3.2, the provincial average. The proportion of males to females was 51.5% to 48.5%, comparing closely with regional and provincial figures. Two-thirds fall within the employment age of 15 to 64.

TABLE H.1
AGE AND SEX DISTRIBUTION OF THE SURVEY POPULATION

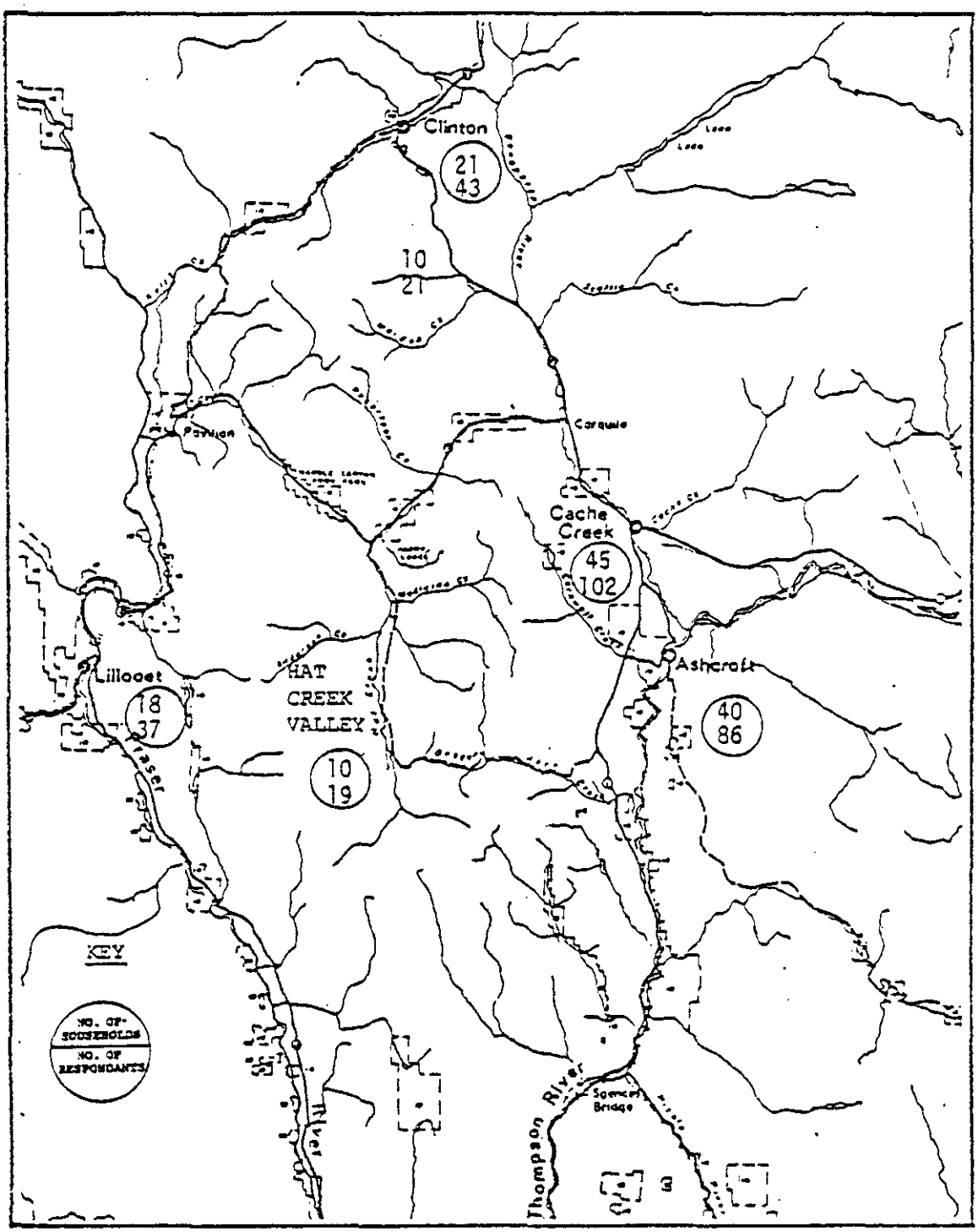
Age	Male		Female		Total Population	
0 - 14		28.3%		27.0%		27.7%
15 - 24		17.5		22.1		19.7
25 - 44		25.4		31.4		28.3
45 - 64		20.4		15.9		18.2
65 and over		8.3		3.5		6.0
TOTAL	240	100.0%	226	100.0%	466	100.0%

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

• May not add to 100% due to rounding.

MAP H.1

DISTRIBUTION OF SAMPLE POPULATION



Source: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977.

Total incomes for most households (62%) were over $15,000 in 1976. However, 14.6% stated household incomes of less than $6,000 for that year.

Seventy-two percent of the households claimed home ownership. Most dwellings (63%) were single family houses, about one-third of these on acreages. Another 21% of the sample lived in mobile homes. As noted earlier in the section on Population, the proportion of mobile homes in the province is only 2.9%. Few households reported ownership of recreation land or cottages in the area (about 7%). There were at least one or two vehicles for use by 78% of the households. Some households had as many as five or six cars, while 5% had no vehicles.

Shopping in the study area seemed to focus on Ashcroft and Kamloops. Most households purchased gasoline for their cars in Cache Creek (37.9%), and shopped in Ashcroft for groceries (53.8%), medicines and health needs (56.6%), and hardware items (33.1%). Kamloops was noted as the usual place for buying clothing (54.5%) and household furnishings (51.7%).

Generally, satisfaction was expressed with these shopping facilities, however, 71% of the households commented on facilities not present in the communities. These shopping patterns, displayed in Table H.2 are discussed further in the section on the various community profiles.

TABLE H.2
HOUSEHOLD SHOPPING PATTERNS IN STUDY AREA

COMMODITY	COMMUNITY IN WHICH USUALLY PURCHASED (in percent)								RATING		
	Cache Creek (31.0)*	Ashcroft (28.3)*	Clinton (14.5)*	Lillooet (12.4)*	Kamloops	Vancouver	Other (13.8)*	N/A	Satisfied	Uncertain	Dissatisfied
Household Furnishings	7.6	4.1	2.1	2.1	51.7	9.7	4.8	17.9	85.4	6.9	7.7
Clothing	5.5	15.9	5.5	3.4	54.5	9.0	3.4	2.8	73.6	6.4	20.0
Hardware, Building Materials	21.4	33.1	12.4	8.3	10.3	0.7	2.8	11.0	72.6	13.3	14.1
Groceries	14.5	53.8	9.0	12.4	9.0	0.7	0.0	0.7	72.3	13.9	13.9
Medicines & Health Needs	4.1	56.6	11.0	11.7	9.7	0.0	0.0	6.9	67.4	7.4	25.1
Gasoline	37.9	18.6	12.4	10.3	4.1	9.0	6.2	5.5	61.7	5.9	32.3

* Percentage of survey households in sample.

Source: *Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977*

(ii) Characteristics of the Individual Respondents

Following are the demographic characteristics of the individual respondents in the study area. This information is provided to supplement the characteristics presented in Section 3.3 and Section 3.10. It provides a more detailed view of the residents that participated in the survey as well as providing an indication of the composition of the residents within the total study area.

To summarize, most residents were married (74.4%) and employed (57.0%) full-time (81.8%) primarily in jobs in sales and services, the construction trades, mining or transportation. 35.5% said they had been employed at their present job six years or more; 24.4% said they had been there three to five years. However, about 18% had been at the present job six months or less. Only 4.2% of the respondents were "unemployed" early in 1977, most for less than six months. The workforce was distributed throughout the region with Cache Creek, Ashcroft, and Clinton noting the largest concentration. The Highland Valley was noted by 12.4% of the surveyed residents as their place of work (see Table H.3).

TABLE H.3
LOCATION OF EMPLOYMENT

Place of Employment	Percentage
Cache Creek	23.0
Ashcroft	15.8
Clinton	12.9
Clinton Rural	2.4
Lillooet	11.5
Hat Creek Valley	4.8
Highland Valley	12.4
Spences Bridge	0.6
Whole Study Area	8.0
Outside Study Area	8.6
	100%

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

A major portion (23.1%) reported that their individual income before taxes was between $15,000 and $24,999 in 1976. Another 18.4% said that they earned $3,000 or less, and 20.1% noted no income in 1976. This is not surprising because students, homemakers, unemployed, and retired persons comprised 43% of those surveyed. Table H.4 compares the income distribution within each community.

TABLE H.4
COMMUNITY COMPARISON OF HOUSEHOLD INCOMES

	HOUSEHOLD INCOME							
Community	None	$3,000	$3,000-$5,999	$6,000-$9,999	$10,000-$14,999	$15,000-$24,999	$25,000 and over	
Cache Creek	0.0%	4.4%	4.4%	8.9%	8.9%	53.3%	20.0%	100.0%
Ashcroft	0.0	7.5	5.0	5.0	12.5	65.0	5.0	100.0
Hat Creek Valley	10.0	10.0	0.0	40.0	10.0	10.0	20.0	100.0
Clinton	0.0	0.0	19.0	4.8	23.8	32.1	14.3	100.0
Clinton Rural	0.0	0.0	20.0	30.0	0.0	30.0	20.0	100.0
Lillooet	0.0	11.1	11.1	5.6	16.7	38.9	16.7	100.0

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

The age distribution of the residents was typical of small communities. The pre-school and school age children represented 38.4% of the households surveyed. A further 6% were sixty-five years or older. The prime working age group 19-54 represented nearly one-half of the respondents (see Table H.5).

* May not add to 100% due to rounding.

TABLE H.5
AGE BREAKDOWN OF ALL RESIDENTS OF SURVEY HOUSEHOLDS IN THE STUDY AREA

Age	Sex	Number in Household 1	2	3	4	Number of Persons	Sub-Totals
0-5	M	16	4	0	0	24	36
	F	10	1	0	0	12	
6-14	M	25	8	1	0	44	93
	F	38	4	1	0	49	
15-18	M	13	4	1	0	22	50
	F	15	5	1	0	28	
19-24	M	16	2	0	0	20	42
	F	20	1	0	0	22	
25-34	M	28	0	1	0	31	67
	F	36	0	0	0	36	
35-44	M	30	0	0	0	30	65
	F	33	1	0	0	35	
45-54	M	34	0	0	0	34	55
	F	21	0	0	0	21	
55-64	M	15	0	0	0	15	30
	F	15	0	0	0	15	
65 and +	M	20	0	0	0	20	28
	F	8	0	0	0	8	
TOTAL	M					240	466
	F					226	

Over half (56.7%) of the interviewed residents, again including some students in school, had not finished high school. However, 29.3% had high school graduation and another 12.6% had attended university as well (4.5% were university graduates). Table H.6, Years of Schooling, indicates the distribution within each community.

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

TABLE H.6
YEARS OF SCHOOLING

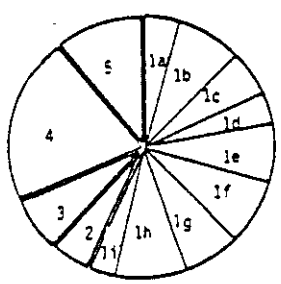
	0-8	9-11	9-11 Plus Vocational	12 High School Graduation	12 Plus Some University	13-15 Some University	16 University Graduation	17 Plus Univ. Graduation	Other	
Cache Creek	12.0%	42.0%	7.0%	26.0%	3.0%	8.0%	2.0%	0.0%	0.0%	100.0%
Ashcroft	18.4	28.7	3.4	18.4	12.6	6.9	4.6	4.6	2.3	100.0
Hat Creek Valley	26.3	15.8	0.0	26.3	0.0	15.8	10.5	5.3	0.0	100.0
Clinton	23.3	32.6	11.6	18.6	7.0	7.0	0.0	0.0	0.0	100.0
Clinton Rural	14.3	14.3	28.6	23.8	9.5	9.5	0.0	0.0	0.0	100.0
Lillooet	24.3	24.3	5.4	27.0	2.7	8.1	2.7	0.0	5.4	100.0

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Tables H.7 and H.8 below on the length of residency in the study area, show that nearly one-quarter of the residents had been there over 20 years. 14% said they had lived in the area all their lives. Others who had migrated to the area had arrived mostly from an urban setting in other locations in the Interior (29.4%), or the Lower Mainland (30.7%) of British Columbia; 15.9% were from other provinces. Business opportunities, job transfers or other economic reasons (60.2%) drew them to the study area. Another 17.3% moved there for the climate, location and environment, or preference for a small town atmosphere.

Figure H.2 illustrates the distribution of current employment of the survey sample. As noted, a fairly even distribution of employment categories of residents was surveyed. As expected, the categories of Homemaker and Student were notably large in the distribution.

FIGURE H.2
EMPLOYMENT CHARACTERISTICS OF THE RESIDENTS IN THE SURVEY



1. *Employed*
   - 1a. *Ranching and Farming*
   - 1b. Mining
   - 1c. Wood Industries
   - 1d. Building
   - 1e. Transportation, Communication & Utilities
   - 1f. Retail Trade & Finance
   - 1g. Education & Health
   - 1h. Food & Accommodation
   - 1i. Civil Service
2. Unemployed
3. Retired, Handicapped
4. Homemaker
5. Student

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

TABLE H.7
LENGTH OF RESIDENCY AND REASON FOR MOVING TO THE AREA

	Length of Residency in Area (Years)					Reason for Moving to the Area		
	< 3	3-5	6-10	11-20	20+	Economic Opportunity	Climate Environment	Personal & Other
Hat Creek	5.3%	21.1%	26.3%	5.3%	42.1%	50.0%	35.7%	14.3%
Cache Creek	15.6%	21.6%	19.6%	26.4%	16.7%	60.5%	16.4%	23.3%
Ashcroft	18.6%	12.8%	22.1%	29.0%	17.4%	77.1%	15.6%	7.2%
Clinton	17.2%	14.1%	14.1%	23.4%	31.3%	57.6%	12.1%	30.2%
Lillooet	8.1%	24.3%	16.2%	27.0%	24.3%	56.7%	13.3%	30.0%

TABLE H.8
LENGTH OF RESIDENCY IN THE STUDY AREA

	Total	Hat Creek Valley Residents	Mining Residents
Less than 6 months	5.2%	0.0%	16.0%
6-12 months	4.2%	5.3%	4.0%
1 - 2 years	5.9%	0.0%	4.0%
3 - 5 years	17.6%	21.1%	16.0%
6 - 10 years	19.5%	26.3%	20.0%
11 - 15 years	15.6%	5.3%	24.0%
16 - 20 years	9.4%	0.0%	12.0%
20+ years	22.5%	42.1%	4.0%
TOTAL	100.0%	100.0%	100.0%

SOURCE: Cornerstone Planning Group Limited, Hat Creek and Area Resident Survey, 1977

Many residents (38.8%) planned to stay as long as possible and an equal proportion was uncertain about how long they would be in the area. Only 3.2% were going to move in the next year. Job opportunities elsewhere, job transfers, or a change in the economy were cited as possible conditions for leaving by half (51.1%) of the residents. An additional 10.6% said they might leave if they won a lottery or could find a better place to live. Big industry, crowding, environmental losses and pollution would stimulate 11.3% to leave, with a further 5.6% relating possible conditions for leaving directly to the potential developments in the Hat Creek Valley.

Most residents said their best friends had lived in the communities in the study area longer or for the same time as they had. The neighbourhood and the home were the most common meeting places for friends (35%) with place of work next (24%), and then clubs and community facilities (15%). Many residents (43) said they usually participated in some social activities away from home two to four times a week. Some (16.7%) said they had not gone out at all for a social activity the week of the survey.

Study area residents said they primarily went to the following places for social activities: Cache Creek for movies and restaurants, Cache Creek and Ashcroft for bars and dances, and Ashcroft for sports events. Dances, restaurants, and bars were rated as adequate, but opinions were split on movie and sports facilities.

Most residents liked the region as a place to live, with 70% stating that it was "good" or even "excellent". About 8% said the region was "below average" or "poor".

For the interest of the reader, detailed characteristics of the surveyed residents are displayed in the following summary table.

TABLE H.9
SUMMARY OF RESIDENT CHARACTERISTICS

	Variable	Category	Number	Percentage
1.	Sex (N=309)	Male	161	52.1
		Female	148	47.9
2.	Age (N=309)	15-18 years old	39	12.7
		12-24 years old	39	12.7
		25-34 years old	59	19.2
		35-44 years old	60	19.5
		45-54 years old	57	18.5
		55-64 years old	29	9.4
		65+	25	8.1
3.	Marital status (N=309)	single	65	21.0
		married	230	74.4
		divorced/separated	7	2.3
		widowed	7	2.3
4.	Employment status (N=309)	employed	176	57.1
		unemployed	13	4.2
		retired	19	6.2
		homemaker	64	21.1
		student	34	10.7
		other (handicapped)	2	0.6
		(one missing case)		
5.	Full-time job (answered by employed, unemployed, and retired N=209)	full-time	171	82.6
		part-time	30	14.5
		seasonal	4	1.9
		others	2	1.0
		(2 missing cases)		
6.	Work before becoming homemaker (N=65)	service	13	27.1
		clerical	11	22.9
		sales	5	10.4
		equipment operator	5	10.4
		teaching	4	8.3
		medicine/health	4	8.3
		processing	3	6.3
		ranching	2	4.2
		manufacturing	1	2.1
		(17 missing cases)		
7.	Full-time job (homemakers N=65)	full-time	41	77.4
		part-time	9	17.0
		seasonal	3	5.7
		(12 missing cases)		

	Variable	Category	Number	Percentage
8.	Individual income, 1976, before taxes (N=309)	none	62	21.1
		under $3,000	57	19.4
		$ 3,000 - $ 5,999	26	8.8
		$ 6,000 - $ 9,999	40	13.6
		$10,000 - $14,999	34	11.6
		$15,000 - $24,999	68	23.1
		$25,000 and over	7	2.4
		(15 missing cases)		
9.	Where lived before (N=309)	other Interior B.C.	91	34.1
		Lower Mainland	95	35.6
		Vancouver Island, Coast	15	5.6
		Northern B.C.	11	4.1
		other provinces	49	18.4
		other country	6	2.2
		(42 missing cases)		
10.	Type of area (N=309)	urban	142	52.2
		rural	82	30.1
		suburban	23	8.5
		other (small town)	24	8.8
		don't know	1	0.4
		(37 missing cases)		

PROPOSED DEVELOPMENT OF COMMUNITY EDUCATION AND INFORMATION EXCHANGE PROGRAM

As discussed in 2.10 Methodology for the Social Environment, a proposed Community Education and Information Exchange Program was developed as a cooperative endeavour between the consultants and the Community Relations Department of B.C. Hydro and Power Authority.

Two committee structures were developed. These committee structures, objectives, composition, and responsibilities are identified on the following two tables, Table H - 1 Planning Committee and Table H - 2 Community Committee.

TABLE H - 1 Planning Committee

Components	Planning Committee
Objectives	.. To provide a formal organizational structure within which official representatives of the various levels of government in the study area can meet to discuss, evaluate and make recommendations regarding the implications of the Hat Creek project on planning in the target communities.
Initiation	Regional District
Membership Selection	Appointment
Number of Members	Less than nine
Membership Characteristics	Official representatives only: 1. Regional District 2. B.C. Hydro Representative 3. Cache Creek Clerk 4. Ashcroft Clerk 5. Clinton Clerk 6. Lillooet Clerk 7. Aldermen or Mayors
Conditions of Participation	Considered part of their ongoing full-time jobs.
Responsibilities	. Undertake studies. . Identify problems. . Make recommendations. . Make decisions in specific land use planning areas.
Time Frame	Ongoing planning as it relates to the Hat Creek project.
Reporting Relationships	To be determined. Process to be conducted by Regional District with B.C. Hydro cooperation and involvement where necessary.

TABLE H - 2 Community Committee

Components	Community Committee
Objectives	. To facilitate communication and involvement in the Hat Creek socio-economic studies by providing an effective means whereby community representatives can obtain desired information and express to the consultants the concerns of the community with regard to the proposed project.
Initiation	Regional District & Consultants
Membership Selection	Appointment and/or volunteer
Number of Members	About nine
Membership Characteristics	1. Consultants 2. B.C. Hydro Representative as a resource person 3. Community Representative
Conditions of Participation	Community representatives as volunteers. Consultants as part of Terms of Reference.
Responsibilities	. Provide necessary input to socio-economic studies. . Represent the communities' feelings and attitudes regarding the project. . Distribute approved information about project. . Discuss approved information.
Time Frame	Community dialogue through to completion of environmental impact statement.
Reporting Relationships	Through normal liaison with socio-economic consultant and B.C. Hydro resource person.

APPENDIX I

RESULTS OF LOCAL NEWSPAPER SURVEY 1976-77

Several newspapers published in the study area were subscribed to and reviewed for a ten-month period from September 1976 to June 1977. All items containing references to the Hat Creek Project and related topics were clipped on a regular basis. The clippings were organized and used to develop two major outputs. The first output, presented in section a(i), represents a summary of major social concerns expressed in the local papers. The concerns are grouped using a range of social indicator categories. The second output, presented in section b(ii), provides a chronological record of various events and reports which were published during the ten-month period and give some indication of the nature of the public information program used by B.C. Hydro and the public response to the program.

a(i) Summary of Social Concerns from Local Newspaper Clippings

Crime and Crime Prevention

- increases in vandalism noted several times.
- there seems to be a great deal of faith placed in the effectiveness of community facilities as a means of reducing crime (i.e., gives people something to do).

Lack of Services

- limited school bus service.
- lack of funds for crisis centre/counselling operations.
- lack of medical and drug store facilities in Cache Creek.
- need for Greyhound bus service.
- lack of entertainment services (e.g., theatre).
- lack of outdoor recreational facilities.
- lack of doctors and dentists.
- need for railroad crossing lights.
- need for larger water system in Ashcroft.

There is some concern that although some services are adequate at present, the effects of drastically increased local population will reduce the adequacy of the services unless comprehensive planning is introduced.

Cohesiveness

- pressure to amalgamate towns in the area (especially Cache Creek and Ashcroft) is based on potential use of joint services which cannot be afforded alone. Two councils are not in favour at the present time, largely due to problems of inter-community attitudes. There are few joint committees.
- cattle producers are a relatively cohesive group within the area.
- inter-town rivalry may help to promote village solidarity, but it is not clear if it does or not.

Attitudes Towards Development

- existing town centres are seen as worthy of preservation and major developments which could draw business away are not popular with local planning agencies.
- stress is being placed on "beautification" as a means of promoting tourism.

Significant Community Groups

- local Chambers of Commerce.
- Women's Institutes.
- Ranching Associations.
- Upper Hat Creek Indian Communications Committee.
- Hunting and Fishing Associations.
- Union of B.C. Indian Chiefs

a(ii) Clipping References for Social Concerns

Crime

01 Sep 76 Sands Motor Inn petty theft of items in lobby.

08 Sep 76 Armed, mentally disturbed person taken into custody (Kamloops).

16 Feb 77 Decrease in complaints attributed to opening of Drylands Arena ("give people something to do").

02 Mar 77 Vandalism at camp sites and parks a problem.

11 Mar 77 Vandals causing problems in Ashcroft.

18 May 77 Ashcroft Motorcycle Club lobbies for track as means of reducing summer-time vandalism (arena example cited).

01 Jun 77 Juvenile crime on increase in Ashcroft.

Lack of Social Services

09 Feb 77 The Family Conference Committee formed to express need for psychologist in the Ashcroft area and lobby government for same.

26 Jan 77 No Boy Scout movement.

30 Mar 77 Volunteer ambulance and volunteer fire department (Clinton).

27 Apr 77 More moral and religious control wanted over school program (petition signed by 96 parents) (Ashcroft).

03 Nov 77 Ashcroft fire department (volunteer). Coffee served by Park Wong (Central Cafe).

22 Sep 77 Adequate facilities now but increase in size (double) means need a plan.

13 Oct 77 Rail link-up Ashcroft-Clinton wanted.

26 Jan 77 Bad roads and inadequate student bus service cited (Clinton).

13 Apr 77 Lack of adequate drug store in Cache Creek.

Golf course at Bar Q Ranch could help provide for Hat Creek population increase.

27 Apr 77 Greyhound service to Ashcroft needed.

18 May 77 B.C. Department of Municipal Affairs and Housing Report. Clinton is dying - denied by president of Chamber of Commerce.

24 Nov 77 Motion picture theatre empty.

19 Jan 77 Family Life Association request for funds turned down.

Health services and government offices to locate in Cache Creek.

23 Feb 77 Use of tennis courts problematic - exclusively by club to avoid vandalism? (Ashcroft)

09 Mar 77 Railroad crossing lights required in Ashcroft.

10 Mar 77 Water system too small for fire safety in Ashcroft.

18 May 77 Increase in use of hospital for non-emergency visits increasing (Ashcroft). Unable to obtain doctors' appointments.

25 May 77 No dentists in Ashcroft, Cache Creek, or Clinton.

25 Aug 77 Old age pensioners home to be built.

23 Feb 77 Mobile dental units announced.

Apr 77 Exercise park proposed by Kinsmen for park.

Cohesiveness

Twin Villages Recreation Community? Where did it go?

02 Mar 77 Presume to get together again - Ashcroft, Boston Flats, Cache Creek.

30 Mar 77 Response to amalgamation:
- no - calibre of Ashcroft Council
- okay - better for business
- yes - more efficient regarding taxes

Cohesiveness - continued

yes - more work for public employees
okay - may take 25-30 years
yes - can afford more (joint services)

Cattle producers united in concern for future industry.

01 Jun 77 Cache Creek - Ashcroft Family Picnic. Success? (Cache Creek Journal)

01 Jun 77 Major rift between Cache Creek and Ashcroft over picnic arrangements leads to rejection of amalgamation.

Development

02 Mar 77 Major development outside Ashcroft resisted because could harm Ashcroft centre.

01 Jun 77 Clinton Chamber of Commerce promotes "beautification" (flower) to attract tourists.

11 May 77 "The Western Look", workshop in Clinton, B.C. Ministry of Economic Development with Chambers of Commerce regarding downtown beautification.

Events

25 Aug 77 Second annual Highland Valley Rodeo a hit at Logan Lake.

27 Oct 77 Klondike Nite Benefit for Ashcroft Hospital. Held by Clinton Hospital Auxiliary.

05 Jan 77 Barnes Lake Races (08 January).

26 Jan 77 Clinton - Game Dinner and Dance, good citizen award to Doc Campbell.

20 Apr 77 Lack of Stampede Queen Support (Ashcroft)
"one remaining annual event"
"are all so busy that can't support?"

15 Sep 76 Hat Creek Riders at Lillooet Rodeo Grounds.

24 Nov 76 Upper Hat Creek Women's Institute evening meeting. (3-4 reports)

Historic Buildings

02 Mar 77 Buildings being destroyed.

23 Mar 77 Historical meeting draws few.

Communes

12 Jan 77 The Living Waters Healing Community, cooperative farm, religious, society too permissive.

Environmental

27 Apr 77 Thompson-Nicola Regional Board. Hearings (Lake Shore Hearings) not too much interest shown in Ashcroft/Cache Creek/Clinton.

The Cattlemen's Research Association

12 Jan 77 Formed to work with government to improve industry. Gordon Parke.

(b) Chronological Record of Newspaper Reports Relating to the Hat Creek Project

The following table has been organized to provide a chronological reference for documented events relating to the Hat Creek Project. The nature of the source of the reports or announcements have been provided to put the information in context. A preliminary attempt to note the significance of each event and the content of each report provides some insights into the public response to the public information program utilized by B.C. Hydro and the various ways in which information in the project seems to be distributed.

Date of Clipping	Item	Nature of Information
01 Sept 76	Team of nine independent consulting firms have been hired by B.C. Hydro to carry out detailed environment impact studies - social, land, water, air quality and general impact on the area.	Probable Hydro Press Release to Journal
08 Sept 76	Purpose of public information bulletin is to bring people up to date on current studies and decisions.	Hydro Press Release
29 Sept 76	Location of industry resulting from Hat Creek subject of election campaign for Mayor of Clinton.	Local Paper Report
06 Oct 76	Cache Creek Chamber of Commerce voluntary telephone poll and report presented to MLA Alex Fraser on 1 October.	Local Paper Report
	67% response 80% thought they knew what "Hat Creek Project" was.	See Section 3.10
20 Oct 76	Marble Canyon residents protest exclusion from survey.	Local Paper Report
27 Oct 76	Editor concerned over location of secondary and tertiary industry if Hat Creek goes ahead.	Local Paper Report

Date of Clipping	Item	Nature of Information
10 Nov 76	"Secondary Industry", a political election issue, G. Adams (Mayor of Clinton).	Local Paper Report
17 Nov 76	Position of mayorality candidates on Hat Creek questioned.	Local Paper Report
24 Nov 76	Public Meeting Announcement on Recreation Issues in Hat Creek (consultants in attendance), Ashcroft District Fish & Game Association.	Press Release - Project Related
01 Dec 76	Explanation of Don Poole & Assoc. study. Report of meeting.	Local Paper Report
01 Dec 76	Report on Clinton Meeting. 70 Mile Rod & Gun Club. Was indicated that some lakes could be adversely affected. Fallout of sulpher dioxide could be high.	Local Editorial Comment
08 Dec 76	Announcement of special Regional District Advisory Board Committee for Hat Creek Study.	Local Paper Report on Press Release
08 Dec 76	BCDC president claims Hat Creek to go ahead.	Local Paper Report
12 Jan 77	Bonner (B.C. Hydro) announces authorization of detailed engineering "to put Hydro in better position to evaluate Hat Creek in comparison to hydro electric alternatives".	Major Press Release
12 Jan 77	Announcement of funding allotment to Cornwall Reserve to do independent study (Federal department funding).	Local Paper Report
18 Jan 77	SPEC raises point that Bonner's hiring of engineering firms indicates commitment before all studies complete and questioned projections.	Press Release Citizen Group
02 Feb 77	B.C. Hydro personnel to speak to Cache Creek Chamber of Commerce.	Press Release
09 Feb 77	Cooperation of Hydro and EMR (Energy, Mines & Resources) for experimentation.	Probable Press Release
09 Feb 77	Announcement of Nash and Thompson for Chamber of Commerce engagement (16 February).	Probable Press Release

Date of Clipping	Item	Nature of Information
23 Feb 77	Nash points to need for not underestimating power requirements at Cache Creek meeting.	Reporter account of advertised meeting
23 Feb 77	Full text of address by Nash. Stress placed on public information and involvement.	Press Release
23 Feb 77	Report of Nash's Cache Creek Chamber of Commerce speech.	Local Paper Report
23 Feb 77	Comment siding with Hydro on its position of "only serving the public and not creating demand". However, curbs on demand required and alternate power sources needed.	Local Paper Report
09 Mar 77	Comment: pro-development in local communities.	Local Paper Editorial Comment
09 Mar 77	Article on success of Centralia Steam - Electric Project in Washington and recommendation that Hydro look into it.	Local Paper Report
09 Mar 77	Nash re-emphasizes lack of control over increasing demand.	Local Paper Report
09 Mar 77	Hydro questioned on "test burning" rumour. "Nash explains that a bulk sample program will commence later in spring and mentions that further information will be available in a mid-March press release".	Local Paper Report
16 Mar 77 again on 26 Mar 77	Hydro announces awarding of engineering contract to Integ-Ebasco. One sentence on burn: "Sample to be extracted for test burn in an operating power plant."	Press Release
16 Mar 77	Indian Bands announce receipt of (Upper Hat Creek Indian Communications Committee) $86,000 for their own study. Indians not altogether opposed.	Local Paper Report
23 Mar 77	Editors' visit to valley. Comments on handling of ranchers and Indians. "Ranchers not over enthusiastic" (no reasons given except prices not good enough).	Local Editorial Report
23 Mar 77	Announcement of Socio-Economic Studies and upcoming survey.	Probable Press Release

Date of Clipping	Item	Nature of Information
30 Mar 77	Informal "open house" meetings announced. Ashcroft 4 Apr Library C. Creek 5 Apr Elks Hall Clinton 6 Apr Legion Hall	Press Release
06 Apr 77	B.C. Hydro Information Meeting, Ashcroft, 4 April.	Local Paper Report
13 Apr 77	Ashcroft students to "assist" in assessing effects. (Don Poole - consultants).	Local Paper Report
13 Apr 77	Hydro report on "open house". People concerned about: . when project to go ahead . employment opportunities . effects on air and water.	Probable Press Release
13 Apr 77	Not much interest in B.C. Hydro meetings.	Local Paper Report
20 Apr 77	Kamloops Council. Concerns are mainly for economic efforts as environmental effects will be minimal. Alderman Kerr noted that - 1,600 jobs, $120 million in wages, 8-year construction, after that, $11 million per year salaries.	Local Paper Account
20 Apr 77	Nash speaks to another meeting. Ashcroft Chamber of Commerce in the Old Age Pensioners' Room in the Community Resources Building. Sulpher tonnage and need for skill training were discussed.	Local Paper Report
11 May 77	No local people hired for preparation for removal of 6,000 ton sample. Hydro Office units set up at Lillooet/ Hat Creek junction.	Local Paper Account
11 May 77	B.C. Federation of Labour to look into Hat Creek. Pollution and Environmental Committee. Need to look at it even if potential jobs are threatened.	Local Paper Report
18 May 77	Excavation announcement, 20,000 tons of coal to be removed, 6,000 of which to be sent to Alberta. Range of consultants to monitor trenching operations.	Probable Press Release

Date of Clipping	Item	Nature of Information
18 May 77	B.C. Hydro announces hiring of Cominco Ltd. and Montreal Engineering Company Limited to conduct preliminary phase of mining engineering to see if Hydro should go ahead with project. Integ-Ebasco - for power plant.	Probable Press Release
18 May 77	Socred ministers promoting positive results of Hat Creek project: more development and jobs, better roads.	Probable Provincial Government Press Release
25 May 77	Union of B.C. Indian Chiefs call for social/cultural and economic impact study and effect on native peoples. Federal Department of Indians Affairs repeatedly refused requests ($81,000 to $153,000 already guaranteed). (Will provide short-term jobs and money but on the long-term will destroy lives and jobs).	Local Paper Report
25 May 77	Ashcroft Bridge will not be improved until Hat Creek Project.	Local Paper Report
01 Jun 77	B.C. Hydro establishes liaison office at turnoff for liaison with residents.	Press Release
01 Jun 77	B.C. Hydro announces purchase of Cameron Ranch, Hat Creek.	Local Paper Report
06 Jun 77	Hydro announces hiring of Sandwell to do engineering study of water supply system "to assist Hydro in deciding whether or not to seek approvals to proceed with project".	Press Release
14 Jun 77	6,000 tons of test coal to be shipped soon to Alberta.	Press Release

APPENDIX J

RESIDENT COMMENTS ON THE PROPOSED HAT CREEK MINE AND THERMAL GENERATING STATION

The comments presented in this section were obtained during a survey carried out by Cornerstone Planning Group Limited in March, 1977 as part of the Socio-Economic Study. During each interview, the following brief description was given by the interviewer:

> *"As I have mentioned, at present, a considerable amount of research is being done on the possible environmental, economic and socio-ecological effects of coal mining and related developments in the Hat Creek Valley. If a coal mine and electric generating station are developed in the Hat Creek Valley, some people say some advantages would be:*
>
> *. general increased economic benefits to area,*
> *. jobs for local residents, and*
> *. improved highways in the area.*
>
> *Some people say some disadvantages would be:*
>
> *. the end of the present state of the valley,*
> *. overcrowding of community facilities and services, and*
> *. settlement of newcomers in towns in the area."*

The resident was then asked the following questions:

> *"How do you feel about this possible project?*
>
> 1. *Do you generally speaking, favour the development of the mine and generating station?*
> 2. *Do you generally speaking, oppose the development of the mine and generating station? or,*
> 3. *Do neither of the above adequately express your feelings and instead..."*

The response was noted and the interviewer continued with:

"How strongly do you feel about the statement you made in the last question? How would you indicate the strength of your feelings if '1' represents no feelings and '7' would indicate extremely strong feelings?"

and,

"Are there any additional comments which you would like to make concerning the issue?"

The documented responses were organized into categories which group comments dealing with similar attitudes and content. The categories resulted from the synthesis of the results of the survey and were not pre-set. For example, the residents were not asked any questions concerning pollution, however, many people included comments of this topic when replying to the above questions. The sequence of the eight categories follows a general to specific order and does not represent degree of importance.

- Need for Proposed Mine and Generating Station
- Public Image of B.C. Hydro in Study Area
- Pro and Con Responses
- Environmental Effects
- Growth Effects
- Economic Effects
- Employment Effects
- Service Effects

NEED FOR PROPOSED MINE AND GENERATING STATION

Some respondents felt that other forms of energy should be exploited or that demand should be reduced rather than proceeding with new facilities of the proposed type. Attitudes differed on the relative benefits of hydro generating plants and thermal generating plants. Most replies seemed to indicate an underlying assumption that more power is required. Specific comments are listed below.

- "Heat from station should be re-used.
- Should be using other forms of energy, for example, solar, water, mine power.
- Rivers should be used as a source of power, they're there forever.

- Can't see economies of the plant. Why continued need for electricity? And continued cost of electricity? Can't see development; coal should be left for other uses, for example, other fuels.
- If they cut down on advertising neon etc., we would save and not need Hat Creek at all. The dry climate is so good, and hot, the best for retirement.
- In favour of this type of power, would like to see planned growth.
- Ranches don't produce much and we need power. Whole power system is wrong; we need a federal grid system.
- In a way, plant has to go through to maintain energy. We can't go around damming rivers.
- Prefer this to river damming, this is all here and will be worked here, dams don't provide enough power.
- Better to mine than flood valleys (which would affect many more people).
- Not for this because fuel is not reusable. Would like to see electricity through hydro rather than thermal.
- What is the alternative? We should go ahead with it, but be careful with pollution.
- If it goes, it goes. People need more.
- Do not want to see resources destroyed. Keep something for future generations.
- Good if project would lower power costs in area.
- If it brings the price of power down quickly, he is for it as quickly as possible."

PUBLIC IMAGE OF B.C. HYDRO IN STUDY AREA

The comments relating to B.C. Hydro were not directly solicited during the survey. The responses listed below were provided by persons who felt that the effects of the proposal would be partially dependent on Hydro's attitudes and dependability.

- "B.C. Hydro's indecision regarding the development of the Hat Creek project has caused the ranchers in the valley undue mental strain.
- Most beautiful area. I lived in Powell River but there was sulpher in the air. I don't believe that there will be cash. Don't trust B.C. Hydro as to expropriation. They don't give fairly for the value; do not believe in their land take over. Lack of engineering skills is atrocious. Service is good but getting a boost into the economy is very bad.

- Mr. Nash said that there is no elimination into the air at all. The coal mine will be put back into the way it was.
- It is our feeling Hydro is the worst corporation we could be dealing with. Their only concern seems to be with numbers and there are so few in our Valley that is just not worth worrying about. Its like talking to hucksters, they double talk, threaten, promise, change their minds and keep you totally in the dark. It seems the order of the day is to intimidate and wear the ranchers down then you can pick them off one by one. I'm sure dealing with a private firm would be a completely different story.
- Too much power within the agency; just can't trust them at all. Will ruin hunting in the valley.
- Very concerned that Hydro won't tell them how the environment will be affected. Concerned about the Indians being well compensated and certainly they should have their case heard and listened to by Hydro and the government.
- Hydro would do a good job on pollution.
- Any studies that have taken place in the last couple of years have devoted most of their time and attention to the effect on mice, deer, plants etc. There seems to be very little concern about the people in the valley. See the last two reports put out by Hydro."

PRO AND CON RESPONSES

Most of the following comments indicate a positive evaluation of the net effect of the proposed project but many qualifications are put forward. For many, the trade-off is between economic benefits, such as employment, new facilities, and higher property values, and detrimental effects, such as pollution, environmental damage, higher taxes and overcrowding. For other respondents, the negative items may be similar but the perceived benefits are social. An assumed inevitability of the project occurring is evident in several comments which describe the project as the lesser of two evils or the logical result of an increasing need for electrical power.

- "We need growth and population; however it would damage an area I am quite fond of, an unspoiled area, am fearful of effect on air and climate (after reading studies).

- Don't know enough about what the project will do for the environment, but we need more people around here and there's only one way to get them - investment.
- Will create additional employment but not sure how much local employment. Will destroy a very nice valley. Have mixed feelings but do not want to have to move out of the valley.

- Wouldn't want the population to quadruple, but the economy of the community will be better. Don't want air pollution.
- Economic benefit but concerned about pollution and water.
- Pollution would be a major problem in the area. The region needs large development. Need the incentive.
- Everything is going down hard now here, the project would spoil hunting and other recreation but it is necessary because industry is going downhill.
- Would like Cache Creek to stay as it is but mine would only "help" area, which would increase the value of my property.
- For Lillooet, effect would be minimal but just having more people would mean being able to have more facilities; taxes would go up, but it would be worth it. Increase in general population in the area has to have some effect here on facilities; would mean more facilities.
- If it will improve our conditions: better housing, better facilities, more things to do, it would be worth it even if it affects the environment.
- Help Clinton tremendously. Growth/new jobs; good for the community to help it grow. More jobs more capital. As long as it doesn't ruin the environment. A lot of range area that shouldn't be ruined.
- Like to see some development but should be controlled. Don't want to lose rural character, but want jobs and a few more people.
- Region could adapt to any major changes in the region. Will increase social life and can offer more to the family. Cache Creek at bottom end of scale; need some economic incentives.
- In such a large area the population would not affect the area very much, social benefits far outweigh disadvantages.
- Added population growth would be detrimental to the area in terms of wildlife and ecology as a whole. More in favour than another dam.
- Area needs development. Better than flooding the valley.
- Don't think it will draw many people, would prefer this to a prison.
- Don't want to leave our home but would like to live in the area but if province needs more energy this will have to go in.

- If we need power, there isn't a great deal we can do about it. There's a terrific bed of coal here. Hate to see farmland disappear. Losing farmland all over the country.
- Won't hurt environment. It's employment that is needed. Coal is there for our use; we need electricity."

ENVIRONMENTAL EFFECTS OF DEVELOPMENT

The comments on environmental effects made by the respondents seem tc fall into three major categories. Many people were worried about pollution which could result from the project and others expressed similar concerns regarding the need for strong environmental guidelines. A third sub-group of comments related to the potentially adverse effects on wildlife, recreational opportunities, and the natural scenery.

- "Want a clean industry. No major pollution should be allowed.
- Perhaps arsenic going into air. Would never be able to grow anything.
- Oppose any pollution.
- Don't believe in the pollution; it will ruin the land.
- Coal mining dirty. Farmers and families' livelihood destroyed. Air pollution a problem, overcrowding a problem.
- Concerned about coal dust.
- Concerned about emissions; wants them eliminated; also about steam becoming a cloud over the valley.
- Will the pollution affect the ranchers and reserves; don't want that.
- Favour it if it is reasonably pollution free; strong objections to detrimental effect on the environment.
- Concerned about air pollution (pulp plant 7 Mile brought smell far away).
- Major concern is pollution of the lake. If no pollution then it would be OK.
- Want to know more about pollution aspects of this project (Kamloops pulp mill).
- Don't want to see pollution from the plant in the area. Must be good pollution control, not like Kimberley.
- Fear air pollution.
- In favour as long as there is a purpose and don't destroy the environment for nothing. Want to see the area restored to its natural condition.
- Should be sure environment is protected and no harm done to area.
- Biggest issue is concern environmentally.

- Concerned with the problems dealing with the environment. Must be clean, no technology can make it at present.
- Want to know exactly what will happen to the environment; provide all possible environmental controls.
- Need to know more about pollution; concerned about controls.
- Strict environmental guidelines needed.
- If controlled correctly, do not feel it will ruin the valley.
- What would it do to wildlife?
- Shame it's Hat Creek; it's beautiful.
- I would like to see the landscape restored.
- It would be a shame to destroy the natural beauty.
- Hat Creek was a nice place to go. All will be dried up and the beauty gone out. Don't like the thought of it.
- Got to trust the environment will be protected.
- Would overcrowd the area, don't like the idea of mine site going in; will ruin hunting and fishing and picnicing
- I like the valley the way it is.
- What's going to happen to the wildlife if no surface cover left, etc. If it is underground OK, not otherwise.
- Favourable as long as there is a clean-up afterwards and reclamation.
- Hat Creek isn't used for anything now. I'm not a bleeding heart environmentalist. Mining needs chance to achieve economic vitality.
- As long as it stays on the other side of the hill. I don't want to see it.
- Good thing as long as there is little damage to the countryside. Hat Creek has nice scenery, need farmland.
- As long as it doesn't interfere with ranchers, destroy hay land."

GROWTH EFFECTS OF DEVELOPMENT

In general, there seems to be a positive attitude towards growth largely because it is associated with better employment opportunities, more entertainment facilities, and better services. There are some, however, who expressed concern with possible adverse effects of growth.

- "With more population, we will have better facilities. Good to have for jobs.
- Couldn't have too many people.

- Need more generating plants. Pollution would be controlled. Open up the area. We need more people.
- Area needs more population, more resources.
- It will build up the area - both entertainment and business.
- It has a long enough life to be beneficial. It is needed in order to increase growth.
- More city life would be fun.
- I'd like to see more people and more faces.
- In favour if it is a long term scale operation.
- Get started as quickly as possible.
- The sooner they start the better.
- I wouldn't like to see a new town in the area.
- Not favourable to a new town because of having seen a coal mining town. Don't want an instant town and then town to disappear.
- I don't believe bigger is better. It just creates problems and a deteriorating town.
- It shouldn't go in, too many people.
- Overcrowding will occur if there are good working conditions."

ECONOMIC EFFECTS OF DEVELOPMENT

Some of the comments reflect a concern that the economic benefits will not automatically accrue to the area while other comments indicate an assumption that the development will definitely improve local economic conditions. Possible adverse effects of the development on existing and potential local industries were also mentioned.

- "Energy must remain in Canada and used to establish industry in this country. Industry and development from the project should remain in this area. Bring people into the area and develop here.
- Must benefit businesses of B.C. and Canada.
- A good thing. Coal is there, should be used in site and not transported.
- Economically, it is needed, has to be balanced with the conditions for living and an increased economy: economically people here are dependent on Bethlehem Copper and it will close in 18 months.
- If it doesn't go through, the community should pack it in.

- This area needs an industry of some kind.
- Cache Creek is in a disastrous position without the project from a commercial point of view.
- It would diversify industry in Cache Creek.
- Will do away with good ranches. This is a shame. People will want land.
- Concerned that it would hurt potential recreational industry in the area (skidoos).
- It will ruin the valley agriculturally - only producing 10% now. There is lots of water. If irrigated, then it would produce a very large amount."

EMPLOYMENT EFFECTS OF DEVELOPMENT

The majority of comments reflected the concerns of the community with the need for more employment and the instability of the mining industry as an employer. Other comments deal with hiring practices and the location of the new workforce.

- "Good because it would create jobs.
- Good for business aspects of this valley, not enough jobs.
- More work.
- Want the jobs for the area.
- It will create employment and badly needed electric power. Should lower price to the consumer.
- Jobs are needed in the interior to pull population from the Lower Mainland. The area needs economic input.
- Mines here aren't too stable. We need more industry to keep the town going.
- The mine is closing. I need a job.
- Now an alternative source of employment, especially because the mine may close down. Need steady source of employment because this was hit and miss. Some people felt that it was inevitable but the effects are more disagreeable.
- Jobs are a real concern, especially because the mine may be closing.
- Hire local people, including Indians. Hire union (not outsiders) and get local people into mining.
- Jobs should go to local people.
- Jobs concerning women a concern.
- I would like to see workers living in the general community rather than living in an area all by themselves. This would be alienating."

SERVICE EFFECTS OF DEVELOPMENT

Most of the comments on this aspect of the development assume that there will be a need for more services and that services cost money. As long as the increased costs are balanced by increased tax revenues from industry, it would appear that most respondents are confident that their needs can be met and that services may even be improved.

- "I'm against it if village becomes overburdened with taxes to create necessary improvements.
- Wondering about schools. Will there be more taxes? If there is an increase in the schools, the taxes will go up.
- This area needs some kind of industry to carry taxes for school and recreation. It would benefit people here.
- Type of people who move in - all sorts of social problems result.
- Will have to move away if the project goes through because I will not be able to afford housing.
- No industry in town except sawmill and railway industry. Nice to see new services. More services for kids.
- Good if the town would develop its services in relationship to new population.
- Taxes are high here and would go up even more if people moved in. Overcrowding of present facilities. Other than this, I'm much in favour.
- As long as social services and recreation develop with industry.
- If it goes in, we should have facilities - schools, recreation. Can't destroy our country."