Department Of Regional
And Community Planning

540 Groves Avenue
Kelowna, British Columbia
Telephone 763 - 4918

August 31, 1975

D.W. Barcham, Director of Planning, M.C.I.P.
Regional District of Central Okanagan
540 Groves Avenue
Kelowna, B.C.

Attention: Regional Board

Dear Mr. Barcham:

RE: Winfield Area Community Plan - Part I

Please find attached the draft of the Winfield Area Community Plan, Part I "Background".

This condensed material is in a form suitable for publication and general distribution.

Our detailed working maps, data and files are available upon reasonable notice to anybody wishing more indepth information than that published.

I remain,
Yours truly,

J.X. Woodroffe, M.C.I.P.
Planning Consultant

JXW/bp

AUTHORIZATION

On January 23, 1975, the Regional District of Central Okanagan's Board of Directors authorized the Planning Committee to start work on the Community Plan for the Winfield-Oyama Area.

Mr. J.X. Woodroffe (Planning Consultant) was retained on a contract basis to December 31, 1975 to supervise and expedite the Community Plan Programme.

Under the direction of Mr. D.W. Barcham (Director of Planning), Mr. Woodroffe was charged solely with the responsibility of developing the Community Plans.

The terms of reference prepared by Mr. Woodroffe and approved by the Regional Board called for the completion of Part I "Background" by August 31, 1975 and Part II "The Plan" by December 31, 1975.

This Community Plan is a five year plan for controlling growth. The urgency and need for rapid action to formulate and implement development policy has become all too apparent to the Regional District. The Community Plan Programme was allotted minimal time for its preparation (12 weeks).

THE PLANNING TEAM

The Community Plan Programme authorized by the Directors of the Regional District of Central Okanagan, is being undertaken by Mr. J.X. Woodroffe, M.C.I.P. (Planning Consultant) under the direction of Mr. D.W. Barcham, M.C.I.P. (Director of Planning). The following personnel have been directly involved in the programme.

- Members of permanent staff of the Regional District of Central Okanagan employed full time on programme:

  Mr. R. Clarkson, C.E.T
  Mr. R. Seright
  Miss B. Peterson

- Members of permanent staff of the Regional District of Central Okanagan who assisted in the programme:

  Mr. W. Eaton
  Mr. F. Shotton
  Mr. A. Hilmer
  Mrs. P. Paquette

- Summer students employed part time on programme:

Miss B. Shiosaki	(4 months)
Mr. R. White	(4 months)
Miss I. Sewerin	(3 months)
Miss N. Bullock	(2 months)

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PART I

BACKGROUND

This part of the Community Plan forms the base upon which will be developed the Plan proposals. This consolidated publication of the background data represents a sketch of the assembled data that has been researched, accumulated and processed. Any requests for indepth data will be welcome and supplied provided sufficient notice and staff time is available.

WHY A COMMUNITY PLAN?

Communities facing growth inevitably are subject to the rigors that accompany it. Community growth if properly planned will be viewed as a normal, on-going occurrence, free of rigor and worry.

If community growth is guided by sound, well thought out plans, the community should have little concern for its future. If, however, growth does not have these guidelines, the community will be extremely apprehensive as to its future size, appearance, economy, and quality of life.

A growing community, without a plan for growth, is a ship without a rudder, sailing in a fog, together with all the imminent perils.

Planning is a vital prerequisite for establishing confidence in the community's future life style, both on an individual and community scale.

So often today, and with just cause, people are concerned with growth. They feel it as a threat to the quality of life that they know, a threat to those things that attracted them initially to choose their home in a particular place.

Growth, to many, means crowded streets and parks, bumper to bumper automobiles, crime, pollution, rising taxes and descending services. Unfortunately, more often than not these side effects are the result of uncontrolled growth.

Unfortunately, in so many cases uncontrolled growth has resulted in a healthy, amiable, pleasant community becoming an urban hell. One does not have to select a major megatropolis for the habitual example of urbanism gone mad. A number of examples of mini urban failures are for the offering throughout Canada and the United States.

Expediency is perhaps the most prevalent germ in community failures. The old adage "approve it, we'll sort out the problems later" is policy paramount to fencing with social and economic chaos.

The existing community has a vital and valid vested interest in "what is" and should have a controlling say in "what should be". Poorly contrived background data will fail to determine what this say is, particularly if public involvement is going to be given lip service.

Growth should be guided and controlled in quantity to the degree whereby the desired level of quality is achieved.

Growth should be guided and controlled so that the ability of the existing community to absorb any economic impact of such growth is safeguarded.

It can be said that growth has until recently, been only considered in a purely physical and economic sense. Social ramifications have often been ignored and at best have been merely tolerated, ie. "Make the people fit the project, not the project fit the people".

It will be the intent of this community plan to provide a working document for controlled growth for this community. The plan will reflect the desires, hopes and ambitions of the existing community in a manner which will retain and enhance the quality of life found today.

In summary, therefore, if it is the intent of this community to continue to accommodate growth, it will be vital to the interests of this community to have a plan of growth.

WHAT IS A COMMUNITY PLAN?

In a nutshell it is a plan for growth.

The Community Plan is developed after:

- background data has been assembled, compiled and analyzed,
- the demand for growth within the community has been determined,
- the community's reaction to this growth has been assessed.

On this basis a Community Plan is developed which should reflect:

a) the demand for growth within the region, based on its economic base and population projection.

b) the willingness of the community's residents to absorb a predetermined portion of this growth based on the community's goals and aspirations, preservation of a desired life style and its financial limitations.

c) the Regional Plan for the Central Okanagan, the Okanagan Basin Study and other community plans for abutting areas.

d) the assurance that the plan will be carried out within the constraints of existing Provincial legislation and will respect the Senior Government's policies related to the protection of good agricultural land.

e) protect, conserve and maintain the environment against undesirable and conflicting development.

f) orderly, safe, healthy, uncrowded, economic growth.

g) compatibility between the various land uses, so that each will not adversely affect the other, in particular that residential, agricultural and conservation areas are protected from adverse land uses and their affects.

h) a variety and choice of affordable housing.

i) a good range of local employment opportunities.

j) a full range of recreational facilities and services.

k) minimal air, water, land, visual and noise pollution.

l) all the necessary services and utilities vital to the optimum functioning of the community.

m) the community's optimum size with the following broad land uses evaluated, sized and located:

- residential
- commercial
- industrial
- institutional
- recreational
- agricultural
- services and utilities
- transportation
- educational
- conservation areas.

In summary the Community Plan will reflect and be the working document for community growth at and to a desired scale within the bounds of social, aesthetic, and economic parameters. The plan will not be detailed, but will outline future development goals including the location and extent of physical development in the community.

The Community Plan will be required to be reviewed periodically to ensure that it is in pace with the ever changing, social, economic and technological progression of our times. The reviews and any resultant updating and amendments will of course, observe the self-same principles of the original document, with the onus being on the proponents of any amendment to prove beyond a doubt that the change is warranted.

PUBLIC PARTICIPATION

Household Questionnaire

On March 14, 1975, 1349 questionnaires were mailed out to each household in the area, in response 320 were returned completed (23.7%). Following are the results.

To the question "How large would you like to see your Community grow over the next 5 years?"

	Winfield	Okanagan Centre	Oyama
Stay as it is	38%	61%	53%
Half as large again	31%	18%	26%
Double in size	13%	11%	4%
Triple in size	0%	0%	1%
Keep growing until all developable land is used up.	12%	7%	8%
No answer.	6%	3%	8%

To the question "Should your Community Plan allow for more, less or none of the following house types?"

		Winfield	Okanagan Centre	Oyama
Single Family	more	71%	57%	61%
	less	8%	7%	5%
	none	8%	22%	25%
	no answer	13%	14%	9%
Duplex & Fourplex	more	34%	25%	13%
	less	13%	4%	11%
	none	22%	43%	50%
	no answer	31%	28%	26%
Townhouse (Rowhouse)	more	14%	4%	7%
	less	4%	8%	5%
	none	43%	57%	66%
	no answer	39%	31%	22%

		Winfield	Okanagan Centre	Oyama
Apartments (3 storey)	more	19%	7%	12%
	less	4%	18%	1%
	none	38%	46%	66%
	no answer	39%	29%	21%
Mobile Homes	more	31%	10%	11%
	less	16%	4%	12%
	none	25%	61%	52%
	no answer	28%	25%	25%

To the question "Which three of the following local improvements you feel most important to a residential area, percentage of times chosen were,

	Winfield	Okanagan Centre	Oyama
Paved Streets	56%	57%(1st)	49%(1st)
Community Sewerage	56%	54%(2nd)	45%(2nd)
Street Lighting	48%	42%	21%
Community Water	39%	42%	43%(3rd)
Bicycle Paths	26%	4%	14%
Paved Sidewalks	24%	4%	8%
Treed Boulevards	6%	0%	18%
Underground Wiring	7%	7%	13%

To the question "How do you feel these Improvements should be paid for?"

	Winfield	Okanagan Centre	Oyama
By Municipality*	50%	54%	51%
By Developer*	30%	36%	33%
Did not answer	20%	10%	16%

*(with cost passed onto the homebuyer)

To the question "Number in order of preference the following considerations which caused you to select your neighbourhood as a place to live?" We used a point system for determining the results, 9 points for first choice, 8 points for second choice and so on...

	Winfield	Okanagan Centre	Oyama
Neighbourhood Appearance	721	67(3rd)	272(3rd)
Size of Community	715	103(2nd)	378(1st)
View	646	116(1st)	301(2nd)
Cost of House	616	40	158
Job Location	557	16	166
Availability of House	528	24	144
Property Taxes	459	43	78
School Location	371	11	57
House Type	310	27	71
Climate	196	29	38
Utilities	112	41	91

To the question "Number in order of preference the following institutional and recreational facilities you would like to see or have improved in your community". We used a point system for determining the results, 9 points for first choice, 8 points for second choice and so on...

	Winfield	Okanagan Centre	Oyama
Public Beaches	962	91(1st)	281(2nd)
Ice Hockey & Skating Arena	931	61	268(3rd)
Swimming Pool	765	47	145
Active Parks & Playgrounds	699	78(2nd)	288(1st)
Health Clinic	689	66	176
Picnic Areas	524	75(3rd)	202
Hospital	444	34	111
Community Hall	412	29	182
Passive Parks & Gardens	335	42	174

To the question "Which three neighbourhood services would you like to see or have improved in your community?" Percentage of times chosen were:

	Winfield	Okanagan Centre	Oyama
Police Protection	61%	57%(1st)	47%(1st)
Public Transportation	44%	21%	30%
Snow Clearance	42%	50%(2nd)	37%(2nd)
Schools	29%	29%	36%(3rd)
Fire Protection	28%	36%(3rd)	21%
Street Cleaning	16%	4%	9%
Pet Control, Cable T.V., toll free phone to Kelowna area.	13%	14%	13%

To the question "Where do you shop for the following," the returns indicated the following: (Shown as percentage)

	Local	Kelowna (downtown)	Kelowna (Orchard Park)	(Vernon) Elsewhere
	* (**) ***	(**) ***	(**) ***	(**) ***
Groceries	56 (63) 25	23 (26) 21	18 (7) 14	3 (4) 40
Clothes	0 (11) 1	47 (46) 22	47 (39) 36	6 (4) 41
Gasoline	48 (44) 32	32 (36) 13	8 (12) 8	12 (8) 47
Furniture	3 (5) 1	60 (73) 21	24 (9) 21	13 (13) 57
Doctor/Dentist	30 (26) 10	60 (63) 34	0 (0) 0	10 (11) 56
Lawyer	3 (9) 5	87 (61) 31	0 (0) 0	10 (11) 64
Barber/Hairdresser	63 (33) 27	25 (43) 18	8 (5) 8	4 (19) 47
Bank	65 (42) 25	20 (23) 18	11 (8) 4	4 (27) 53

* Winfield
** Okanagan Centre
*** Oyama

To the question "How many times a year does your family shop in?"

	Winfield	Okanagan Centre	Oyama
Kelowna	88% average 45	85% average 56	87% average 35 times
Vernon	56% average 11	68% average 14	89% average 36 times
Penticton	14% average 2	11% average 1	17% average 2 times
Kamloops	17% average 3	14% average 2	20% average 1 times
Vancouver	34% average 3	36% average 2	36% average 3 times
Elsewhere	20% average 3	18% average 5	18% average 3 times

To the question "What is your opinion of the local commercial facilities?"

	Winfield	Okanagan Centre	Oyama
Good	21%	36%	30%
Fair	51%	32%	34%
Poor	20%	25%	33%
No reply	8%	7%	3%

To the question "Are you in favour of encouraging light industrial and commercial development in suitable locations in or near your community?"

	Winfield	Okanagan Centre	Oyama
More	27%	4%	24%
Some	29%	32%	29%
None	20%	57%	44%
No reply	24%	7%	3%

To the question "Would you like to see more tourist orientated recreational and accommodation facilities in your community?"

	Winfield	Okanagan Centre	Oyama
More	16%	10%	13%
Some	36%	25%	30%
None	37%	61%	51%
No reply	11%	4%	6%

In response to the request for personal data "Are you employed in":

	Winfield	Okanagan Centre	Oyama
Farming	25	3	19
Farm Processing	9	1	5
Forestry	7	0	0
Mining	2	0	0
Manufacturing	18	0	4
Construction	36	2	10
Transportation, Communications&Utilities	6	2	2
Wholesale Trade	3	0	4
Retail Trade	11	2	3

	Winfield	Okanagan Centre	Oyama
Finance, Insurance, Real Estate	5	1	3
Education	9	2	2
Health	1	0	0
Personnel	1	0	0
Public Administration	4	0	2
Retired	39	4	11
Unemployed	8	3	0
Other	18	6	7
No reply	14	2	4

To the question "What Community is your place of work?"

	Winfield	Okanagan Centre	Oyama
The local area	49%	21%	25%
Kelowna	15%	11%	10%
Elsewhere in the area	9%	11%	13%
Did not answer	14%	57%	45%

To the question "What is your approximate age?"

	Winfield	Okanagan Centre	Oyama
Under 20	6%	11%	6%
20-34	20%	19%	20%
35-44	18%	11%	20%
45-54	20%	22%	20%
55-64	20%	22%	16%
over 64	16%	15%	18%

To the question "What is your approximate personal income per year?"

	Winfield	Okanagan Centre	Oyama
Under 5,000	19%	26%	18%
5,000-10,000	34%	33%	37%
10,000-15,000	32%	33%	22%
15,000-20,000	13%	4%	11%
Over 20,000	2%	4%	12%

The average time of residence of the household were:

Winfield	9 years
Okanagan Centre	14 years
Oyama	12 years

The average size of family of the household were:

Winfield	3.6 persons
Okanagan Centre	3.8 persons
Oyama	3.6 persons

Citizens' Committee

Included with the questionnaire was the request for residents to volunteer to sit on a citizens' committee. This committee was set up to represent a cross-section of the community and provide a close liaison between the public and planners during the programme.

At the first meeting held in May it was decided that all those persons who volunteered and attended would automatically be on the committee. Our sincere thanks are extended to these citizens who made available their time in order that the planners could formulate a truly "Community's Plan". The following residents attended at least two of the three meetings of the Committee held prior to the completion of Part I of the Plan.

Mrs. B. Spannier
Mrs. Jean Elliot
Mr. A. Walraven
Mr. B. Carne
Mr. C. Von Hugo
Mrs. P. Gambell
Mr. D. Young
Mr. S. Taigi
Mr. D. Eyles
Mr. T. Towgood
Mr. C. Weldon
Mr. B. Pettigrew
Mr. T. Greer
Mrs. R. Carter
Mr. C. Richmond

Meetings of the committee were held on May 15, July 9 and August 5, 1975. The Director of Electoral Area "A" Mr. John McCoubrey and the Members of the Advisory Planning Commission - Mr. C. Gabel, Mr. H. Redecopp, Mr. W. Gelhorn, Mr. B. Gray, Mr. D. Elliot, Mr. R. McDonagh and Mr. J. Lowe - were invited to all the meetings of the Committee. It was deemed imperative that the Members of the Commission consider themselves as being on the Committee.

It was evident that the number of people who did attend the meetings did not constitute any particular problem as to a workable group. The proceedings of the meetings were taped and typed, and are available for review upon request.

Valuable input was received from the Citizens' Committee. They provided an interpretation of the questionnaire results, and this interpretation was generally unbiased and reflected in their opinion, the "average" attitude towards the community's desires and aspirations.

As the programme matures from background to proposal stage, the committee will be called upon to formulate their opinions on the various components which comprise Part II "The Plan".

The following motions and resolutions were considered and passed by the Committee during the course of meetings.

1. *That Area "A" have a maximum of 5% growth per year.*

2. *That due to controls on water supply and lack of a community sewerage system housing will continue to be single family and duplex in type.*

3. *That the results of the Household Questionnaire in regards to Local Improvements be accepted as the concensus of the Committee.*

4. *That the results of the Household Questionnaire on Institutional and Recreational Facilities be accepted as the concensus of the Committee.*

5. *That the Household Questionnaire results for Commercial Development be accepted as the concensus of the Committee.*

6. *That permanent bathhouse and restrooms be provided in the Okanagan Centre area specifically in the area of the store and marina facilities.*

7. *That strict controls and highest development standards be enforced for existing and future tourist accommodation facilities; and further that sanitary facilities be provided and maintained at existing publicly used areas and further that additional development of government camp-sites be requested in view of present situation of overnight usage of highway shoulders and turnouts.*

Public Meetings

Public meetings are scheduled to be held in the Plan Area during September and early in 1976.

GOVERNMENTAL

Political

The Community Plan Area is located in the Regional District of Central Okanagan and forms part of Electoral Area "A".

Each of the four electoral areas are represented by one Director (Electoral Areas "A", "G", "H" and "I") with each Director having one vote on the Board. The Municipality of Peachland has one Director with one vote. The City of Kelowna has three Directors, two of whom have four votes and one three votes. Voting power is related to population representation.

Revenues to operate the functions of the Regional District are obtained by direct requisition annually to the Provincial Government Department of Finance, City of Kelowna and the District Municipality of Peachland. The Regional District does not have direct taxing authority. The Provincial Government and Municipalities levy the tax on behalf of the Regional District.

Some of the functions of the Regional District are not specifically laid down by statute. The philosophy is that the functions would evolve as needed to suit the particular region, or part thereof. Each region in British Columbia is unique and it is up to the people in the region to decide what functions the Regional District will perform.

At the present time the Regional District of Central Okanagan performs the following functions:

- Regional and Community Planning
- Building permits and inspection
- Noxious Insect Control
- Regional Park acquisition and development
- Soil removal regulations
- Fireworks and firearms regulations
- Dog control
- Mosquito control
- Recreational and cultural services
- Septic Tank effluent disposal
- Sanitary land fill
- Grants in aid
- Control of unsightly and untidy premises
- Weed control
- Participation in the Okanagan Water Board
- Hospital
- Street lighting services
- Recreation facilities - Senior Citizens Activity Centre

Of interest are those functions which could, under certain circumstances, become functions of the Regional District. They include in part:

- Regional libraries
- Co-ordination of multi-regional services
- Water supply and distribution
- Trunk sewers and sewerage disposal
- Garbage collection and disposal facilities
- Fire protection services
- Air pollution control and abatement
- Senior Citizens housing
- Noise control
- Airport facilities
- Television rebroadcasting
- Cemetaries
- Business licencing

Essentially the number and type of specific services performed is unlimited. The Regional District may undertake and perform any local government function for and on behalf of any two or more of its member areas, or parts thereof.

The Regional District's budget for 1975 was approximately $1,306,000.

During the course of the preparation of Part I - Background, monthly progress reports were made to the Board at its second meeting each month, ie. February, March, April, May, June, July and August. Close liaison was maintained with the Board and its Planning Committee.

Technical (Governmental and Semi-Governmental)

Close co-operation has been experienced with the following governmental and semi-governmental agencies during the compiling of the background data:

Local Fire Protection Districts
Local Water Improvement Districts
B.C. Hydro and Power Authority
West Kootenay Power Authority
Okanagan Telephone Company
Kelowna Cable T.V. Limited
Inland Natural Gas

B.C. Government

Lands, Forests and Water Resources
Department of Agriculture
Municipal Affairs
Department of Highways
Pollution Control Branch
South Okanagan Health Unit
School District #23

GEOGRAPHY

Aerial Photography

Complete air photography of the entire plan area was flown in August 1974. These photos are at a scale of one inch to 1320 feet. The photography was obtained through the Air Division, Mapping and Surveys Branch, Department of Lands, Forests and Water Resources.

Slope

Practically all land is undulating in topography. The degree to which it rises and falls has been divided into four categories; 0-10%, 10-20%, 20-30% and over 30% of slope (See Figure 2).

When development is being proposed in sloped areas, ground stability, increased fire hazard, possible contamination from private sewerage disposal systems, increased road construction costs and general municipal maintenance costs must be examined carefully. In addition one of the most important considerations should be the conservation of the natural environment. Developments in steeply sloped areas often adversely affect adjacent undeveloped properties. Basically the aim should be that development, be it industrial, commercial, residential, recreational, etc., should harmonize and "fit in" with the original environment. Too often however, the environment has been indiscriminately butchered to permit the "fitting in" of the development.

Areas with slopes up to 20% are generally considered suitable for conventional subdivision designs, few problems are encountered and generally with care, an interesting, practical and successful development will be realized. It should be pointed out, however, that road grades should not be permitted to exceed 10% for local roads and 8% for collector and major roads.

Lands with slopes of 20-30% are considered generally unsuitable for conventional subdivision and development, certainly so for industrial and commercial uses. Specific designs for residential subdivisions could be successfully achieved and maintained. They would have to be innovative and pay particular attention to the architectual and engineering facets in order to enhance and protect the environment and slope stability. Where an indepth study and analysis of any particular area in this category has been undertaken, and the design of the development has alleviated the fundamental problems associated with excessive slope, further consideration may be given to favourably considering such developments. However, such developments will require undisputed qualification that the proposal is sound.

Slopes in excess of 30% are considered completely unsuitable for development.

Source: Surveys and Mapping Branch, Topographical Division, Department of Lands, Forests and Water Resources, Victoria, B.C.

Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, Ontario.

Figure II

Surficial Materials

Figure 3 broadly indicates the distribution of surficial materials in the Community Plan area. Following is a brief description of the individual categories together with an assessment of their construction constraints.

"O" (Organic) - semi-decomposed organic material more than two feet deep, often accumulated in wet depressions. Generally these areas are unsuitable for development due to the presence of high water tables coupled with saturated organic soils. Special foundation design, drainage and fill is required to ensure construction stability and to prevent excessive settlement.

"L" (Glacio-Lacustine) - deep, fine textured (greater than five feet deep) well sorted and stratified silts and clays in quiet fresh water. Generally poor to good for development, depending on the surface drainage particularly in the lower and flatter areas where saturated subsoil may affect foundations.

"R" (Bedrock) - R-1 dominantly less than two feet to bedrock
R-2 dominantly two to five feet to bedrock
- very hard, massive andresite and competent precambrian sedimentary gneisses. Drilling and blasting often accompany development resulting in increased costs, particularly for underground utilities. Surface drainage is generally good with very good bearing for foundations. However, the usually steep topography combined with the bedrock brings with it constraints on development in these areas.

"T" (Glacial Till) - deep, (greater than five feet thick) unsorted and unstratified, gravelly, sandy loam material deposited by ice. Generally a very good land form for development. Surface drainage is moderate to good, and the preconsolidated till (glacier action) makes for good load bearing capabilities. Local topography may be a limiting factor.

"F" (Alluvial Fan) - F-1 dominantly gravelly and gravelly sands
F-2 dominantly sands
F-3 dominantly medium to fine textured loam to silt loam.
- deep (greater than five feet thick) of moderately well to well stratified variable textured material laid down by recent streams. Topography is level to gently sloping fan-like form occurring where a stream runs out onto a level plain. Very good development areas at higher elevations where drainage is good and the water table usually moderate to low. In lower, flatter areas where the water table is higher, development costs increase sharply, particularly for underground facilities and foundations.

"F.P." (Floodplain) - FP-1 dominantly gravels and gravelly sands
FP-2 dominantly sandy loams to sands
FP-3 dominantly fine textured silt loams or heavier.
- deep (greater than five feet thick) of moderately

well to well sorted and moderately well to well stratified variable textured materials laid down by recent streams. These areas usually have a gentle topography and a high to moderately high water table. Channel scars may be present. Unsuitable for development due to high water tables and flood risk.

"G" (Glacio-Fluvial) - G-1 dominantly gravelly outwash
G-2 dominantly sandy outwash
Deep (greater than five feet thick) of well to poorly sorted and well to poorly stratified gravels and sands deposited by glacial meltwater.

These are generally very good for development. Surface drainage is good with topography flat to gently sloping. In very steep areas soils are unstable and may slide. Generally good foundation bearing soils.

"B" (Beach) - Long narrow shorelines of sands and gravels. Generally unsuitable for development.

"E" (Aeolian) - More than forty inches deep of fine sandy loam or fine loamy sand material deposited by wind.

Generally good for construction, however due to some areas having shallowness of these soils it is advisable to examine the under-material for construction stability.

Source: Soils Division, British Columbia Department of Agriculture, Kelowna Office.

figure B

High Water Table

The Water Table Map (Figure 4) shows areas affected by high water table, particularly during periods of high runoff. Also included are areas where surface water tends to remain ponded because of impervious or semi-impervious ground. The map only generalizes the areas in these three categories.

i) Low - these areas are not affected by high water table problems or flooding. The water table is generally six feet or more below the surface for all parts of the year.

ii) Moderate - these areas are subject to fluctuating water table problems. The water table is within four to six feet of the surface for varying periods of the year. These areas may require on-site inspections if urban development is being considered.

iii) High - in these areas, the water table is at the surface, or occurs within four feet of the surface for most of the year.

The depth of the water table is a constraint to all forms of development and agriculture.

Source: Water Resources, Water Services Branch, Kelowna, B.C.

Figure 4

Soils (Agriculture)

The C.L.I. Capabilities for agriculture indicate the potential of an area to produce a range of agricultural crops under mechanized practices. The soils are grouped into seven classes and thirteen sub-classes according to the potential of each soil to produce field crops.

Class 1 soils have no limitations and are capable of producing the broadest range of crops. Classes 2 and 3 have moderate limitations and Class 4 is considered marginal for sustained farming. Class 5 soils are suitable for forage crops and Class 6 soils suitable only for grazing. Class 7 soils have no value for agriculture.

The thirteen sub-classes indicated the kinds of limitations which affect use of the land for agriculture. These include such constraints as climate, moisture-holding capacity, stoniness, shallowness to bedrock and topography.

In the Okanagan Valley, the C.L.I. capabilities for agriculture have been modified to take into account the production of tree fruits which are not included in the national classification system.

In consultation with the B.C. Department of Agriculture and the B.C. Land Inventory, soils in the Central Okanagan which are rated Classes 1 to 3, are considered prime agricultural land. Class 4 soils are considered of secondary value for agriculture. It is these four classifications of agricultural land which we should be primarily concerned with saving for future generations. (See Figure 5)

Source: For detailed information on the C.L.I. capabilities for agriculture see: Runka G.G., Land Capability for Agriculture, B.C. Land Inventory (C.L.I.) Soil Survey Division B.C. Department of Agriculture, Kelowna, B.C. 1973 and, B.C. Land Inventory (C.L.I.) Climate Capability Classification for Agriculture, Victoria, B.C. 1972.

Figure 5

Soils (Stability)

The soil stability analysis is based on soils and topographic factors which affect the stability of a site if intensively developed for urban purposes. In areas of high unstability any development at all may be hazardous. In areas where bedrock occurs at depths of less than five feet, it is assumed that foundations would be placed on bedrock. It is important to note that the soil stability map is not intended as a substitute for site-specific engineering investigations. (See Figure 6)

For community planning purposes, soil stability hazard is reflected in;

i) HIGH - These areas exhibit extreme hazards of slumps and slides. Land development is generally dangerous and if undertaken at all must be preceded by intensive site-specific engineering investigations. Such areas of high instability are usually composed of silts and fine sands on steep to very-steep slopes.

ii) MODERATE - In places where a moderate hazard of slides and slumps exists, site-specific engineering investigations are also recommended particularly if standard urban development is anticipated. In general, areas of moderate hazard should be avoided. There are several recent examples of slumps and slides in such areas within the Regional District. At the very least, urban development in moderate hazard areas must be accompanied by severe constraints and conditions. These areas are typically steep till soils and rolling, moderately-sloping silts and fine sands.

iii) LOW - These are areas where the hazard of slumps and slides is either limited or non-existent. They present no particular problems to any form of development from a soils stability point-of-view. Areas of low hazard generally consist of sands, gravels and till soils on flat to moderate slopes.

In those portions of the area where high or moderately high instability exists, a potential threat to life and property also exists. Hillsides which have existed for centuries can slide in seconds if man interferes with their natural state of repose. Unfortunately such slippages may not occur until many years after development. Sometimes, they are slow and gradual, other times they are instantaneous. All too frequently they are caused by the thoughtless works of man.

Source: Department of Agriculture, Kelowna Office.

Figure 6

Natural Vegetation

There are three distinct vegetation zones in our study area: sage brush-grassland, dry forest, and sub-alpine zones. The sage brush-grassland zone is merely an introduction to the dry forest zone. This zone extends along the larger valley floors. It is made up of a variety of native grass species. Blue bunch wheat grass, Columbia spear-grass, and Kentucky blue grass are the most extensive. However, in many places overgrazing has introduced overwhelming species, such as downy browne, mullein, yarrow and sage brush.

The dry forest zone is a much more extensive zone. It covers the remaining valley floors and adjacent slopes. Total precipitation in the dry forest zone is not unlike our first zone, ranging between 10 and 20 inches. But here precipitation is more effective because of lower evaporation rates. The vegetative corner of the dry forest consists of the same grasses found in the sage brush-grassland zone. Timber starts on the mountain slopes, at elevations of two or three thousand feet. It consists at first of yellow pine, larch and lodgepole pine. Douglas fir is probably the most widely occurring tree in the area because of its wide range of moisture tolerance. Deciduous tree species of the dry forest zone are frequently found on moist sites in valley floor, near lake shores, or in hillside depressions; these include choke cherry, mountain birch, aspen and alder. Indigenous shrubs of the area include sage brush, saskatoon bush, soopolallie and wax-berry. Finally a variety of beautiful blooming plants grace the hillsides in the spring; these include crowfoot, yellow bells, shooting star, balsam root, chocolate lily, larkspur, Indian paintbrush, blue lupine, and wild honeysuckle.

The sub-alpine forest encompasses the zone above 3,500 feet. Here rainfall is fairly heavy so as to allow a moderate to dense forest canopy, and a few scattered patches of open grassland on drier south-facing slopes. Sub-alpine trees, most commonly found at altitudes between 4,000 and 6,000 feet, include Engelman spruce and alpine fir. Burned or logged over areas are frequently characterized by extensive stands of lodgepole pine. Undergrowth consists mostly of grasses and shrubs, including blueberries, twinberry, heather, huckleberry and pine grass.

Climate

Detailed climatological information and data is available from the Climatological Division, B.C. Land Inventory, and by the Federal Atmospheric Environmental Service. The Regional Plan for the Regional District of Central Okanagan - Phase I also compiled a concise report for the Community Plan Area. In brief the climate is relatively mild with marked seasonal changes. Sunny, hot summers with low humidity and rainfall. Winters are cloudy with the annual precipitation in the valley bottom being approximately 12 inches. Of particular note is the frequency of temperature inversions and the resultant dangers of atmospheric pollution. During the spring and summer months

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Haig-Brown, R. The Living Land, MacMillan Company, Toronto, 1961.

Okanagan Environmental Collection, Final Report. General Description of Vegetation Zones, Kelowna, 1974.

approximately 80% of the evenings are subject to these inversions of which some 25% are of longer than overnight duration. Strict restrictions on air pollutants are essential to ensure the quality of the atmosphere remains at an acceptable level in the valley.

The Okanagan Valley runs in a general north-south direction. High mountain systems frame the eastern and south-western boundaries of the region. Between these mountain systems lies a high plateau, 4000 to 5000 feet above sea level, whose surface has been so deeply dissected by streams that it gives the impression of being a series of flat-topped rolling hills. The terrain of the area is a great influence in the resulting climate.

Precipitation is strongly linked with elevation. Low elevations in main valleys, being well-shielded by higher land from moisture bearing air, receive less than twenty inches annually. With increasing altitude and more direct exposure, annual totals rise to between twenty inches and thirty inches on the plateau surface, while higher elevations receive more than thirty inches of precipitation. However, runoff gives a better indication of the water budget of an area. Runoff is the difference between annual precipitation and evapotranspiration exceeds precipitation. It becomes significant in our area of study only at elevations higher than 3500 feet. Below this level there is no runoff as evapotranspiration exceeds precipitation. Therefore, only areas above 3500 feet provide the necessary conditions for water storage. It should be qualified however, that certain local conditions may cause some variance in this general statement.

The temperature pattern has clear seasonal distinctions. Average July temperatures vary between 18°C. and 21°C. in deep valleys, and 13°C. and 18°C. on the plateau. January averages of -9°C. to -4°C. in the valleys, and -12°C. to -7°C. on the plateau are representative. Mountain locations are considerably cooler in every month.

Of particular interest to the community plan is the variance of temperature and precipitation with elevation. It can be very generally assumed that in the valley the higher the elevation the cooler and damper the climate.

In the plan area the mean temperature at 3000 feet is approximately 2°C. cooler than lake level (approximately 1123 feet). At 4000 feet elevation the mean temperature differences is about 5°C. cooler.

Precipitation at the 3000 foot level can be generally considered to be double that at lake level, this increases to approximately four to five times the precipitation at approximately the 4000 foot level.

It is therefore imperative that in considering development in elevation approaching 3000 feet or more that careful attention be given to the climate in the area. Increased precipitation resulting in increased runoff and snowfall coupled with lower temperatures definitely mean increased construction and maintenance costs.

Pollution

Pollution to our environment is not solely a phenomenon of human settlement. Nature in isolation from man causes pollution, such as animal waste and the debris of natural catastrophe. Nature, unlike man, however, never exceeded its ability to cleanse itself. Modern man unfortunately, perhaps chiefly because of his ever increasing numbers, habitually exceeds his ability to rid himself of his pollution habits. Man must strictly discipline himself or face the consequences of perishing in his own waste.

We in the Okanagan Valley live in one of the most naturally desirable and beautiful parts of the world. This valley has a highly sensitive and delicate environment. By nature it does not have the resistance to environmental abuse that other areas of our country have.

By reason of its geography the valley is susceptible to temperature inversions. In most highly industrialized areas where temperature inversions occur and air pollution is prevalent, assisted by automobile exhausts the air becomes intolerable to breathe, (ie, the pollutants are literally packed in and down to the ground for days at a time). The lake is a landlocked body of water and is considerably more susceptible to pollution than the rivers or seas of our country. Pollution in the lake will stay there a long time and will take a long time to dissipate, if dissipate at all.

The extremely small area of good soil in the valley was the magnet for early settlement. A not surprising occurrance, the first settlers lived off the land; where better to settle than in good soil areas. However, settlements grew into cities and the cities are now situated on our best soil. What little is left of our good soils is almost certainly doomed to the urban sprawl of our settlements, that is, if we let it.

There has been a considerable amount of research analysis and written material compiled on the subject of pollution. Countless studies and reports exist in which the subject could have conceivably be said to have been exhausted. Of particular note are certain recommendations made in the Okanagan Basin Study which directly pertain to the Community Plan Area. We wish at this stage to quote the relevant recommendations:

> *That a program of pollution control for tributary streams be established by instituting strict regulations on feedlots and septic tank developments, removing all direct discharges of industrial and municipal wastes to streams and protecting streams with appropriate green strips in areas where logging or cultivation is practiced or where there are concentrations of cattle, horses, or other livestock.*
>
> *That all direct municipal and industrial waste discharges causing pollution be prevented from entering tributary streams.*
>
> *That regulations controlling surface drainage from cattle feedlots, and other livestock operations be established and enforced by British Columbia Water Resources Service by 1975.*

That future regulations controlling fertilizers and sprays be reviewed by the B.C. Department of Agriculture based on the impending report of the Royal Commission presently studying the matter.

The water be free from floating debris, scum, weeds, oil slicks, and other objectionable material that detract from its quality and appearance.

These are basically related to the preservation of the lakes. It is to be emphasized that the conservation of our land and air must be equally safeguarded. Strict compliance to the preservation of good agricultural farm lands through the Agricultural Land Reserve as well as controls of atmospheric pollution through Provincial and Federal air pollution legislation must be requested and improved to ensure that our valley will be a desirable heritage for future generations.

Pollution control is enforced in our area by the Pollution Control Branch and the South Okanagan Health Unit. The Pollution Control Branch is a provincial entity with regional offices. The Health Unit is a regional entity working through the municipality. It takes care only of municipal sewage of a volume of less than 5,000 gallons per day.

There is one Pollution Control Branch center in the valley, located in Vernon. Its main function is to enforce the Pollution Control Act, a provincial legislation, by issuing permits to polluting establishments. The Pollution Control Act has been implemented by recommendations to specific industries, for example forestry, mining and agriculture, so as to adjust the standards originally set to match specific characteristics of each industry. Site inspection follows an application to the Branch so that special effects due to site and situation are taken into consideration. The Pollution Control Branch is also concerned with monitoring the quality of the ambient environment, specifically air and water. There are twenty-five air monitoring stations in the area enclosed by Princeton, Osoyoos, Kelowna and Lumby. The Branch has access to Environment Canada readings of air and water quality for the same area.

The South Okanagan Health Unit extends its boundaries along the valley from the international border to Oyama. There are three Health Unit centers in the study area, one in Westbank, Rutland and Kelowna. The Health Unit's main concern over pollution control, is limited to municipal sewage having a volume of less than 5,000 gallons per day. The Health Unit further serves in pollution control by making recommendations to the Pollution Control Branch on any establishment within municipal boundaries requesting a permit from the Branch. Finally the Medical Health Officer, working from the Health Unit, has supreme power over all other authorities on a case where a health hazard has been recognized.

These are at the present time the controlling authorities on pollution, furthermore, the general public has recently become actively involved in pollution issues. Intensive studies on definite problems have been implemented. However implementation should soon follow as an agreement is being drawn to outline the responsibilities of the national government, the provincial government and the Valley Muncipalities so that the recommendations put forth in the 1973 Okanagan Basin Agreement and those in the 1974 Kalamalka-Wood Lake Basin Resource Management Study can be carried out.

Sources:

Mr. Campbell - Gillies, Health Inspector, Kelowna Health Unit, Personal Communication.

Mr. Ken Evans, Air Pollution, Pollution Control Branch, Vernon, Personal Communication.

Mr. W. Parchomchuk, Secretary-Manager, Okanagan Basin Water Board.

HISTORY

General History of the Area

The first acquaintance with the area by white men came as a result of the westward push of the fur trade. David Stuart, working for the Pacific Fur Company, found Okanagan Lake in 1811. Further exploration warranted the establishment of a fur brigade trail through the area, providing a link between Kamloops and Astoria at the mouth of the Columbia River. Cattle driving and gold seeking pioneers followed, but their association with the area was also temporary. In 1858 permanent settlement was finally established by Father Pandosy not far from the mouth of Mission Creek. Subsequently ranches were established in low lying areas bordering a good water supply. The origins of the fruit and vegetable industry date back to this period, where production was limited to supply local needs. The Cariboo Gold Rush opened the market for commercial production. Thus in 1892 Lord Aberdeen planted two substantial orchards, one in Coldstream Valley and the other at Guisachan, in Kelowna.

Probably of greatest importance to the development of the valley, was the completion of the Shuswap and Okanagan Railroad in 1892. This coupled with regular lake steamer service, introduced in 1886, made possible the accelerated influx of settlers to the area. New settlers were accommodated in five to twenty acre lots created by the Land Companies. In most cases the Land Companies were also responsible for setting up irrigation systems. However, the rush for development soon died down as Land Companies faced bankruptcy shortly after World War I.

The history of the fruit industry after this period is that of the struggle to solve the problems created by overproduction. Today orcharding remains an important industry in the valley.

The mining industry has experienced a revival in the last decade with production at the Brenda Mine, as well as the secondary industries that have been introduced.

New developments in all industries have been made possible by the opening of the Okanagan Lake Bridge in 1958, the Rogers Pass in 1961 and by the creation of a modern airport in Kelowna.

Plan Area

The first settler to this area was Thomas Wood. In 1871 he established a cattle ranch at the southern end of Wood Lake. In the 1890's many more ranches were established in the flats along Vernon Creek and close by both Duck Lake and Wood Lake. One of the largest was that of M.P. Williams, who bought 1,750 acres of bottom and rangeland at the south-east end of Wood Lake for the rearing of stock and sheep. But the biggest land boom came in the period between 1905 and 1910. The Wood's range, part of Thomas Wood's ranch, to the east of Wood Lake was sold to the Wood's Lake Fruit Company, and is now part of the orchard lands of Oyama. To the west of Wood's property lay a very rich portion of forested bottom land. This was logged over in the winter of 1906-07. More development took place in 1908 when the lands comprising the Knox, Balagno and Powell properties, including some of the Postill bottom land and a portion of Okanagan Centre were bought by Maddock Brothers, cleared and subdivided for orchards. By 1910 all the orchards southeast of Glenmore Road, with one exception, were planted.

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RESOURCES

Mineral

The Community Plan area forms a very small part of a vast region which is considered highly mineralized. Forecasting future mining developments is impossible. Fluctuating markets, technological changes and economic and political considerations make it highly speculative when attempting to forecast the future for the industry. One certainty is that metals will continue to increase in value and deposits of a low grade, that were considered in the past to be uneconomical, will no doubt become increasingly attractive with time. With the exception of the Brenda Mine near Peachland no important mining exists in or near the Community Plan Area.

Lumber/Forest

The industry was developed in the 1880's principally to supply lumber for the construction of the C.P.R. Railroad and the mining. There was some local market, however, it was during the Second World War that the industry boomed, as a result of the coastal lumber industries being unable to meet the demands. This viability has been maintained up to the present time principally through technological advances in small log harvesting and milling.

Gravel

Figure 7 indicates the general location of all known gravel deposits in the plan area. In addition the location of working gravel operations are shown.

The Gravel Potential map delineates areas that have capability or potential as gravel deposits within the lower valley slopes within the Central Okanagan Regional District. It is interpreted from broad scale interim landform maps. Present land use, land ownership, economic and social statuses were not criteria for use of the land as gravel pits. It is purely a physical inventory of where gravel resources are located. On-site inspection is required to verify the exact location, the quantity and quality of the gravel resource.

The area was rated into three classes for their potential for gravel deposits.

GOOD Area has a high potential for source of gravel. Areas are dominantly deep deposits of well sorted, well stratified gravels and sands. Landforms include glacial outwash terraces, deltas and kame deposits.

MODERATE Area has some potential for source of gravels. Limitation include pockets of gravel within the map unit, and/or poorer quality material associated with varying modes of deposition. Landform include fluvial fan deposits, beach, sandy ice contact deposits and pockets of gravels within a complex landscape unit.

POOR Areas generally have no, or very limited potential for gravel pits. Landform include lacustrine, till shallow to bedrock, organic and medium textured fluvial deposits.

(Source: Department of Agriculture, Kelowna Office)

Agriculture

The plan area presently has within its limits 1,911 acres devoted to agriculture of which the majority are planted for orchards and vineyards. There are some 5,270 acres within the Agricultural Land Reserve.

Figure 7

LAND USE

General

The area encompassed by the Community Plan is very extensive. Urban development is scattered throughout the plan and apart from housing located on agricultural parcels there are essentially three urban concentrations. These are very generally identified around the community of Winfield, Oyama and the area adjacent to Okanagan Lake which runs from Okanagan Centre to the northern limits of the plan, immediately north of Carr's Landing. Urban growth has taken an up-swing in recent years and has taken place principally in the Winfield area. Housing standards in the plan are good, however, problems are becoming evident, particularly where urban development has been allowed to take place in low lying areas and floodplains.

Agriculture is fairly extensive in the area and ranges from orchards and vineyards in the more arable lower areas, to more extensive farming and grazing in the higher and less arable zones of the plan areas.

Commercial development occurs in pockets directly related to the more urbanized areas or in close proximity to Highway 97. Tourist orientated businesses are scattered throughout the plan area.

Industrial development is limited and scattered. In the Oyama area, industrial development is confined to a small meat processing plant, a gravel works (Department of Highways), small sawmill and a non-operative packing house.

In the Winfield area there is a packing house and some gravel working. A large industrial subdivision with extensive industrial development is located in the boundaries of the City of Kelowna immediately south and east of the plan area.

The land use map, Figure 8, will be found in the back cover of this report. It was compiled from a field survey taken during April and May 1975.

Figure 8(a)

WINFIELD AREA

LAND USE AREA TABLE (ACRES)

	In Use	Not in Use	Total
Residential	424*	-	424
Mobile Home Park	15	-	15
Residential(Multiple Family)	2	-	2
Commercial	55	13	68
Agricultural	1911	3267	5178
Recreational	20	-	20
Industrial	72	-	72
Institutional	32	-	32
Undeveloped	-	3,852	3,852
	2,531	7,132**	9,663

* Includes vacant small residential lots approximately 450 in number.

** Some 4,989 acres are located below the 3000 foot elevation and within areas not exceeding a 30% slope.

Figure 8(b)

OYAMA AREA

LAND USE AREA TABLE (ACRES)

	In Use	Not in Use	Total
Residential	125*	-	125
Mobile Home Park	1	-	1
Residential(Multiple Family)	-	-	-
Commercial	29	38	67
Agricultural	1646	3449	5095
Recreational	34	-	34
Industrial	36	-	36
Institutional	5	-	5
Undeveloped	-	3,529	3,529
	1,876	7,016**	8,892

* Includes vacant small residential lots approximately 160 in number.
** Some 2,872 acres are located below the 3000 foot elevation and within areas not exceeding a 30% slope.

Figure 8(c)

OKANAGAN CENTRE AREA

LAND USE AREA TABLE (ACRES)

	In Use	Not in Use	Total
Residential	117*	-	117
Mobile Home Park	-	-	-
Residential(Multiple Family)	-	-	-
Commercial	1	-	1
Agricultural	394	442	836
Recreational	57	-	57
Industrial	3	-	3
Institutional	2	-	2
Undeveloped	-	1,596	1,596
	574	2,038**	2,612

* Includes vacant small residential lots approximately 70 in number.
** Some 1,045 acres are located below the 3000 foot elevation and within areas not exceeding a 30% slope.

Figure 8(d)

CARR'S LANDING AREA

LAND USE AREA TABLE (ACRES)

	In Use	Not in Use	Total
Residential	120*	-	120
Mobile Home Park	-	-	-
Residential(Multiple Family)	-	-	-
Commercial	8	-	8
Agricultural	240	421	661
Recreational	3	-	3
Industrial	-	-	-
Institutional	-	-	-
Undeveloped	-	2,142	2,142
	371	2,563**	2,934

* Includes vacant small residential lots approximately 50 in number.
** Some 1,987 acres are located below the 3000 foot elevation and within areas not exceeding a 30% slope.

Figure 9

Figure 10

Land Ownership

Figure 11 shows the ownership of land by either public or private ownership. Public ownership is broken down to the governmental or semi-governmental agency in whose jurisdiction the property is vested.

Figure 11

Construction Data

Figure 11(a)

HOUSE STARTS AND CONSTRUCTION DATA

House Starts	1970	1971	1972	1973	1974	1975(to end of August)
	42	61	68	114	173	89

Value *1974

Number	Type of Building	Value
173	Dwelling Units	$3,206,925
16	Additions to dwellings	87,764
54	Accessory Buildings	86,200
4	New Commercial buildings	18,000
1	Addition to school	83,180
		$3,482,069

* 1974 was the first year that construction value data was compiled for the plan area, previous years the data is related to the entire Regional District.

Land Use Controls

LAND COMMISSION ACT (Bill 42)

In 1973 the Provincial Government proclaimed the Land Commission Act. The Act established a five member "Provincial Land Commission", whose duties and objects are:

i) Preserve agricultural land for farm use, and encourage the establishment and maintenance of family farms, and land in the agricultural land reserve, for use compatible with the preservation of family farms and farm use of the land.

ii) To preserve green belt land in and around urban areas, and encourage the establishment and maintenance of such lands.

iii) Preserve land bank land having desirable qualities for urban and industrial development, and to limit subdivision or use of such land for other purposes.

iv) Preserve parkland for recreational use and to encourage the establishment and maintenance of land in a parkland reserve.

Subsequently certain lands throughout the Province of British Columbia were designated as land lying within the Agricultural Land Reserve (See Figure 12). These lands so designated were prohibited from being used or developed for other than agricultural pursuits, as well they were prohibited from being subdivided.

Good agricultural land is an invaluable natural resource. Present tendencies to forego the agricultural value of the land in favour of immediate, more profitable uses to which it may be put is for the most part short-sighted and irresponsible. Unless there are clear-cut and undisputed reasons for destroying the agricultural use of the land, no rationale should be precarious enough to cause this destruction. We have no doubt, that in the near future the value of agricultural land will out distance any alternate land use value.

It will be the recommendation of this plan that all good agricultural land whether or not it is within the Agricultural Land Reserve shall remain agricultural. Departures to this will only be proposed where we feel there is no other alternative in order to resolve a major planning problem.

ZONING BY-LAW

At the present time the plan area is covered by a zoning by-law whose zones and accompanying regulations were drawn up in 1972.

This by-law no doubt played a "stop gap" role at the time of its adoption, however over the years it has become progressively redundant since no overall revamping of the document has taken place since its inception.

The community plan area has undergone considerable change in the last few years. This form of development has evolved from almost solely rural in style to urban. This urban form of growth has been rapid and very much in need of having certain basic control devices to ensure quality of growth.

"It is imperative to completely rewrite and adopt an up-to-date zoning by-law which may be used as a standard document for implementation in all or any particular area of the Regional District. A common zoning by-law will ensure uniformity of standards and controls."

Figure 12

TRANSPORTATION

Highways and Roads

Local road improvements were such that by 1935 the steamer service on Okanagan Lake came to an end. In 1949 the Hope Princeton Highway was completed, and in 1962 the Rogers Pass was opened. Further improvements have taken place since 1962, in particular the completion of the Yellowhead Pass in 1969. All have had a marked effect on traffic in particular tourism throughout the area. Highway 97 is the principle route transversing the area, linking the plan area to the City of Kelowna to the south and the City of Vernon to the north.

Improvements to the highway have not kept pace with the demands placed on it. Presently the facility is totally inadequate and represents a serious hazard to the safety of those who use it. Critical locations exit along its stretch through the plan area, these are noted on the Highways and Roads map (Figure 13).

It is imperative that immediate action be taken to rectify the present situation when this heavily used facility is not only inadequately constructed but serves to downgrade and frustrate plans for community development and improvement. Of particular concern is the highway's present alignment through the central business area of Winfield. Weak attempts have been made to temporarily improve the situation, however this "band aid" form of approach is totally inadequate. Part II of the Plan will make recommendations on a plan of action for highway relocation and/or improvement.

Figure 13

Air Transportation

Air transportation is provided to the Community Plan areas by the Kelowna Airport. The Kelowna Airport is owned and operated by the City of Kelowna. The Federal Ministry of Transport supplies navigational aids and air traffic control for the airport.

Pacific Western Airlines operates into Kelowna with Boeing 737 jet equipment. Flight services link the Kelowna area to Penticton, Calgary, Edmonton and Vancouver. There are two daily PWA flights to Calgary and Edmonton, along with four daily flights to Vancouver.

In addition to PWA service two other airlines operate out of Kelowna Airport. They are Arrow Aviation and Northern Thunderbird Air. Arrow Aviation provide a six day per week service to Kamloops, Cranbrook, Castelgar, Grand Forks and Penticton. A five day per week service is operated by Northern Thunderbird Air connecting Kelowna to Prince George.

Special transport services for passengers to Kelowna Airport is provided by the Kelowna Airporter which runs from downtown Kelowna and the Capri Shopping Centre to the airport. Vernon Limousine Services accommodates transportation from downtown Vernon to the airport.

AIRCRAFT MOVEMENTS (approximate figures)

YEAR	TOTAL MOVEMENTS	SCHEDULED AIR LINES	ITINERANT & LOCAL MOVEMENTS
1974	53,726	5,669	48,057
1973	47,377	4,031	45,346
1972	48,781	3,801	44,979
1971	40,015	2,871	37,044
1970	33,220	3,636	29,584

Expansion Plans for 1975-76 at the Kelowna Airport include the following:

i) "Track guidance localizer" to be completed by June, 1975. This landing aid is being installed to help alleviate the numerous aborted landings which plague the airport during the winter months.

ii) Another landing aid presently under construction is an "Ultra High Frequency Direction Finder".

iii) An improved baggage delivery system (race track type) to be installed.

iv) The airport's parking lot to be improved.

v) The airport is expecting an increased capability in emergency service departments.

Expansion plans which will be carried out within the next 3 or 4 years are:

i) a runway extention
ii) a taxiway and ramp extension
iii) terminal building expansion

Foot Paths, Bike Paths and Riding Trails

Generally assessing the existing situation one could say that the above-noted facilities are extremely limited in the area if non-existent ie. bike paths.

Considerable interest has been indicated by the public (both organized and unorganized) in ensuring that the community plan will make recommendations that these forms of transportation and their facilities will be given the priorities they deserve.

Part II of the Plan will make recommendations to the minimum standards of these facilities and their location.

Public Transportation

Greyhound Lines of Canada serves the Kelowna area outside the City of Kelowna. Highway 97 serves as the route and only those areas situated immediately adjacent to the highway are served including Peachland, Westbank, Lakeview, Winfield and Oyama.

UTILITIES AND SERVICES

Sanitary Sewerage System

At the present time no community sanitary sewer collection systems or facilities exist in the plan area. However, a study by private engineering consultants was carried out for the Regional District of Central Okanagan in 1972. The purpose of the study was to investigate the feasibility and cost of providing a sanitary sewer collection system and treatment facilities to service the Winfield Flats area. The study recommendations have not been implemented to date due to the economics of the project.

A resolution was passed at the June 16th, 1975 meeting of the Regional District Board, to retain the original study consultants to review the previous study and up-date the technical data and cost figures as a requirement of the Okanagan Basin Water Board. The up-dated report is due to be completed by November 1975.

Septic Tank Systems

The sewerage facilities in the plan area are confined to:

a. Private Waste Water Treatment and Disposal Systems

b. Private Septic Tank Systems

PRIVATE WASTE WATER TREATMENT AND DISPOSAL SYSTEMS

Permits have been issued or are in the process of being issued by the Pollution Control Branch for twelve (12) privately owned domestic, commercial or industrial waste water treatment and disposal systems.

The systems are as listed in the following table:

PRIVATE WASTE WATER AND DISPOSAL SYSTEMS

Name of Discharge	P.C.B. Number	Legal Description	Type of Effluent	Av. Flow(IGPD)	Treatment and Disposal Method
Thomson, H.R. (Halfway House)	*PE-2304	Part N.½ of N.E.¼ of PD 2079D,Sec.14,Tp. 14, Ex.Plan 14722,ODYD	Laundry	360(max.)	Septic Tank and Rock Pit
Vernon Fruit Union Oyama (Plant 1)	PE-2489	Block 1,Sec.12,Tp.14, Plan 3087, ODYD	Fruit Processing	30,000(max.) 2,100(max.)	Septic Tank, Subsurface Disposal
Vernon Fruit Union Oyama (Plant 2)	PE-2638	Lots 8-11,Plan A615 Map 428, ODYD	Fruit Processing	1,500(max.av.) 1,500(max.av.)	Outfall to Wood Lake Outfall to Wood Lake
Vernon Fruit Union (Woodsdale)	PE-2839	Block 1,Plan 2975, Lot 1,Plan 2768 ODYD	Fruit Processing	86,400(max.) 2,600(max.)	Septic Tank Subsurface Disposal
Vernon Fruit Union (Winfield)	PE-2488	Lot 44,Map 457,ODYD	Fruit Processing	4,000(max.av.)	Septic Tank, Seepage Pit
Fiberplast Products Ltd.	PE-349	Lot 44,D.L. 118, Plan 457, ODYD	Resin Manufacture	2,000(max.av.)	Septic Tank, Distribution Box, Tile Field
Hiram Walker & Sons Ltd.	PE-267	Part of Sec.2,Tp.20, ODYD	Distillery	200,000(max.av.)	Aerated Lagoon, Exfiltration Basins
Hiram Walker & Sons Ltd.	PE-268	Part of Sec.2,Tp.20, ODYD	Distillery	5,000,000(max.av.)	Discharge to Vernon Creek
Allied Growers Ltd. (Okanagan Centre)	PE-3050	Lot 0, Govt.Wharf Lot 1-10,Lots 1-6, Lots 13-24.	Fruit Processing	44,000(max.av.)	Outfall to Okanagan Lake
Woods Lake Resort	*AE-3859	Lot 3,Sec.22,Tp.20, Plan 18886 or 5200 ODYD	Domestic	2,000	Septic Tank, Tile Field,Dry Wells

Name of Discharge	P.C.B. Number	Legal Description	Type of Effluent	Av Flow(IGPD)	Treatment and Disposal Method
Belvedere Resort Motel	PE-3872	Plan 8134,Lot A D.L. 117,Plan 18918, ODYD	Laundry	150(max.)	Septic Tank and Tile Field
Regional District of Central Okanagan (Winfield)	1-8RDCO	Part of Remainder of S.E.¼ of Sec.2,Tp.20 ODYD	Septic Tank	15,000(max.)	Trenches

* AE - Application for effluent permit
PE - Effluent permit

PRIVATE SEPTIC TANK SYSTEMS

With the exception of those facilities listed above, all other residential, commercial, industrial and rural areas are serviced by individual septic tank and tile disposal fields.

SOIL LIMITATIONS FOR SEPTIC TILE FIELDS

The following report is a synopsis of that prepared by the Provincial Department of Agriculture, Soils Branch, Kelowna. Reference to the original in detail submissions may be made upon request to the Regional District of Central Okanagan Planning Office.

See Soil Limitations for Septic Tile Fields, for an analysis of the ability of soils throughout the area to function correctly and efficiently for septic tank effluent disposal usage.

The map of Soil Limitations for Septic Tile Fields is interpreted from interim soil survey information. This analysis rates soils into five classes based on soil texture, structure, porosity, chemistry, moisture holding capacity and depth, landform, topography and depth to water table. The ratings reflect the operability of tile fields, moisture holding capacity and nutrient retention characteristic of the soil and likelihood of subsurface seepage developing with concentrations of septic fields.

A septic tank field is a subsurface distribution system laid in such a way that effluent from the septic tank is distributed with reasonable uniformity into the natural soil.

The primary function of a septic tank is to condition sewage to reduce clogging of the disposal field. Contrary to popular belief, septic tanks do not accomplish a high degree of nutrient removal.

Disposal of wastewater by soil percolation is the main purpose of the tile field. Further treatment of effluent, including removal of pathogens, nutrients and solids can be accomplished by percolation through the soil. Soil treatment is accomplished through the combined mechanism of adsorption, absorption, filtration and decomposition. The degree of treatment obtained is a function of the chemical, physical and biological characteristic, the depth of aerated soil above the water table and the amount of effluent uptake by plants. Soils with the fastest percolation rate do not accomplish a high degree of effluent treatment.

Soil condition and topography can affect the operation of the tile field. High water table may cause septic effluent to discharge at the soil surface in addition to backups of sewage into houses. Dense impervious soil horizons result in slow dissipation of wastewater and could result in overflowing tile fields. Septic seepage on sloping till and lacustrine soils can cause tile field failure, basement seepage, deleterious health conditions and poor aesthetic conditions.

Soils were rated on its capacity to retain nutrients for uptake by plants and on its capacity to retain wastewater around the tile field for evaporation and transpiration. High moisture holding capacity is associated with the fine to medium textured soils. Coarse gravelly soils have low moisture holding capacity. Nutrient retention is associated with the ion exchange capacity of mostly the clay and organic fraction in the soil. Silty clay lacustrine soils can retain a good proportion of phosphates. Nitrate is a highly mobile chemical and may be temporarily held in the organic soil fraction. Unfortunately, most tile fields are located beneath the soil surface where the organic fraction has accumulated.

Septic fields installed in gravelly soils will have a long system life, but are very poor for nutrient and moisture retention. Contamination of well water can result near dense urban development using septic disposal. Eutrophication and an undesirable plan growth may occur near shoreline where effluent seeps into lakes and streams.

The presence of bedrock, compact glacial till or other impermeable layers can constitute a barrier to the downward movement of water. Perched water table and saturated soils may develop in absorption fields installed at sites where a restricting layer is near the surface. Seepage above an impermeable soil layer on sloping terrain may cause the effluent to surface down-slope, to enter a water body, to pass through an adjacent absorption field and thereby causing its failure or seep into basements.

Soils within the Central Okanagan Regional District were rated into five classes for soil suitability for Septic Tank Effluent Disposal.

1 GOOD	Soils are deep sandy loam aeoliam deposits on gentle topography. Moisture holding capacity and nutrient retention are high. Tile fields should operate well if properly installed. Environmental problems are not anticipated.
2 SLIGHT	Soils have slight environmental limitations for septic tank absorption field. Soils are deep sandy soils with slight moisture holding capacity or sandy loam basal till soils with impervious horizons at 3 to 5 feet. Problems with operation of tile fields are not anticipated if properly installed.
3 MODERATE	Soils have moderate limitation for septic tank absorption fields and/or moderate environmental concerns. Included are coarse gravelly soils, where groundwater contamination may result due to low nutrient retention and rapid percolation. Soils with moderately high water table and basal till soils with impervious soil horizons on sloping topography. These areas require further on site investigation before development commences.

4 SEVERE Areas have severe limitations for septic absorption field. Included are heavy textured dense impervious silty clay lacustrine soils and coarse gravelly fan with seasonal high water table. To reduce anticipated problems these areas may require special considerations such as larger areas of tile field, critical location of tile fields in subdivisions, raising level of tile field by build up of suitable soil medium and lower housing densities. It is recommended that development should not proceed without detailed engineering investigations. Alternate or modified methods of sewage disposal may be desirable.

5 VERY SEVERE Areas of severe limitations for septic absorption field. Included are floodplain and topographic depressions with very high water table, steep shallow to bedrock soils and dense soils with seasonal high water table. These areas are not suitable for subsurface disposal of septic tank effluent.

Figure 14

Surface Drainage Systems

No major storm sewer or culverting works exist in the area. Any culverting works that do exist are restricted to minor street crossings for runoff courses and drainage ditches in accordance with Department of Highway's requirements. The majority of the storm and irrigation runoff is handled by absorption into the ground through roadway shoulder soak-aways or in the drainage courses themselves, and through evaporation.

Water Supply Systems

Through provisions of the Water Act, the Water Rights Branch of the Province of British Columbia control and administer all water licences to direct and/or store water for domestic, industrial and irrigation purposes. Licences are issued to individuals and organized or registered groups for the supply of water.

In the plan area water licences are presently held by:

Irrigation and Improvement Districts

- Oyama Irrigation District
- Wood Lake Improvement District
- Winfield-Okanagan Centre Irrigation District

Water Utilities

- George Jacques Development Ltd.
- Heritage Enterprises Ltd.
- Woodsdale Utilities Ltd.
- Alto Utilities Ltd.
- Hiram Walker & Sons Ltd.

Figure 15 shows the water system distribution areas and the general location of storage works, supply mains and pump plants in the plan area.

OYAMA IRRIGATION DISTRICT

The Oyama Irrigation District serves the general area of the Oyama Flats and that general area to the north and south of Highway 97 and Oyama Road intersections. The District water supply services both irrigation and domestic purposes.

The District obtains its water supply from two well sources. Source No.1 is a 16 inch diameter, 160 foot deep well located at the south west corner of the Highway 97 and Irvine Road. This location is approximately 150 to 200 feet west of Wood Lake. Two 50 H.P. and one 150 H.P. pumps lift water supply through the distribution system to a 40,000 U.S. gallon underground concrete balancing reservoir. Source No.2 is an 8 inch diameter, 50 (±) foot deep well located a short distance south of Source No.1. The pump

plant consists of one 15 H.P. submersible pump. This supply source is tied directly into the distribution system. It is used for domestic supply only, during the winter months. The remainder of the year the supply is for standby use. All pumps are automatically controlled by float controls at the balancing reservoir. Water quality from both sources is such that individual water softeners have been installed by many consumers. At the present time it is felt that water treatment at the source of the system would be much too expensive to undertake.

The District's water supply system is an ARDA project and the works are operating at capacity. Existing supply to the distribution system is restricted by pumping facilities. During peak irrigation periods the pumps are able to just keep up to the demand. During these periods it is also difficult to keep the reservoir at a high level.

In the calendar year 1974, the District supplied approximately 310,000,000 gallons of water from its well sources, which provided irrigation to 300 acres of agricultural lands and service to 200 domestic connections. There were 100 served lots that were not active during the year.

Any future increased capacity required of the system would not particularly be restrained by factors of its supply source or the pipe sizing in the distribution system. However, necessary works required to increase the system capacity would include additions and/or revisions to intake, pumping and balancing storage facilities.

The District has recently approached the Water Rights Branch to investigate the feasibility of upgrading system capacity to better meet the peak demands of already approved subdivisions.

No chlorination treatment is provided to the water supply.

WOOD LAKE IMPROVEMENT DISTRICT

The Wood Lake Improvement District serves the rural area along the east side of Wood Lake. The District water supply services both irrigation and domestic purposes.

The District holds water licences for source and storage purposes on Oyama Lake and the Dammer Lakes. A concrete dam is located at the outlet of Oyama Lake and an earth fill dam is located at the outlet of Dammer Lake. Control gates are situated on both storage dams and frequent adjustment of gates is required during peak usage (irrigation season). Oyama Lake discharges into Oyama Creek and the Dammer Lakes discharge in the North Fork Creek, which in turn enters Oyama Creek. A diversion dam is located at approximately the 2007 foot elevation of Oyama Creek, with no major facility for water storage at that location. Water as required, is diverted into

sediment settling works, and is then fed through an outlet chamber into a 20 inch diameter supply main. Water flow is by gravity for the supply main and all portions of the distribution system. Chlorination treatment is provided by works located on Todd Road.

During the freshet period, the water contains a substantial amount of debris and silt which is only partially removed by screening and settling at the intake. Total removal of this matter would require substantial filtration treatment.

In the calendar year 1974, the District diverted 2206 acre/feet of water from Oyama Creek, which provided irrigation to 892 acres of agricultural lands and service to 110 domestic connections. There were 71 served lots that were not active during the year.

The storage and supply system is an ARDA project and the works are operating at capacity. It is considered however, that the distribution system is capable of handling increased flow capacity. Any expanded service by the present system is limited by the upstream storage facilities and diversion works. Major headwater storage works and additional water licences on Dammer Lake (including High Lake) may possibly offer increased supply and storage capability.

The possibility of supplementing either or both the Oyama Irrigation District and Wood Lake Improvement District systems could present several difficulties. Wood Lake and the local area of Kalamalka Lake are presently fully licenced and the water quality is eutrophic. Some local groundwater exists, mainly in the Oyama area, but its quality would require expensive water treatment.

WINFIELD-OKANAGAN CENTRE IRRIGATION DISTRICT

The Winfield-Okanagan Centre Irrigation District serves the community of Winfield and the general area of Okanagan Centre. Service is not provided to that portion of the Winfield Flats area north of Meadow Road. Residences in the Flats are supplied by individual sand point or wells. The District water supply services both irrigation and domestic purposes.

The District holds water licences to and maintains controlled dams for storage and/or flood works on the following lakes and creek:

Swalwell (Beaver) Lake
Crooked Lake
Vernon Creek

These headwater lakes and Vernon Creek serve as the District's water supply source. An earth filled dam and water intake tower are situated at the 2844 foot level on Vernon Creek, in the North East Section of D.L. 3691. The storage works consist of an earth filled dam, concrete spillway,

screening works, and facilities to divert water into a 32 inch diameter main supply line. The storage reservoir has a holding capacity of approximately 12 acre/feet (3,000,000 gallons).

Water is diverted, as required, through the supply main which runs approximately three miles to the commencement of the general distribution system at Beaver Lake and Jim Bailey Roads. Water flow in the supply main and all portions of the distribution system is by gravity.

Chlorination treatment is provided by works located on Beaver Lake Road approximately one mile east of Jim Bailey Road. During the irrigation season the output flow at Swalwell (Beaver) Lake must be regulated quite frequently (approximately 3 times per week). The regulations of the Irrigation District allow a maximum of 3 domestic connections per acre, and a minimum parcel size of 11,000 square feet.

In the calendar year 1974, the District diverted 4,954 acre/feet of water from Vernon Creek, which provided irrigation to 2113 acres of agricultural lands and service to 569 domestic connections. The District presently (August 1975)services 609 domestic connections.

Under the present storage and distribution facilities, no further extension of water supply outside the existing boundaries is feasible. The ARDA project serving the District is fully committed to existing consumers. The limited headwater supply source is the main drawback to any system expansion at this time. Supply to service any expanded future demands would probably have to come from new sources. If pumping from the Okanagan Lake is utilized in the future, some replacement of existing mains with larger pipes, would be of necessity, particularly the westerly portion of the District.

The Regional District of Central Okanagan, in co-operation with the Winfield-Okanagan Centre Irrigation District has recently retained a consulting engineering firm to appraise the capacity of the existing Winfield-Okanagan Centre Irrigation District system and to study the feasibility of supplying water to the "Dry Land" area in, and around the Irrigation District. The study is to investigate the feasibility of supplementing the existing system by pumping from Okanagan Lake, the ability to expand the existing distribution system, and to establish if any increased storage capacity is attainable at the present high level sources. The report is expected to be completed by early 1976.

GEORGE JACQUES DEVELOPMENT LTD.

George Jacques Development Ltd. have a small private water utility that supplies domestic water to a 59 lot subdivision in the Coral Beach area, north of Carr's Landing.

Water is provided from Okanagan Lake via a 10 inch corrugated steel pipe. Intake works are located at a depth of 15 to 20 feet approximately 202 feet from the pump plant, which is located close to the shoreline. The supply source is licenced for provision of 29,500 gallons per day.

The pumping plant pumps water from a 42 inch diameter, 10 foot deep intake well which is situated at the pump plant, through the distribution system to a 10,000 Imperial gallon wood stove reservoir tank. The tank is 14 feet in diameter, 12 feet high and is located at ground level on the hillside east of Terrace View Crescent. Total lift of water from pump plant to reservoir is 152 feet.

Chlorination treatment is provided by works at the pump plant prior to water being pumped through the system to the reservoir.

The present water system would require additional works and upgrading of existing pumping, distribution and storage facilities, if it were to service any areas in addition to the existing subdivision.

HERITAGE ENTERPRISES LTD.

Heritage Enterprises Ltd. has a small private water utility that supplies domestic water to a 20 lot subdivision and the Adventureland playground facility located on Highway 97 between Winfield and Oyama.

Water is provided from an approximately 60 foot deep groundwater well, via an 8 inch diameter casing. The well is situated approximately 130 feet west of Wood Lake, immediately south west of the Highway 97 and Adventureland Road intersection. Groundwater supply is not required to be licenced at the present time, but source capacity must be proven by yield tests, to the satisfaction of the Water Resources Branch.

The pumping plant pumps water via a 4 inch suction line from the well casing, through the distribution system, to a 10,000 gallon, reinforced concrete, underground reservoir. The reservoir is located on the hillside to the north west of Adventureland Road. Total lift of water from pump plant to reservoir is approximately 200 feet. Supply main and distribution piping throughout the system is 4 inch diameter P.V.C. pipe.

Chlorination treatment is not provided to water supply in the system and is not required by existing regulations pertaining to groundwater supply. However, the Medical Health Unit must approve the groundwater supply source.

The present supply and distribution system is being utilized to full capacity. No future expansion of supply capability is possible without major alterations to the system. These alterations would have to involve additional pumping and storage facilities.

WOODSDALE UTILITIES LTD.

Woodsdale Utilities Ltd. has a small private water utility that supplies domestic water to a small, 30 lot residential subdivision in the Winfield area near the intersection of Highway 97 and Robinson Road.

The present well capacity, 300 gallons per minute is estimated to be capable of providing service to a total of 400 domestic connections. To date approximately 250 are serviced. The main supply line could handle some increased supply but it is felt that the present reservoir storage capacity is a limiting factor and that any future development to be serviced by this system would require additions to the storage facility, and an additional well source would have to be considered, particularly as a back-up source. The exact ability of the present system to service any further development will be subject to careful engineering analysis.

HIRAM WALKER & SONS LTD.

Hiram Walker & Sons Ltd. have a large water utility that supplies water for industrial processing purposes in their large distillery plant on Jim Bailey Road, just south of Winfield. The distillery plant itself is located within the City of Kelowna.

The pump plant is located west of Okanagan Centre and Finch Road intersection, at the edge of Okanagan Lake. The station is capable of pumping water at the rate of 6170 I.P.G.M. (9,000,000 I.P.G./day) at a normal operating head of 648 feet. Actual usage averages 3,000,000 I.P.G./day with peaks of 5,000,000 (+) I.P.G./day. Most of the water is used for process cooling with the remainder used for air conditioning, irrigation, fire, boiler make-up water and domestic water.

Water is provided from Okanagan Lake via two water intakes. The main intake consists of a 48 inch diameter fiberglass reinforced plastic pipe, approximately 200 feet long, which rests on the sloping bottom of the lake with the intake works at a depth of approximately 100 feet. The second is an emergency intake, which consists of a 24 inch diameter fiberglass reinforced plastic pipe, approximately 40 feet long, with intake works at a depth of approximately 8 feet.

The pump plant contains three pumps which are unattended and automatically controlled so that no more than two pumps operate at any one time and sequenced so that usage is evenly distributed on all three pumps on a weekly basis. Pumping is called for by the reservoir level. As the level drops it calls one pump into operation and if the drop continues the second pump is called on. The water is metered when it leaves the pump station and flows through 15,400 feet of 34 inch O.D. cement-mortar lined welded steel pipe to the distillery plant. A 4,500,000 imperial gallon water storage and balancing reservoir is located at a suitable elevation above the high point of the pipeline, between the pump station and the plant. It serves to accommodate peak demands and to maintain a reasonably uniform supply pressure.

Chlorination treatment is provided by works at the pump plant prior to pumping through the supply main.

The existing supply system has been designed and constructed to meet only the needs of the distillery plant and associated facilities. Additional capacity presently exists in the present system if additional supply is required in the future.

Figure 15

Electrical Distribution System

Electricity is supplied to the majority of the plan area by B.C. Hydro and Power Authority. West Kootenay Power and Light Company Ltd. serve a small amount of residential users on Finch Road and the Hiram Walker & Sons Ltd. water supply pump house in the south west portion of the area.

The B.C. Hydro power supply is obtained from the Gordon Shrum Generating Plant in the Peace River area and carried via major transmission lines to the Kelly Lake Switching Station. Transmission is then provided by 230 kv lines to Savona. From Savona a 138 kv line carries power to distribution points at Kamloops, Vernon and West Kootenay areas. The switching station in Vernon switches power supply to a 138 kv line owned by West Kootenay Power and Light Company Ltd. (who purchase their power supply from B.C. Hydro) and to a B.C. Hydro 60 kv line. The West Kootenay line services the greater Kelowna area, while the B.C. Hydro line serves Vernon and points south, terminating in the Winfield area.

The 60 kv main transmission line terminates at a substation located on Woodsdale and Lodge Roads. 7.2/12.5 kv major distribution feeder lines provide power from the Woodsdale substation to the distribution system in the area. The B.C. Hydro 60 kv system is tied into the West Kootenay Power system via a 60 kv transmission line that runs from the Woodsdale substation to the West Kootenay substation on Day Road in Kelowna. This supply tie-in would be used in emergency situations only. Figure 16 shows the existing electrical service area.

The major switching station at Vernon is also tied into the new generating works on the Kootenay Canal. However, power supply from this source will not be available until mid 1976.

If any major urban development progresses in the next five years, it is felt that the power supply to the area could be doubled. Tentative plans are that if and when additional supply is required this would be obtained by tying into the West Kootenay Power 138 kv major transmission line utilizing the Woodsdale substation. West Kootenay Power are presently planning to increase their present 138 kv system to 172 kv capacity by installing additional main transmission lines in their existing right-of-way.

In the past, the majority of power lines in the distribution systems were installed on poles. At the present time a number of new developments in the Winfield-Okanagan Centre-Oyama distribution area are provided power through lines in underground installed conduit. Although not mandatory practice at present, this method is being encouraged, particularly from an aesthetics point of view. When electrical power supply is installed underground, a trench is shared in common with Okanagan Telephone Company. Over the previous three years, electrical power poles have also been used in common by the telephone utility.

Figure 16

Cable Television System

A cable television distribution company presently operates in the greater Kelowna, Lakeview and Westbank areas. To date this service does not extend to any location within the plan area. Depending on technological advances and economics in the industry, a micro-wave system of distribution may warrant providing service to points within the plan area in 5 to 10 years.

Telephone System

Telephone service is provided to the plan area by Okanagan Telephone Company (owned by B.C. Telephone Company). The areas serviced by the Oyama and Winfield exchanges are shown in Figure 17. The Oyama exchange building housing mechanical switching equipment is located on Oyama Road immediately east of the firehall. This equipment is greatly outmoded and the elimination of this switching facility and the integration of the Oyama system with the modern electronic switching facility in Winfield is being studied by the telephone company.

The Winfield exchange building is located on Berry Road between Highway 97 and Woodsdale Road.

A trunk toll cable is buried along Highway 97 from City of Kelowna limits to Vernon. When calling outside either the Oyama or Winfield exchanges toll charges are applicable.

Expansion of the existing system to service possible future urban growth in the area will be quite feasible considering new technology in the communications field and as long as such expansions are economically feasible.

The telephone service utilizes power poles or underground trenches in common with the electrical utility.

figure 17

Natural Gas System

Natural gas is supplied and distributed by Inland Natural Gas Company Ltd. to some of the developed areas as shown in Figure 18. The remaining developed areas are serviced by individual private supply.

The gas supply originates in the Peace River area and is transmitted to the lower mainland by West Coast Transmission Company Ltd. Inland Natural Gas purchase their gas supply from West Coast Transmission, and obtain this supply by way of a branch line from the main transmission line at Savona. The Inland Natural Gas transmission line proceeds through Kamloops, Falkland, Vernon, Kelowna and thence to Penticton on the east side of Okanagan Lake. A branch line is provided from the main line at points in Oyama and Winfield to service the distribution systems in these two areas.

At the present time service is not provided to isolated development areas due to the economics of the situation. If some isolated developments were to expand to an economical urban community size, then gas service would definitely be warranted and provided.

The existing supply system is capable of providing service to such possible urban expansion that may be forthcoming in the foreseeable future.

Figure 8

Fire Protection

Fire protection is provided in the plan area as shown in Figure 19, either by the Oyama or Winfield Fire Protection Districts or the British Columbia Forest Service. Fire protection is a function under Letters Patent of the two Districts and is administered by five member Boards of Trustees.

The two Districts have an understanding with the B.C. Forest Service that the Districts will assist on any fires in the immediate surrounding area of each respective District, if and when requested by Forest Service. Any costs incurred are paid by the B.C. Forest Service.

Mutual aid is available to the Oyama District from City of Vernon Fire Department and Winfield District. Similarly aid is available to the Winfield District from City of Kelowna Fire Department and Oyama District in cases of emergency shortages of equipment.

OYAMA FIRE PROTECTION DISTRICT

A two bay firehall is located on Oyama Road, immediately east of the packing house. The hall also contains facilities for recreation and training use.

Major fire fighting equipment of the District consists of:

- 1961 International tank truck, with 500 gallon water tank and 500 I.g.p.m. pump capacity.

- 1953 Ford Panel emergency truck, utilized to carry general equipment and extra pumps.

The pumper truck is fully equipped with ladders, extinguishers, breathing apparatus and a wide range of additional miscellaneous fire and rescue equipment.

An alarm is turned in by calling 548-3277. This call is received by telephones at the firehall, in the homes of 15 firemen, and also activates a siren alarm at the firehall. The District consists of 23 volunteer members. There presently are no full time staff members. Volunteer members are compensated for practice sessions and fire calls. The District must meet all Workmen's Compensation Board requirements and is responsible to the Minister of Municipal Affairs under the Water Act.

All ambulance service requests are made directly either to the Kelowna Fire Department, or Vernon Fire Department. The service is under contract between these fire departments and the British Columbia Ambulance Authority.

WINFIELD FIRE PROTECTION DISTRICT

A three bay firehall is located on Okanagan Centre Road at Camp Road. The hall also contains facilities for recreation and training use.

Major fire fighting equipment of the District consists of:

- 1973 Ford pumper truck, with 840 gallon water tank, and 840 g.p.m. pumping capacity.
- 1967 Dodge Tandem tanker truck, with 2,300 gallon water tank and 250 g.p.m. pumping capacity.
- 1959 Dodge pumper truck, with 500 gallon water tank and 500 g.p.m. pumping capacity.
- 1964 International panel truck, used for general service and emergency vehicle use.

The pumper and tank trucks are fully equipped with ladders, extinguishers, breathing apparatus and a wide range of additional miscellaneous fire and rescue equipment.

An alarm is turned in by calling 4444. This call activates a telephone exchange number which in turn activates telephones in the fire hall, Winfield-Okanagan Centre Irrigation District office and in 29 homes of volunteer firemen. If a serious fire develops, then separate calls are made to recall personnel from Hiram Walker and Sons Plant and Vernon Fruit Union Packing house. This situation would be mainly applicable during the day time work hours.

The District consists of:

One full time fireman (On active duty at firehall between 8:00 a.m. and 5:00 p.m. only)
Thirty one active volunteers
Five Trustees

The one full time fireman is also the Assistant Fire Marshall for the area.

With the exception of the full time member, all other members are volunteer, but are compensated for practice sessions and fire calls. The District must meet all Workmen's Compensation Board requirements and is responsible to the Minister of Municipal Affairs under the Water Act.

The District is presently in the process of amending its Letters Patent to expand its boundaries to include all those areas without fire protection that are either presently surrounded by the District or are on the outer fringes. This would include the large area in the south west corner of the plan area that is presently not served by the District.

The District presently provides protection to certain areas of the City of Kelowna. These areas include those properties in the north Glenmore area and along Highway 97 that are relatively close to the north boundary of the City of Kelowna and all businesses in the Winfield Industrial area. A financial agreement exists between the District and the City of Kelowna for this service.

The District also provides fire protection to Indian Reserve No. 7. The Department of Indian Affairs pay for all costs incurred in fighting any fires involving Indian lands and structures.

All ambulance service requests are made directly to the Kelowna Fire Department. The service is under contract between the City of Kelowna and the British Columbia Ambulance Authority.

Figure 19

Police Protection

Police protection is provided to the Oyama area by members of the Royal Canadian Mounted Police, Vernon Detachment. Members of the Kelowna Detachment serve the Okanagan Centre, Carr's Landing and the Winfield area as far north as Oyama Road.

One patrol car from the Kelowna office is assigned to cover the Winfield-Oyama areas with patrols of the Oyama area carried out several times a day from the Vernon office. If the assigned car is occupied, then one of the highway patrol cars will answer the call. Two highway patrol cars regularly patrol all highways within the detachment area.

It is highly unlikely that consideration will be given in the foreseeable future to establishing a sub-detachment in the Winfield Area. The main difficulties in establishing a sub-detachment office in this area are basically manpower, cost and communication.

Solid Waste Disposal

In the Winfield-Oyama area, collection of solid wastes are carried out by a private collection contractor for a monthly fee. Some residents transport solid wastes to the disposal site by their own means.

No land fill or solid waste disposal sites presently exist in the plan area. All property owners in the plan area participate in a Memorandum of Agreement which exists between Electoral Area "A" of the Regional District of Central Okanagan and the City of Kelowna, for contract services to dump solid wastes at the City dump on Glenmore Road.

The City of Kelowna disposal site is open from 8:30 a.m. to 4:30 p.m. Monday to Saturday. The operation is a sanitary land fill and a continued dredging and covering operation is utilized for decomposition of refuse.

The old Winfield sanitary land fill site, Lot 143, D.L. 521 on Okanagan Centre Road (South) has been abandoned for several years.

Septic Tank Effluent Disposal

Pumping of septic tanks is carried out by private contractors and the effluent is disposed of at the disposal site leased and operated by the Regional District of Central Okanagan. Figure 20 shows the site located east of Winfield, approximately 1 mile south of Beaver Lake Road.

This site is under permit from the Pollution Control Board of the Province which allows for the dumping of effluent by authorized hauling contractors only. The site is open from 8:30 a.m. to 4:30 p.m. daily and an attendant is available to be called out to open the site outside of regular hours. Two attendants are employed by the Regional District to maintain and operate the site. The Winfield site receives effluent from all locations throughout the Regional District, and is the only official effluent dumping site in the District.

Figure 20

Hospital, Sanitaria and Medical Services

Hospital services for the plan area are provided by the Regional Hospital in Kelowna. A new 200 (+) bed extended care unit, to be located at Ethel Street and Guisachan Road, is presently in the advanced planning stage.

Public Health nursing services are provided by the Rutland Clinic of the South Okanagan Health Unit. Health Inspection services are carried out by an inspector from the Rutland Clinic.

A private rest home consisting of 30 (+) beds is located on Woodslake Bottom Road in Winfield. A medical doctor, dentist and chiropractor have practices in the plan area with offices located in the Medical building located in the commercial area at the south west corner of Highway 97 and Berry Road. A medical doctor also maintains a limited practice from his home on Irvine Road in Oyama.

Welfare Services

Welfare services are provided to the Winfield-Okanagan Centre area by the Kelowna District office of the Provincial Department of Human Resources. The District office is located on St. Paul Street.

The following are the services and programs administered by the local Human Resources office:

Family Service Counselling
Social Assistance Program
Min-Come Program
Handicapped Persons Income Assistance Program
Child Adoption
Child Welfare
Licencing of Boarding Homes and Day Care Centres
Financial Support - Day Care Programs
Homemakers Society
Central Okanagan Social Planning Council Information Service.

Services are provided to the Oyama area by the Vernon District Office.

EDUCATIONAL FACILITIES

The following data was collected from supervising principals of the primary, elementary and high schools within the Community Plan Area.

WOOD LAKE ELEMENTARY

There are thirteen classrooms, one gym and one library. There are 13 teachers for a student/teacher ratio of approximately 30:1. There are no further plans for expansion. Severe septic tank drainage problems are being encountered requiring three loads of effluent to be removed daily.

GRADE	NUMBER OF STUDENTS
4	44
5	127
6	103
7	125
	399

231 students are transported, 163 from Winfield and 68 from Oyama.

WINFIELD ELEMENTARY

There are seven classrooms, one library (basement) and one gym. There are 7 teachers for a student/teacher ratio of 31:1. Expansion plans for one small gym. Two serious problems are children having to cross Highway 97 and the excessive traffic noise from the highway.

GRADE	NUMBER OF STUDENTS
K	49
1	75
2	46
3	50

55 students are transported from Winfield.

OYAMA ELEMENTARY

There are four classrooms and one basement library. There are 4 teachers for a student/teacher ratio of 26:1. It is planned to build an additional four classrooms on the site's vacant 3½ acres.

GRADE	NUMBER OF STUDENTS
K	23
1	23
2	14
3	22
4	23

51 students are bused from Oyama, 33 from Wood Lake.

OKANAGAN CENTRE ELEMENTARY SCHOOL

There are two classrooms with two teachers for a student/teacher ratio of 28:1. There are no plans for expansion.

GRADE	NUMBER OF STUDENTS
3	15
4	41

45 students are bused to the school.

GEORGE ELLIOT SECONDARY SCHOOL

George Elliot has seventeen classrooms plus two portables, one full size gym and one full size library.

GRADE	NUMBER OF STUDENTS
8	125
9	115
10	80
11	73
12	41

Number of students in 1974-75 was 435, the anticipated number for 1975-76 is 540 students. The maximum size class is 34 students and the minimum is 6 students per class

George Elliot uses the following Kelowna facilities:

Tennis courts	Bowling alley
Par 3 golf course	Curling rink
Big White Ski Resort	

Expansion plans for the future will be;

4 classrooms (1975)
2 science labs,
1 industrial power mechanics room
1 music room (1976)
2 art rooms
and other renovations.

The school is in need of a turnabout for school buses.

Buses - Number of students transported from serviced areas

Oyama	75
Okanagan Centre	37
Winfield	119
Total	231

RECREATIONAL FACILITIES

The following chart indicates the extent of recreational facilities within the community plan area. In particular their location, owner and extent of development.

Sources:

Winfield and Okanagan Centre - Ronald Taylor, Fish & Game Club Personal Contact.

Linda Hiebert, Community Club, Personal Contact

Oyama - Mrs. Butterworth, Oyama Community Club, Personal Contact.

School District #23 - Ted Swordy, Maintenance, Personal Contact.

Regional Recreation Brief - Central Okanagan Interim Regional Recreation Commission, December 1971.

WINFIELD AREA

Location		Name	Owner	Description
1	WoodsLake Road	George Elliot Secondary	School District #23	track,field,1 tennis court, gym, weight lifting room.
2	Berry Road	Winfield Elementary	School District #23	2 Fields, playground (adventure land), gym
3	Woodsdale Road	Wood Lake Elementary	School District #23	Gym, multipurpose large field, playground (adventureland), outdoors paved multipurpose court-used now primarily for basketball,school district wants to fence it and use it as a tennis court.
4	Camp Road	Jack Seaton Park	Irrigation District	Multipurpose playing field (baseball,soccer)-old skating rink used now for riding circle.
5	Clement Road (end of)	Lions Community Beach	Community	Picnic tables, improved beach shore-but water quality bad, no more a popular beach.
6 *	Woodslake Road	Under Construction Community Recreation Complex	R.D.C.O.	Building now; curling rink, skat rink. In future - covered swimming pool, senior citizens activity room.
7	Berry Road	Community Hall	Community	Used for floor hockey, square dancing.
8	McGowan Road	Fish & Game Club	Fish & Game Club	Field for trap shooting no water on property.

* No facilities

OKANAGAN CENTRE AREA

	Location	Name	Owner	Description
1	Lakeshore Road	Ok. Centre Elementary	School District #23	Small playground (adventureland) field.
2	Lakeshore Road	Marina	Breakwater- Fed. Government Ramp - Prov. Government	Brakwater, floating boat ramp, boats kept (Fish & Game Club will put toilet as soon as funds are available).
3 *	Lakeshore Road	Beach	Community	Beach, swimming lessons,in the process of building new floating ramp.
4	Maddock Avenue	Community Hall	Community	Dancing & craft lessons, badminton, equipment co-operatively owned.

* No facilities

OYAMA AREA

		Location	Name	Owner	Description
1		Trask Road	Centennial Beach	Community	Changing rooms, raft.
2		(Trask Road between Centennial Beach and Community Hall) there is a parcel of land owned by the Community on which a new multipurpose field has been planted and 2 tennis courts will be constructed shortly.			
3	*Peninsula	Trask Road	R.D.C.O. Park	R.D.C.O.	Swimming lessons, Park in development.
4		Oyama Road	Oyama Elementary	School District #23	Playground, multipurpose field.

* No facilities

SOCIAL FACILITIES

The following is a brief synopsis of the present institutional and recreational developments contacted during July and August 1975.

Churches (Oyama)

ANGLICAN CHURCH - Oyama Road

No plans for expansion.

Churches (Winfield)

MISSIONARY CHURCH - Glenmore Road

No plans for expansion. The congregation has just finished building a new parsonage.

SEVENTH DAY ADVENTIST CHURCH - Bottom Woodslake Road

No plans for expansion in the next two or three years. There is a possibility of some expansion to the church in about five years.

JEHOVAH'S WITNESSES KINGDOM HALL - Newene Road

No plans for expansion.

CATHOLIC CHURCH - Corner of Lodge and Bottom Woodsdale Road.

No plans for expansion.

WINFIELD UNITED CHURCH - Berry Road

This congregation is planning, and has made application for a permit for an extension of the building at the rear of the church. This building houses now the "What Not" Shop and the Church School. They are considering the purchase, or building of a parsonage within the next five or six years. This would involve the purchase of a site.

PINEGROVE FREE METHODIST CAMP - Beaver Lake Road.

No plans for expansion. Their only expansion might be the building of a swimming pool.

EASTER SEAL CAMP - Davidson Road.

No plans for expansion.

OKANAGAN ANGLICAN CAMP - Wilson's Landing.

No plans for expansion.

GIRL GUIDE CAMP

No plans for expansion.

Department Of Regional
And Community Planning

540 Groves Avenue
Kelowna, British Columbia
Telephone 763 - 4918

December 31, 1975

D.W. Barcham, Director of Planning, M.C.I.P.
Regional District of Central Okanagan
540 Groves Avenue
Kelowna, B.C.

Attention: Regional Board

Dear Mr. Barcham:

RE: Winfield Area Community Plan - Part II

Please find attached the draft of the Winfield Area Community Plan, Part II "The Plan".

This condensed material is in a form suitable for publication and general distribution.

Our detailed working maps, data and files are available upon reasonable notice to anybody wishing more indepth information than that published.

I remain
Yours truly,

J.X. Woodroffe, M.C.I.P.
Planning Consultant

JXW/bp

WINFIELD - OYAMA AREA

COMMUNITY PLAN

REGIONAL DISTRICT OF CENTRAL OKANAGAN
540 Groves Avenue
Kelowna, B.C.

December 31, 1975

AUTHORIZATION

On January 23, 1975 the Regional District of Central Okanagan's Board of Directors authorized the Planning Committee to start work on the Community Plan for the Winfield-Oyama Area.

Mr. J.X. Woodroffe (Planning Consultant) was retained on a contract basis to December 31, 1975 to supervise and expedite the Community Plan Programme.

Under the direction of Mr. D.W. Barcham (Director of Planning), Mr. Woodroffe was charged solely with the responsibility of developing the Community Plans.

The terms of reference prepared by Mr. Woodroffe and approved by the Regional Board called for the completion of Part I "Background" by August 31, 1975 and Part II "The Plan" by December 31, 1975.

This Community Plan is a five year plan for controlling growth. The urgency and need for rapid action to formulate and implement development policy has become all too apparent to the Regional Board. The Community Plan Programme was allotted minimal time for its preparation (12 weeks).

THE PLANNING TEAM

The Community Plan Programme authorized by the Directors of the Regional District of Central Okanagan, is being undertaken by Mr. J.X. Woodroffe, M.C.I.P. (Planning Consultant) under the direction of Mr. D.W. Barcham, M.C.I.P. (Director of Planning). The following personnel have been directly involved in the programme.

- Members of permanent staff of Regional District of Central Okanagan employed full time on programme:

  Mr. R. Clarkson, C.E.T.
  Mr. R. Seright
  Mr. B. Pollon (November and December)
  Miss B. Peterson

- Members of permanent staff of Regional District of Central Okanagan who assisted in the programme:

  Mr. W. Eaton
  Mr. F. Shotton
  Mr. A. Hilmer
  Mrs. P. Paquette

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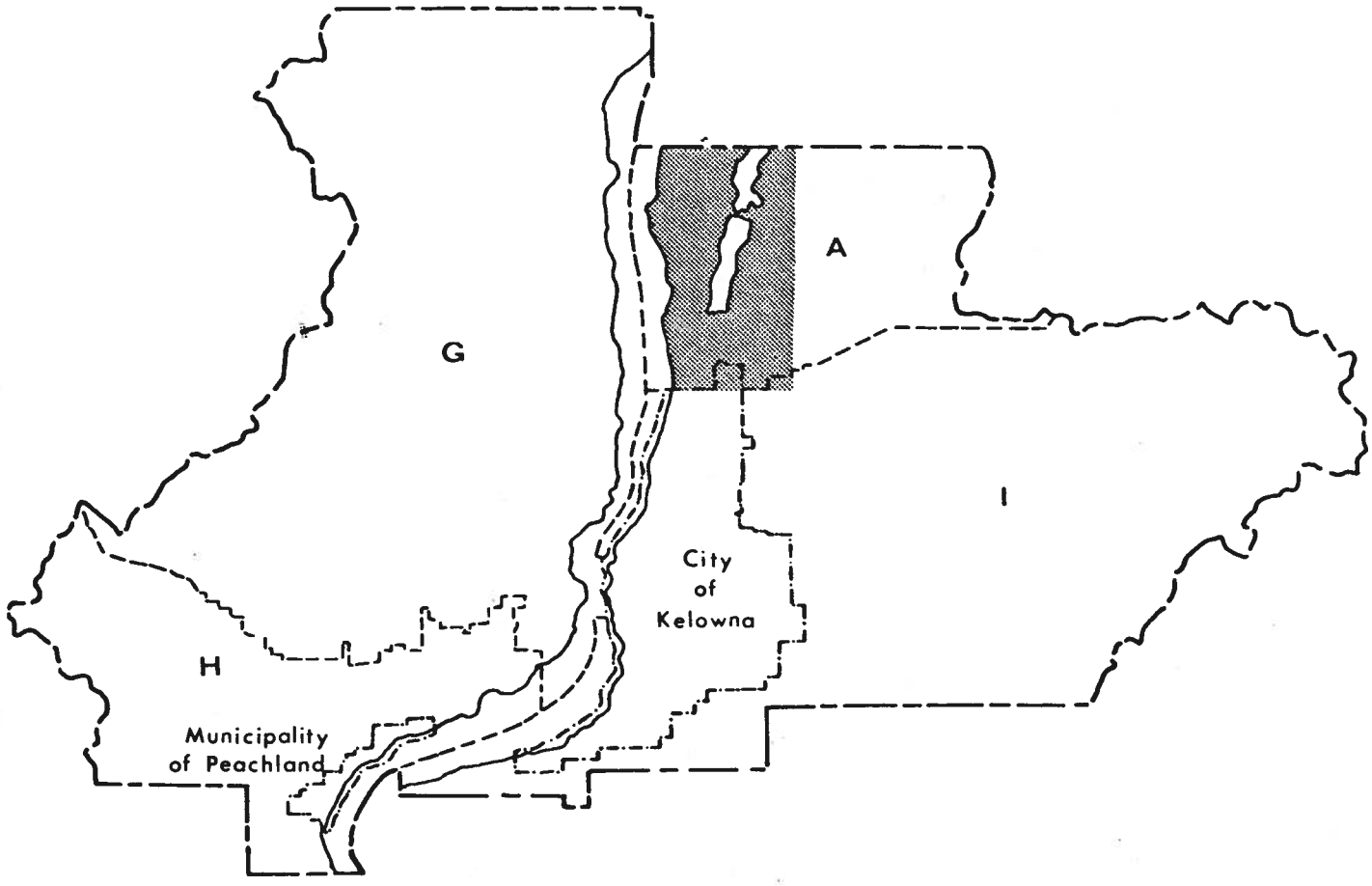


COMMUNITY PLAN LOCATION

WINFIELD - OYAMA AREA

REGIONAL DISTRICT of CENTRAL OKANAGAN

Scale 1 inch: 8 miles

4 0 4 8

1975

PART II

THE PLAN

These Plan proposals have been based on an indepth study and analysis of the extensive background data and allied public involvement programme. This is a consolidated publication, any requests for indepth data will be welcome and supplied, providing sufficient notice and staff time is available.

This document has not been confined rigidly to a five year plan for growth. Some insight has been made well beyond this period of time in order to more rationally determine the most suitable plan for growth.

GROWTH

And Its Control

GENERAL

In 1973 an Economic Base Study; The Okanagan Shuswap Region, A British Columbia Economic Study, prepared by the Department of Industrial Development, Trade and Commerce was completed.

In the Study the Okanagan Valley was considered an economic region with a strong economic base and generally high quality of natural environment. It noted that only through careful planning and integrated management of the basin's water, land and human resources can the present economic and environmental harmony of the basin continue.

The Community Plan area is a small but integral part of the Okanagan Valley. The Study forecasts that growth in the economy will be predominantly in the service, construction and manufacturing industries. Growth in the mining, forestry and agricultural industries will remain fairly stable.

The Community Plan was developed after:

- background data had been assembled, compiled and analyzed,
- the demand for growth within the community had been determined,
- the community's reaction to this growth had been assessed.

On this basis a Community Plan was developed which reflects:

(a) the demand for growth within the region, based on its economic base and population projection,

(b) the willingness of the community's residents to absorb

a predetermined portion of this growth based on the community's goals, aspirations and preservation of desired life style within its financial limitations,

(c) the Regional Plan for the Central Okanagan, the Okanagan Basin Study and community plans for abutting areas,

(d) the assurance that the plan will be carried out within the constraints of existing Provincial legislation and will respect the Senior Government's policies related to the protection of good agricultural land,

(e) protect, conserve and maintain the environment against undesirable and conflicting development,

(f) compatibility between the various land uses, so that each will not adversely affect the other, in particular that residential, agricultural and conservation areas are protected from adverse land uses and their affects,

(g) a broad range of recreational facilities and services,

(h) minimal air, water, land, visual and noise pollution,

(i) all the necessary services, facilities and utilities vital to the optimum functioning of the community.

In summary the Community Plan will reflect and be the working document for community growth at and to a desired scale within the bounds of social, aesthetic and economic parameters. The plan will not be detailed, but will outline future development goals including the location and extent of physical development in the community.

POPULATION AND GROWTH

In recent years (1970 to end of November 1975), the population has risen from 3,415 persons in 1971 (1971 census), to an estimated 4,871 to the end of November 1975. This represents an increase of 43% in approximately a four year period.

	1970	1971	1972	1973	1974	1975(to end of Nov.)
House Starts	42	61	68	114	173	113
Population	3268*	3415**	3629*	3867*	4266*	4871*

(* estimate)
(** 1971 census)

The population estimate is based on an average unit occupancy of 3.5 persons per dwelling unit. Of interest is that the rate of growth for the entire Regional District in 1974 was 9%, compared to about 10% for the Community Plan Area.

CONTROL OF GROWTH

The public input programme registered a concern for the present erratic manner of development as well as quality of growth allied with the need for basic necessary services and facilities. Compounding this concern was the economic ability of this community to provide these services and facilities.

Schools, park land, recreational facilities, collector, arterial and commuter roads, properly installed sewerage and water systems, effective fire and police protection were a few of the more important services and facilities which generated the most concern in newly developing urban areas.

The concern was registered in a motion passed by the Citizens' Committee. The motion was based on their personal knowledge of the community as a whole and substantiated by the results of the household questionnaire. The motion approved by the Committee stated -

"That Area "A" have a maximum of 5% growth per year."

Continued excessive, uncontrolled growth, the public feared would result in prohibitive taxation.

Should a community desire to gain control over the quality and quantity of growth, its only present effective recourse is through subdivision and zoning. A number of other controlling factors are beyond the community's means ie. the prevailing economic situation, mortgages-their interest and availability, local employment opportunities, etc.

In accord with the majority of responsive residents in the plan area who have clearly made their desires known through the public participation programme we would recommend

> *"That all possible steps be taken to decrease and maintain the rate of growth in the plan area to a maximum of 5% per annum."*

It is obvious that little growth control can be affected for some time to come, even if subdivision control was immediately exercised. The reason for this being, that at the present time there are approximately 668 vacant small residential lots in the plan area. It is imperative however, that subdivision control be immediately implemented.

Allied with growth control is the quality of growth. The standard of existing growth is good. It is imperative however, the controls be enacted to ensure that the standard of existing development be maintained and improved where necessary through the implementation of enforced land use controls.

It is recommended

> *"That an up-to-date, pertinent new zoning and maintenance by-law be immediately prepared and implemented. The by-law to establish minimum standards for land use and development within the Region as a whole and the Community Plan Area in particular."*

A zoning and maintenance by-law essentially controls existing land use and development and its improvements and expansion. A successful zoning and maintenance by-law should include a sound, well compiled and enforced set of standards for new development areas.

Development standards are an exacting set of specifications drafted and adopted by the governing body to ensure that the quality of improvements in new development areas are standardized and properly controlled.

Prospective subdividers and developers appreciate operating within a well organized and clearly defined municipal process. An up-to-date contempory zoning by-law clearly establishing development control and standards will dispel considerable speculation and uncertainty on the part of developers as well as municipal officials in the subdivision and development process.

DEVELOPMENT POLICY

This Community Plan is a five year plan, with limited insight beyond that time. The plan is allied with the Regional Plan, The Okanagan Basin Study and the Kalamalka-Wood Lake Study.

The plan area has historically developed as an agriculturally orientated rural area (with sporadic semi-rural). The predominant form of agriculture is tree fruits and grapes with small intensified market garden operations in selected areas. Large areas of the plan are suitable for intensive agriculture. Extensive areas are heavily treed, however in open areas or where clearing has taken place grazing and ranching is carried on.

Three or four small village type settlements eg. Oyama, Okanagan Centre and Winfield have traditionally served as local centres.

However, a recent phenomenon has been the influx of small lot, residential subdivisions scattered throughout the area. These have sprung up without any apparent assimilation with either one another or an established community. In short, no planning has been evident in their creation.

Reaction from the public involvement programme indicated that the majority of residents in the area feel that further small lot subdivision should be curtailed. They feel that the area should remain agricultural in nature and that emphasis should be placed on the consolidation of existing subdivision and development areas, coupled with a concerted effort to upgrade services and facilities.

The plan area abuts three lakes, ie. Okanagan, Kalamalka and Wood Lakes. Extensive and intensive investigation through the Okanagan Basin Study and the Kalamalka-Wood Lake Study clearly emphasize the need to rigidly control land use in the area. Urban and agricultural habits practiced in the area are apparently eroding and polluting the natural environment of these lakes.

Concentrated urban development in low-lying areas adjacent to the lakes are in immediate need of improved sewerage collection and disposal systems that will remove the likelyhood of contamination to the adjoining lakes.

The plan area lies immediately adjacent to and north of the City of Kelowna. The Community Plan for the City of Kelowna proposes extensive residential development south of our Plan. These residential areas will be developed under the control of an urban municipality where proposed policies are likely to insure an excellent standard of urban development.

Our recommendation on subdivision and development in this area stresses the need to curtail further urban subdivision. Emphasis should be placed on encouraging the upgrading of existing services ie. water supply and sewerage disposal and facilities ie. roads, schools and recreational areas. The emphasis on development in the area will stress the need to protect, enhance, and encourage the agricultural economy.

In essense therefore, we recommend

> *"That non-agricultural orientated subdivision be not approved in the Plan Area. Exception being where certain very limited infilling and consolidation of existing urban residential pockets are suggested on the "Proposed Land Use Map"."*

DEVELOPMENT STANDARDS

In order to facilitate as well as generate a high standard of development in a community, it is imperative to establish an exacting and positive set of development standards. Accompanying these standards should be a clear and concise method of procedure. This method of procedure coupled with development standards should be properly formulated and adopted by the local governing body. It is imperative that these standards exist and are enforced so that the development chain from land owner to subdivider, through to developer as well as the local governing bodies and their personnel are fully aware of the standards and procedure of development.

It is recommended

> *"That an exacting set of development standards coupled with a method of subdivision and development procedure be formulated for and adopted by the Regional Board."*

These standards of development should lay down and contain the ground rules for the planning and provision of all necessary local and off-site improvements, services and utilities and should include:

(a) all planning, engineering and other professional information and documentation necessary for reviewing a subdivision. The development proposal to be represented by qualified and accredited professional persons in their respective fields.

(b) no site work nor development, including excavation, tree cutting

or other operation to be commenced prior to the approval for same has been obtained by the approving authority and a permit issued.

(c) the boundaries of the entire development area in order to properly determine and relate any particular subdivision and/or development within the context of the overall area.

(d) details as to the location, design, approval, acquisition and development of

- arterial, collector and local roads
- the water supply system
- the sewerage disposal system
- fire protection system
- all parks and buffer areas
- all school sites
- all bicycle paths, riding trails and sidewalks
- street lighting, etc.

It is imperative that all urban subdivisions and development proposals be referred to the school authority for their information and comments and that they be afforded the opportunity to complete negotiations with the subdividers and/or developers respecting the acquisition of all necessary school sites prior to the approval of subdivision and/or development.

(e) provisions that all utilities, eg. electrical, telephone, cable T.V., etc. will be installed underground (urban areas only).

One of the major problems confronting any form of development control programme is the inherent large number of vacant predominantly residential lots existing within the community plan area. It will be necessary to urge the development of these vacant lots if the community is to have some hope of not only controlling the quality of development, but also alleviating the economic burden imposed on the resident taxpayer.

Under present local taxing arrangements these vacant lots contribute little to the municipal coffers whilst amassing considerable gain to the owner. A lot whose price is about $15,000 to $20,000 pays taxes in the area of between $120 to $150 per annum, little considering the price of this lot probably has tripled in five years. It has been suggested from many sources and we would also recommend

> *"That efforts be made to amend the Assessment Act. in particular that the assessment on vacant residential lots be increased substantially to more reflect their public economic liability as well as encourage their development."*

PLAN OF GROWTH

AGRICULTURE

The prime natural resource of the plan area is land. The use to which this irreplaceable resource (land) is put is of ultimate importance. Certain, very limited areas of land are suitable for agriculture. One of the chief intentions of this plan is to preserve these limited areas from would be exploitation from land uses which would destroy their agricultural capability.

Good agricultural land is an invaluable natural resource. Present tendencies to forego the agricultural value of the land in favour of immediate, more profitable uses to which it may be put is for the most part shortsighted and irresponsible. It is our opinion that in the near future the value of agricultural land will outdistance any alternate land use value, not only in monitary but more important in optimum use terms.

It is the recommendation of this plan

> *"That for all good agricultural land, whether or not it is within the Agricultural Land Reserve, the use shall be agricultural. Departures to this will only be proposed where we feel there is no other alternative in order to resolve a major planning problem."*

The Proposed Land Use Map has divided agricultural land into two categories, intensive and non-intensive.

Intensive agricultural includes agricultural uses whereby the soil is broken and planted, including market gardens, small crops, tree fruits, cereal crops, etc.

Non-intensive agriculture is essentially grazing orientated pursuits.

Further, more detailed investigation in any of the above two categories may determine a more accurate definition of their agricultural viability.

Subdivision policy in the intensive and non-intensive categories essentially should relate to viability of any parcel created and used as an agricultural entity. Subdivision of agricultural land will have to be strictly controlled if the viability of the land is to remain assured.

RESIDENTIAL

General

Existing residential development in the area falls basically into two categories. Firstly, that located on rural or semi-rural parcels situated in agricultural areas throughout the plan and secondly, houses located on small, non-agricultural lots. These are generally confined to a dozen or so urban clusters throughout the area.

Almost the entire housing stock is single family detached in type, the majority of which has been constructed insitu. However, a number of modular housing (mobile units) are scattered throughout the plan area.

The standard of residential development, particularly new development, is good. However, the need for upgrading of certain services and facilities is endangering the standard of existing development.

As of October 31, 1975 there were approximately 668 vacant small lots suitable for the construction of houses. Based on a per household density of 3.5, there is in theory sufficient allowance for a further population increase of 2,338 persons, or 47% over the existing population of approximately 5,000 persons (taking into consideration the occupancy of houses started to the end of November 1975).

The Proposed Land Use Map indicates areas of infill and consolidation which will create a further 463 lots (approximately). When developed these lots will provide accommodation for a further 1,670 persons (approximately 3.5 persons per unit). Our plan of growth therefore,

establishes an eventual potential population of about 9000 for the plan area (80% increase).

It is recommended

> *"That only single family detached or semi-detached (only on lots zoned for semi-detached) house types be permitted to be developed within the plan area."*

COMMUNITY PLAN AREA

WINFIELD·OYAMA AREA COMMUNITY PLAN

REGIONAL DISTRICT of CENTRAL OKANAGAN

SCALE 1:50,000

Feet 2500 0 2500 5000

Metres 500 0 500 1000 1500

1975

Figure 2

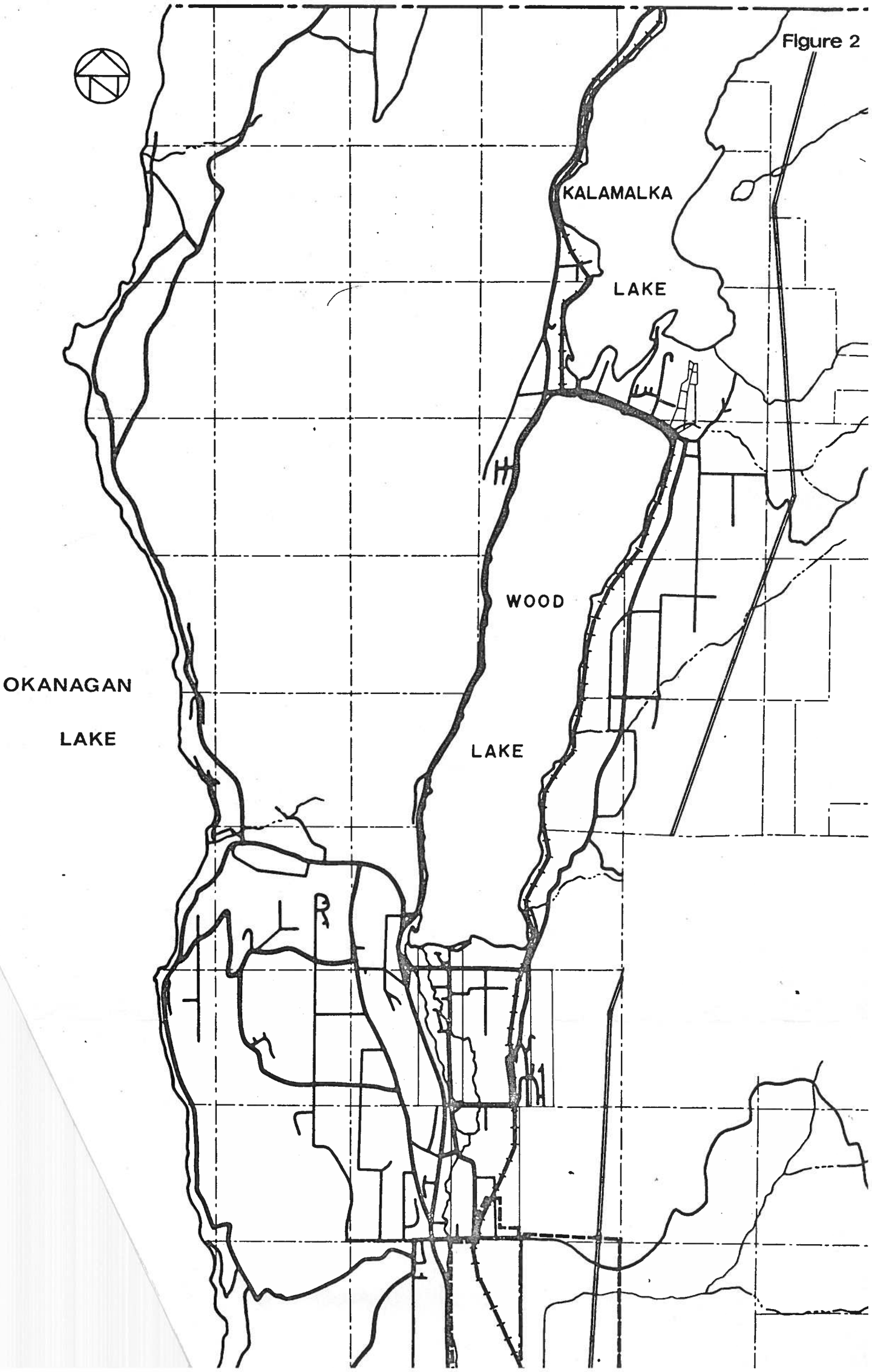


Figure 3

WINFIELD - OYAMA COMMUNITY PLAN AREA

LAND USE AREAS (acres)

Use (See Proposed Land Use Map)	Existing*(Nov.1975)	Proposed
Urban	804**	832
Commercial	90	95
Agricultural	11,770	14,490
Recreational	114	713
Industrial	111	139
Institutional	39	88
No Specific Use	11,173	7,744
TOTAL	24,101	24,101
Population	4,871(Estimate)	9,000***(Estimate)

* Includes undeveloped land

** Includes approximately 668 small vacant lots

*** Based on existing densities

Staging of Development

We would recommend the following staging of development within the plan area.

STAGE 1
That no further residential subdivision be approved until 85% of the existing vacant small residential lots are developed.

STAGE 2
At such time as Stage 1 has been completed, further residential subdivision be permitted as per Proposed Land Use Map subject to:

- the rate of subdivision and development being geared to a predetermined rate of growth as set by the Regional Board, (our recommendation 5%), and

- an ongoing 85% completion (developed lots) be achieved prior to any subsequent approval for subdivision within the development area,

- the satisfactory completion of all development requirements and agreements from stage to stage within the development area.

Detailed investigation may determine that future subdivision as proposed may require the installation of a community sewerage system. If so, this would be a prerequisite of further subdivision.

No attempt has been made to determine at what point in time the various stages may or will be completed. Timing at present is a hazardous venture, particularly as the ingredients are, for the most part, outside and beyond the control of local jurisdictions, and subject to spontaneous change, often without notice.

What is important is the timing of development so that the required growth rate, standards, facilities, services, etc. are maintained and provided.

Single Family Detached and Two Family Attached Units

This form of housing dominates the plan area, particularly the single family detached unit. The community would seem to be generally unfavourable to any marked change in the house mix by type that is presently found in the plan area. The present mix is simply single family detached with a very sparse scattering of two family attached units.

Concern is noted for the present policy of permitting the development of two family (attached) residential units within a single family area without any apparent pre-planning.

We would recommend

> *"That all residential areas be predesigned and prezoned so that it is clearly evident where and under what conditions single family and two family housing types are permitted to be developed."*

It should be recognized that although the developed areas contain almost entirely single family detached housing, with the residents in these areas generally only being in favour of this kind of housing, future development areas may and perhaps should contain other innovative forms of housing types.

Alternate housing forms, providing they are properly designed and complimentary to the area's setting and ecology, etc., should be encouraged, providing they are properly integrated and preplanned into the neighbourhood. Not to be forgotten is the need for preplanning and preknowledge of the home buyer, so that he is aware of the entire neighbourhood, its extent and content. This will alleviate considerable confusion and discontentment as the neighbourhood develops.

COMMERCIAL

Retail commercial business in the plan area is presently scattered but is essentially confined to established small urban nuclei throughout the plan area. Principle amoung these locations are those in Winfield, Woodsdale, Okanagan Centre and Oyama. A number of these commercial outlets are located adjacent to Highway 97 and cater to the travelling public as well as the local population.

Allied with the recommended development policy of this area we recommend

> *"That the existing commercial centres in Winfield, Woodsdale, Okanagan Centre and Oyama remain the established commercial hubs and that expansion be limited to local demand in these particular locations."*

and further

> *"That existing commercial development be encouraged to improve their development and standard of operation, particularly where they infringe on the efficiency and/or environment of adjoining land uses, ie. highways, lakes, etc."*

Essentially, the commercial demands of the area are strictly limited. Major shopping by the people is presently carried out in either the City of Kelowna or the City of Vernon. Commercial development in the plan area should be confined to small retail outlets catering to day-to-day emergency needs of the local population.

Highway Commercial

"Commercial development adjacent to or in the immediate vicinity of Highway 97 should be confined to:

- *as few locations as necessary to adequately provide the immediate needs of the travelling public.*
- *locations at specific, convenient intervals along the length of the highway.*
- *maintain the optimum of highway access control and safety.*
- *those commercial uses which provide the immediate needs of the travelling public. Exceptions to this will be where the highway transgresses a community's central business district.*

On the Proposed Land Use Map we have shown the extent of commercial development adjacent to the highway. Existing commercial development adjacent to the highway consists of practically all manner of retail, wholesale and even manufacturing businesses with virtually no access control.

Tourist Resort

Tourist orientated accommodation, resort and allied commercial developments are reasonably prominent in the plan area, particularly adjacent to the lakes.

Contact with the residents of the area brought to light the need for long overdue improvements in the existing tourist attractions and allied facilities. The following motion was adopted at a Citizens' Committee meeting. We concur with this recommendation and urge action in its implementation.

It is therefore recommended

"That strict controls and highest development standards be enforced for existing and future tourist accommodation facilities; and further that sanitary facilities be provided and maintained at existing publicly used areas and further that additional development of government camp-sites be requested in view of present situation of overnight usage of highway shoulders and turnouts."

INDUSTRIAL

Industrial development is for the most part located in the extreme south easterly sector of the plan area. Until quite recently major industrial developments such as Hiram Walker and Sons, Vanguard and Fiberplast were located in Electoral Area "A" of the Regional District however, they are now within the corporate boundaries of the City of Kelowna. Outside of this industrial zone there are a number of packing houses and small manufacturing/retail enterprises scattered throughout the area.

It is proposed that the existing industrial area in the south eastern corner be expanded, with proper services, access, etc. and that a high level of development be maintained and improved. This industrial area, be it destined to lie within the corporate limits of the City of Kelowna or remain partly within the Regional District should be controlled so that it evolves into a first class industrial area.

We would recommend

> *"That within the plan area good quality, clean industrial development be encouraged, and that it be located within the confines of the industrial area in the south eastern corner of the plan (see Proposed Land Use Map)."*

Industrial development in the plan area occupies approximately 63 acres. An additional 139 acres is proposed in the Land Use Map.

GRAVEL EXTRACTION

Part I - Background, indicated three categories (good, moderate and poor) of areas generally considered for potential gravel extraction, (Source was the Department of Agriculture, Kelowna Office).

The Regional Plan has made specific recommendations on such areas eg. permitted uses, constraints and minimum required regulations.

EDUCATIONAL

Four elementary school sites - Wood Lake, Winfield, Okanagan Centre and Oyama and one high school George Elliot, are located within the plan area. Reference to Part I - Background of this Community Plan will indicate their enrollment by classroom, together with other pertinent data.

At the present time the Department of Education is with few exceptions, limiting the size of school sites which they are prepared to purchase. As a rule of thumb, an elementary school is generally confined to a six acre site for a sixteen classroom school (approximately 500 students). A high school is usually limited to twelve acres with a maximum student population of approximately 900. These general rules however, are subject to variance in cases where land costs, land availability or particular enrollment characteristics occur.

It is our opinion that the present school sites are for the most part undersized, even in those cases where the site is reasonably level, well drained and fully utilized. After the building, parking, walkways, buffer and planted areas are developed, the remaining play or active open recreation area is undersized.

A number of comprehensive studies have been prepared in Western Canada on the subject of school site requirements. We would recommend that the information from these studies be utilized and incorporated into a concise report for consideration by the authorities charged with school site selection and acquisition.

It is recommended

"That a concise report be assembled on school site standards, in particular their optimum size and form."

Should the report show that present policy provides school sites that are undersized for the demands placed on them, immediate attempts should be made to amend the site acquisition standards. In the event that the Department of Education maintains its present policy, then the alternative would be to acquire park areas of sufficient size adjacent to the school sites and develop them for joint use with the schools.

Following is a brief resume of existing schools in the plan area.

Wood Lake Elementary School

This school occupies a site of approximately eight acres located immediately adjacent to Vernon Creek on Woodsdale Road. No plans existi for the expansion of this school where the 1974-75 enrollment of some 400 students is fairly well suited to the size of the site.

Sewerage disposal is a serious problem with this site. The school is located in an area of high water table. The septic tank system cannot cope with the demand, with the result that about three tank truck loads of effluent are removed from the site each day. No immediate relief is available for this predicament other than connecting the school to a sewerage disposal system which will remove the effluent from the area. (See Sanitary Sewerage Disposal).

Winfield Elementary School

This school is located west of and adjacent to Highway 97 in Winfield.

It is approximately eight acres in area. The site would seem to be adequate in size for the 220 students. Of major concern to the school is the immediacy of the highway. Excessive traffic noise and the danger of children being on or having to cross the highway is of serious concern. Any upgrading of the highway should consider these adversities and attempt to alleviate them in the new plan.

Oyama Elementary School

The existing developed site is approximately 1½ acres. The existing four classrooms will be expanded to eight in the near future. The expansion is scheduled for completion in June 1976.

Okanagan Centre Elementary School

The two classrooms are located on approximately 1.2 acres. There are no plans for expansion.

George Elliot Secondary School

During the 1974-75 season the enrollment was 435 and this is expected to increase to about 546 during the 1975-76 season. Expansion plans call for an additional 4 classrooms, 2 science labs, 1 industrial power-mechanics room, 1 music room, 2 art rooms to the existing 17 classrooms and two portables. Existing site area is approximately eight acres.

In our opinion the present site is too small for the expected expansion and increased enrollment. It is recommended

> *"That an additional eight acres be acquired for a combined school and park area immediately north of the existing school site."*

Proposed New School

An elementary school (six acres) located in the Lodge Road Subdivision (See Proposed Land Use Map) is presently being negotiated for purchase by the School Board.

RECREATIONAL

General

Publically owned recreational land either preserved in its natural state or else developed for active or passive recreational pursuits falls generally into the following categories within the Province of British Columbia.

FEDERAL JURISDICTION

National Parks usually of large size, an example being Mt. Revelstoke National Park. This category of park usually caters to a broad range of recreationl pursuits, both active and passive in nature, but principally conservation orientated.

PROVINCIAL JURISDICTION

"Class A" : Generally similar to the National Parks in size and intent, typical examples are Okanagan Mountain and Cathedral Lake Parks.

"Class C" : Generally intensively developed with emphasis on active recreational pursuits. Typical examples include Sutherland Hills Park, Silver Star Ski Area and Mt. Boucherie Park.

"Provincial Camp Grounds" and "Provincial Roadside Rest and Picnic Areas": Located in scenic areas easily accessible to the travelling public.

REGIONAL JURISDICTION (or Municipal)

"Type 1 (Regional)": A large park providing activities related to natural scenery, such as hiking, picnicking, fishing, nature study and trail camp sites. An example is Mission Creek Park.

"Type 2 (Regional)": Beach or water front park used primarily for swimming, boating and picnicking. An example is Kalamalka Lake Park.

"Type 3 (Regional)": Stream conservation areas and trail parkways for walking, horse trails, bicycle paths, picnicking and preservation of scenic beauty, and protection of the watershed.

"Type 4 (Regional)": Intensively developed for indoor or outdoor recreation. An example is the Mt. Boucherie Recreation Complex.

"Type 5 (Neighbourhood Active Parks)": The requirements for this function should include those facilities provided on school sites. This space should be developed for activity of all ages and should in part include a play lot, tennis courts, play fields and generally an active park for the immediate neighbourhood. We would recommend a minimum of 5 acres for each park, with the provision of 5 acres per 1000 population.

"Type 6 (Neighbourhood Passive Parks)": These parks are often located in close (neighbourhood) proximity to areas of natural preservation or focal points to form relief to and compliment urban massing. They can be quite small in size. They should afford the opportunity to the user to relax, walk and generally appreciate passive recreation within an urban area. The size can vary from 5000 square feet, upwards. We would recommend that a minimum of 3 acres per 1000 population be provided.

"Type 7 (Buffers, screening and landscaped berms, including scenic walkways, and bridle paths, etc.)": This form of landscaped open space is required where certain aesthetic effects are wished to be achieved. This is principally in the effort to obtain harmony in areas of conflicting land uses. No specific area requirements can be proposed as the need is directly related to the demand.

It is recommended

"That where urban subdivisions are adjacent to ravine or unstable areas, the boundaries of these subdivisions will maintain a minimum fifty foot separation from the top of the bank."

This community plan is primarily concerned with the local recreational land needs on a neighbourhood scale. The plan area has very limited existing public open space. The vast majority of it is located in areas removed from urban development, eg. near or adjacent to the lake, creeks or is of a form not suitable for development for active recreational pursuits.

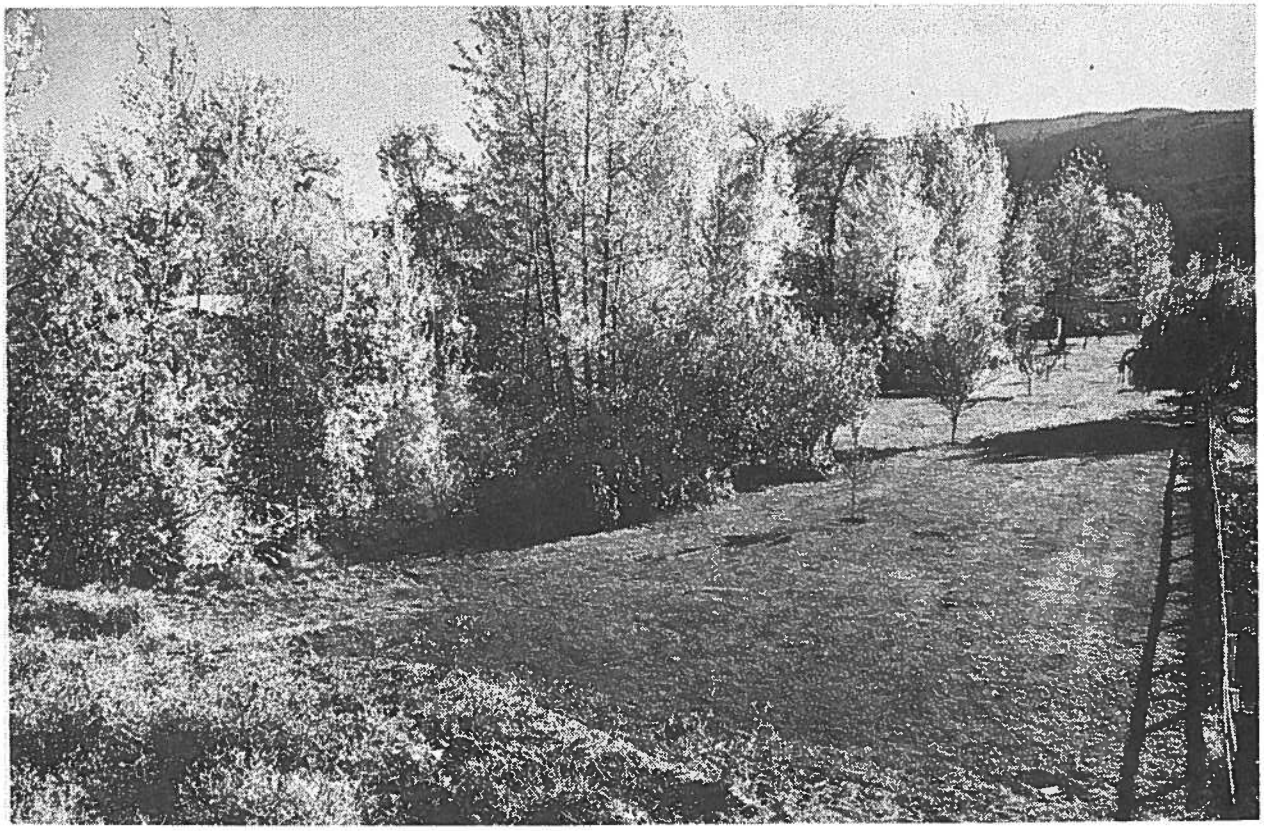
Present Provincial legislation makes no provision for the acquisition of park as a requirement of subdivision approval, not even in areas of high urban densities. Local authorities in order to obtain lands for schools and parks, have the choice of either purchasing land or else hoping, that they will be donated. We would strongly recommend

"That the Regional Board pursue a vigorous campaign to encourage the Provincial Government to enact legislation requiring the dedication of land for public purposes as a condition of urban subdivision."

and further

"That there should be a fully integrated Regional and Community Park Plan system."

An excellent example of a buffer between residential development and a major highway.



A good example of how urban development should compliment a neighbouring preserve.
(Trepanier Creek)

The Regional Plan will no doubt be making recommendations on Regional District Park Types 1 through 4 inclusive. This study will be making recommendations on Types 5 through 7 inclusive. Needless to say overlap is inevitable in recommending on park acquisition and development in the plan area. As well a number of parks will fall into more than one type.

Type 4 facilities are limited to the Winfield Recreation Complex. This facility is for use by residents of the Regional District Electoral Area "A".

Of paramount importance is not only the park area requirement, but its location in relation to the area it services. Both active and passive neighbourhood parks must be located within the residential areas.

Residential development within the plan area is very scattered. Only two or three areas of residential subdivision could be construed as being of legitimate urban nature, even so far as they are too limited in size to be categorized as neighbourhoods. Unfortunately these residential areas are devoid of any public open space, suitable for active or passive parks. Our Proposed Land Use Map indicates very limited expansion of these residential areas. However, an integral part of their consolidation and expansion will be the immediate need to provide adequate public open space. On the Proposed Land Use Map we have indicated where additional park areas should be acquired, the most prominent being a five acre park in the north sector of the Lodge Road residential area.

Via the public involvement programme it was determined that there is an urgent need for public tourist conveniences in the plan area, particularly in those beach areas adjoining Okanagan Lake. A motion was passed by the Citizens' Committee and we concur -

"That permanent bathhouses and restrooms be provided in the Okanagan Centre area specifically in the area of the store and marina facilities."

The following charts show existing public, semi-public and private recreational areas in the plan area.

WINFIELD AREA

Location		Name	Owner	Description
1	WoodsLake Road	George Elliot Secondary	School District #23	track,field,1 tennis court, gym. weight lifting room.
2	Berry Road	Winfield Elementary	School District #23	2 Fields, playground (adventure land), gym
3	Woodsdale Road	Wood Lake Elementary	School District #23	Gym, multipurpose large field, playground (adventureland), outdoors paved multipurpose court-used now primarily for basketball,school district wants to fence it and use it as a tennis court.
4	Camp Road	Jack Seaton Park	Irrigation District	Multipurpose playing field (baseball,soccer)-old skating rink used now for riding circle.
5	Clement Road (end of)	Lions Community Beach	Community	Picnic tables, improved beach shore-but water quality bad, no more a popular beach.
6 *	Woodslake Road	Community Recreation Complex	R.D.C.O.	Building now; curling rink, skat rink. In future - covered swimming pool, senior citizens activity room.
7	Berry Road	Community Hall	Community	Used for floor hockey, square dancing.
8	McGowan Road	Fish & Game Club	Fish & Game Club	Field for trap shooting no water on property.

OKANAGAN CENTRE AREA

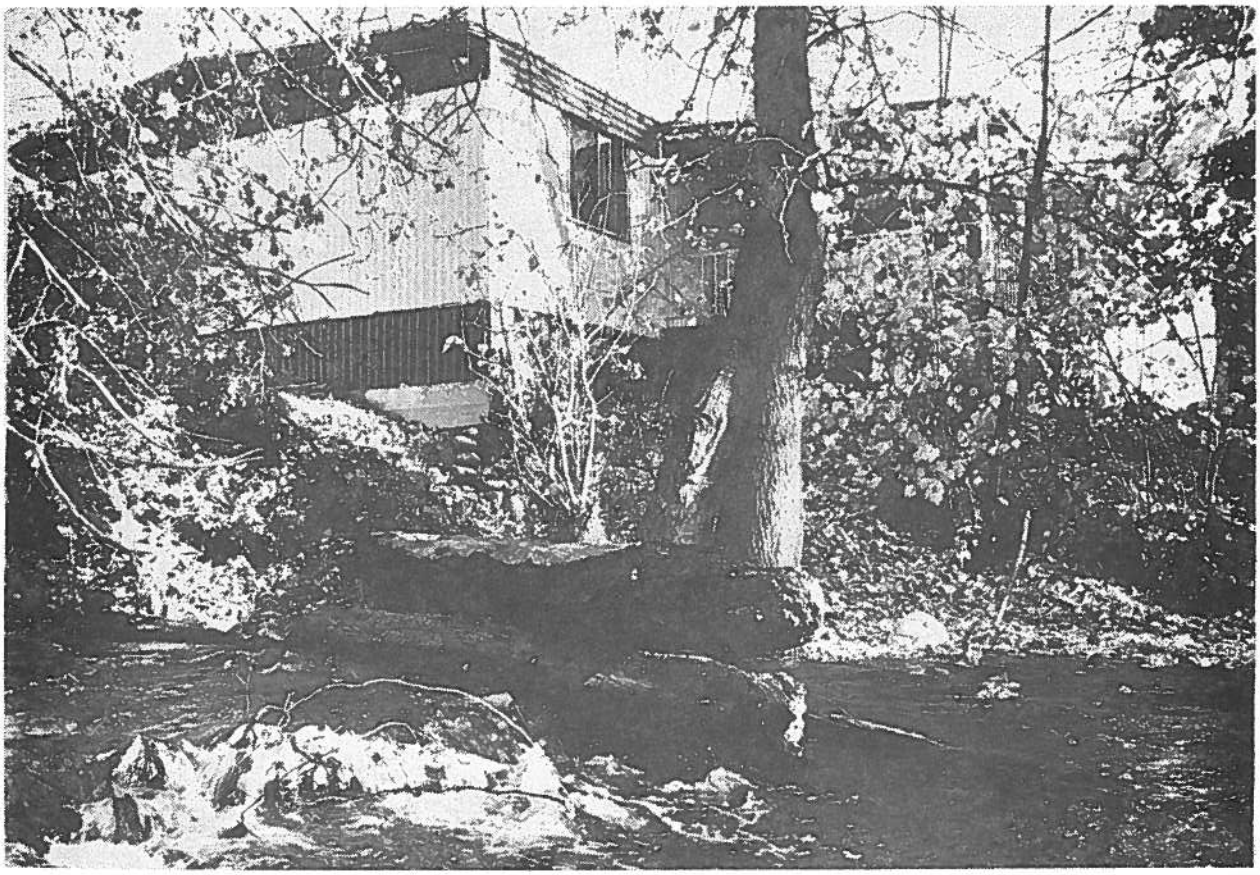
	Location	Name	Owner	Description
	Lakeshore Road	Ok. Centre Elementary	School District #23	Small playground (adventureland), field.
2	Lakeshore Road	Marina	Breakwater- Fed. Government Ramp - Prov. Government	Brakwater, floating boat ramp, boats kept (Fish & Game Club will put toilet as soon as funds are available).
*	Lakeshore Road	Beach	Community	Beach, swimming lessons,in the process of building new floating ramp.
4	Maddock Avenue	Community Hall	Community	Dancing & craft lessons, badminton, equipment co-operatively owned.

* No facilities

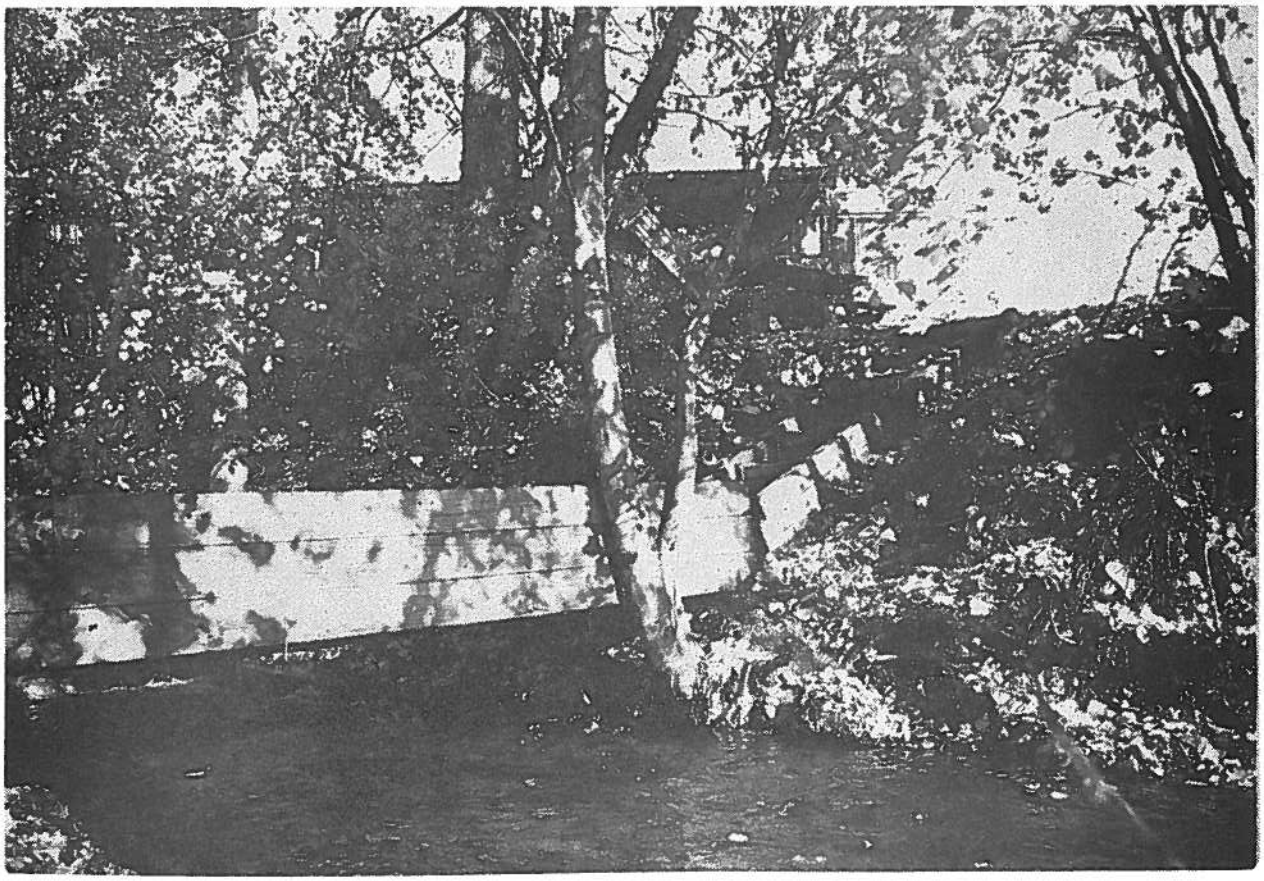
OYAMA AREA

	Location	Name	Owner	Description
	Trask Road	Centennial Beach	Community	Changing rooms, raft.
	(Trask Road between Centennial Beach and Community Hall) there is a parcel of land owned by the Community on which a new multipurpose field has been planted and 2 tennis courts will be constructed shortly.			
*Peninsula	Trask Road	R.D.C.O. Park	R.D.C.O.	Swimming lessons, Park in development.
	Oyama Road	Oyama Elementary	School District #23	Playground, multipurpose field.

* No facilities



Urban development should compliment neighbouring preserve areas, not smother them.



Urban development should compliment neighbouring preserve areas, not smother them.

Planning Areas and Facilities for Health, Physical, Education and Recreation. The Athletic Institute and the Americas Association of Health, Physical Education and Recreation.

Standards and Definitions of Terms used in Planning of Public Parks, Public Recreation Areas, and Public Recreation Structures. Department of Education Province of Ontario.

The Complete Park System, C.E. Doell, G.E. Butler.

INSTITUTIONAL

Private and semi-private institutional developments occupy an exceptionally broad range of land uses, physical forms (lands and buildings), and auxiliary characteristics. They have not been dealt with specifically or individually in this plan.

In certain instances we have been requested to suggest sites for a specific institutional use. We have not done so. Experience has shown that where we earmark a particular site for a particular institution we create a potentially impractical situation, eg.

- in existing developed or developing areas the attitude of present property owners has been untested.

- when the property is not owned by the institution a selective and potentially exploitive market is established.

- should the site remain undeveloped for some time and not be developed by the institution, argument is established that it not be "down zoned" from its originally proposed land use.

We would therefore recommend

> *"That private and semi-private institutional uses be considered individually on their own merits on a particular site of their own choosing."*

NO SPECIFIC LAND USE

Where it could not be determined whether or not certain land was suitable for a specific land use by reason of its topography, elevation, natural vegetation, stability, soil type, etc. we have recommended that it be left in its present state and use. We indicated such areas on the Proposed Land Use Map as being "Land generally unsuitable for any specific land use".

UTILITIES

Sanitary Sewerage Collection and Disposal

At the present time no community sanitary sewer collection systems or facilities exist in the plan area. However, a study* by private engineering consultants was carried out for the Regional District of Central Okanagan in 1972. The purpose of the study was to investigate the feasibility and cost of providing a sanitary sewer collection system and treatment facilities to service the Winfield Flats area. The study recommendations were not implemented due to the economics of the project.

A resolution was passed at the June 16, 1975 meeting of the Regional District Board, to retain the original study consultants to review the previous study and up-date the technical data and cost figures as a requirement of the Okanagan Basin Water Board. This study was completed in October 1975.

The Winfield Flats area is in critical need of a community sewerage disposal system. We would recommend

> *"That a community sewerage disposal system be developed for the Winfield Flats area."*

and

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* Feasibility Report on a Sanitary Sewerage System, Winfield Flats Area, Electoral Area "A". Underwood McLellan and Associates Limited.

"That until such a system is developed no further development nor construction permits be issued for any operation within the high water table area (See Figure 14 - Part I) which requires sewerage disposal."

The study hooks in the Lodge Road residential neighbourhood and could without apparent difficulty also hook in the proposed expansion. In fact this would likely help to slightly alleviate the costs of the system and its operation.

Individual Systems

Sewerage disposal outside of those areas designated for immediate or eventual community sewerage systems will continue to be via individually installed and operated private systems. At the present time the most prevalent individual system used is by septic tank treatment and underground tile field disposal.

A Septic Tank Suitability Analysis prepared by the Department of Agriculture (See Part I - Background) is a concise study with recommendations on the suitability of lands within the area for the conventional septic tank/tile field system. The Regional District Technical Planning Committee at its meeting on August 26, 1975 passed the following motion:

"That the Septic Tank Suitability Analysis as prepared by the Department of Agriculture be considered as one of the criteria in both the Community and Regional Plan Programmes."

Subsequently on September 4, 1975 the Regional Board passed the following motion:

"That the Regional Board accepts in principle the Technical Planning Committee's recommendations that the Septic Tank Suitability Analysis as prepared by the Department of Agriculture be considered as one of the criterion in both the Community and Regional Plan Programmes."

It is hoped that the approving authority for septic tank installations will adopt as its guidelines the findings and recommendations of this report.

In recent years a number of imaginative and innovative systems have been developed as more efficient and less cumbersome substitutions for the traditional septic tank treatment, tile field disposal system. It is quite probable that as time progresses certain of these improved techniques will become increasingly attractive, both from efficiency and cost points of view. Providing these techniques are proven they should be recognized by the approving authorities as acceptable alternatives to the present septic tank systems.

Surface Drainage Systems (Storm Sewer)

No comprehensive or partial surface nor storm drainage system is in existence within the plan area at this time. Only a detailed investigation into the need of each developed or developing area will determine whether or not a storm sewerage system is necessary.

The Okanagan Basin Study determined that generally storm water runoff was not a significant factor in determining the source of nutrient loadings into Okanagan Lake (Page 29, Table 5.12). However, extreme care should be taken in the design of any system in order to ensure that pollutants do not find their way to Okanagan Lake.

Storm sewer systems may be necessary in areas subject to not only flooding but ground instability. In areas where ground slippage may result from development, the construction of storm sewers may be necessary to control the runoff.

Water Supply

The
- Oyama Irrigation District
- Wood Lake Improvement District
- Winfield-Okanagan Centre Irrigation District

as well as
- George Jacques Development Ltd.
- Heritage Enterprises
- Woodsdale Utilities Ltd.
- Alto Utilities Ltd., and
- Hiram Walker and Sons Ltd.

are all major water licence holders within the plan area. Reference to Part I - Background, Community Plan, will indicate their existing distribution systems.

The existing water supply systems are operating at their capacity, principally due to the water availbility and storage facilities. The Regional District of Central Okanagan in co-operation with the Winfield-Okanagan Centre Irrigation District has retained a consulting firm to study the feasibility of supplying water to a "Dry Land" area in the vicinity of Winfield.

It is only in recent years that urban development has caused a shift in the consumer characteristics of the water system. The peculiarities associated with domestic usage, principally the peak periods of water use (no peak periods occur in strictly irrigation consumption) have resulted in the need for developing additional high level storage. Coupled with added storage will be the need for improved intake facilities, additional water sources and improvement to certain supply mains.

It is evident that the traditional water source, ie. high level, is now nearing its expansion limits, with Okanagan Lake becoming the only alternative.

The reluctance of most Irrigation Districts to obtain water from Okanagan Lake in the past has been the expense involved, particularly the pumping costs. However, the time is rapidly approaching (in most areas past) where there is no alternative other than Okanagan Lake as an additional water supply source.

Private water systems located in areas outside of the three Water Districts will no doubt continue to be developed. Of particular concern will be the private systems that serve an urban nucleus. It is imperative that any private system designed to serve an urban development be carefully examined as to any long term implications. There could be serious economical implications in time if a private system was found to be inadequately designed and constructed and as a result required expensive alterations, extensions or modifications. It is imperative that planning and development within the area be undertaken in close liaison with the involved Irrigation or Improvement District.

Therefore we recommend

> *"That all proposed subdivision and major development within the plan area be referred to the involved Irrigation or Improvement District for their comments and recommendations respecting water supply and distribution to the proposal."*

The question arises as to the efficiency or even logic of so many water districts and utilities within the plan area. It should not be a foregone conclusion that the amalgamation of the systems will necessarily result in a more economical, efficient and generally all-round less confusing system. However, it would seem to be logical, that some examination of the present situation be undertaken in order to determine the advantages, if any, of partial or complete consolidation of all the public and semi-public water systems in the plan area.

Electrical, Telephone, Cable Television Systems

With the exception of cable television, these essential utilities will be immediately provided to developing areas of the plan.

It is recommended

> *"That all future urban subdivision be referred to electrical, telephone and cable television supply utilities for their comments and recommendations."*

For many years it has become the practice in the majority of urban areas of Canada to place wired utilities underground. This practice for the most part resulted from pressures from the public sector insisting that the appearance of the urban areas of this country were being visually marred by unsightly overhead wiring and poles. It has since been determined that not only is placing these utilities underground creating a visual improvement to the landscape, but also it is in the long term an economical advantage to the utility companies involved. Considerable savings are realized, not only in maintenance, but also in the life of the system.

One requirement however, is that the utility company know of the growth plans for the area being serviced. The placing of adequately sized lines for extended use is imperative if reasonable costs are to be maintained.

At the present time there is an added cost for the installation of underground services. This is borne directly by the home buyer, usually at the time of purchase of the lot or home. This added cost is more than adequately substantiated by the increased real property value of the development.

We recommend

> *"That all future urban subdivisions be required to place all electrical, telephone and cable television wiring underground."*

Natural Gas System

In order to provide the people living in the plan area with the opportunity for choice of energy supply we would recommend

> *"That all plans of subdivision for urban areas be referred to the natural gas supply utility serving the area, for their information and comments."*

SERVICES

Fire Protection

Reference to Part I - Background outlines the present system of fire protection in effect within the plan area. The area is either served by the Oyama or Winfield Fire Protection Districts or the British Columbia Forest Service (refer to Figure 19, Part I - Background). Fire protection within the Regional District is varied in availability and standard. Certain urban and semi-urban areas are without adequate fire protection.

It is recommended

> *"That all urban and semi-urban areas presently without fire service, (including urban and semi-urban areas located within and protected by British Columbia Forest Service) be immediately provided with proper fire protection."*

It is imperative that the quality of fire protection be standardized within the Regional District. Presently fire protection is provided by annumber of authorities each with its individual "modus operandi".

It is recommended

> *"That the various fire protection districts within the Regional District be consolidated into one jurisdiction, and that the Regional District be made the authority to administer and control the services."*

Bringing the service under one administration should enable it to function more efficiently and generally provide a better, standardized and compulsory service throughout the Regional District.

Fire protection, augmented by modern, dependable equipment with skilled personnel is a must for any semi-urban or urban area.

As soon as possible all new and existing urban subdivisions should be provided with a proper fire protection service, augmented by a fire hydrant network supplied with water at sufficient volume and pressure as established by the Insurance Advisory Organization of Canada and other regulatory bodies.

Hospital

Reference to Part I - Background, Community Plan, provides information on existing hospital, sanitaria and medical services available in the plan area.

Ambulance

In conformity with our recommendations concerning ambulance service on the West side we would recommend

> *"That the Regional District assume the responsibility for providing and administrating the ambulance service for the entire region."*

Police Protection

Concern was registered through the public involvement programme for the

area for additional police surveillance in the plan area. Recent indications are that no noticable increase in either manpower or surveillance is likely in the foreseeable future.

Solid Waste Disposal

At the present time solid waste collection is carried out by a private collection contractor for a monthly fee. Some residents transport solid wastes to the disposal site by their own means. No land fill or solid waste disposal sites presently exist in the plan area. All property owners in the plan area participate in a Memorandum of Agreement which exists between Electoral Area "A" of the Regional District of Central Okanagan and the City of Kelowna, for contract services to dump solid wastes at the City dump on Glenmore Road.

It has been suggested from some quarters that the Regional District should contract out the solid waste collection services.

We would recommend

> *"That alternative arrangements for the collection and disposal of solid wastes within the District be studied with a view to implementing the most efficient and economical method."*

Septic Tank Effluent Disposal

Pumping of septic tanks is carried out by private contractors and the effluent is disposed of at the disposal site leased and operated by the Regional District of Central Okanagan. Figure 20 - Part I, shows the site located east of Winfield, approximately one mile south of Beaver Lake Road. This site is under permit from the Pollution Control

Board of the Province which allows for the dumping of effluent by authorized hauling contractors only. The site is open from 8:30 a.m. to 4:30 p.m. daily and an attendant is available to be called out to open the site outside of regular hours. Two attendants are employed by the Regional District to maintain and operate the site. The Winfield site receives effluent from all locations throughout the Regional District, and is the only official effluent dumping site in the District.

TRANSPORTATION

Roads

A report from the British Columbia Department of Highways dated August, 1975, outlines the Department's policy regarding Controlled Access Highways, Transportation and Land Use Planning. This policy is of vital importance in making recommendations on an improved roadway system in the plan area, and no doubt has implications respecting land use planning.

In this policy document, considerable emphasis is placed on topographical constraints to road construction. The need for closely inter-related roads with land use planning is emphasized -

> "long range transportation planning becomes a matter of paramount importance to British Columbia in order to maintain an adequate level of accessibility to all regions."

The policy statement divides roads into four categories, eg. trunk, major, collector and local and indicates their general policy on land service and usage made of the various road types.

Concerning transportation systems it was noted in the policy statement

> "some municipalities may choose not to build major arterial roads. As a result the provincial highway through the municipality will be required to serve an undue amount of mixed traffic and will very soon become congested. The municipality may then conclude that it is the highway capacity which is deficient and may then urge the Province to build more highways where in fact a balanced street system would serve the future needs more effectively at lower costs."

In conclusion the report makes the following recommendations respecting highway design related to land use -

A. ROAD DESIGN

1. Keep number of intersections and driveways to a minimum.
2. Locate to minimize access opportunity.
3. Provide frontage/service roads as required.
4. Set right of way width to allow future expansion.

B. SUBDIVISION

1. Developer to dedicate road widening for existing trunk and major roads.

2. Developer to dedicate right of way for horizon network of collector and local streets but not build them unless required at this time.

3. Developer to build all collector and local streets necessary to access lots and pave them where intended use is residential, industrial or commercial. Developer to improve existing public roads of lower standard both in the subdivision and leading to it.

4. Where proposed services (water, sewer) are tied to allowable parcel size require the services to be installed before plan approval.

5. Where zoning bylaws exist honour the minimum parcel sizes. Where no zoning bylaws exist follow the Provincial Regulations except where a Regional Plan regulates.

6. Along Controlled Access Highways get dedication of frontage widening or of service roads to provide alternate access to all parcels: ensure continuity of this frontage/service system.

7. For access to body of water, require dedication regardless of topography. Require construction where public need is projected and grades do not exceed 25%. Allow grouping of up to 3 accesses fairly freely to achieve wider accesses at less frequent spacing.

8. Refuse residential, commercial and industrial subdivisions in areas subject to flooding. Refer floodproofing proposals to Deputy Minister of Water Resources. Recommend agricultural subdivisions to Water Resources for approval subject to restrictive covenants. Refuse all non agricultural subdivisions in areas subject to landslip, rockfall, snow slide, etc. because of public safety.

9. When regional districts enact new bylaws encourage them to consent to completion of subdivisions of proposals recently given preliminary layout approval. However, if regional district does not consent, then refuse approval to such subdivisions.

10. Allow access by water subdivisions only in rare cases in remote areas and in small numbers of lots in order to reduce demands for overland connections at Provincial cost.

11. Freely seek the advice of experts in other agencies: Health, Wildlife, Municipal Affairs, Environmental Engineering, Water Resources, regional district, etc.

12. Refuse subdivision in Agricultural Land Reserves except as provided in Land Commission Regulations.

13. Refuse subdivision approval where conditions are such (unsafe sewage disposal etc) that other Departments or Agencies would subsequently be obliged to refuse permission to develop: thus avoiding the anomalous situation where one arm of Government creates difficulties for another arm by part-approving a proposal.

C. LAND USE

1. Encourage municipalities and regional district to maintain concentration and density within the limits of urban areas to reduce linear and low density sprawl. Allow small rural commercial developments at existing selected developed nodes. Require urban uses such as shopping centres, residential developments to be in urban areas. Refuse approval to zoning bylaws not in conformity with this.

2. Apply subdivision, zoning, and access approvals to refuse developments with inadequate off street parking and/or poor internal layout so that the highway or major street function is not impaired by private (especially commercial) activity.

3. Where zoning does not exist apply subdivision and access approvals to prevent inimical land uses as if zoning did exist.

4. On new major routes select areas of highway commercial development and recommend their retention by the Crown.

D. ACCESS

1. Allow no direct access on limited access facilities.

2. Allow direct access to conventional controlled access facilities for compatible land uses where the land use is not excessively inimical to the controlled access strategy.

3. Allow sufficient access points for projected volumes within the constraints of maintaining level of service for through traffic as long as possible.

4. Refuse access where minimum safety conditions of sight distance etc. are not met.

5. Allow access for specific land uses of specific size and scope only, so that redevelopment or expansion requires new application and new review.

6. Where channelization or nearby street upgrading is required to accommodate development, require the Developer to pay the cost.

E. ROAD CLOSURES

1. Allow closures where roads are not required for the existing or projected network, and where utilities are absent or protected by easements.

2. Require non company applicants to use Plans Cancellation Act where possible.

3. Require companies to compensate the Crown for area of land gained in road closure.

4. Allow no loss of waterfront but allow closure of roads to water where equivalent waterfront is to be dedicated in exchange in an acceptable location.

5. Lease rather than sell closed roads, where appropriate.

F SETBACKS

1. Where sight distance is not impaired allow setback less than the 15 feet where topography is difficult.

2. Allow setback less than 15 feet freely from the cross street for narrow corner lots.

(end of recommendations)

Highway 97, through the plan area has become totally inadequate and extremely unsafe. The Department of Highways may be implying in their policy statement that this is due mainly to the extensive urban development that has taken place in recent years in its vicinity and require its use as an inter-urban road rather than its prime function as an inter-regional road (highway).

We cannot totally agree with the premise that if the present urban areas adjacent to Highway 97 on the west side did not exist, Highway 97 would be a satisfactory Highway facility and would serve this function adequately. It is however, convenient for the Department of Highways to lean on the "urban excuse" to justify their present highway improvement policy.

From our study and analysis of this major and only transportation corridor through the plan area we have found it in need of immediate improvement, whether or not it remains the location of Highway 97 through the Valley.

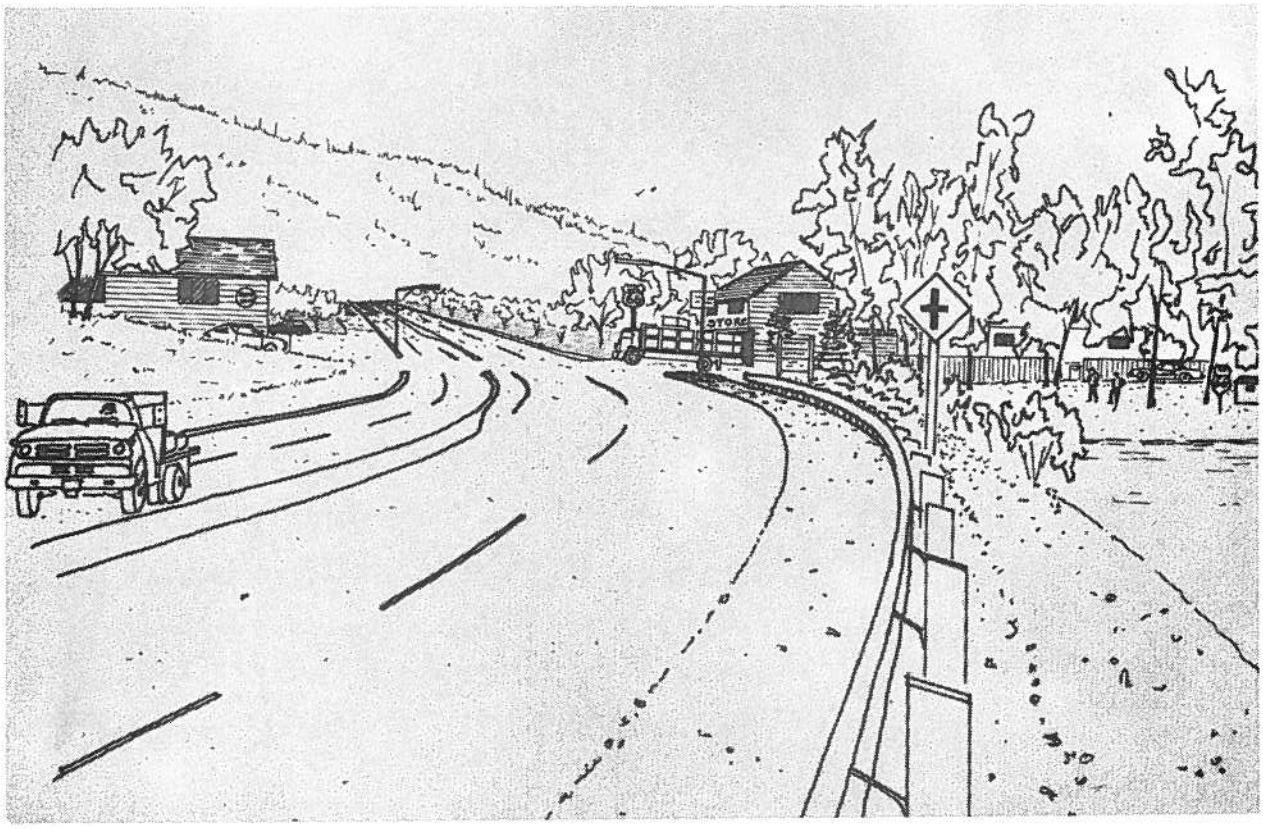
We therefore make the following recommendation concerning the present highway.

> *"That since all indications are that there will be no alternate route developed for Highway 97 through the Okanagan Valley in the foreseeable future, that the Department of Highways be requested to immediately prepare a comprehensive plan for the improvement of Highway 97 through the plan area, with particular attention given to widening (4 lane), limited access and development of safe and proper intersections at major problem areas in the Plan*."*

** See Figure 13, Part I - Background.*

Hiking, Cycle and Bridle Systems

Essential to the successful hiking and cycle system is that it provide



Highway 97 if not relocated must be improved - widening and controlled access. How this may appear in the Oyama area.

a good non-vehicular access to all involved activity areas and centres from population concentrations. Certain vehicular contact is unavoidable, however contact should be kept at the minimum (the efficiency of the system can be infringed upon in this regard).

Bridle systems provide non-vehicular access to all involved activity routes from stables. Care must be exercised that the routes do not cause conflicts with neighbouring uses.

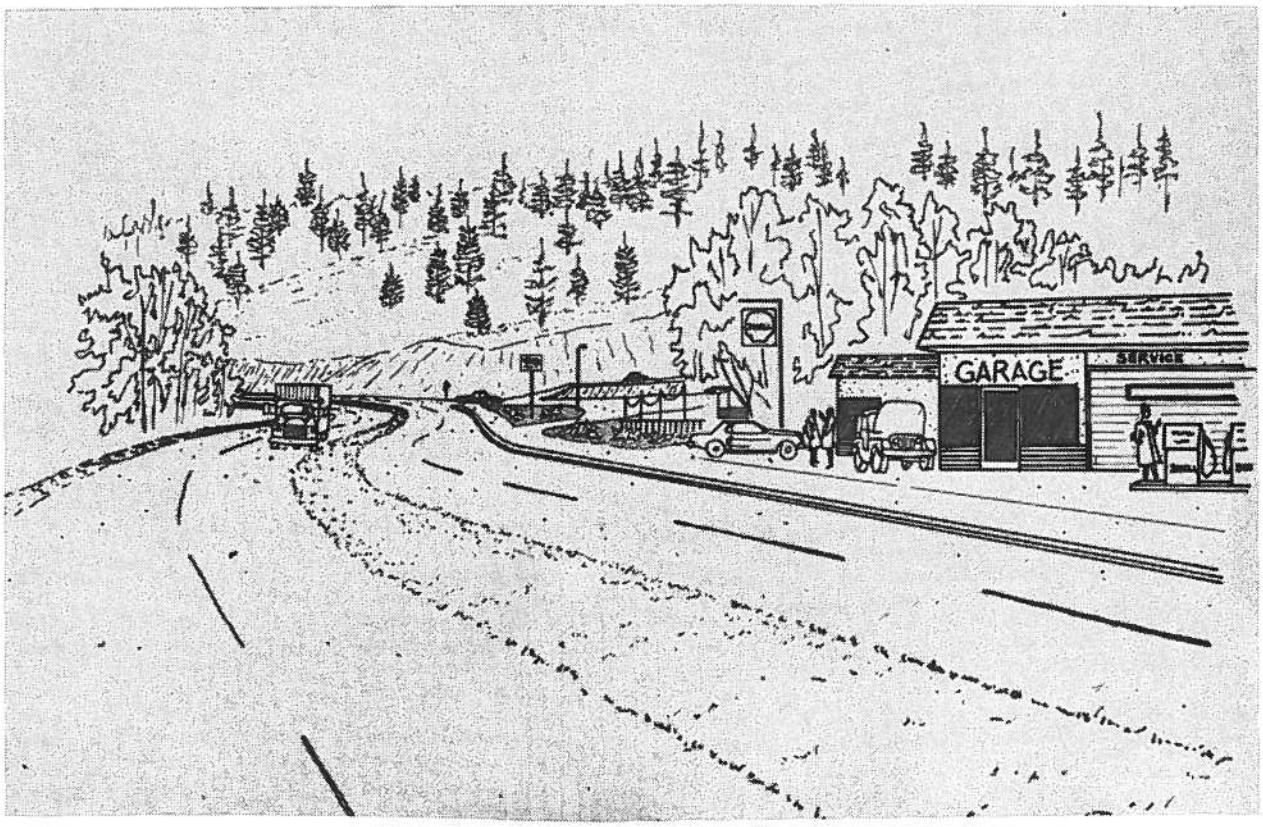
Public Transit

The Regional Plan Phase II (November, 1975) states the following with respect to a Bus System for the District.

> Bus System Proposals - The City of Kelowna and the Provincial Bureau of Transit Services have agreed to a program of public transportation services beginning sometime in 1976. Although instigated by the City of Kelowna, it is hoped that a suitable level of public transportation service can be extended to urban areas throughout the Regional District if warranted by population, density of population, distances between centres, and the adequacy of the major road system.
>
> With the settlement pattern proposed, and the geographic and other restrictions to the construction of major arterials and highways, public transportation in the Central Okanagan will be a vital component of all our communities if the personal and business mobility needs of the residents are to be met both economically and conveniently.

Due to the area's present and rapidly increasing population and density, a transit system of any type, however limited has serious economic limitations. It is recommended

> *"That the Regional Board involve itself (on behalf of the plan area residents) in a regional transit study (including City of Kelowna) in order to determine the need and desirability of developing a transit system for the region."*



Highway 97 if not relocated must be improved - widening and controlled access. How this may appear in the Winfield area.

PART III

IMPLEMENTATION

Formal Adoption

The Regional Board will have to decide whether or not to formally adopt this Community Plan or an amended version of it.

Procedure for the adoption is specified in the Municipal Act:

Section 697

i) The Council* may have community plans prepared or revised from time to time, and they may be expressed in maps, reports, or any combination thereof.

ii) A by-law adopted under subsection (i) does not come into force and effect until it has received the approval of the Lieutenant-Governor in Council.

Section 698

i) The Council shall not enact any provision or undertake any works contrary to or at variance with the official community plan or a plan adopted under Division (6) of this Part.

Section 699

i) An official community plan does not commit the Council or any other administrative body to undertake any of the projects therein suggested or outlined.

ii) The adoption of a community plan does not authorize the Council to proceed with the undertaking of any project except in accordance with the procedure and restrictions laid down therefore by this or some other Act.

* or Regional District

It is our recommendation

> *"That the Regional Board formally adopt the Community Plan as per the Municipal Act."*

It is emphasized that the Community Plan will be required to be reviewed periodically to ensure that it is in pace with the ever changing social, economic, and technological progression of our times. The reviews and any resultant updating and amendments will of course, observe the self-same principles of the original document, with the onus being on the proponents of any amendment to prove beyond a doubt that the change is warranted.

The Regional Board may decide not to formally approve the Community Plan. They may decide to use the document as a guide or information source. We would recommend against such a decision. It is important that the Community Plan receive official approval in order that -

- it is kept updated and viable and is not permitted to become obsolete.

- the plan will be considered seriously and not eventually be "put aside".

- legal status will ensure proper democratic procedure in land use decisions. Property owners should know precisely the status of their property as well as their neighbourhood's.

- the time and money spent on the document has been well spent.

By-laws and Regulations

It is recommended

"That a new

- *subdivision and standards of development by-law,*
- *zoning by-law,*
- *building by-law,*

be prepared and formally adopted under the Municipal Act for the Community Plan Area."

PART IV

DETAILED PLANNING

It is advisable that the Department of Regional and Community Planning of the Regional District of Central Okanagan undertake the preparation of neighbourhood plans for the proposed urban areas. This will ensure that the subdivision and development of urban areas, particularly their infra-structure, is sound.

Part IV of the Community Plan Programme - Detailed Neighbourhood Plans will no doubt require the preparation of certain engineering and economic studies and reports relating to the installation of services and utilities.

Costs for this phase should be considered as direct cost of development and should be considered as chargeable to the development with the intent of full recovery.

COMMUNITY PLAN AREA

WINFIELD·OYAMA AREA COMMUNITY PLAN

REGIONAL DISTRICT of CENTRAL OKANAGAN

SCALE 1:50,000

Feet 2500 0 2500 5000

Metres 500 0 500 1000 1500

1975

Figure 2