

FOOD AT HOME

BY

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B.A., HARVARD UNIVERSITY

1968

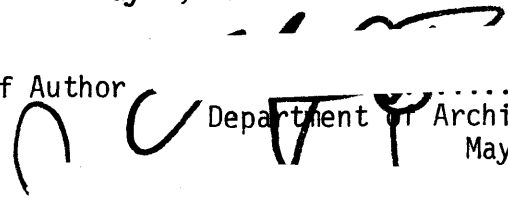
SUBMITTED IN PARTIAL FULFILLMENT
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Certified by



Thesis Supervisor.

Accepted by

Chairman, Departmental Committee.
on Graduate Students.
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ABSTRACT

Food at Home

John G. Bemis

Submitted to the Department of Architecture on May 9, 1975, in partial fulfillment of the requirements for the degree of Master of Architecture.

These pages suggest some ways that home environments may more facilitate the potential of people to provide themselves with food.

I would hope that anyone glancing through the pages might be attracted to the idea of a garden, processing some foods at home, helping to establish a food co-op, and learn enough to get them started acting on the idea. I would want them to demand a pantry in their home. Most of all I would hope they learn to value the agricultural productivity of land, respect it, and want to grow something, somewhere, somehow - building up soil not just on it.

Thesis Supervisor: Jan Wampler

Title: Assistant Professor of Architecture

thanks to one grandfather who cared about houses
thanks to his son for remembering
thanks to another grandfather who was a farmer
thanks to my brother for remembering
thanks to Jan for reminding me

Introduction

For the past few years food has been a news headline in America: starvation in the world, inflationary food prices here at home. Population growth; bad weather; fertilizer and insecticide scarcities; the energy crisis of rising fossil fuel costs; are themes presented to explain a "Food Crisis." Undeniably they are decisive determinants. As small groups, as individuals, as architects, we could make concerted efforts to have fewer children and to be more attentive to wasteful, unnecessary use of energy resources. Such efforts and concerns would have a long term effect on what is a global problem. They could have little right now effect on the immediate food problems of each of us. There is another theme of global scale to which we may react which can supply both an immediately beneficial individual effect as well as nurture a profound reversal of a long term international pattern.

Economic growth has been considered essential to economic stability and to political stability and power. The "third world" countries exploited by more developed country supported business established an early dependence on the export of natural resources, raw materials, and agricultural goods. Tillable land in Latin America has been converted and expanded to grow coffee, fruit and sugar for foreign tastes, peanuts and soy for American livestock, meat for our tables. In India much good land is used to produce tea for export. Little good land is used for local or even national food production in these countries. Imported fertilizers and insecticides go to cash crops not to local food crops. The promises of the Green Revolution, intended to produce food for the consumption of these countries' peoples, of course fall through, not receiving the high technology resources their cultivation demands. Food is imported. There is no sense to it; even the farmers face starvation, forced to eat imported foods because they cannot afford to grow food for themselves.

IN THE NATION:

5th farm price decline

Associated Press

WASHINGTON — Prices farmers receive for raw agricultural products dropped 2 percent from Feb. 15 to March 15, their fifth consecutive monthly decline, the Agriculture Department said yesterday.

The Crop Reporting Board said lower prices for wheat, corn, cotton, soybeans, tomatoes and milk contributed most to the decrease. Higher prices for cattle, onions and apples helped offset part of the decline.

Retail food prices, meanwhile, have continued to rise because of higher middleman costs for transporting, processing and selling the products. Department officials say those will continue to push up consumer food costs through midyear although at a lesser pace than in the first six months of 1974.

Boston Globe, Tuesday, April 1, 1975

In the United States food prices until recently were low. We grow our own food - or at least most of it. American farmers have been incredibly productive. The independent farmers are, however, diminishing despite being more productive than the corporate farms that take them over, or than the bull-dozed treeless yards of the subdivisions that might take their places. The independent, small farms do not generate the economic growth of their replacements. A farmer produces food. A corporate farm is a business and it produces money as well as food. The independent farmer has almost no control over the price of his produce. The consumer is far away, separated by packers, processors, trucks, trains, wholesalers, supermarkets. The middlemen now control the price of food, not individually but as parts of a process expanded to generate economic growth. The corporate farm is managed by a business enterprise which often also manages elements of the middlemen. It enters food production to control, to profit, to expand control and profit more. The consumer is at one end, the small farmer at the other. Neither has control if they accept the process of the middle.

Food Production provision in the United States is now big business, profit growth oriented, energy and resource consumptive. With the rising costs of energy, increasing recognition of the limits of its most utilized supply, our food is now on the table of international trade, an element of international politics and power. We have become like a third world country.

Whether an American bothered by rising food costs or an Indian facing starvation a problem is similar: how can we take some control over the price of food and our access to it? I want to encourage an attitude for individuals, for small groups, for architects, for us as citizens of an advanced industrial and agricultural society, which would permit us to effect some control. On a massive scale we now pay for food to be grown and brought "conveniently" to us. Simply by intervening in that process, performing some of the work of providing the food ourselves, we may immediately save some of the cost. In the long run we may discourage the expansive, exploitative, profit motivated business growth which, though not necessarily bad, tends to interject money as a priority over individual human needs, happiness and health. If we could produce more food

on a small, local scale for ourselves, large scale agriculture might produce more - at lower cost - for those who cannot grow it themselves. Producing more for ourselves, the peoples of other countries might be forced less into producing for export and allow them to grow their own food. The more local production then the less energy need be consumed to preserve for and to transport. Eliminating middlemen here, some there, permits more consumer control, lower cost, and less fossil fuel energy consumption.

Intervention demands assumption of some responsibility, some organization, some work, some time. Most people are capable of and can share the demands. The type of level of intervention, and ease with which the intervention may be incorporated into a person's daily life is enormously effected by the designed environment. Therefore in addition to encouraging an attitude I want to suggest some avenues/vehicles of intervention and some physical elements of designed as well as natural environments that might make intervention more accessible. The availability of tillable land is crucial. The amount of kitchen related work and storage space is important. The existence and nature of neighborhood and community, group shared building space can be influential. Are resources for alternative intervention provided, do they exist? Is there potential within an already built framework.

Knowing how to do something and having the tools to help do it might appear to be most of a job. In fact doing the job is the job. There has evolved a pretty degree of separation between the misnomer "bread-winner" and really sensing the basic importance of working(earning money) to produce (buy) food. The supermarket media culture of today tells us that food should be convenient, recreation and liesure the goals of our work and living. Food co-op members, home gardeners, farmers and their families can speak of the satisfaction that comes from being able to identify working with the provision of food.

We eat most of our food at home. Home is the place to start.

Background

The homes of 100 years ago and before were well equipped with facilities for food production, processing and storage - home food provision. Though some dry goods, spices and herbs might be transported long distances, transportation networks generally demanded sufficient time delays such that the absence of large scale preservation techniques discouraged inter-regional commerce in food produce. Home growing of produce was common. Local farm production was supported by and encouraged by local demand. Small farms were essential to the viability and growth of a community.

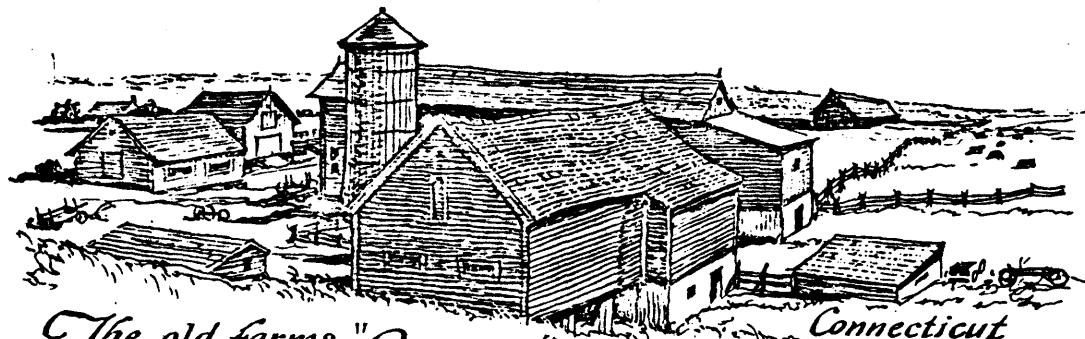
Rural homes had fields, pastures, orchards, gardens, barns, outbuildings, cold cellars, summer kitchens. Urban homes had extensive kitchen work areas, always a pantry.

Catherine Beecher initiated a domestic revolution, which ultimately enlisted industry's support, transforming the kitchen into a streamlined center for the preparation of meals. An urban industrial, commercial society was growing. Increasing numbers of people relied on farm and commercial production of foods. Food production became a business, no longer a way of life. Transportation networks expanded. Processing and storage facilities became more sophisticated. Further population centralisation eroded the balance of local food production/provision capabilities. Small farms succumbed to economic pressures, particularly farms in the path of urban expansion.

Home became predominantly a focus for the pursuit of leisure, a place to retreat from work. Food provision became a matter of money and convenience. The physical elements which might facilitate involvement in home food provision began to disappear.

There are those who will deny any disappearance of farm life, reminding us that America's modern farms which now "feed the world," are greater by far than they were a hundred years ago. This is quite true but it is the small "personal" farm that has disappeared from the over-all scene, while the big commercial farms have grown. Imagine yourself as the average business man of 1856. There were no automobiles then, so you necessarily had a horse. Perhaps you had two or three. Therefore you had a barn, and pasture, and a hay field. With that much, you probably had a few chickens and some livestock too. Even the smallest house was incomplete without a barn and out-buildings behind it. When the family horse left the scene, farm life for the average person was on its way out. Soon the family car took over the old barn, the pasture was sold for real estate development, and home life lost its rural flavor so much that the American landscape reflected the change.

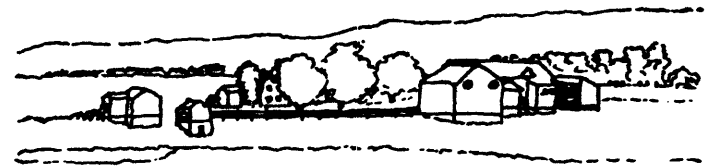
Stoane, Etc., *Our Vanishing Landscape*
New York, 1956, p. 13.



*The old farms "Rambled" ..
unless they were
"Jined"* Connecticut



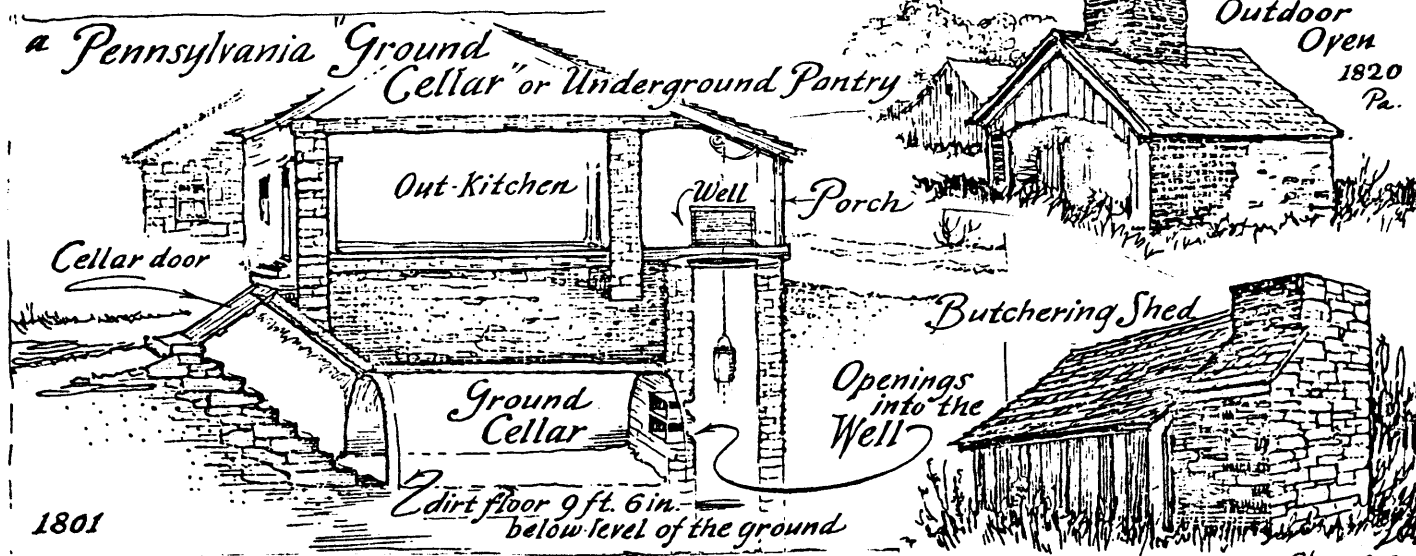
Maine



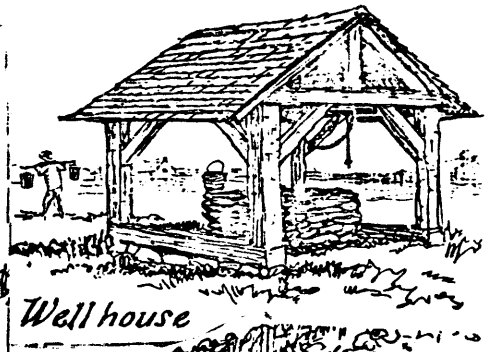
Long, Amos Jr., *The Pennsylvania German Family Farm*
Breinigsville, Pa., 1972.



There were Outhouses on the Farms



*The Outdoor Oven
1820 Pa.*



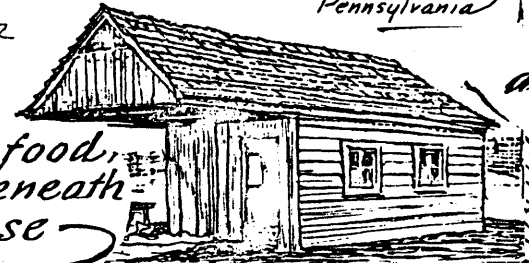
Well house



Spring house 1850

Sloane, Eric, *Diary of an Early American Boy*, New York, 1962
 , *American Yesterday*, New York, 1956
 , *Our Vanishing Landscape*, New York 1965

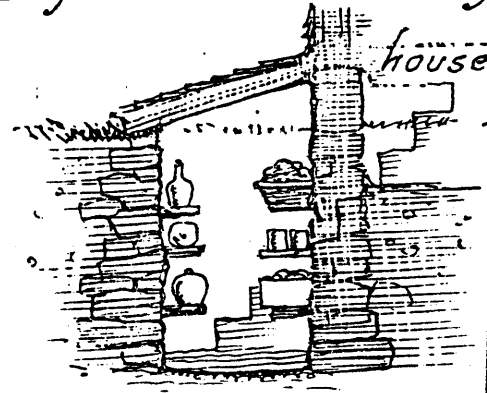
Before central heating, cellars were for food, and often not beneath the house



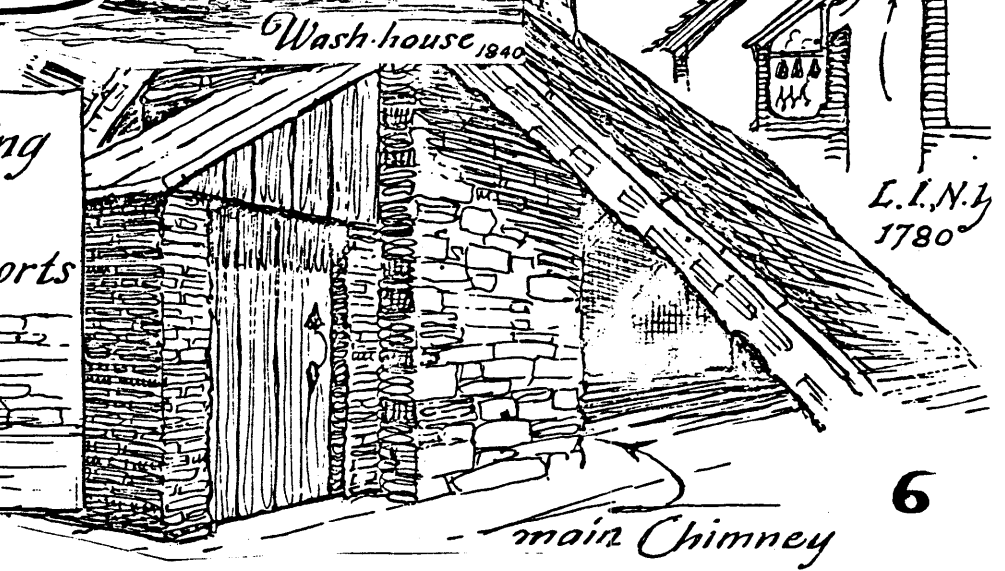
Wash-house 1840



L.I.N.Y. 1780



Cool in summer, far enough below the Ground not to freeze in Winter.



main Chimney

The Summer Kitchen

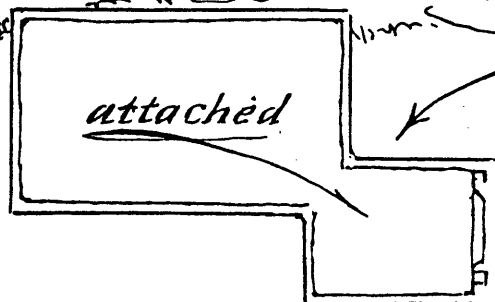
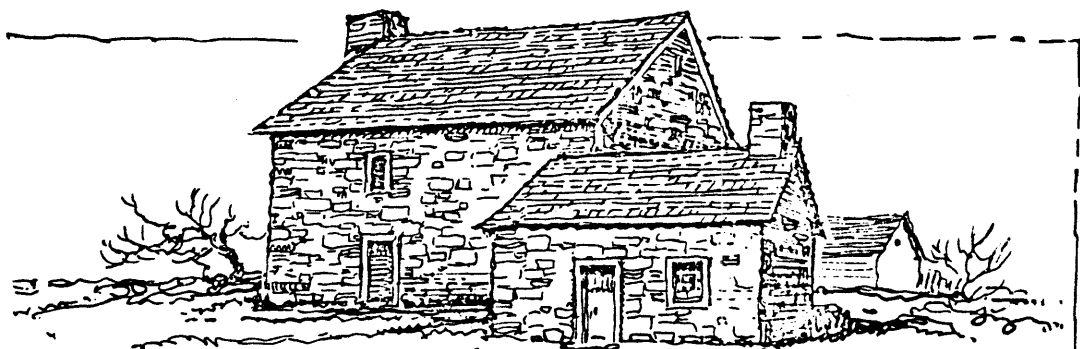
A settler's cabin usually had one room, cooking over a single hearth, the kitchen to one side of the hearth.

Early farmhouses had four ground floor rooms, each one a quarter of a rectangular plan. The kitchen was in one room, usually the southeast corner.

As a farm and its family grew more space was needed for cooking and eating, especially to prepare and process produce in the summer and fall to put away for winter use.

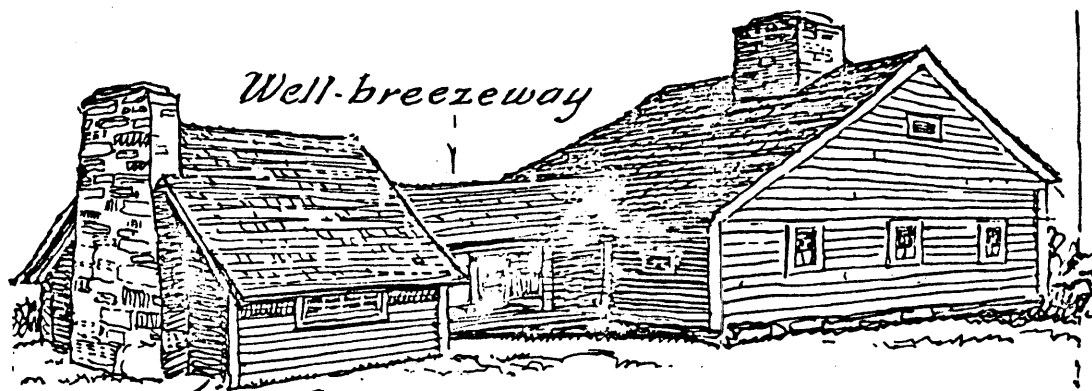
Eventually the summer kitchen became the year round kitchen, the old wood cook stove a source of heat, a more compact, coal, oil range taking its place for cooking.

A harvest kitchen. If your kitchen isn't big enough, add on to your home, cover and enclose an adjoining porch, push through a wall into a next room, or into the garage.



an early
Pennsylvania
Summer Kitchen

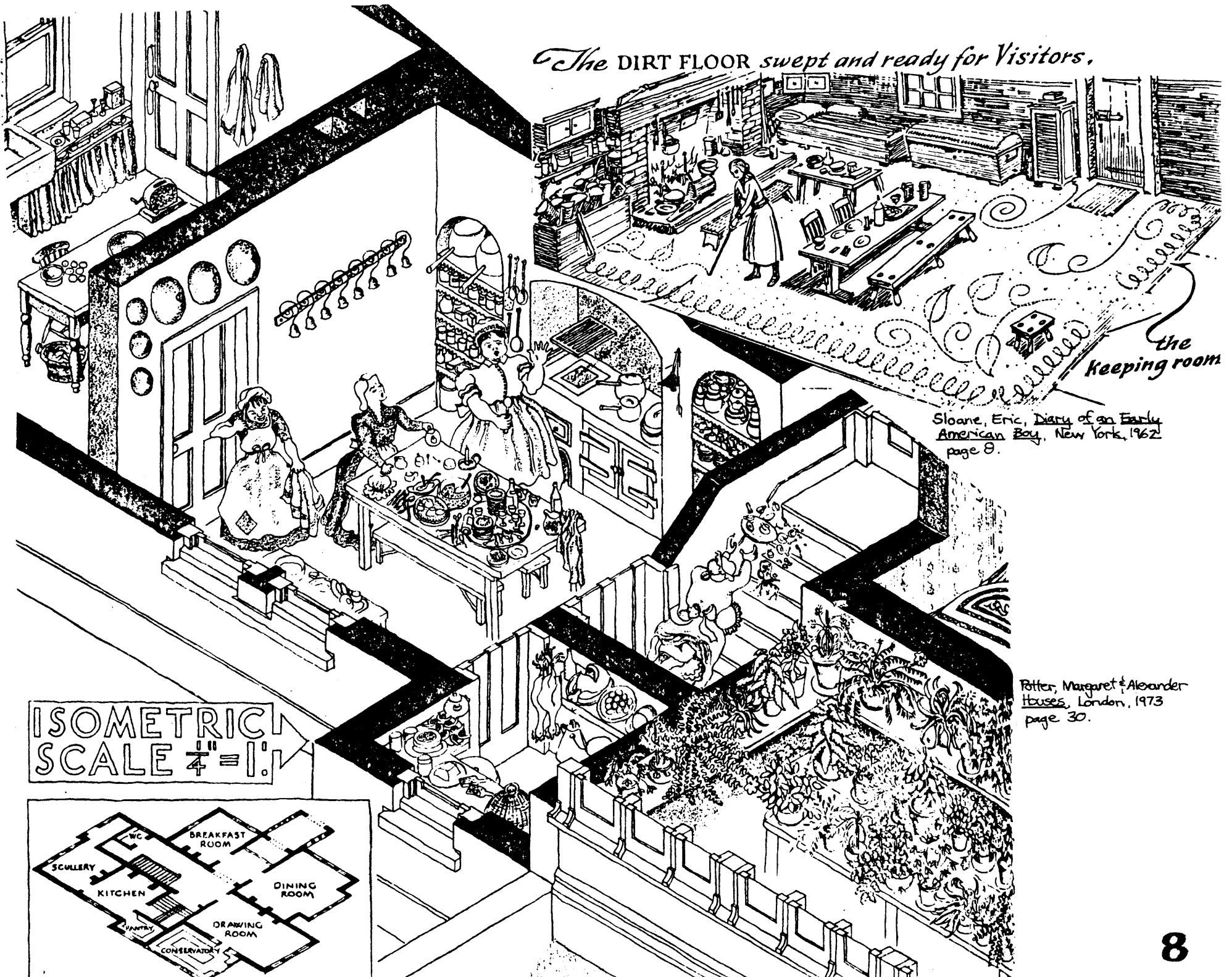
1744



a New England Summer Kitchen

Sloane, Eric. American Yesterday, N.Y., 1956, p. 65

The DIRT FLOOR swept and ready for Visitors.



Sloane, Eric, *Diary of an Early American Boy*, New York, 1962
page 8.

Potter, Margaret & Alexander
Houses, London, 1973
page 30.

ISOMETRIC
SCALE $\frac{1}{4}'' = 1'$

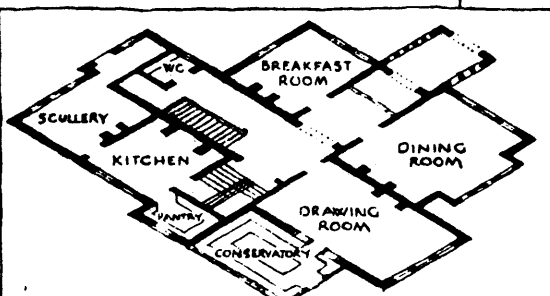
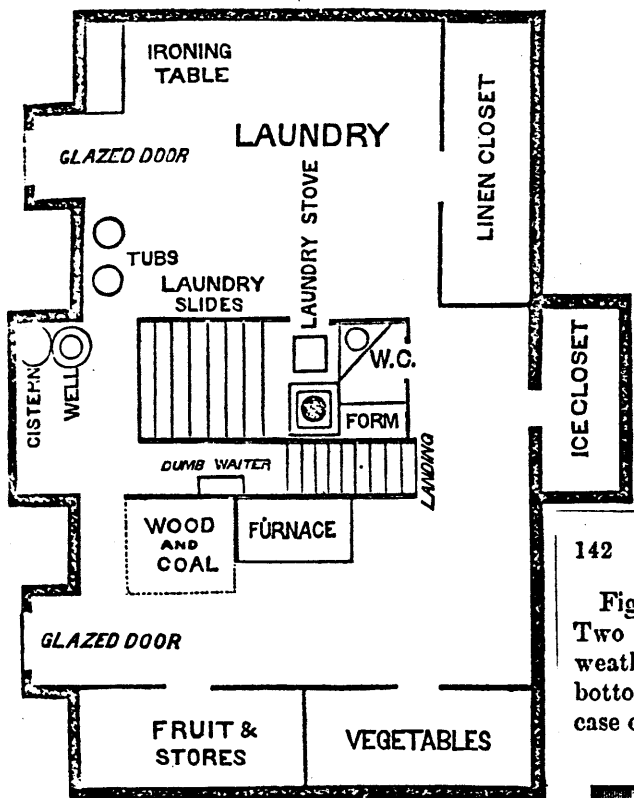


Fig. 27.

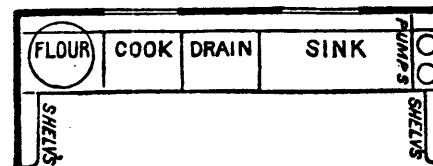


an ideal kitchen: a steamship's galley.

Beecher, Catherine. Housekeeper's Healthkeeper
New York, 1873

A HEALTHFUL AND ECONOMICAL HOUSE.

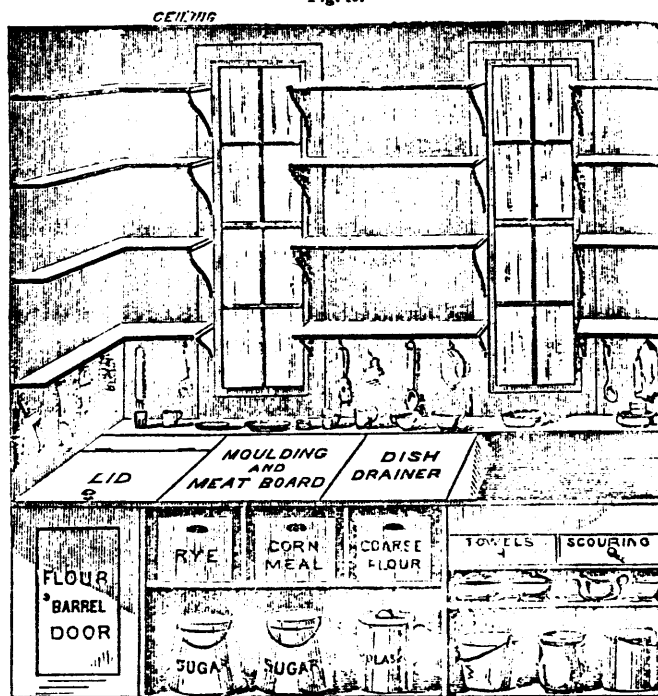
Fig. 18.



142 THE HOUSEKEEPER AND HEALTHKEEPER.

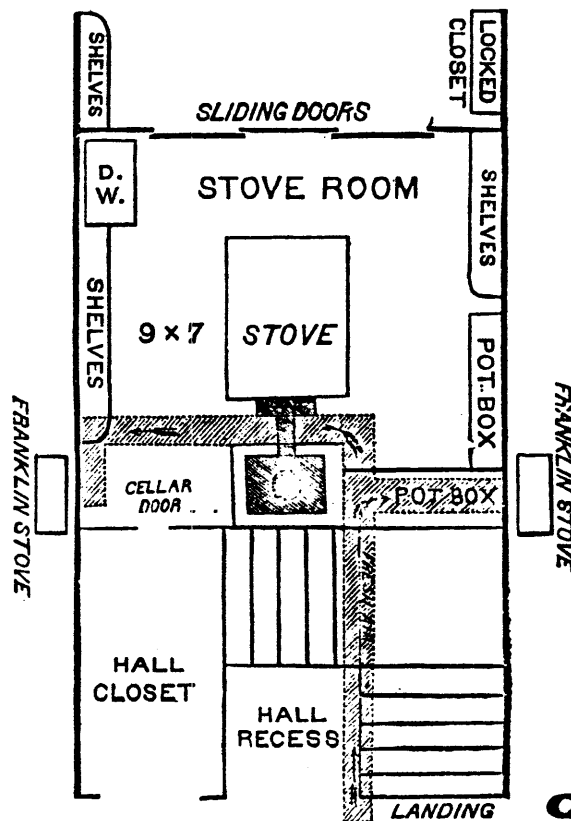
Fig. 19 is an enlarged plan of the sink and cooking-form. Two windows make a better circulation of air in warm weather, by having one open at top and the other at the bottom, while the light is better adjusted for working, in case of weak eyes.

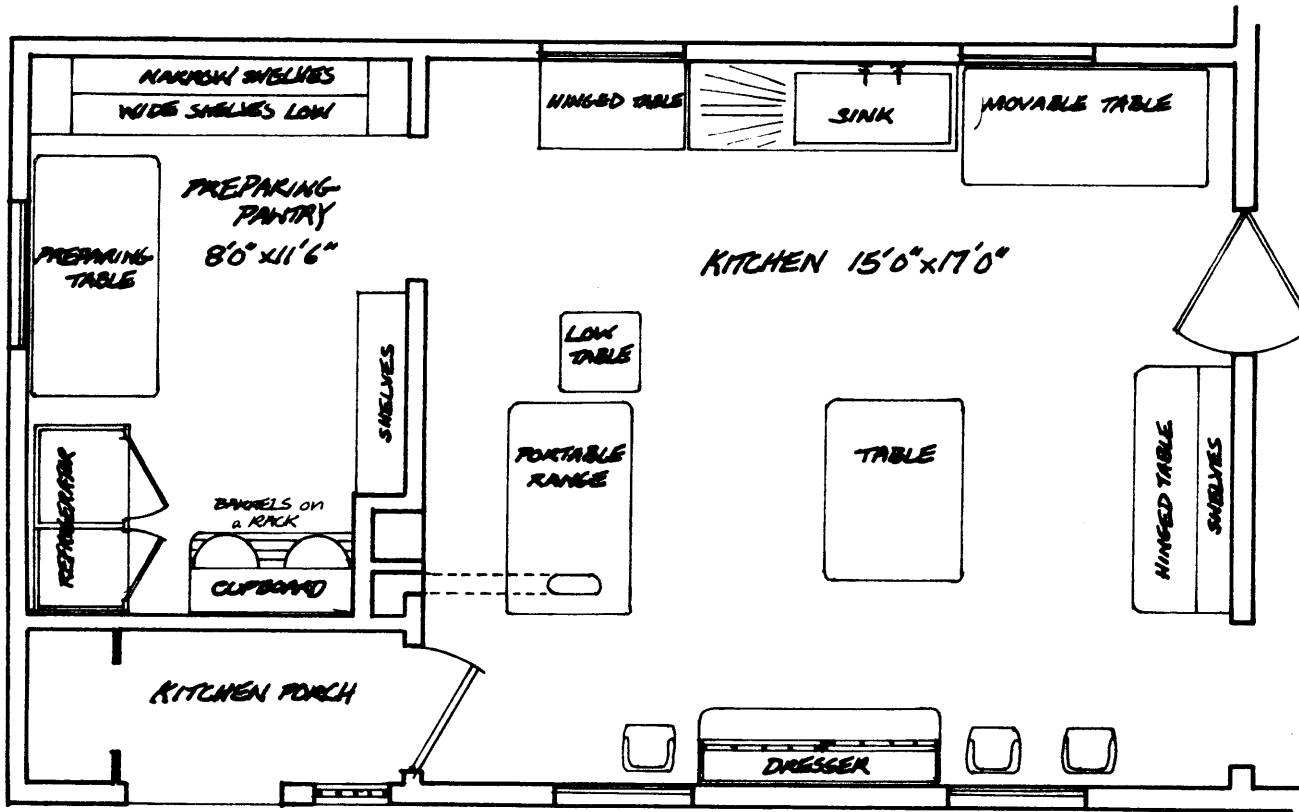
Fig. 19.



KITCHEN

9 x 9



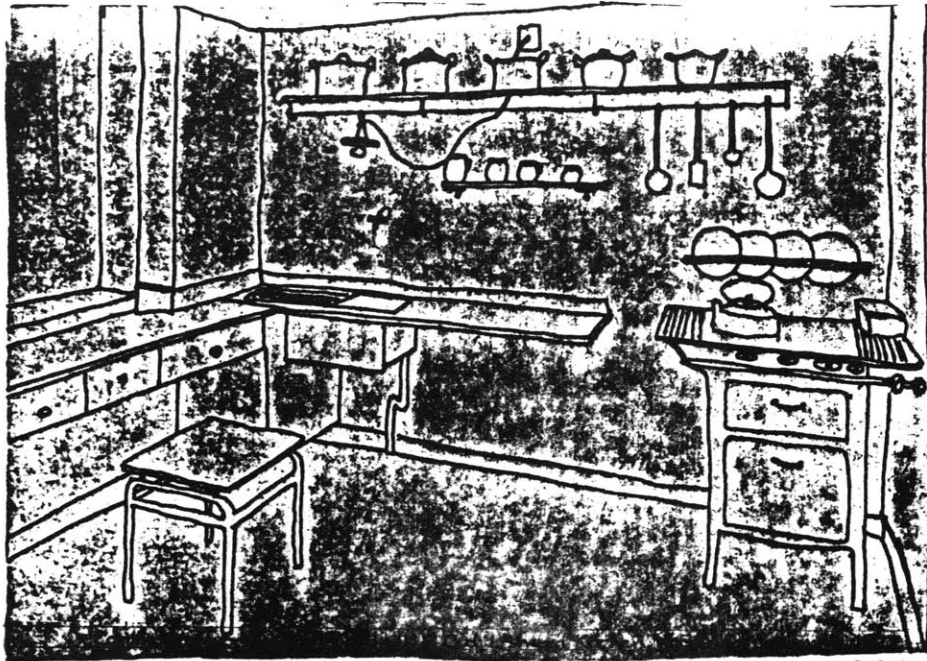


SCALE $\frac{1}{4}'' = 1'$

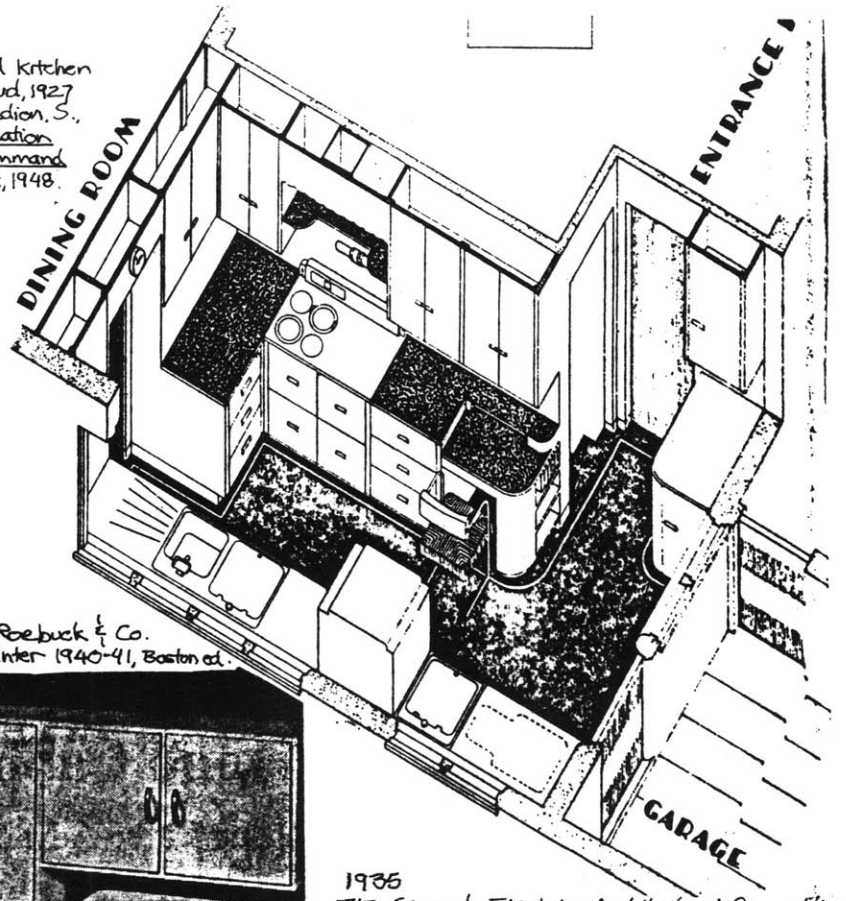
"A MODEL KITCHEN"

How to Build, Furnish & Decorate

Cooperative Building Plan Association, Architects
New York, 1900



L-shaped kitchen
 J.J.P. Oud, 1927
 from: *Giedion, S.,
 Mechanization
 Takes Command*
 New York, 1948.



Sears Roebuck & Co.
 Fall & Winter 1940-41, Boston ed.



**A DREAM KITCHEN . . .
 and Yours Can Equal It!**

\$69⁰⁰ Cash **\$6** Down on Easy Terms
 72-inch Sink Base and Two 24-inch Wall Cabinets See Inside Back Cover

1935
 THE General Electric Architectural Competition
 "THE HOUSE FOR MODERN LIVING"
 from: *Architectural Forum*, April, 1935



Despite the erosion of home food provision capabilities there is still potential for individual and group intervention in the process of food provision. The trip from land to home, far longer and more complicated than it used to be, can still be as simple and may offer a range of interventions suitable for the wide variety of present living situations.

There is still land in suburban, even urban areas. There are still small farms in suburban towns. Modern technology may be an advantage. More people may allow facilities for local food provision that would be too expensive for fewer, as well as decreasing time commitments by sharing the necessary work responsibilities.

PROCESSED FOODS

SEED/NEWBORN.

Purchase from seed company/breeder

PLANTING/FEEDING

Purchase of crop/livestock

HARVEST/SLAUGHTER

Purchase from farm/butcher

TRANSPORTATION

PROCESSING

(TRANSPORTATION)

STORAGE (wholesale)

Purchase from warehouse, wholesale processing company.

TRANSPORTATION

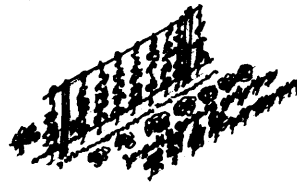
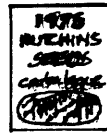
RETAIL MARKET

Purchase at supermarket

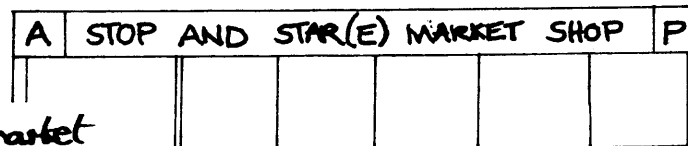
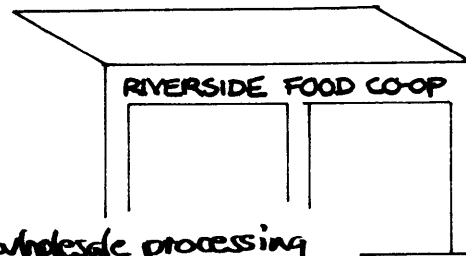
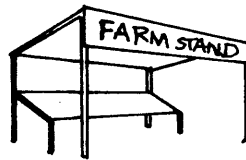
TRANSPORTATION

STORAGE (home)

VEHICLE OF INTERVENTION



VALLEY FARM
PICK-YOUR-OWN



FRESH PRODUCE

SEED/NEWBORN

Purchase from seed company/breeder

PLANTING/FEEDING

Purchase of crop/livestock

HARVEST/SLAUGHTER

Purchase from farm/butcher

STORAGE (controlled cold)

TRANSPORTATION

WHOLESALE MARKET

Purchase from wholesaler

TRANSPORTATION

RETAIL MARKET

Purchase from supermarket

TRANSPORTATION

STORAGE (home)



SUPERMARKET

Who = anyone who can get there

What = anything, anytime, except large quantities of dry staples and truly fresh fruits & vegetables

How = get in a car and go. Sometimes there are special buses in urban areas.

Problem = generally expensive. Have to be working to earn money to buy food.
little apparent consumer control over quality or price.

Solution = get food elsewhere.
often there are sales on items. Substantial money can be saved by buying such items in quantity as long as they are necessary. This requires a large cash capability and ample storage space in home.
Don't be tempted to buy unessential items.

Facilities = transportation

usually provided	} storage	should be provided
ice box		{ freezer
cupboards		{ pantry

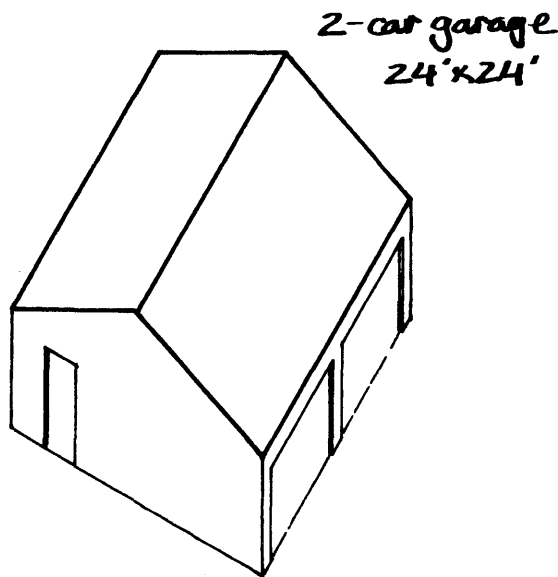
Facilities:- transportation - wagon, van pickup truck.

usually provided
ice box } storage
cupboards } (home)

should be provided
freezer
pantry

"A very clean room, approximately 20'x20' with access to a sink for washing is what you'll need." (Ronco, Food Co-ops, p 46)

a garage with water and heat ideal



WHOLESALE

Who:- retail food stores; food coops (conspiracies).

What:- almost anything, any time (early morning).
only in large quantities. Fresh produce, cheese are the simplest & provide the greatest savings.
less savings on staples & canned goods.

How:- open a store; start a food co-operative.

Problem:- getting started, organizing a co-op.

Solution:- "the only ingredients necessary to start a food co-op are: a group of people, some space to put them in, some of their money to buy food, someone to sell them the food, and some way for them to distribute the food back among the group." (Ronco, William, Food Co-ops, Boston 1974, p.35).
a membership fee to gather money to get started.
the yellow pages for names of food wholesalers.
a station wagon, van, pickup, food for food pick-up and distribution.
other food co-ops for advice & experience.

A copy of Ronco's book is a good source.

Facilities: transportation
 usually provided }
 ice box }
 cupboards } storage (home) }
 should be provided }
 freezer }
 pantry }
 cold cellar }

ample kitchen work area for food processing.



FARM

Who: anyone: individuals, groups

What: FRESH PRODUCE. especially good for bulk purchase of produce for processing and storage: fruit, tomatoes, beans, carrots, squash.

How: May 15-Nov. 1: drive to country. Stop by farm or farm stand.

Problem: seasonal; inconvenient.

in many areas farms are single crop or the crops do not belong to the farmer but have been pre-sold to a food manufacturer. small, diverse farms are disappearing. stand prices for small quantities are only slightly cheaper than supermarkets.

Solution: buy in quantity and store or process and store.

support local truck garden farmers so that they may continue in operation providing local fresh produce, and keeping land rural & open.

CROP

Facilities = transportation.

usually provided
ice box }
cupboards } storage (home) }
should be provided
freezer
pantry
cold cellar

large (ample) kitchen work area for food processing.



Who: large food companies buy the crops of large farmers. Anyone willing to work may buy from small farms.

What: FRESH PRODUCE.

for individuals & small groups fruit crop picking is most frequent: apples, peaches, pears, strawberries, raspberries, blueberries - also peas, beans, tomatoes.

How: some small farms in order to eliminate the need to hire pickers, advertise PICK YOUR OWN. The practice is spreading. Driving in the country such signs are seen. Also word of mouth.

Problem: seasonal, inconvenient.

takes time & work. farmers who sell wholesale to retailers often won't allow it. Savings not as large as might be expected.

Solution: if farm nearby - then pick your own is easy, enjoyable, healthy, and economical. if have to travel, then worth it only for large quantities to store & process.

Do it to get outside, to work, and because in quantities there is substantial savings. Also keeps the small farmer in business.

Home production, processing, and storage of foods requires some knowledge, skill. Experience makes any work easier, particularly starting; but experience also builds, so that having had a garden once, or after one attempt at canning, a second attempt may be approached with more confidence. Sharing the experiences of others whether through reading or working with them can be helpful. The best way to be successful is to do it; start doing it; keep doing it. There are various physical facilities and capacities (potentials for facilities) which are needed or which permit greater flexibility in and utilization of a particular activity.

GARDENING

Gardening involves planning, decision making, time, and work, enough perhaps to make it distasteful to some people. Fortunately, unless a person is gardening for income from the sale of produce most of the planning and decision making may be based on personal desires and dreams within the framework of available land. Time and work, though necessary, may be minimal, certainly withⁱⁿ the capabilities of most people.

Natural, environmental factors - sun and soil - are significant factors in garden production. Attitude - interest, care, and the potential for diligent work - also contributes enormously to a garden's success. There can be few other past times where an individual or family may feel so creative, productive, so much in control, so healthy. There is the warmth of the summer sun, the victorious smile of clearing a row of weeds, the relief of a summer rain shower, the incomparable taste of and pride in fresh "home grown" garden produce.

A window box can produce a few tomatoes. Ten acres can allow a family of four virtual self-sufficiency, including meat and the crops to feed the livestock.

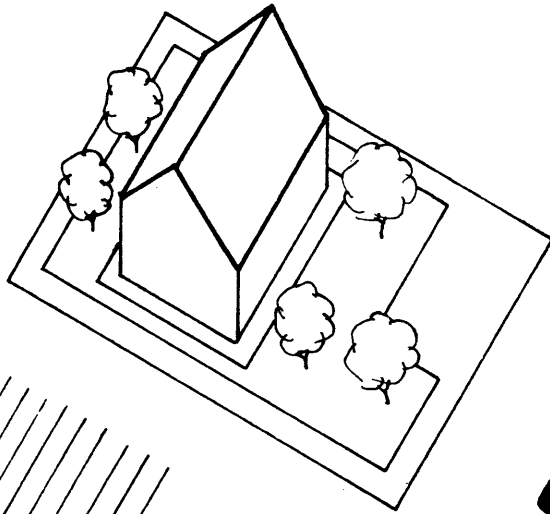
1000 sq. ft. of garden is enough to make an indisputable dent in a family food budget: fresh vegetables for the entire summer with sufficient surplus to store and preserve for year round supplemental use.



transplanting rhubarb

LAND

Private



YARD: Back yard, front yard, side yard. Whatever land available near a home. 500 sq. ft. 1000 sq. ft. an acre. 200 sq. ft. intensely cultivated could produce \$300.00 of fresh fruit and vegetables.

Cultivate edges first, an open corner. Use fruit and not trees to landscape, define, shade patio, lawn.

Community

OPEN LOTS: City authorities have ^{encouraged} permitted people to use vacant lots for community gardening. Not secure for long term tree fruit crops, ideal for yearly vegetable gardens. write "Gardens for All," Charlotte, Vermont

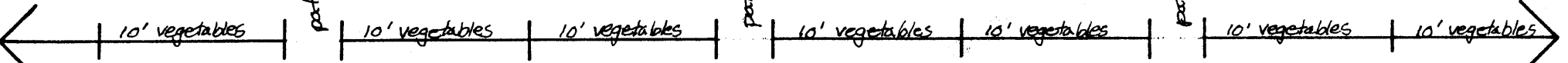
RENTED FARM LAND: perhaps managed by a farmer. All gardens planted in long fields 100' wide. A 10' section is a 10' x 100' or 1000 sq. ft. family garden with 35-40 10' rows of vegetables. Land preparation, planting cultivation by machinery if necessary - long rows of particular crops. Seed ordering, planning as a group. Thinning, weeding, harvesting by each individual/family. Rev. Walbert Goldenmaier, 222 E. Fremont, Appleton. In 1972 - 259 families on 7 acres. Wisc 54911 each family paid \$5 for seed, rent, farmer's work yield at least \$300.00 in fresh vegetables.

On the next page a planting program for such gardens, applicable to any 500 sq. ft., 1000 sq. ft. garden.

each garden, the content of a 10' by 100' section (38-10' rows). 1000 sq. ft. of garden crops.

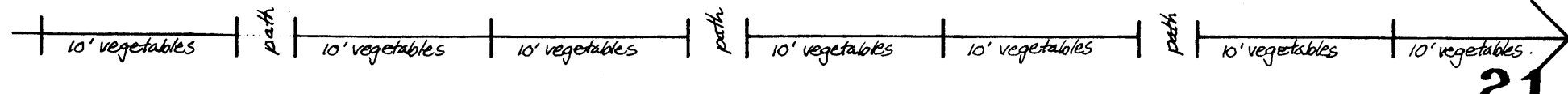
Sustenance VEGETABLE GARDENS

a program for a 500 sq. ft. garden might incorporate the content of a 10' section in the top 50'



CROP	PLANTING DATE	QUANTITY FOR 10' ROW	
0 POLE BEANS	May 15	1 oz.	0
3 PEAS double row 6' apart GREEN SNAP BEANS	April 10 July 1	1/4 lb. (figure for double row or 20') 1/8 lb.	3
6 SPINACH double row 6' apart TOMATO interplant and stake as plants	April 10 May 25	1/8 oz. (figure for double row or 20') 6 plants	6
9 SPINACH double row 6' apart TOMATO interplant and stake as plants	April 10 May 25	1/8 oz. 6 plants	9
12 CARROTS with TILL double row 6' apart	April 15	1/4 oz.	12
13 CARROTS double row 6' apart RUTABAGA	April 15 July 15	1/4 oz. 1/4 pkt.	13
16 BEETS double row 6' apart—follow with CARROTS	April 15 / August 1	1/4 oz.	16
17 BEETS double row 6' apart CARROTS double row 6' apart	April 15 August 1	1/4 oz. 1/4 oz.	17
20 CABBAGE plants (interplant LETTUCE, RADISH, ONION SETS)	April 15	6 plants	20
21 SWISS CHARD	April 15	1/8 oz.	21
22 BROCCOLI plants (interplant LETTUCE, RADISH, ONION SETS)	April 15	5 plants	22
25 PEPPERS plants	June 1	6 plants	25
28 GREEN SNAP BEANS GREEN SNAP BEANS	May 15 July 10	1/8 lb. 1/8 lb.	28
31 CORN LETTUCE double row 12' apart	May 5 August 20	1/2 oz. 1/8 pkt.	31
34 CORN KALE double row 12' apart	May 15 August 20	1/2 oz. 30 plants	34
37 GREEN SNAP BEANS BEETS double row 12' apart	May 25 July 25	1/8 lb. 1/4 oz.	37
40 ZUCCHINI, SUMMER SQUASH plants	May 25	4 plants	40
43 GREEN SNAP BEANS	May 25	1/8 lb.	43
46 CORN	May 25	1/2 oz.	46
49 CORN	June 5	1/2 oz.	49
50 CUCUMBER, ACORN SQUASH plants	June 1	6 plants	50
53 ONION SETS OR GARLIC	April 15	1/4 lb. 3" between sets	53
56 WINTER SQUASH plants	May 25	6 plants	56
59 POLE BEANS	May 15	1 oz.	59
62 SPINACH double row 6' apart TOMATO interplant & stake as plants	April 10 May 25	1/8 oz. 6 plants	62
65 SPINACH double row 6' apart TOMATO interplant & stake as plants	April 10 May 25	1/8 oz. 6 plants	65
68 SOY OR KIDNEY BEANS (BUSH BEANS)	May 25	1/8 lb.	68
71 WHITE POTATO	May 10	5 lbs. tubers planted 6-12" apart.	71
74 WHITE POTATO	May 10		74
77 SOY OR KIDNEY BEANS (BUSH BEANS)	May 25	1/8 lb.	77
80 PEPPERS plants	June 1	6 plants	80
83 EGG PLANT plants	June 1	5 plants	83
86 CORN PEAS double row 6' apart	May 5 August 20	1/2 oz. 1/4 lb.	86
89 CORN KALE OR KOHLRABI, double row 12' apart	May 15 August 25	1/2 oz. 30 plants	89
92 ZUCCHINI, SUMMER SQUASH as plants	May 25	4 plants	92
95 PEAS double row 6' apart	April 15	1/4 lb.	95
97 TURNIPS double row 12' apart LETTUCE double row 12' apart PARSNIPS, RADISHES double row 12' apart	July 20 April 15 July 20	1/4 pkt. 1/8 pkt. 1/16 oz. each.	97
100 CUCUMBERS, PUMPKINS as plants	May 25	6 plants	100

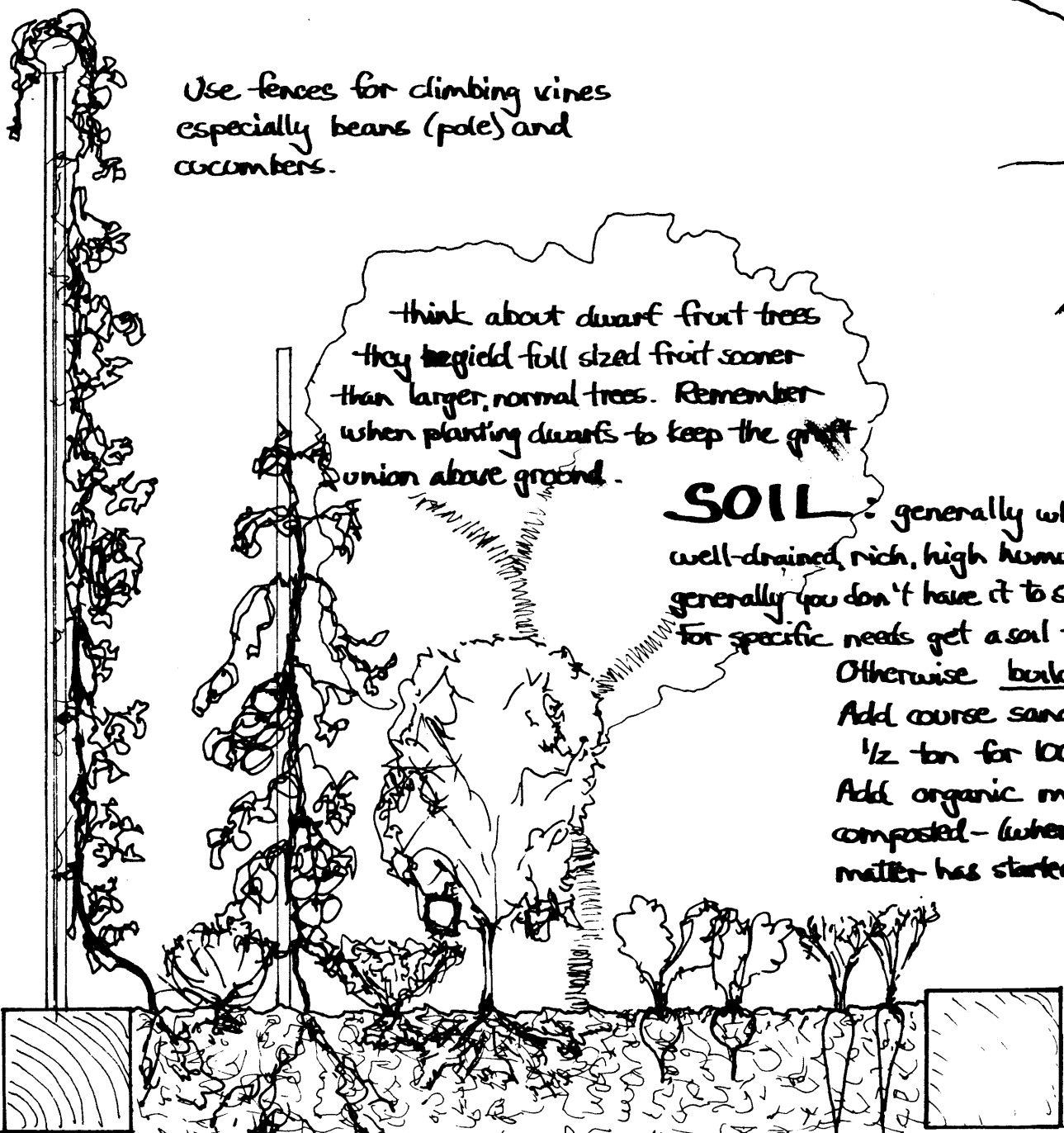
IDEALLY A PLOT 100' IN WIDTH



for a 1000 square foot garden.
really not many tools, nor much time.

WORK, TIME, TOOLS

activity	time - when - how long	tools
planning garden layout, seed $\frac{1}{2}$, stock ordering.	January: a month of evenings the first year; thereafter one evening.	books about gardening, friends seed catalogues, local gardening centers.
arrival of (purchase) and organizing seed $\frac{1}{2}$ stock to fit planting schedule	February, March; 1 evening.	a box in which to file seed packets. 50° and dry storage space.
start peppers as seeds	mid-March, one evening	shallow box, potting soil, vermiculite or eggir., sunny window.
BREAK GROUND, prepare soil - break it up, apply compost and work it in.	beginning of April - two people one weekend one person two weekends.	a car for hauling organic matter. <u>spade/shovel</u> for breaking up soil a <u>shovel or manure fork</u> to spread compost, and work it in. a <u>roto-tiller</u> for breaking up soil and working in compost. Rent one weekend, share with a neighbor.
planting - seeds for transplants $\frac{1}{2}$ in garden.	April - August, once a week, one hr.	a hoe, a shovel.
weeding, hoeing, mulching	May - September, once a week, 1 person, 1 day: each week.	a hoe, or a roto-tiller which may weed/cultivate up to 2 acres/day.
watering (when no rain)	May - Sept, every two days, one hour	water, hose, sprinkler, watering pot.
thinning	June - Sept, every evening or 2-15 min. to eat for supper. Or 1 hr. every 2 wks.	a basket to collect thinnings.
PICKING, HARVESTING <small>JUNE - OCTOBER</small>	3-7 times a week - 15 min. to 3 hrs.	a knife, a basket, a wheelbarrow.
turning under crops, mulching for winter, with hay or compost.	mid-October, one person one weekend.	a spade or tiller bay, compost, pitch fork, or manure ^{fork} .



Use fences for climbing vines especially beans (pole) and cucumbers.

think about dwarf fruit trees they begin full sized fruit sooner than larger, normal trees. Remember when planting dwarfs to keep the graft union above ground.

SOIL: generally what you want is deep, well-drained, rich, high humus content, slightly acid. generally you don't have it to start with. For specific needs get a soil test.

Otherwise build up the soil.

Add course sand if compact, hard.

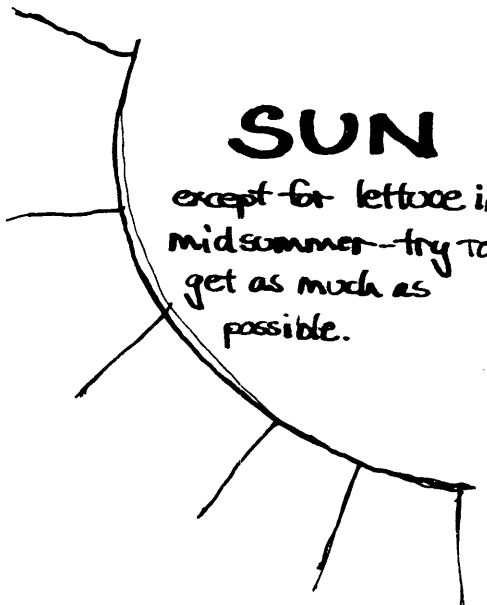
1/2 ton for 1000 sq. ft.

Add organic matter, preferably composted - (where the structure of the matter has started to break down)

manure (horse, cow, chicken)
sawdust, chavings
leaves, peat, straw
grass, weeds (no seeds)
hair, garbage, ash.

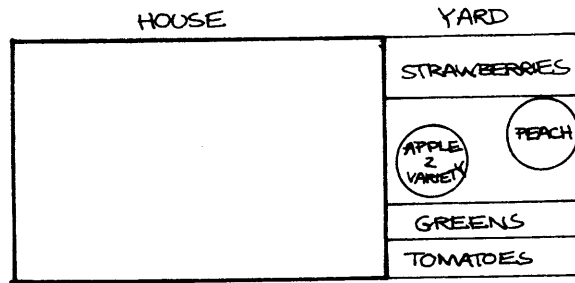
As much organic matter as possible, a good mix, work it in.

SUN



except for lettuce in midsummer - try to get as much as possible.

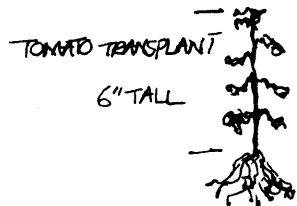
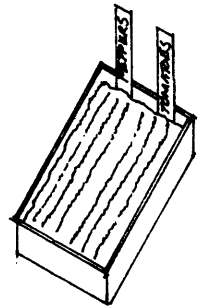
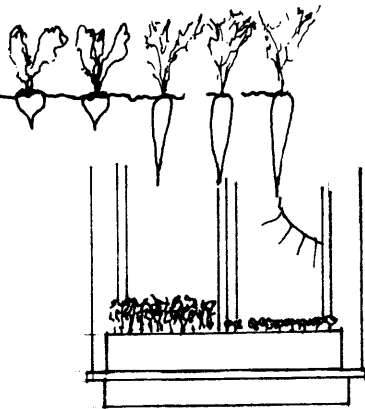
Garden SPACE EFFICIENCY



BEFORE THINNING



AFTER



ZUCCHINI TRANSPLANT
leaves developed

1. **Favorites** - a small garden should concentrate on favorites rather than everything. No corn, winter squash, peas beans & cucumbers only as climbing vines
2. **Interplant** - eggplant, broccoli, cabbage plants can have lettuce, radishes, onion or garlic sets between them in rows. Trellised tomatoes interplant with low profile, shallow rooted crops.
3. **Successive plantings** - lettuce radishes, beets, carrots, green snap beans, peas mature quickly. Planted early there is time to plant again in same place, other places, or follow with fall crops, kale, kohlrabi, parsnips, turnips
4. **Thinnings** - eat them. Seeds of lettuce, beets carrots, radishes are very small. Planting them it is difficult to space for full growth. Don't worry. Thin them as they grow & eat the thinnings.
5. **Transplants** - except for root crops, beans peas & corn, start all seeds in seed beds, then transplant to garden. Start in moist, light, warm soil. Then place in sunny window, green house, cold frame/hot house. Into garden when leaves begin to develop. tomatoes & peppers about 6" high.



Garden expert James U. Crockett shows how it's done. He'll launch his own weekly TV show on PBS April 16.

Grow Your Own Vegetables!

by James U. Crockett

Food Prices Drive Millions to Gardening" was the headline of an article by pollster George Gallup last fall in which he predicted that final data would show that 30.2 million American families grew at least part of their own vegetables in 1974. Even the White House is planting a vegetable garden.

Doesn't the thought of saving food dollars appeal to you? For the price of one head of lettuce you can buy enough seeds to grow 200. If you can't eat that much lettuce this year, save part of the seeds, store them in a cool dry place and use them within the next six years. A package of cantaloupe seeds, equal to the cost of a single tasteless, picked-too-early market melon, will provide you with about 100 mouth-watering fruits.

Anyone who has ever grown his own garden knows that commercial varieties, chosen for their ability to withstand shipping, simply aren't as tender, flavorful or vitamin-rich when they reach market as are the home-grown varieties.

Choosing a garden site

Sunshine is the single most important element in growing vegetables. Select a spot that receives direct sun for at least five to six hours daily.

Nearly any soil can be adapted to vegetable culture provided it has sufficient drainage. When natural drainage is inadequate, grow your plants on

mounded beds.

Tree and shrub roots can steal moisture and plant foods from your garden. Seal them off by trenching two feet deep around the garden, inserting a metal or plastic root barrier.

Big crops from small plot

A 300- to 600-square-foot garden (15 by 20 to 20 by 30 feet) can supply most of the summer vegetable needs of a family of four with a surplus for canning or freezing. Space rows closely and cultivate by hand. Only such basic tools as a spade or spading fork, rake and hoe are needed.

Get a head start by sowing long-term warm-weather crops such as tomatoes, peppers, eggplants, okra, cucumbers and melons indoors four to eight weeks before night temperatures are expected to remain above 55 degrees. Grow a succession of crops in each row; intercrop fast-maturing radishes, turnips, spinach and lettuce with slower-growing cabbage, cauliflower, broccoli and tomatoes. Grow vertical crops: plant pole rather than bush beans; train cucumbers and melons on a fence; stake tomatoes. Maintain a small nursery bed from which seedlings can be quickly transplanted to fill vacancies.

Improving the soil

All soil is composed primarily of various-sized pieces of rock. The larger the bits of rock, as in sand, the more

PARADE, Boston Sunday Globe, 13 April 1975, p.18

porous or "light" the soil. So-called "heavy" soils, such as clay soils, are made up of particles so small that the soil feels greasy when wet and becomes very hard when dry. Neither sand nor clay is an ideal garden soil; a soil containing both large and small segments and known as a medium loam is best.

It is a rare homeowner who finds an ideal garden soil in his backyard. Fortunately, nearly all soils can be made suitable for vegetable culture. The way to improve any soil is to add to it partially decomposed organic matter such as peat moss, decayed sawdust, ground bark or leaves, as well as manure and compost.

Organic or not

Very early a new gardener discovers two things about fertilizers: (1) the major elements needed for plant growth are nitrogen, phosphorus and potash and (2) gardeners are divided as to how to apply these nutrients, organically or chemically.

To help soothe the passions aroused by the organic-inorganic controversy, consider that soil-borne nutrients are absorbed in a water-soluble form. It makes no difference whether fertilizers are applied as water-soluble chemicals or as organic manures, which must decompose before plants can use them. Organic fertilizers take longer than inorganic ones to become available to plants—that's all. Wise growers use organic fertilizers for enhancing the soil texture and for the long-term release of nutrients, and inorganic chemical fertilizers to give speedy growth.

How to use fertilizers

Fertilizer packages bear a three-numeral label such as 5-10-5, 5-8-7 or 10-10-10. In sequence the numbers stand for the percentages of nitrogen, phosphorus and potassium or potash in the mixture; the remaining material is filler used to prevent caking and to make distribution easier.

All vegetables need a nitrogen-phosphorus-potash fertilizer. Nitrogen promotes fast growth and is especially valuable for leafy crops such as lettuce, cabbage and Swiss chard. Phosphorus builds strong roots; potatoes, beets, carrots and turnips benefit by extra phosphorus. Potash helps plants resist drought and diseases and acts as a catalyst for other elements.

Before digging over your garden in the spring, spread 4 to 5 pounds of 5-10-5 or 5-8-7 fertilizer or 2 to 3 pounds of 10-10-10 fertilizer per 100 square feet. During the growing season use supplementary surface feedings of 3 to 5 ounces of fertilizer to each 10 feet of row every three to four weeks.

Acid-alkaline balance

Calcium, in the form of lime, is essential in acid-soil regions to raise the pH or "sweeten" the soil, while sulfur is used in alkaline areas to lower the pH. The term pH refers to the acid-alkaline

balance of soils. Agronomists use a pH scale of 0 to 14, with 7 being neutral; lower numbers denote acidity, higher ones alkalinity.

Most vegetables do best with a pH of 6.0 to 7.0. You can determine the pH of your soil and the amount of lime or sulfur to add by using a simple soil test kit available at any garden center or by sending a soil sample to a state laboratory for analysis.

Planting your garden

Wait until excess spring moisture has drained away before digging your garden. After turning over the soil to a depth of 8 inches or so, rake it smooth and stake out your rows to a width to suit the plants you will be growing. It helps to have a plan on paper.

Plant seeds following the directions on the back of each package and sow seeds sparingly. Most of them will have to be destroyed if they are too close together.

If you haven't started cabbage, lettuce and broccoli seedlings indoors, buy some plants and set them into the ground early, during cool weather. Plant onion sets, peas, carrots, beets, radishes, turnips, spinach and Swiss chard as early as possible. Plant beans and corn about the date your last spring frost is expected. Wait until night temperatures remain above 55 degrees before setting out tomatoes, peppers and eggplants, or planting melons, squash and pumpkins.

Pest and disease control

Most of the terrifying insects and diseases we hear about rarely appear in home gardens. When they do, a gardener ought to respond with the mildest remedy that will control them. For instance, buy disease-resistant varieties and disease-treated seeds. Control weeds. Protect transplants from cutworms by encircling them with cardboard collars. Keep plants well nourished and healthy. Plant crops in different parts of your garden from year to year. Destroy all infected plants immediately. Shake insects off your plants into a can of water coated with a skim of oil. Use nontoxic plant-derived insecticides such as pyrethrum and rotenone. Use a forceful spray of plain cold water to wash away aphids and red spider mites. Control worms on cabbages, broccoli and cauliflower with nontoxic Biotrol, Dipel or Thuricide. As a last resort, use malathion or carbaryl insecticides because their effects dissipate quickly.

Therapy, too

Weight- and exercise-conscious persons find gardening immensely satisfying. Bending and stooping for a purpose beats exercise-by-rote.

Emotional tensions and gardening are incompatible. It's nearly impossible to be angry when admiring your first ripe tomato. Gardening offers a richly rewarding way to "slow down and live longer."

PROCESSING

Foods are processed to slow down, halt, their deterioration, allowing for more prolonged storage before use. Any processing destroys some of the matured nutritional value of the fresh produce.

Local, community and home, processing is desirable because it will permit greater utilization of the food growing potential in a particular area. It will mean a greater use value for open land which should encourage its preservation. It will mean more local control over the cost and quality of food. It should mean less national energy consumption in the transportation of foods.

There are three primary ways of processing produce on a small scale: freezing, canning, drying. Freeze-drying though terrific in retention of nutritional value presently demands a technology too expensive for small, non-commercial purposes. Natural storage as practiced in the pantries and cold cellars of homes and farms should also be considered.

Processing demands equipment and ample workspace. Home storage of foods demands space and particular kinds of places.

The demand for additional space in a home imposed by processing and storage allowing for potential processing & storage might total 100 sq. ft. At \$20/sq. ft. this means \$2,000. Over 20 years it would easily pay for itself.



CANNING

Design Considerations:

HOME: ample kitchen work area and shelf storage, ideally cool/temperate—a PANTRY. Some of this equipment → and a place to keep it. Lots of shelves, cupboards.

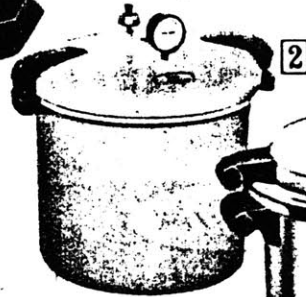


Pressure gauge for no-guess even pressure



Compact new size 12-qt. canner (1) holds as many jars as our 16-qt. canners

12-quart Cooker-Canner with pressure gauge



What: fresh, highest quality fruits & vegetables. meat. Especially high acid fruits and vegetables: tomatoes, relishes. Can or fire

How: "Home Canning of Fruits and Vegetables." Home & Garden Bulletin No. 8, USDA, March 1972. "Complete Guide to Home Canning, Preserving, Freezing." USDA, New York, 1973. \$2.50.

BOOK, Ball Corporation, Muncie, Indiana, 47302 \$1.00. Ask your grandmother.

Advantages: cheap. long shelf life. no need for energy consuming storage.

Disadvantages: time consuming.

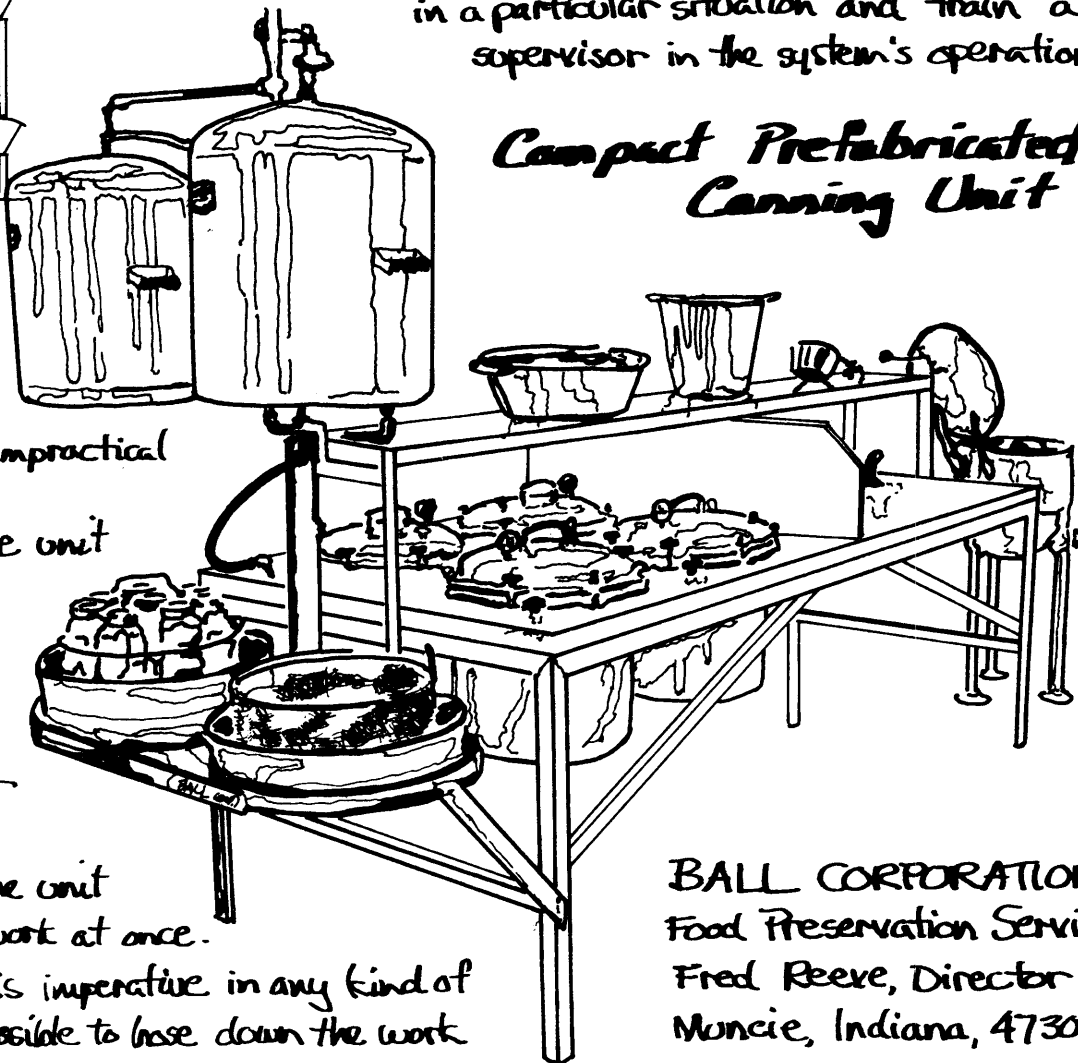
without proper care and experience can be dangerous. Equipment pressured and food can spoil if improperly prepared and sealed.

except for high acid fruits, vegetables, relishes, cooking time required significantly lowers nutritional value.

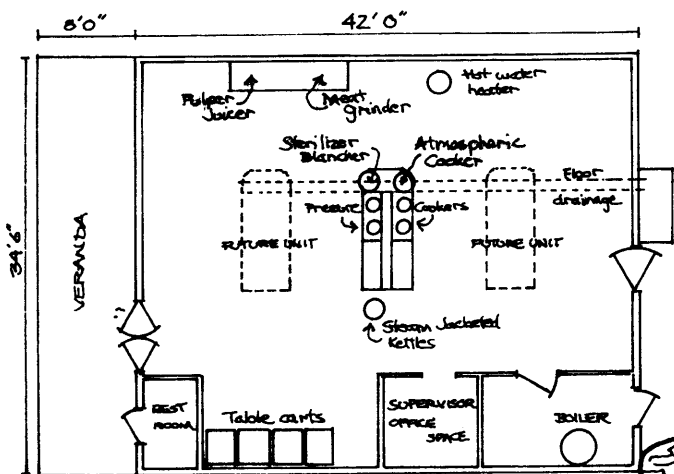
COMMUNITY CANNING CENTER

The basic element is equipment. Ball's canning unit with steam boiler, 200-500 quart per day capacity, sells for under \$5,000. They will advise as to installation in a particular situation and train a supervisor in the system's operation.

Compact Prefabricated Canning Unit



BALL CORPORATION
Food Preservation Service
Fred Reeve, Director
Muncie, Indiana, 47302



Ball's plan for a typical center assumes the eventual expansion to three canning units, capable of servicing as many as 1,000 families. A single unit would be impractical for less than 50 families.

400 sq. ft. is sufficient for a single unit center.

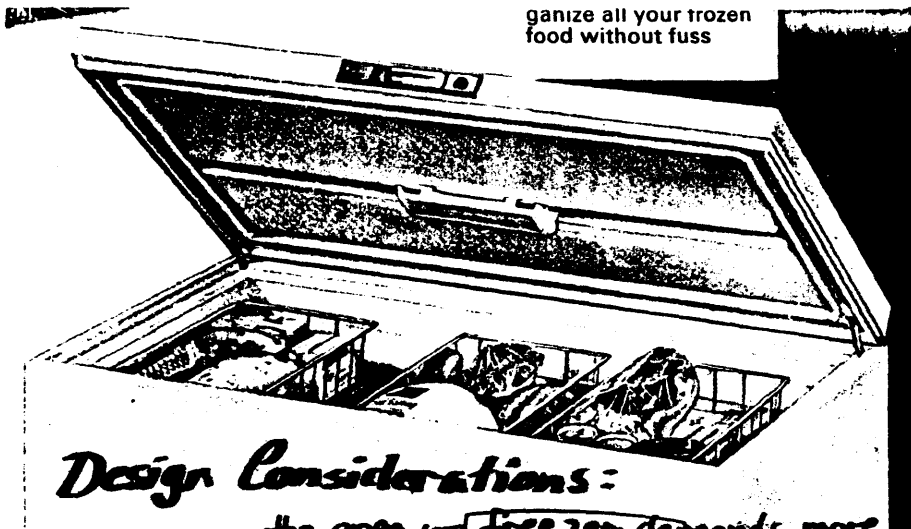
Particulars:

good ventilation: for safety and speed it is a steam pressured system. Free air flow in a center therefore important.

ample floor space on all sides of the unit itself so that 4-6 people may work at once.

floor drainage. Sanitation is imperative in any kind of food processing. It should be possible to hose down the work surfaces, wall and floors after each use.

organize all your frozen food without fuss



Design Considerations:

17.3-cu. ft. Chest with 3 roller baskets

\$289⁹⁵

smaller capacity than freezer at left out with many of the same features. holds three roller baskets. Baskets allow easy access to lower storage area. Polyurethane foam insulation. Acrylic finish cabinet 48 1/2 inches wide, 36 1/8 inches high and 27 7/8 inches deep. See Guarantee and Note below; Food Protection Plan on page 940. Before ordering see IMPORTANT NOTE on facing page.

Shipping weight 240 pounds.
47 A 1543N.....\$289.95

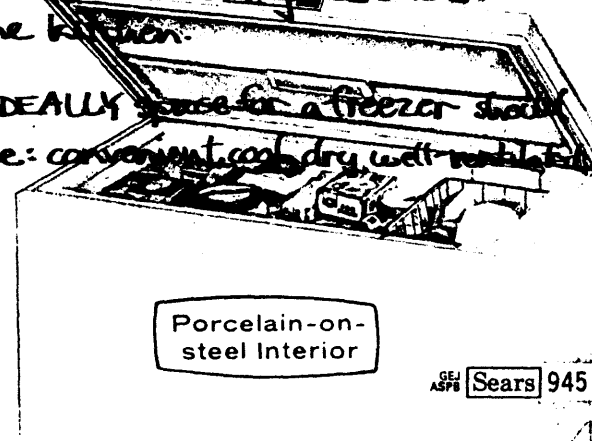
the open up freezer demands more space than one that opens out, but operates more efficiently.

Design for and purchase one that opens up and spend the money for one that is well insulated.

Ample kitchen work area and storage. Sufficient kitchen related space to allow a 16 cu.-ft. freezer for a family of 4.

a basement easily accessible from the kitchen.

IDEALLY space for a freezer should be: convenient, cool, dry, well-ventilated.



Porcelain-on-steel Interior

GE ASPB Sears 945

FREEZING

What: fresh, highest quality fruits & vegetables, meat and fish.

How: "Home Freezing of Fruits and Vegetables." Home & Garden Bulletin No. 10, USDA

"Freezing Meat and Fish in the Home."

Home & Garden Bulletin #93, USDA.

"Complete Guide to Home Canning, Preserving & Freezing." USDA, New York, 1973. \$2.50.

FREEZER BOOK, Ball Corporation, Muncie, Indiana, 47302. \$.50.

Advantages: quick, easy. Retains high percent of nutritional value and flavor.

Disadvantages: a power blackout longer than 3 days and most of food lost. Freezer must be defrosted once a year. Gradual loss of food quality. Little food will last more than a year. Not necessarily any savings. A 16 cu.-ft. freezer costs as much as 45 cents a day for electricity, \$164 a year. A good one costs a minimum of \$200 to buy. A luxury unless heavy dependence on home grown, home processed produce.

lifting lift-out basket

storage area **\$239⁹⁵** if lifting needs

gasket and vinyl collar seal lid tight-sealing thinwall design... fiber glass finish cabinet 48 1/2 x 36 1/8 x 27 7/8 inches. See Food Protection Plan, page 940. Before ordering see

.....\$239.95

1 year if any part fails. Free repairs for the compressor and tubing. For service call our office in Canada.

115-120-volt, 60-cycle AC. Refrigerator disassembly.

DRYING

What: primarily fruits and herbs, onions.

How: SUN: days - lay on ground or screens in the sun. Not usually enough sun in New England.
AIR (no sun): weeks - for leafy produce, herbs, hang in bunches or spread out on suspended screens.
in OVEN: hours - trays with sliced fruits, or leaves spread out. Old wood/coal cooking stoves with warming ovens ideal. Have to watch carefully ~~oven~~ with "warm" temperature of modern ovens.

Advantages: the best way to cure and store herbs. Long life storage. Safe, easy on small scale.

Disadvantages: can take a long time. Difficult on a large scale (unless good sun). Lose a lot of nutritional value.

Design Considerations: A system of screened trays over the back of a stove to utilize the exhaust heat of a modern oven when baking. STORAGE SPACE for dried goods: a ventilated and accessible attic. Shelf space for jars (not air tight) and built-in mouse proof cupboards.

Foods in STORAGE












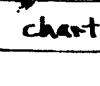
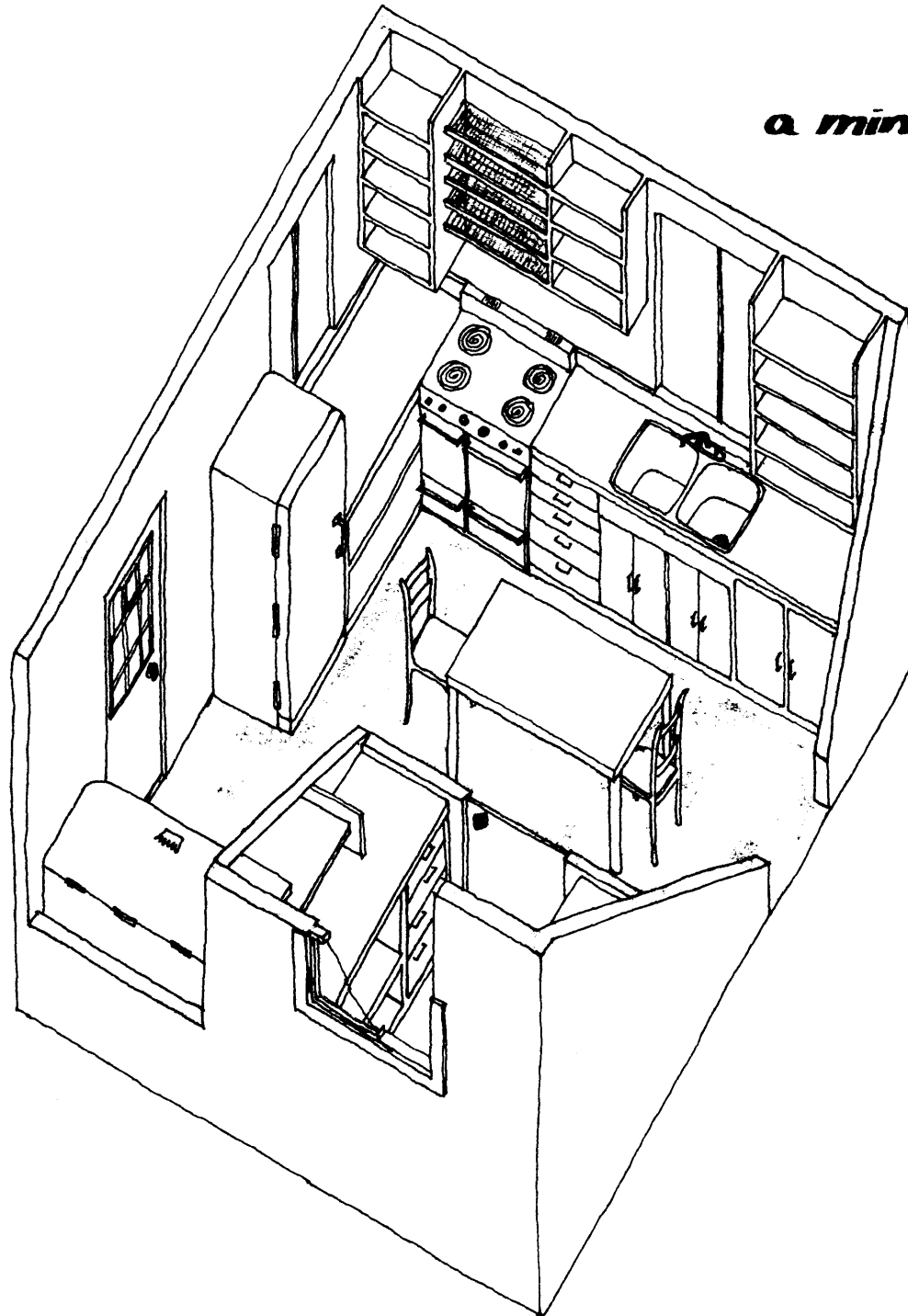
PRODUCE	food freezes at (F)°	TYPE OF STORAGE	ideal temperature (F)°	relative humidity	air circulation	average storage life	General Remarks
 APPLES	29.0	root cellar for fruit	32	moderately moist 80-90%	moderate	4-6 months	for best results, wrap individually. do not store near potatoes, cover boxes.
 BEETS	(c.30)	basement store room; root cellar; pit	32-40	moist 90-95%	slight	4-5 months	harvest late in Fall when nights 30° & soil is dry. Leave tails and 1/2" crown on, pack in moist sand, leaves, or sawdust.
 CABBAGE	30.4	root cellar; pit dry shed	32	moderately moist 85-90%	slight	late Fall-Winter	Imparts strong odor, absorbed best by packing in sand, can be hung by roots in cellar, shed. good for pit storage.
 CARROTS	(c.30)	basement store room root cellar; pit	32-40	moist 90-95%	slight	6 months	may stay in ground til after first frost. Pack with alternate layers of 1" sand, moist; or ventilated plastic bags.
 ONIONS	30.6	dry shed	32	dry 70%	moderate	Fall-Winter	Pull after tops have fallen, started to dry. Dry bulb outside evenly, til they "paper-on." Tops may be braided, bunches hung in dry room.
 PARSNIP	30.4	basement store room root cellar pit	32	moist 90-95%	slight	Fall-Winter	best stored in ground, as flavor improves with freezing. Once frozen do not allow to thaw. In cellars treat as beets.
 POTATOES	30.9	basement store room pit root cellar	40	moderately moist 80-90%	slight	Fall-Winter	Condition at 60-75° 1-2 weeks, avoiding strong sun or wind. Place not deeply in crates, boxes. Will turn green in light, indicating toxic solerium. Potatoes make apples musty, don't store near each other unless covered extremely well.
 PUMPKIN	30.5	basement store room attic	55	moderately dry 70-75%	moderate	Fall-Winter	see Winter Squash...
 RUTABAGA	(c.30)	root cellar pit	32	moist 90-95%	moderate	2-4 months	withstands some frost well. Odor can penetrate other vegetables. Pack like beets.
 SQUASH, WINTER	30.5	basement store room pit root cellar, attic	55	very dry 50-70%	moderate	Fall-Winter	should be harvested before frost. Cut stems leaving a few inches on. Condition @ 80° for 2 weeks to harden rind. If stored at too high a temperature becomes stringy. Store so that vegetables do not touch each other. Under bed is good.
 SQUASH, ACORN	(c.30)	basement store room attic, pantry cupboard.	45-50	moderately dry 70-75%	moderate	6-8 weeks	must not be cured, will turn yellow and stringy.
 TURNIP	(c.30)	pit; root cellar	32	moist 90-95%	slight	2-4 months	withstands some frost well. Odor can penetrate other vegetables. Pack like beets.

chart by Mango Jones, MIT. Taken from chart, with more vegetables, in Hertzberg, Ruth; Beatrice Vaughn, Janet Greene, PUTTING FOOD BY, Brattleboro, Vt., 1973



a minimum **KITCHEN**
for a home of four people

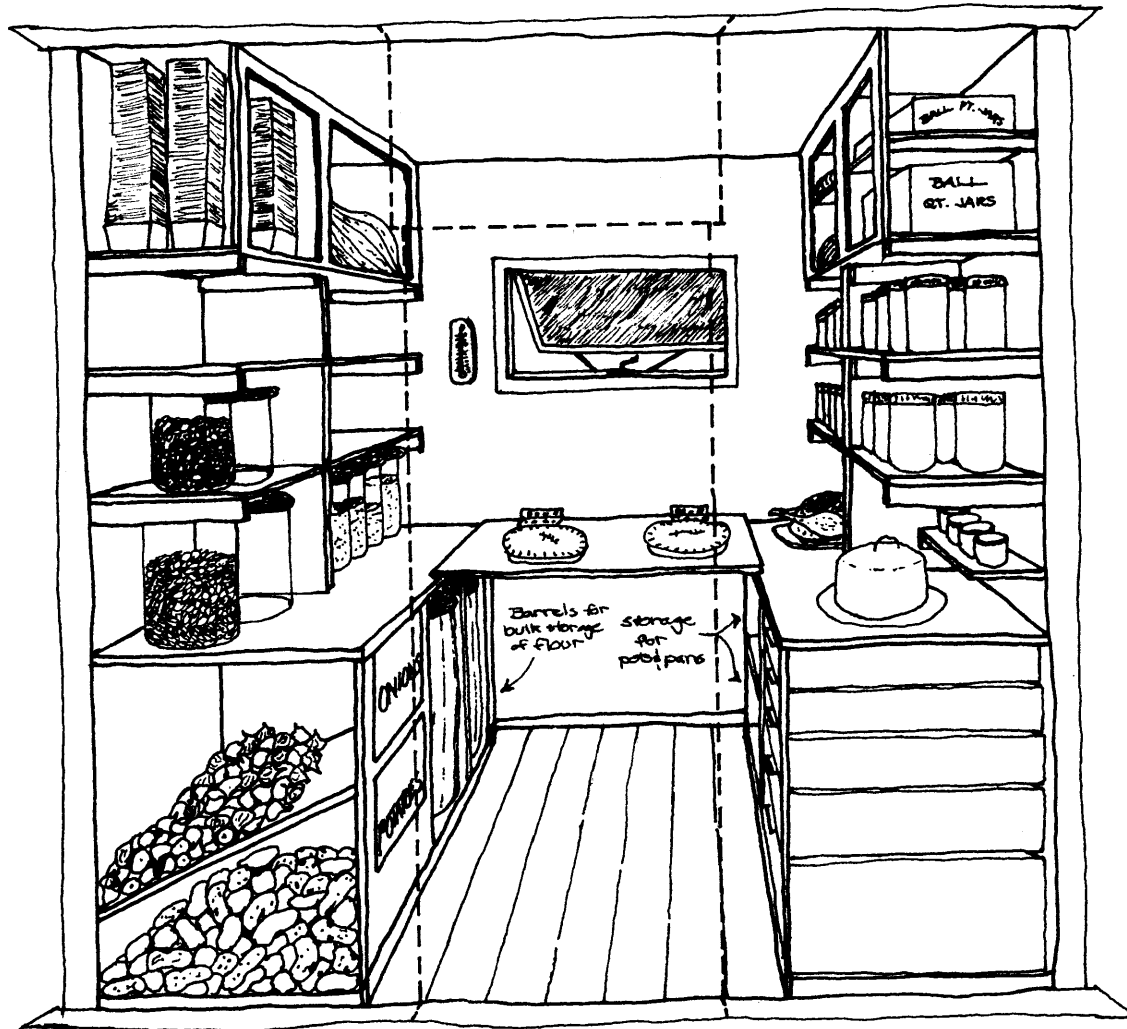
SPECIFICATIONS:

a TOTAL of at least 200 sq.-ft.
(here 14'x16' - 214 sq.-ft.)

INCLUDE:

- a ~~Small~~ Pantry - 6'x8'.
- ample kitchen work area.
- ample shelf & cupboard storage potential for a 16 cu.-ft. freezer.
(could be in a basement with convenient access from kitchen).
- room for a kitchen table.
- lower height than countertop.
- movable.
- place to sit, work, eat, talk.
- possibility of herb & fruit drying over stove.

temperate storage area: a *PANTRY*



SPECIFICATIONS:

6 ft. deep x 8 ft. wide
desirable dimensions.

window for ventilation
and temperature control.

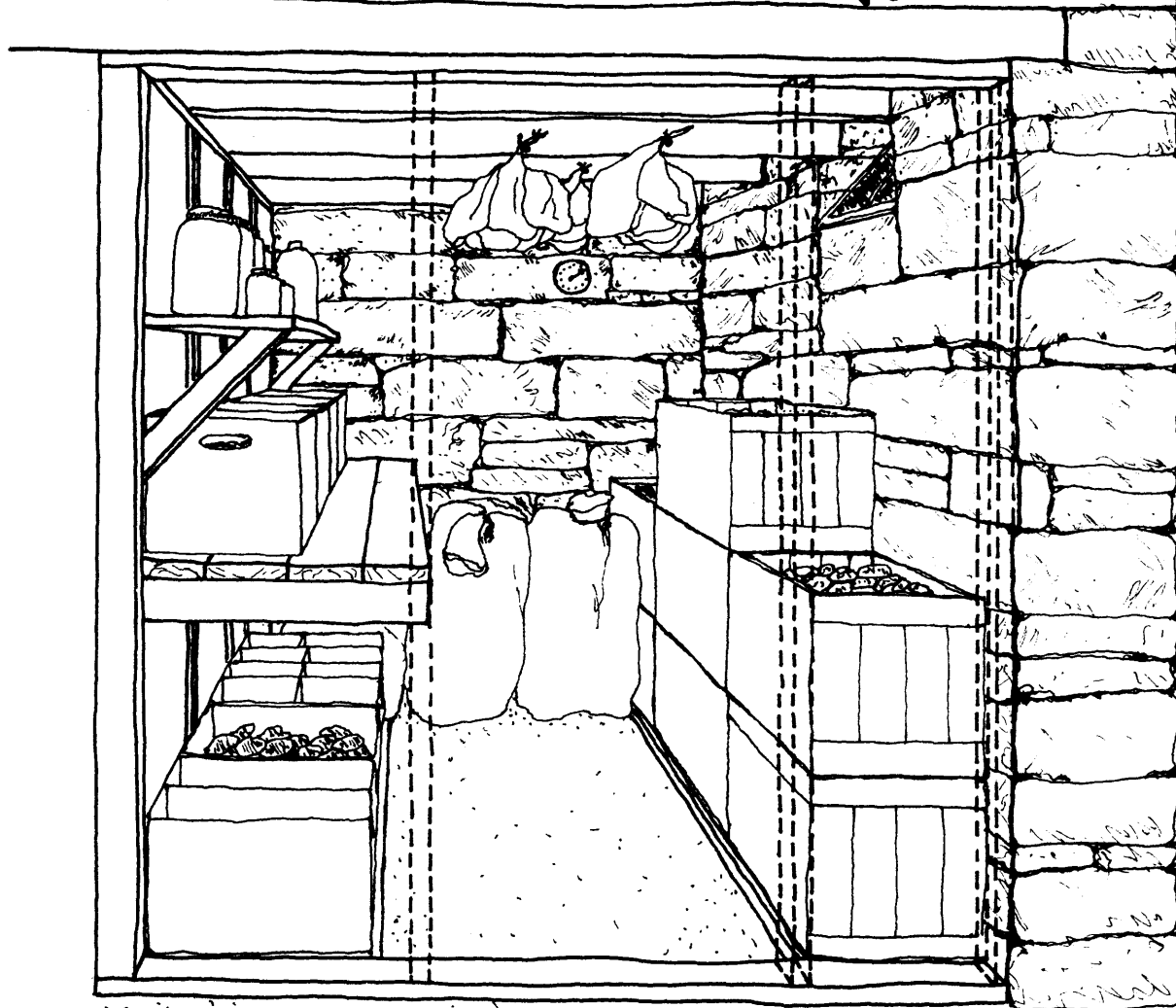
ideally on NORTH side of
a home. EAST 2nd choice.
Otherwise mirror gla-
zing in window and
well-insulated outside
wall.

shelves, cupboards, drawers
barrel, bin storage.

counter-top like surface
for possible work area
and easy short term
storage.

COLD CELLAR

"cellar" comes from an old french word meaning "place to store food"



SPECIFICATIONS:

6' wide x 8' deep - 50 sq. ft

insulated against outdoor summer heat, indoor winter heat. Sustain 32°-50°F year round temperature range.

window for ventilation - or vent-like stove pipe. no natural light. blacken any window glass.

dirt floor ideal to hold moisture. Humidity range ceiling to floor 70 - 85%.

mouse-proof walls.

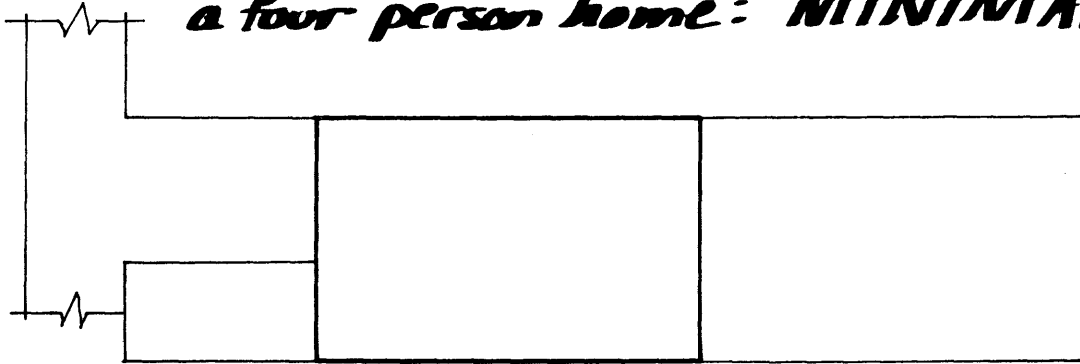
shelves, boxes, barrels, jugs, jars, bags (burlap & plastic).

Drawing by Margo Jones, M.I.T. - consult her for more information.

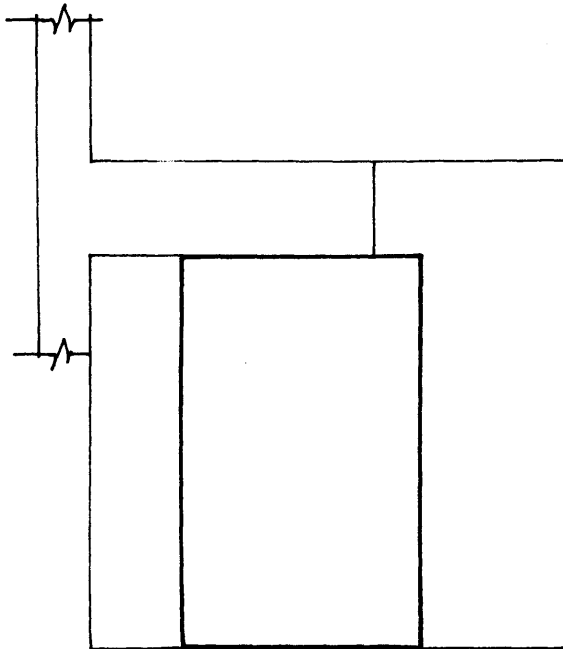
Read Hertzberg, Ruth; Beatrice Vaughn, Janet Greene. PULLING FOOD IN, Brattleboro, Vt., 1973.

To fit these elements in a home, and encourage these activities to occur there are some minimum space requirements that should be recognized. Examining them it is not surprising that the work of developers creates homes without land for potential gardens. Greater profits to the developer result from higher densities. What seems disturbing is that in fact they might build at a reasonably high density and still permit both garden space and home contact with the ground. There should be some promise in that fact.

a four person home: MINIMAL SPACE NEEDS



The use of these minimal space needs suggests a certain population or home density and land/use ratio.



Something about a physical framework which we must recognize - work with or against. Open land for potential garden use is usually sacrificed for buildings and car space.

Look at the implications for building if the Open Land minimum were held sacred and each home were allowed one car.

OPEN LAND 1200 sq. ft.

yard: POTENTIAL GARDEN	1000 sq. ft.
path, patio	200 sq. ft.

BUILT-ON LAND 1000 sq. ft.

kitchen	200 sq. ft.
living	200 sq. ft.
bedrooms	400 sq. ft.
bath, utilities, misc.	200 sq. ft.

CAR SPACE 600 sq. ft.

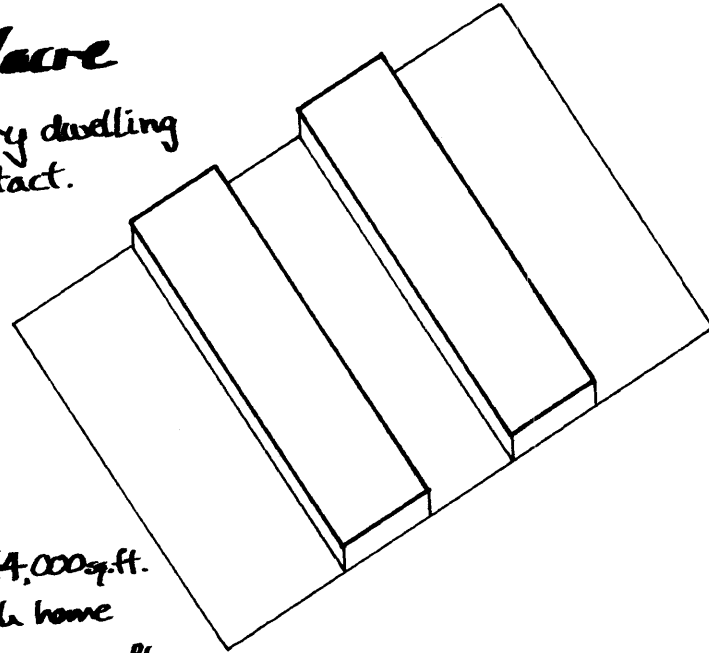
parked car	200 sq. ft.
access	400 sq. ft.

IMPLICATIONS for home density

15 homes/acre

OPEN SPACE : $15 \times 1200 = 18,000$ sq.-ft.
 CAR SPACE : $15 \times 600 = 9,000$ sq.-ft.
 BUILT SPACE : $15 \times 1,000 = 15,000$ sq.-ft.
TOTAL NEEDS: 15 HOMES = 42,000 sq.-ft.

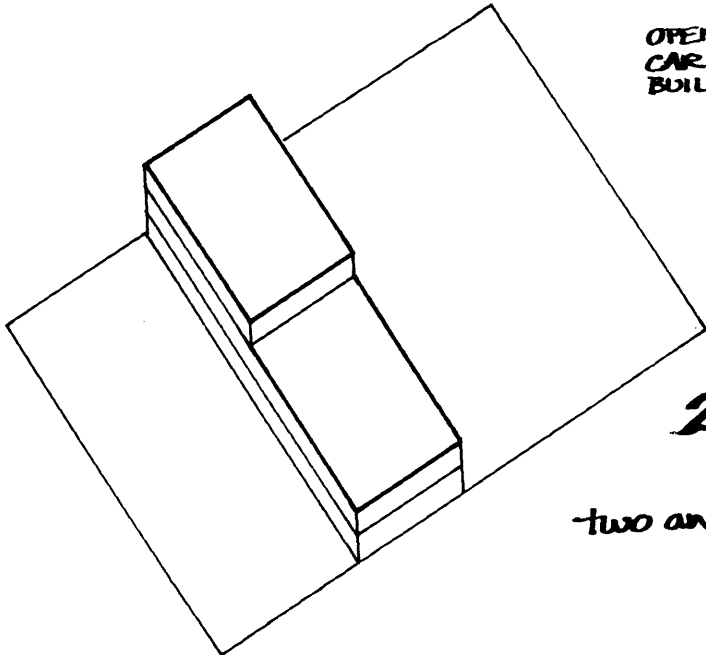
single level, every dwelling has ground contact.



ONE ACRE is about 44,000 sq.-ft.

assume: for each home

OPEN LAND	1,200 sq.-ft.
CAR SPACE	600 sq.-ft.
BUILT SPACE	1,000 sq.-ft.



20 homes/acre

two and three level

OPEN SPACE : $20 \times 1,200 = 24,000$ sq.-ft.

CAR SPACE : $20 \times 600 = 12,000$ sq.-ft.

= 36,000 sq.-ft.

ONE ACRE = 44,000 sq.-ft.

BUILT SPACE PERMITTED = 8,000 sq.-ft.

BUILT SPACE NEEDS : $20 \times 1,000 = 20,000$ sq.-ft.

CONSEQUENCE : 2 1/2 levels, 8,000 sq.-ft. each.

IMPLICATIONS for home density (cont'd)

OPEN LAND: $23 \times 1,200 = 27,600$ sq. ft.

CAR SPACE: $23 \times 600 = 13,800$ sq. ft.

$= 41,400$ sq. ft.

ONE ACRE = $44,000$ sq. ft.

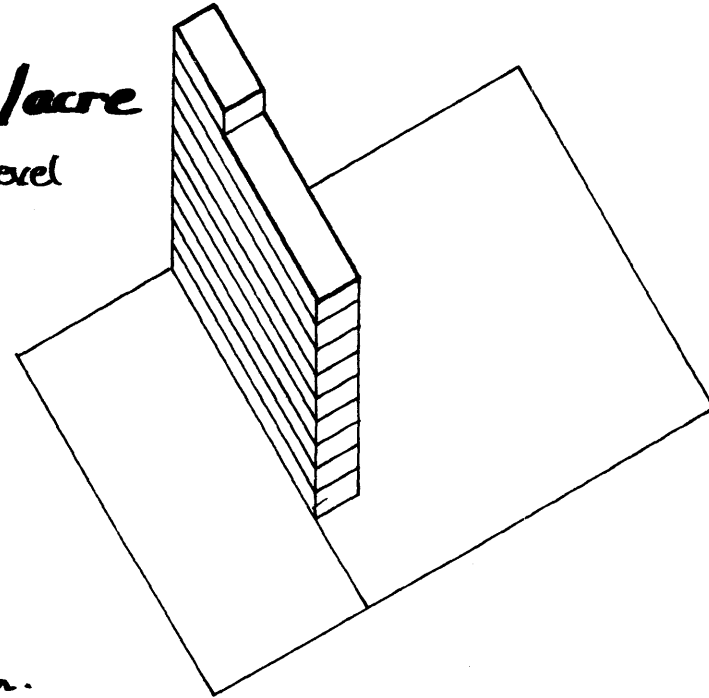
BUILT SPACE PERMITTED = $2,600$ sq. ft.

BUILT SPACE REQUIRED: $23 \times 1,000 = 23,000$ sq. ft.

CONSEQUENCE: 9-10 levels, 2,600 sq. ft. each.

23 homes/acre

nine and ten level



Greater density is theoretically impossible without sacrificing open land and car requirements — unless the density is achieved on average over a larger area of land.

EXAMPLE: 12 acres permit 25 homes/acre

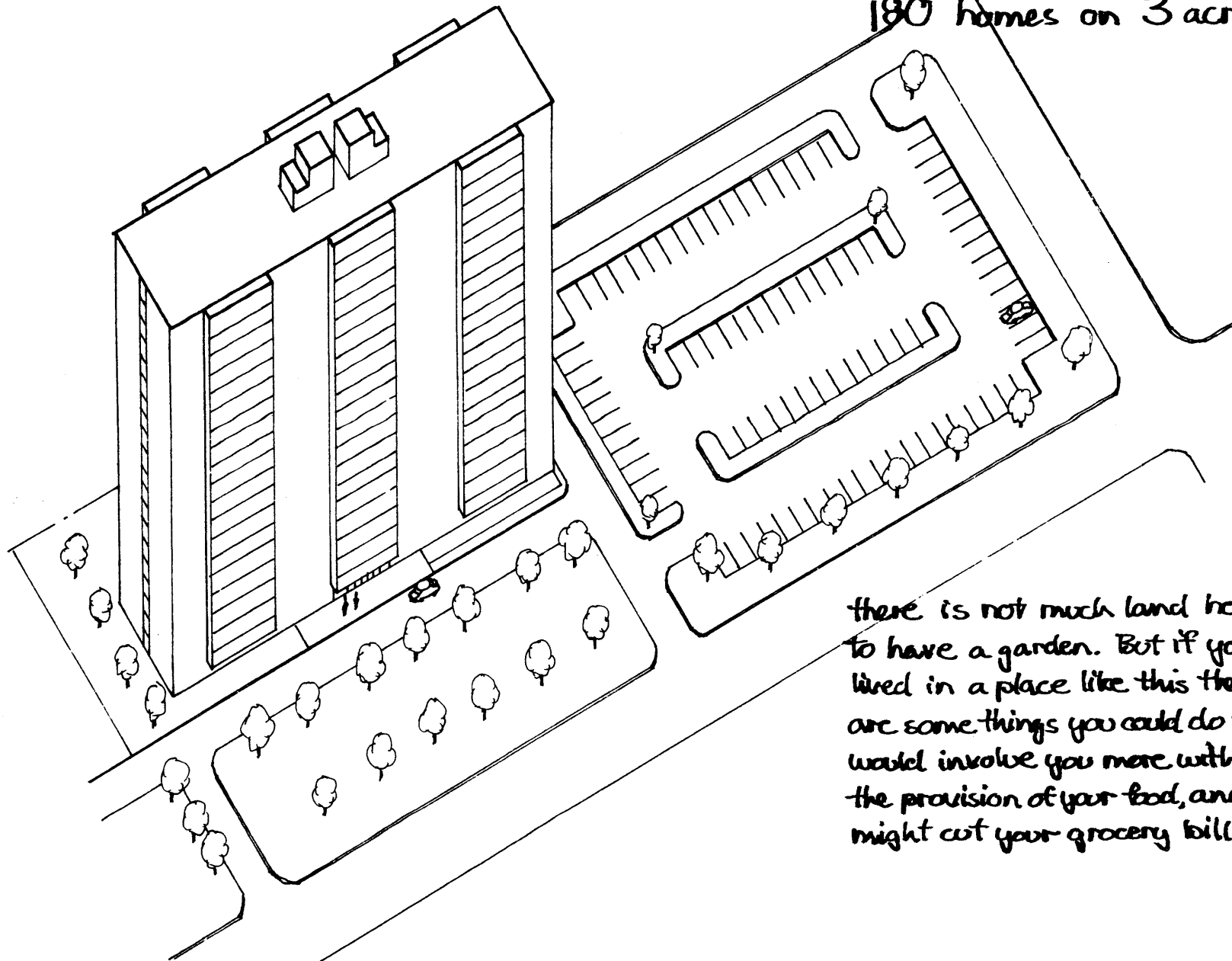
BUILT SPACE: 30 levels, 10,000 sq. ft. each.

Somewhere along the line this model becomes ridiculous. A garden plot for a particular family might be a mile away. What is apparant is if yard/garden space for a family is important low level, ~~contact~~ home contact with the ground built structure permits a density that multi-level structures do not greatly exceed.

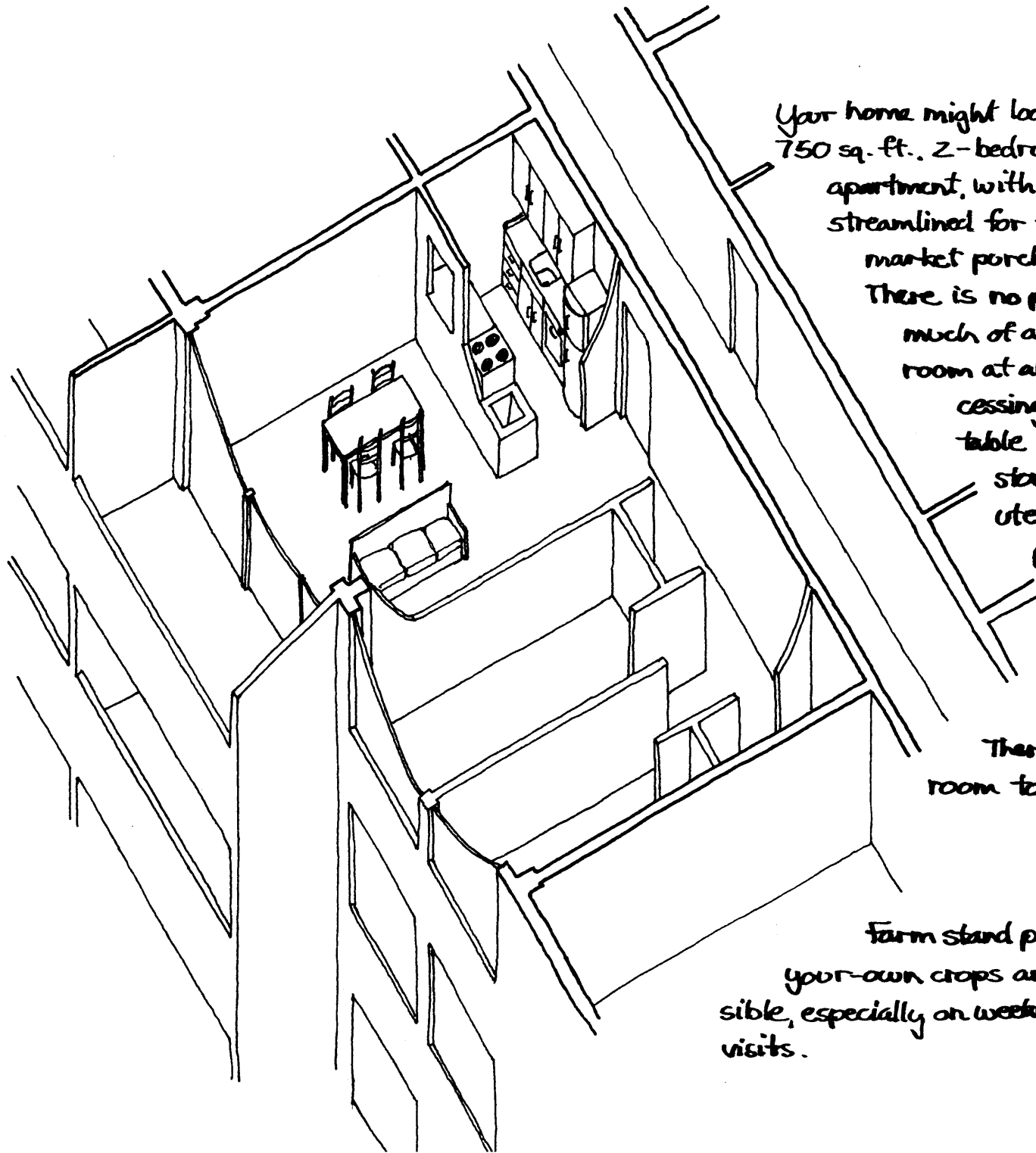
Homes today do not have many of the facilities that accommodate flexibility in providing food at home. However, there is potential in existing home situations. Looking at that potential illustrates elements which can be improved when considered with regard to future home and home site design. Each of us may make a particular adaption in applying an idea to our own homes and communities.

HOME *an* ELEVATOR APARTMENT building

180 homes on 3 acres.



there is not much land here to have a garden. But if you lived in a place like this there are some things you could do that would involve you more with the provision of your food, and might cut your grocery bill.



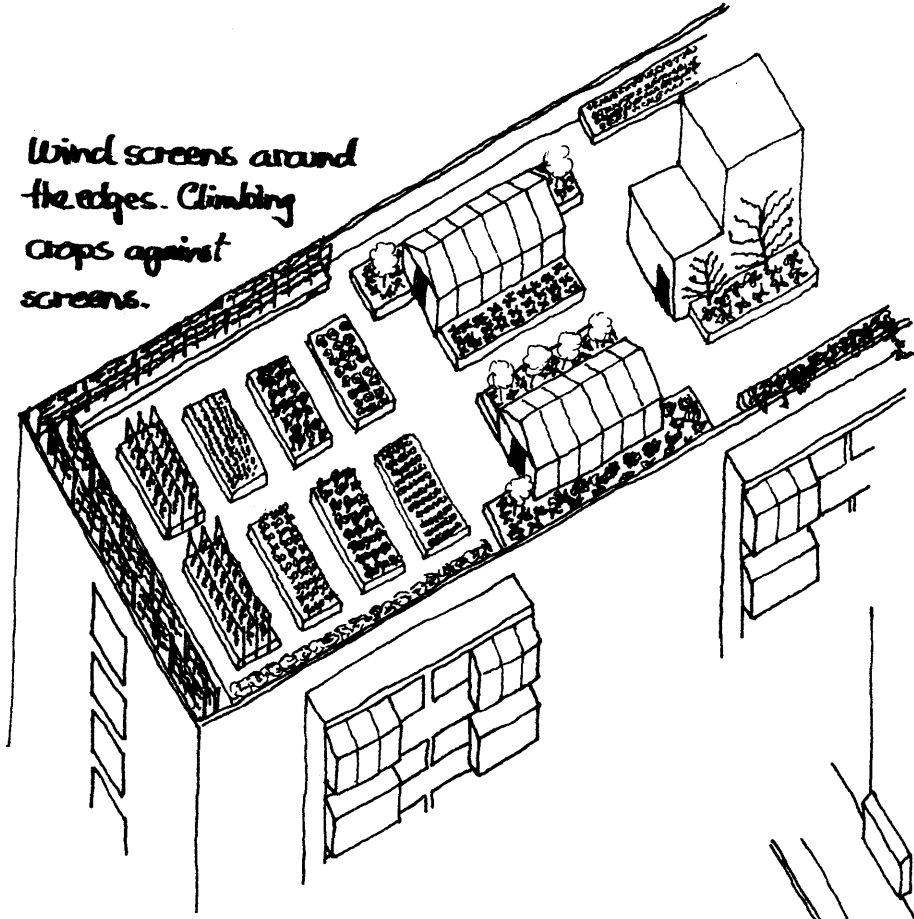
Your home might look like this - a 750 sq. ft., 2-bedroom, single bath apartment, with a galley kitchen streamlined for ~~the~~ cooking super-market purchased meals.

There is no place to store much of any food, and no room at all for any processing, work space, table space, or again storage place for utensils, pots and pans and produce.

There is reason and room to change.

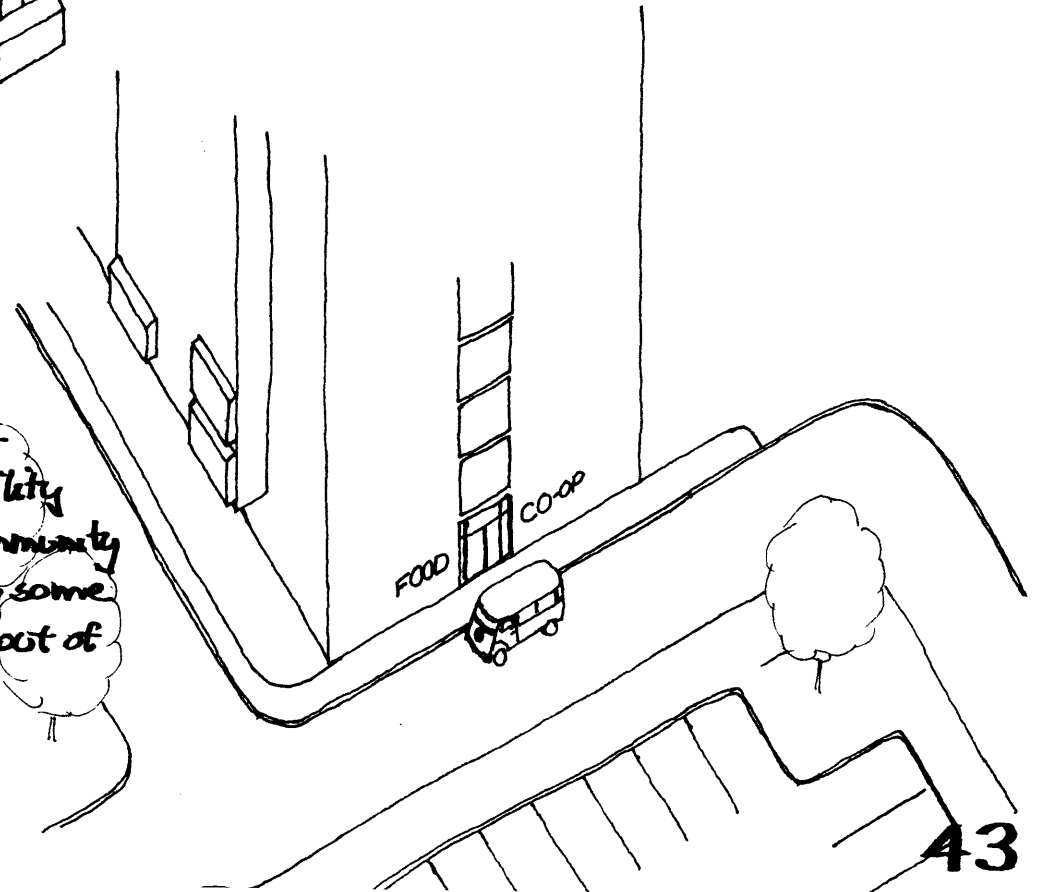
Farm stand produce and pick-your-own crops are often accessible, especially on weekend country visits.

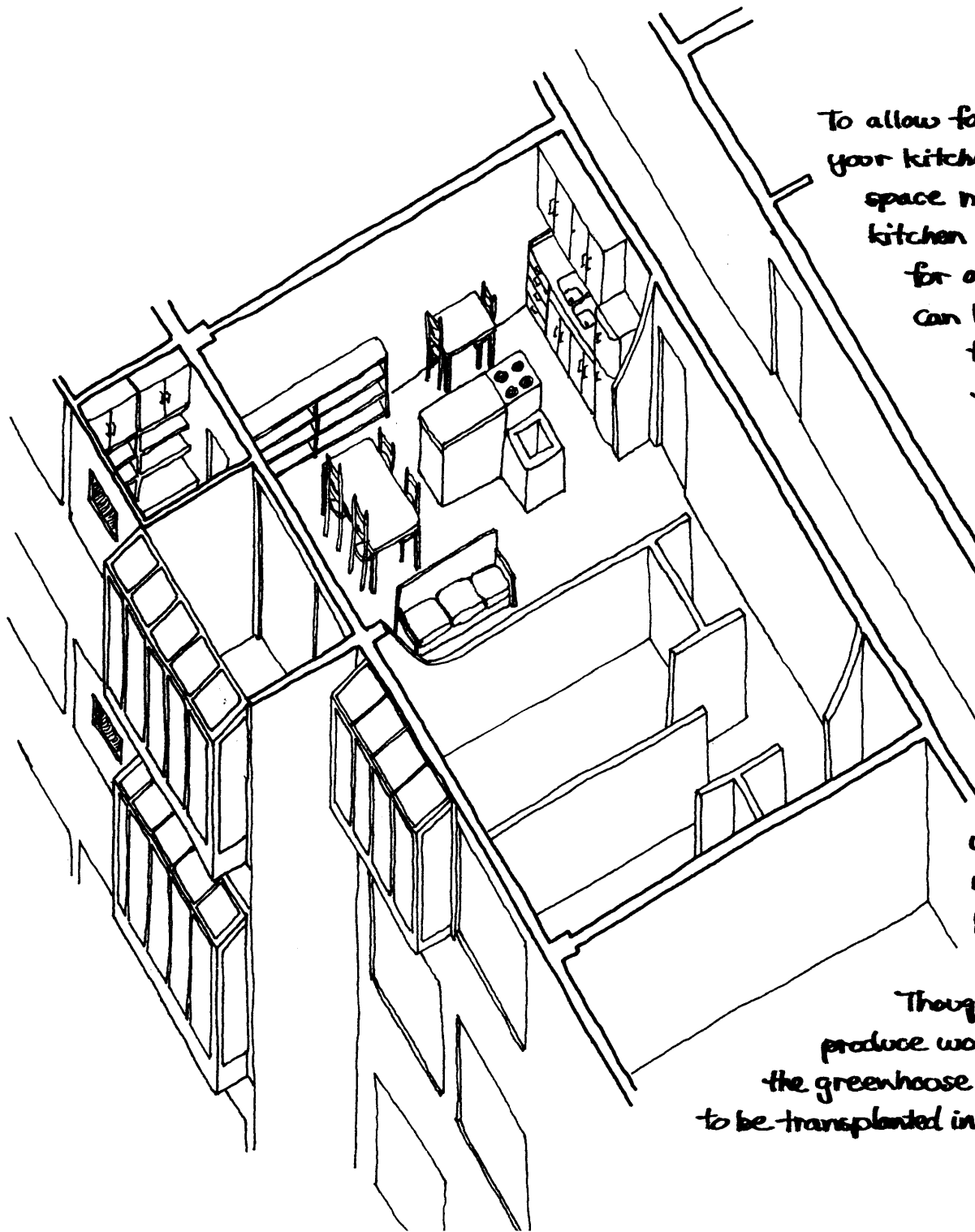
Wind screens around the edges. Climbing crops against screens.



On the rooftop there could be a greenhouse or two, some raised outdoor beds for cultivating a few specialties. Planting and care should be intensive. Though ~~some~~ production could not be significant, the experience and learning opportunity ~~could~~ certainly would be.

Most promising to people for whom such a place is home is the possibility of having a FOOD CO-OP. A defined community around which to organize. Very probably some accessible basement or first floor space out of which the co-op might operate.

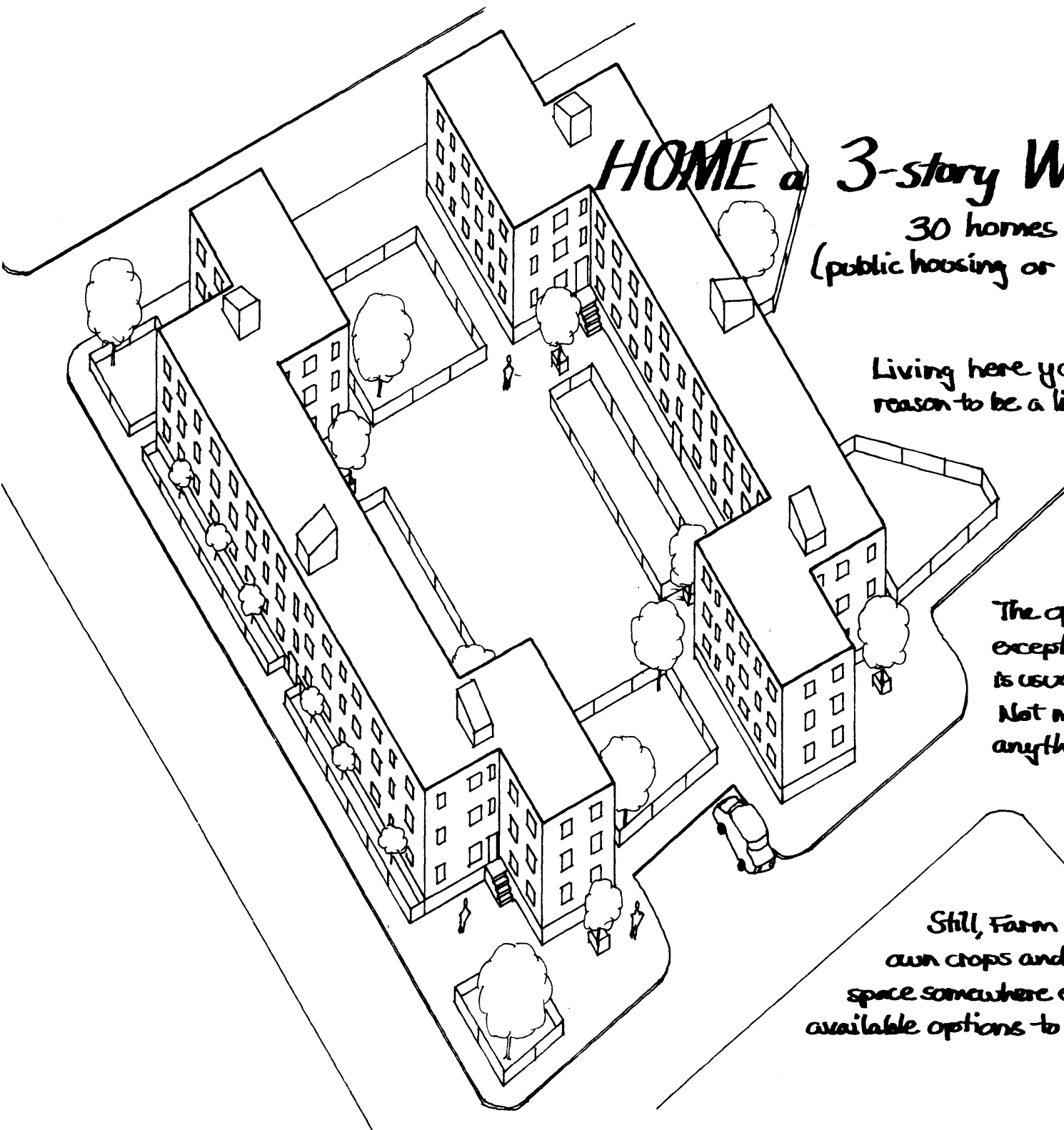




To allow for these possibilities your kitchen work area and storage space may change. Open up the kitchen so that there is room for a small table. A pantry can be built in a section of the balcony. With a Southerly exposure it might be too hot in the summer, but the pantry would be ideal for cool storage in Spring, fall and winter.

Anything except Northern exposure would make greenhouse window units successful, whether enclosing the balcony or in a bedroom window.

Though only small quantities of produce would result, you can utilize the greenhouse windows for starting plants to be transplanted into a rented garden elsewhere.



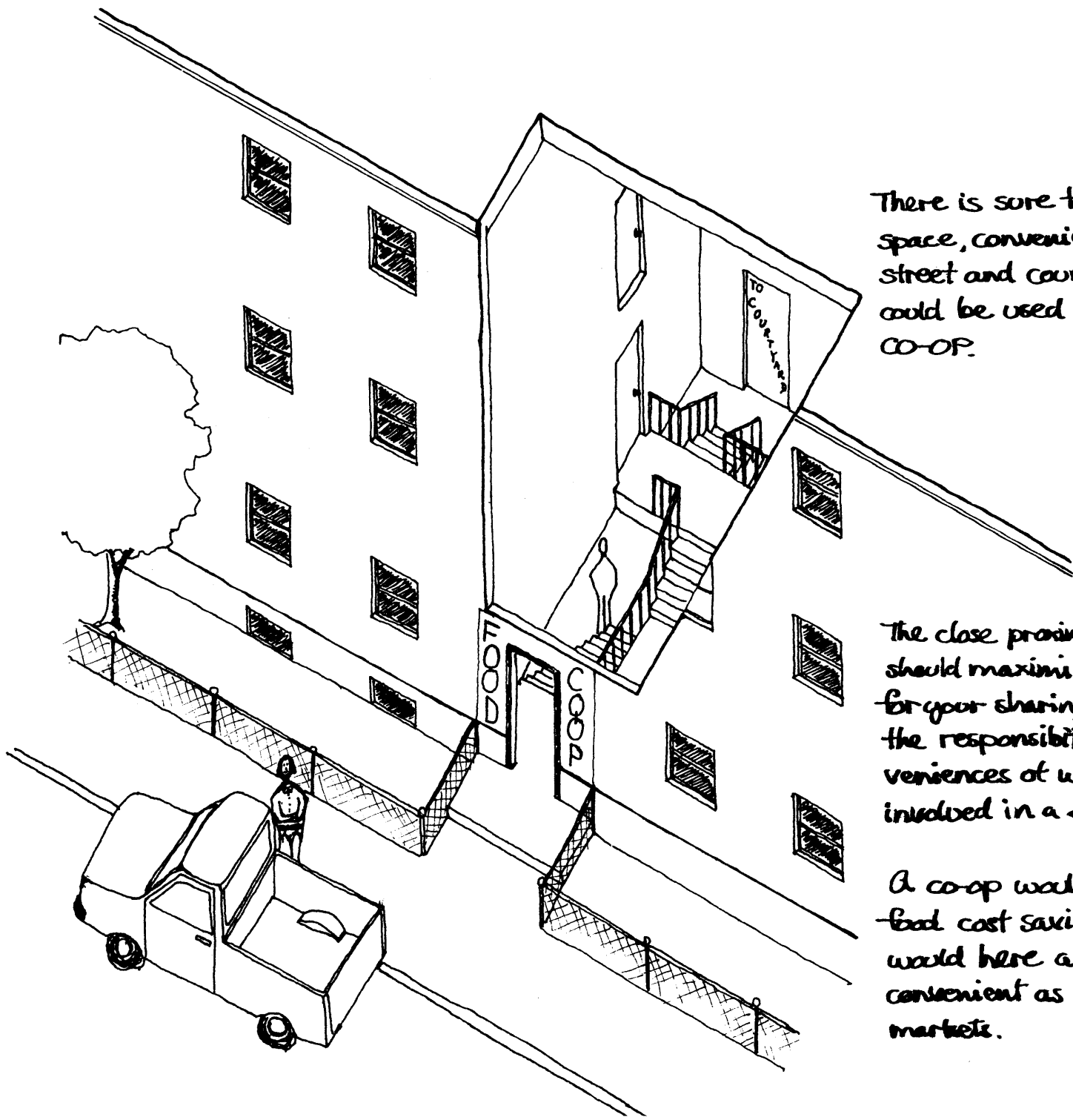
HOME of 3-story WALK-UP

30 homes on 1 acre
(public housing or equivalent).

Living here you might have
reason to be a little pessimistic.

The open space/land
except when fenced in
is usually black-topped.
Not much good for
anything.

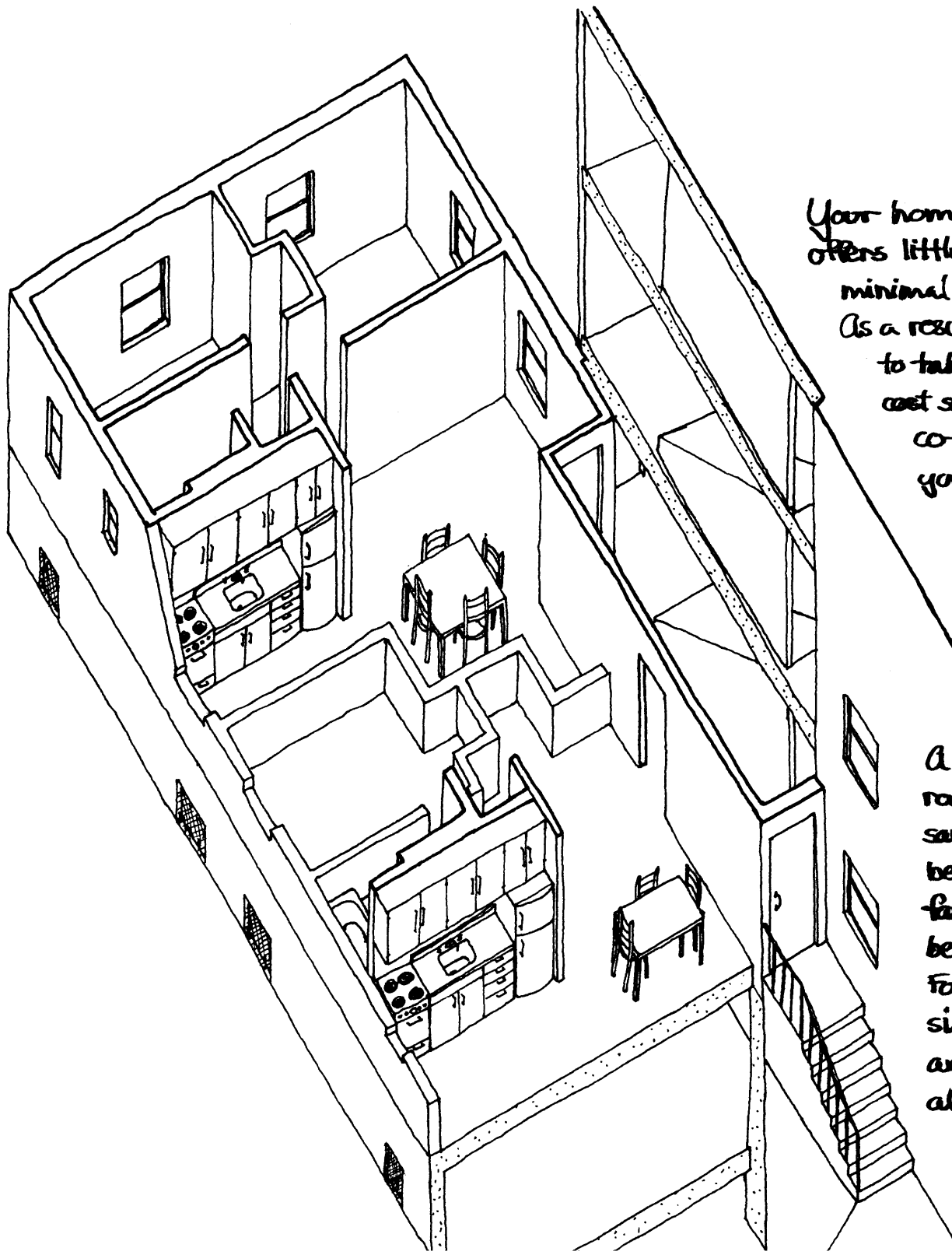
Still, Farm stand, pick-your-
own crops and rented garden
space somewhere else are all
available options to supermarkets.



There is sure to be basement space, convenient to both street and courtyard, which could be used for a FOOD CO-OP.

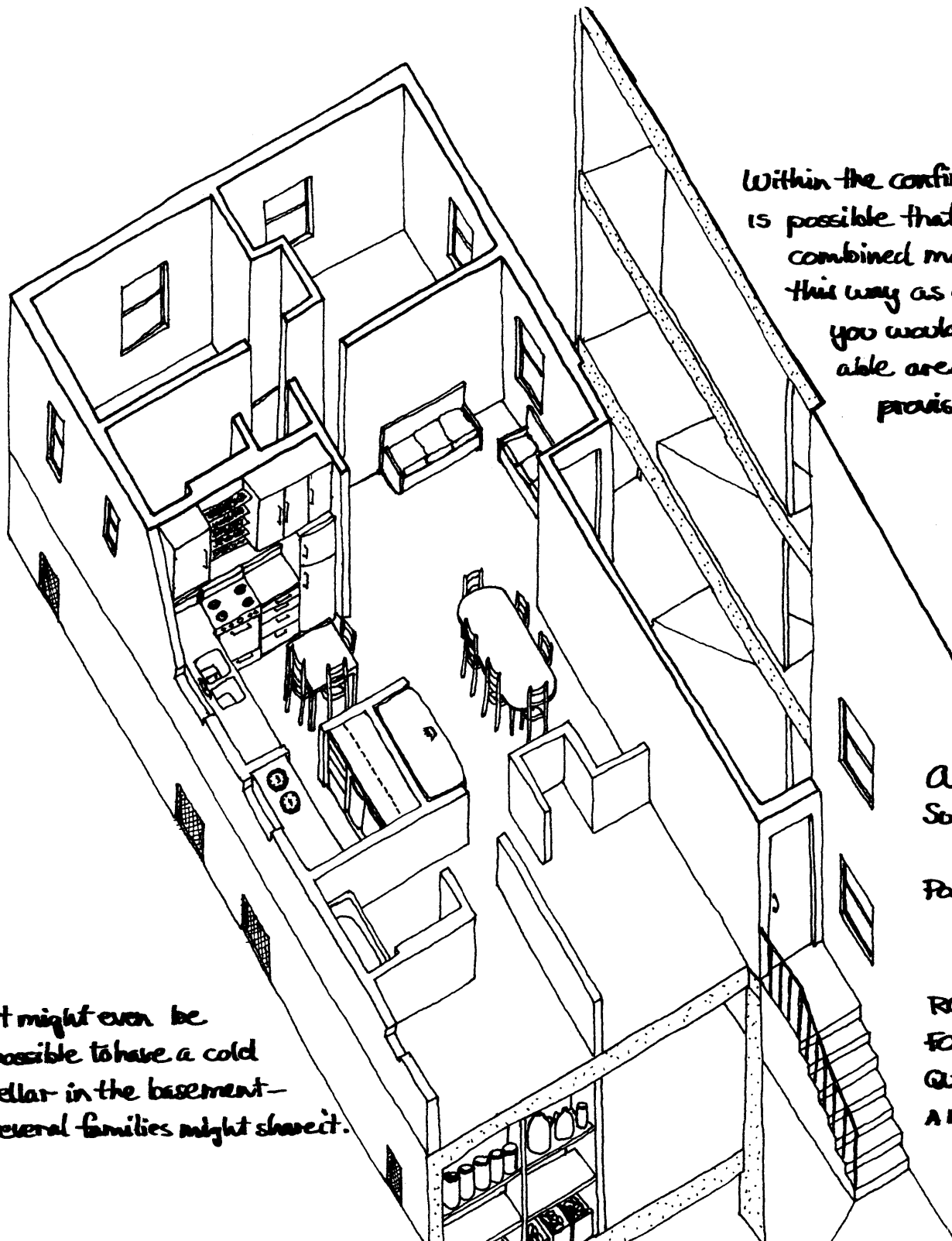
The close proximity of neighbors should maximize the potential for your sharing (thus reducing) the responsibilities and inconveniences of work and time involved in a ~~coop~~ co-op.

A co-op would not only provide food cost savings to you, it would here also be almost as convenient as alternative supermarkets.



Your home unit, unfortunately, offers little storage space and minimal kitchen work area. As a result it would be difficult to take advantage of ~~any~~^{the} cost savings of bulk, food co-op purchases, or pick-your-own operations.

A kitchen for a one bedroom apartment is the same size as one for two bedrooms. If you are a family of two it might be sufficiently roomy. For a family of four or six it has to be larger and so does your home all together.



Within the confines of the building it is possible that two units might be combined making one home. In this way as a family, large group, you would get an almost reasonable area for home food provision of your food.

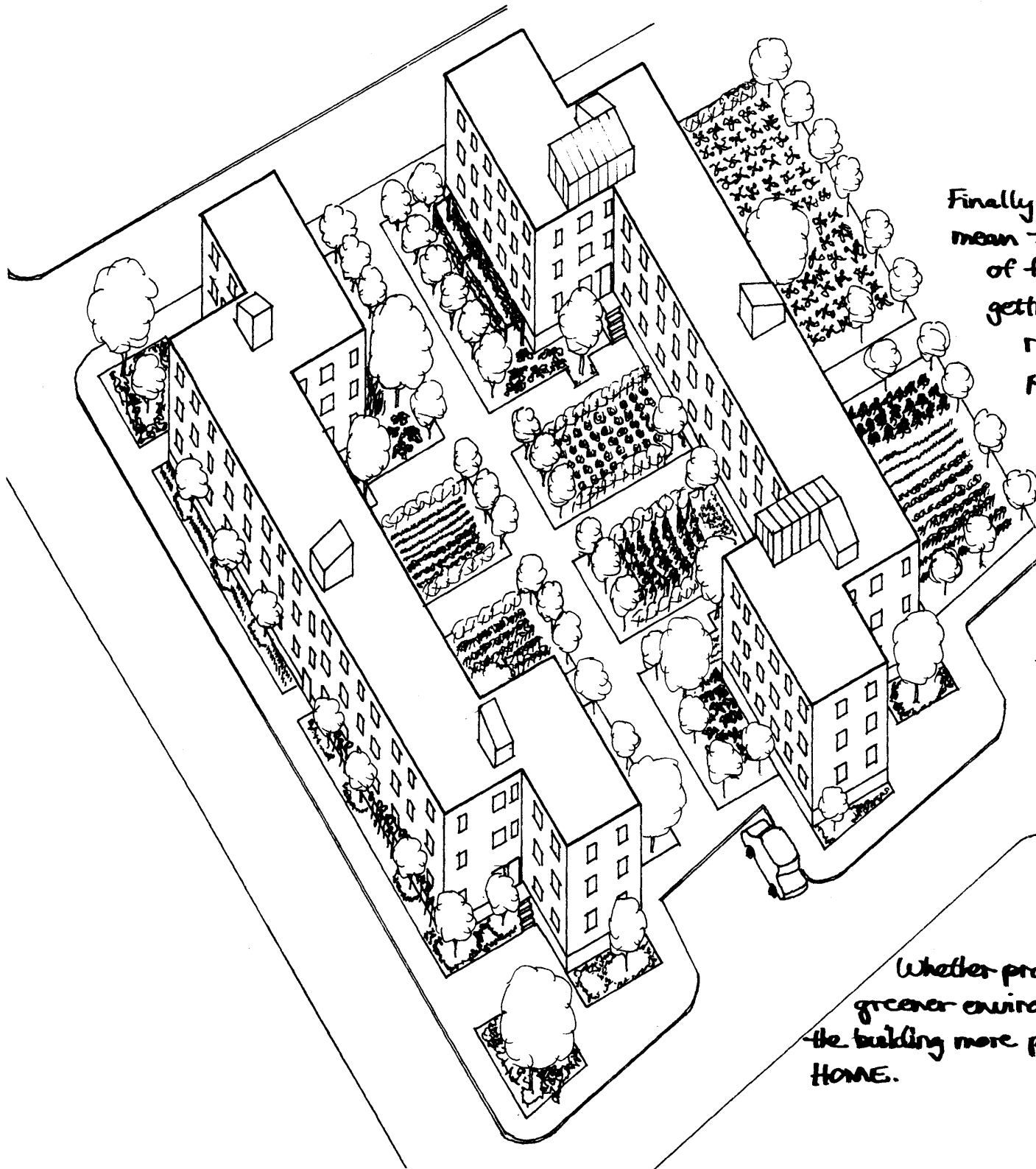
A pantry (6'x6')
Space for a freezer
(there should be some ventilation low down on the wall behind the freezer, an opening through into the pantry, perhaps).

A kitchen table
Substantially increased counter space.

Possibly a rack of trays for drying fruits and herbs over the stove.

ROOM TO STORE & PROCESS FOODS PURCHASED IN QUANTITY OR GROWN ON A RENTED GARDEN SPACE.

It might even be possible to have a cold cellar in the basement—several families might share it.



Finally, though it would not mean that great quantities of food could be produced, getting the black-top removed would allow people to grow things they liked especially:

tomatoes
strawberries

There'd be space for more trees, fruits and nuts.

A greenhouse on a rooftop could be used to start plants, giving them a good start before transplanting below where growth might

be slow for the

buildings shading effect.

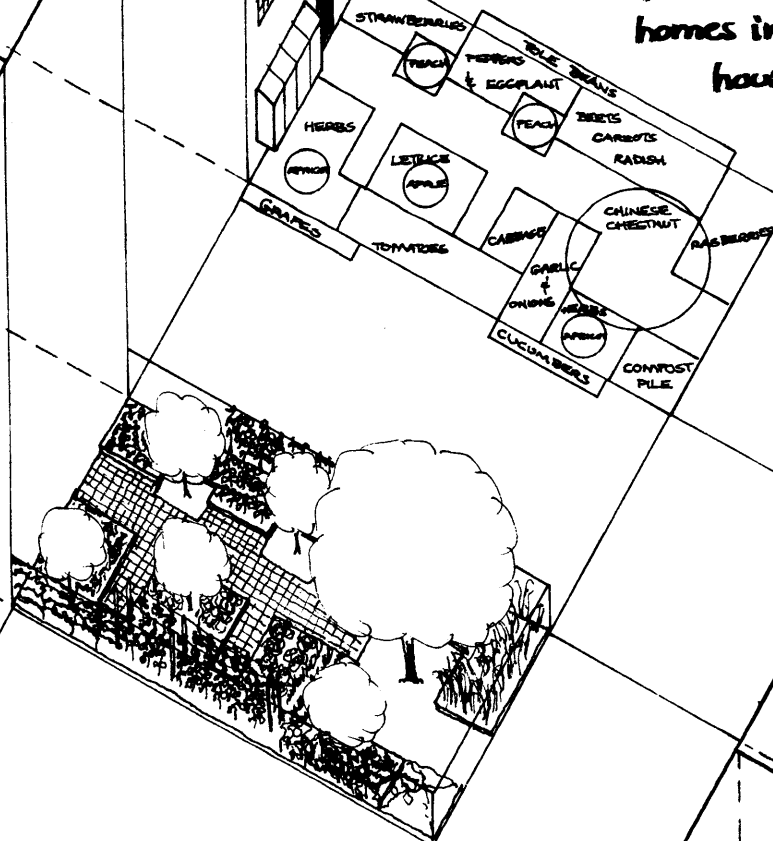
Whether productive or not, the greener environment would make the building more pleasant to identify as HOME.

HOME in a ROW HOUSE

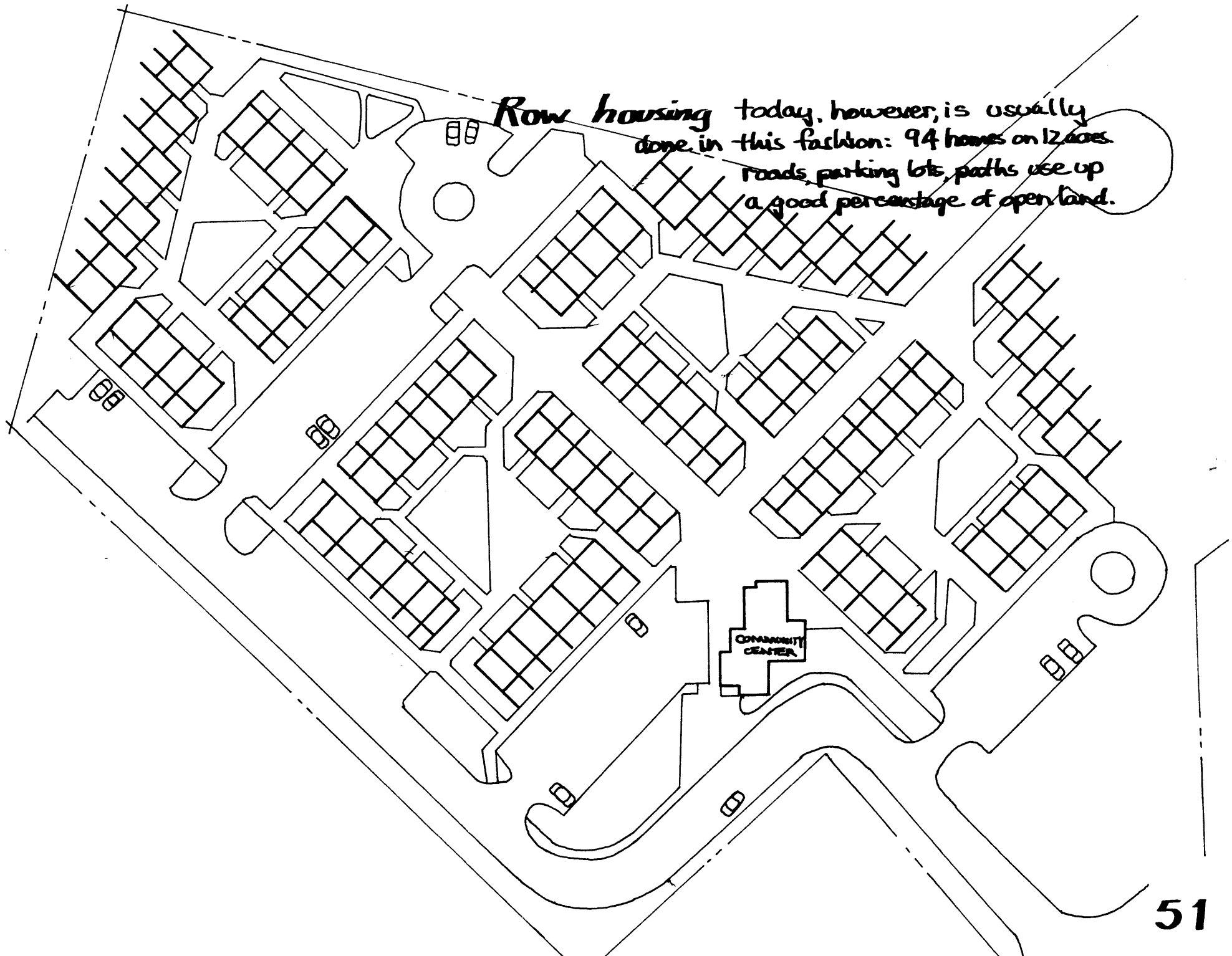
4 homes per house - 40 homes per acre

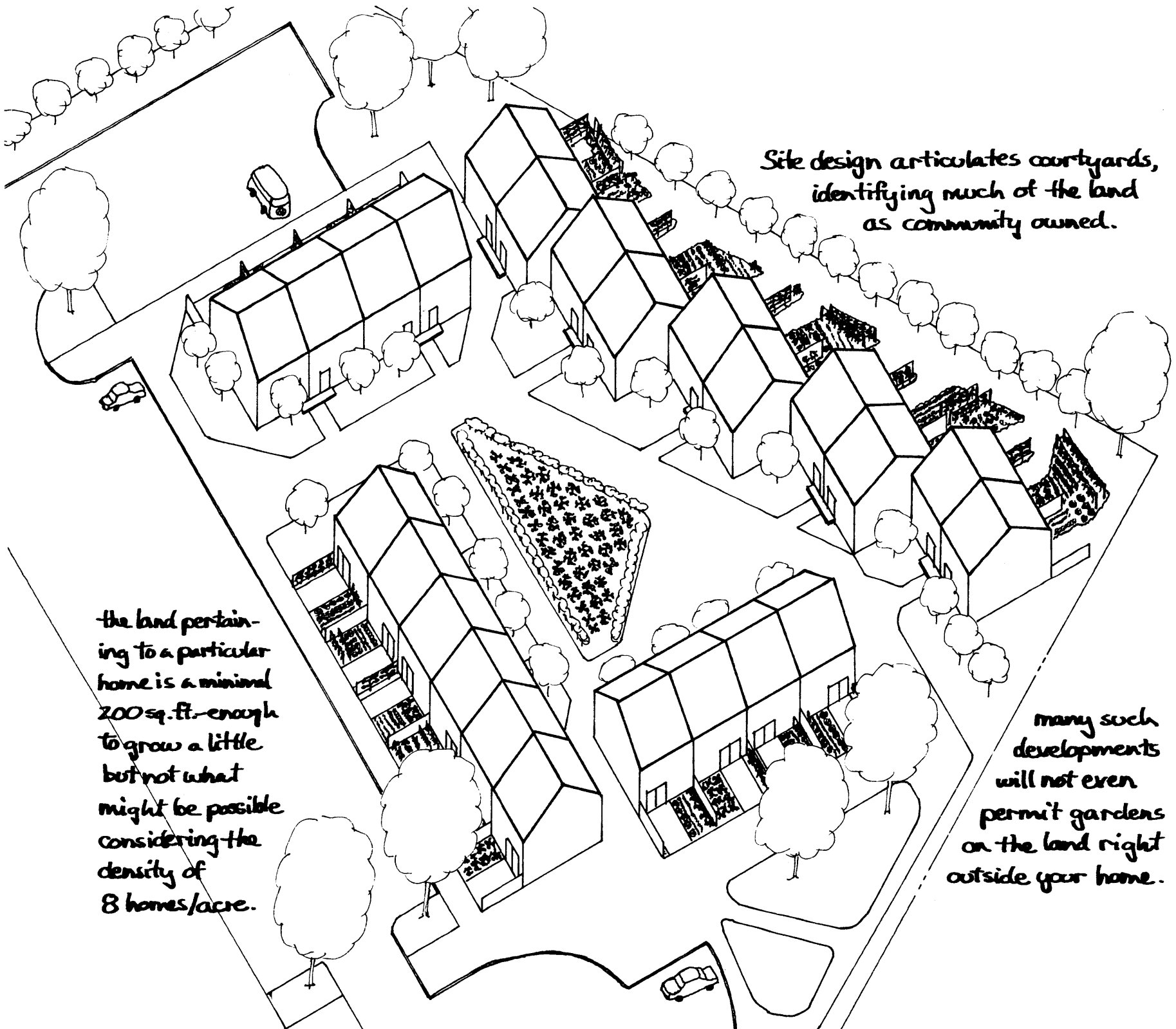
1 home per house - 10 homes per acre

Unlike the walk-up situation row house design permits you to identify some particular land with your house/home. That could be 800 sq. ft. of garden per house - plenty if under intensive cultivation for one home. And at least some pleasure if shared by four homes in a particular row house.



Row housing today, however, is usually done in this fashion: 94 homes on 12 acres. Roads, parking lots, paths use up a good percentage of open land.

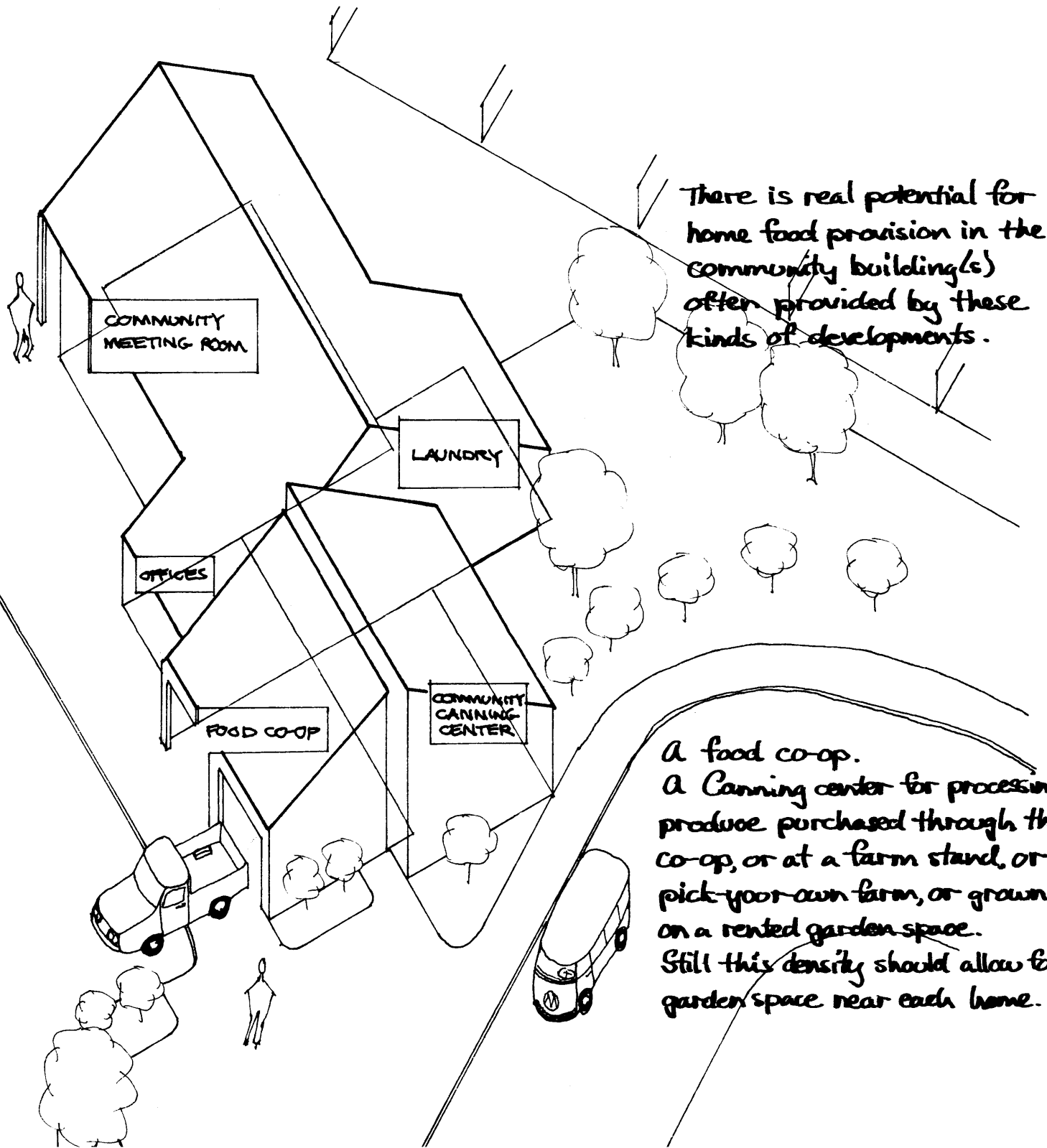




Site design articulates courtyards, identifying much of the land as community owned.

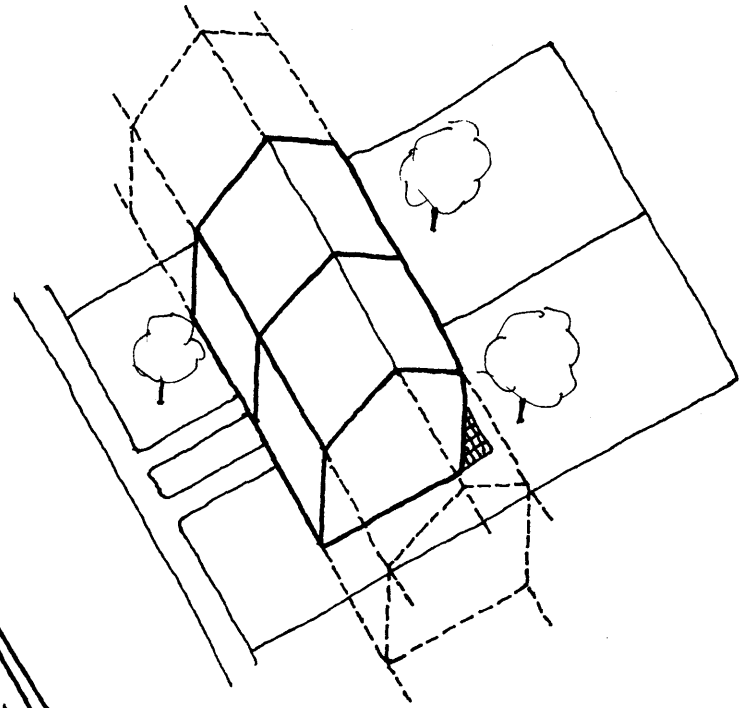
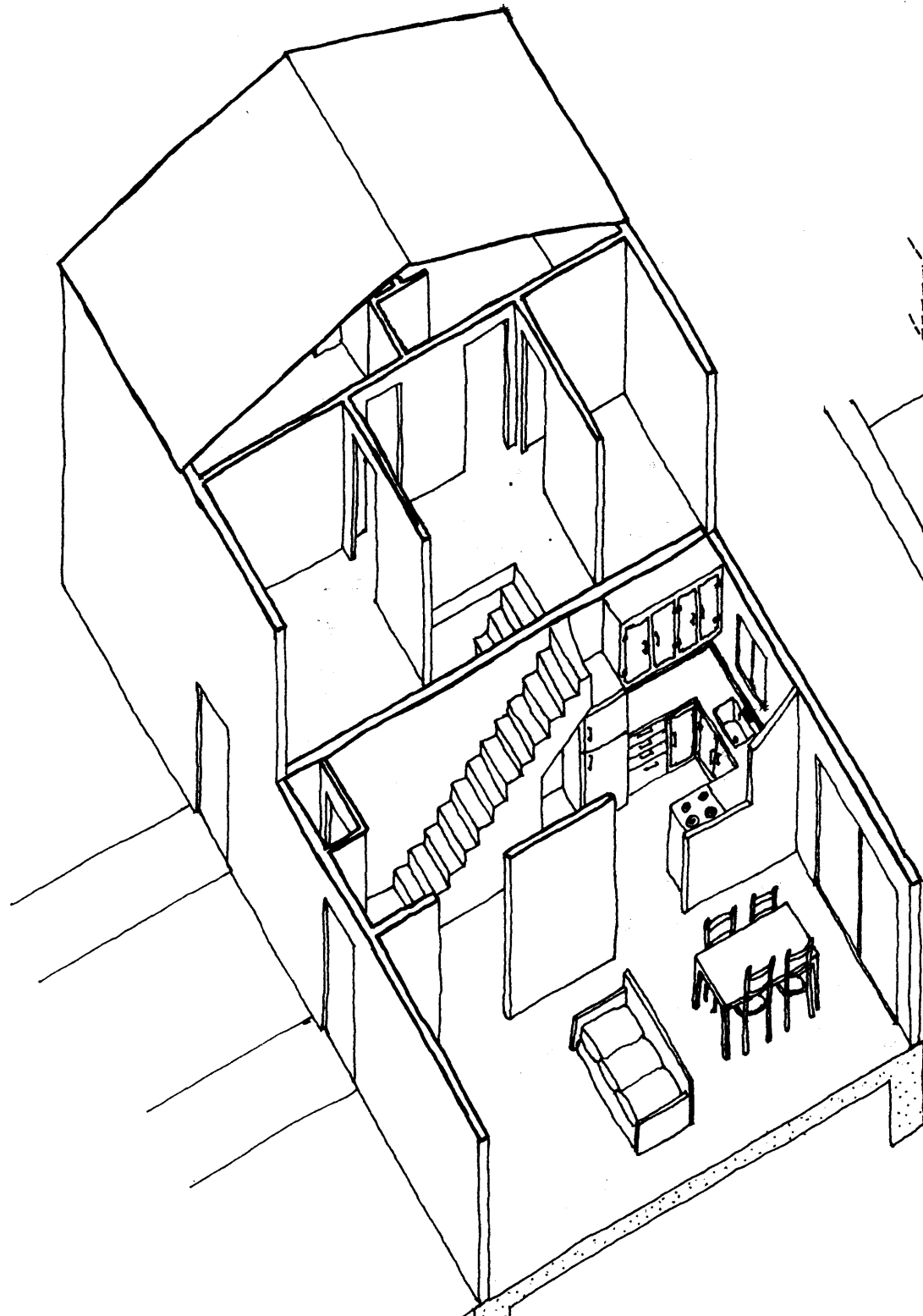
the land pertaining to a particular home is a minimal 200 sq. ft. - enough to grow a little but not what might be possible considering the density of 8 homes/acre.

many such developments will not even permit gardens on the land right outside your home.

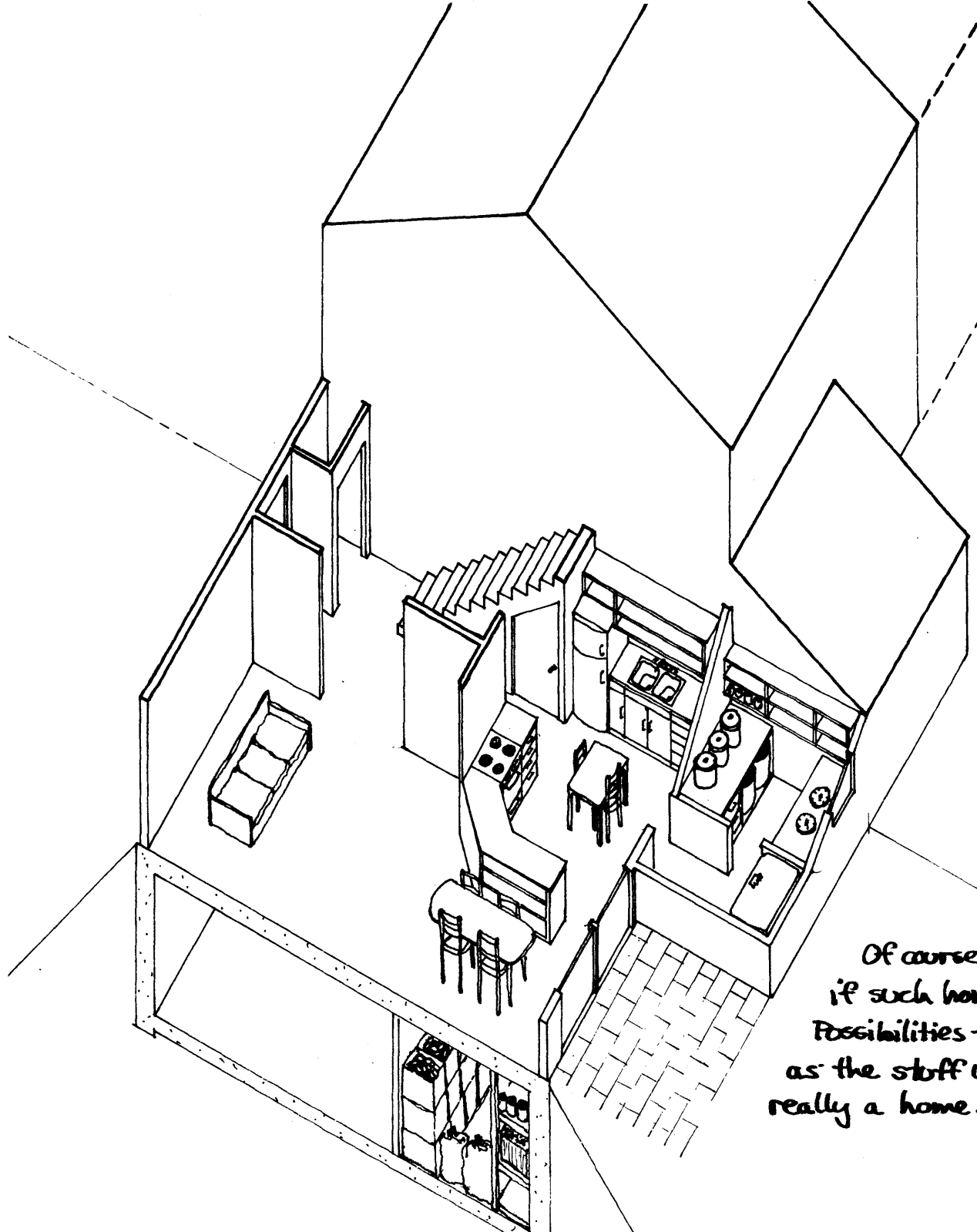


There is real potential for home food provision in the community building(s) often provided by these kinds of developments.

A food co-op.
A Canning center for processing produce purchased through the co-op, or at a farm stand, or pick-your-own farm, or grown on a rented garden space.
Still this density should allow for garden space near each home.

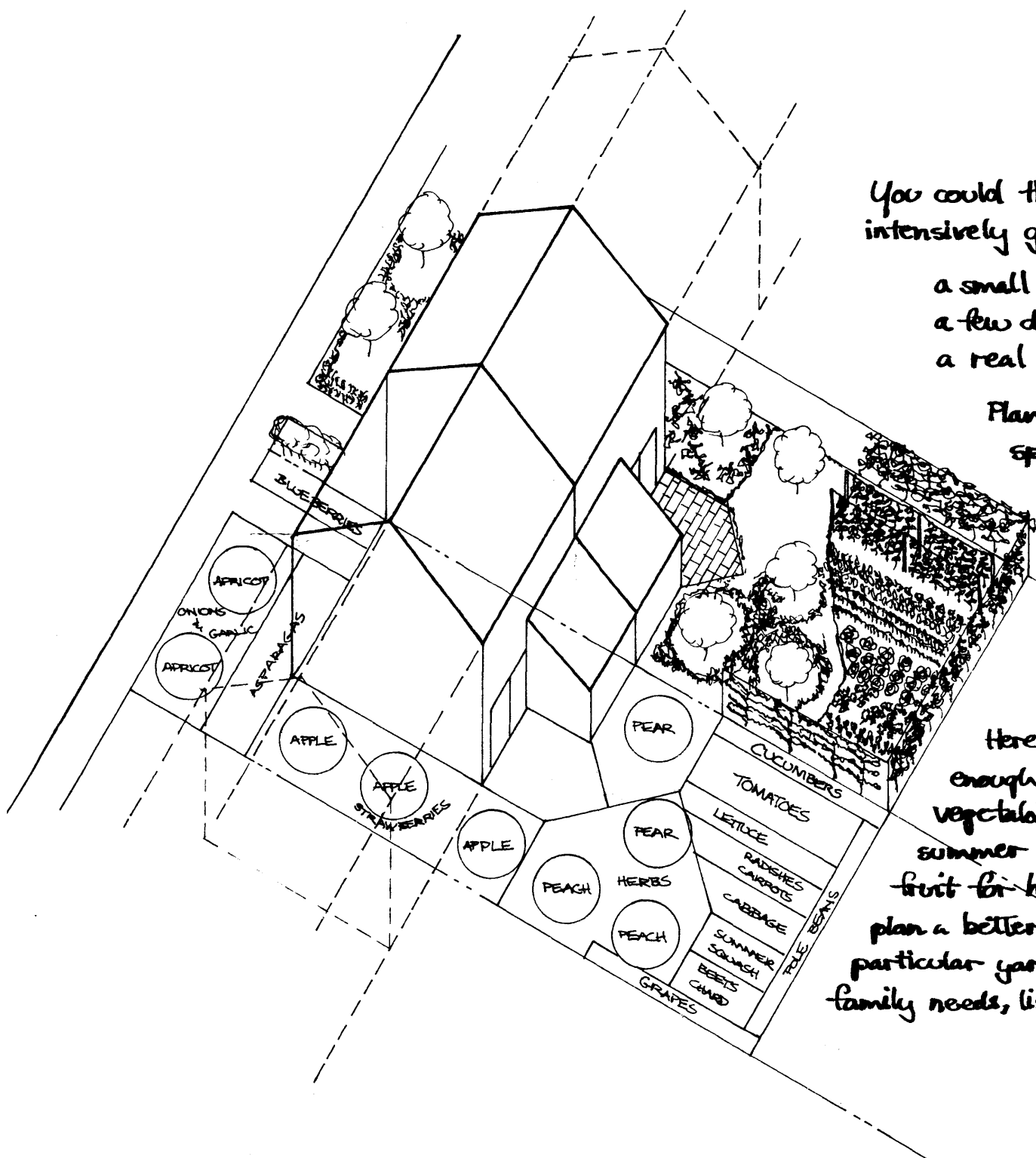


None of these options help much if your home is the usual row-house condominium, garden apartment, or duplex. Where can you put bulk purchases, process, and store processed foods. More kitchen work and storage space is needed. It's also possible.



A small addition and a little remodeling could give your home a kind of "summer kitchen:" much more storage space, room for a freezer, and work area to do the cutting up, blanching, and packaging * needed to freeze or can if there were no community shared facilities.

Of course it would be nice generally if such homes all had basements. Possibilities for cold cellar, freezer, as well as the stuff we all collect if a place is really a home.

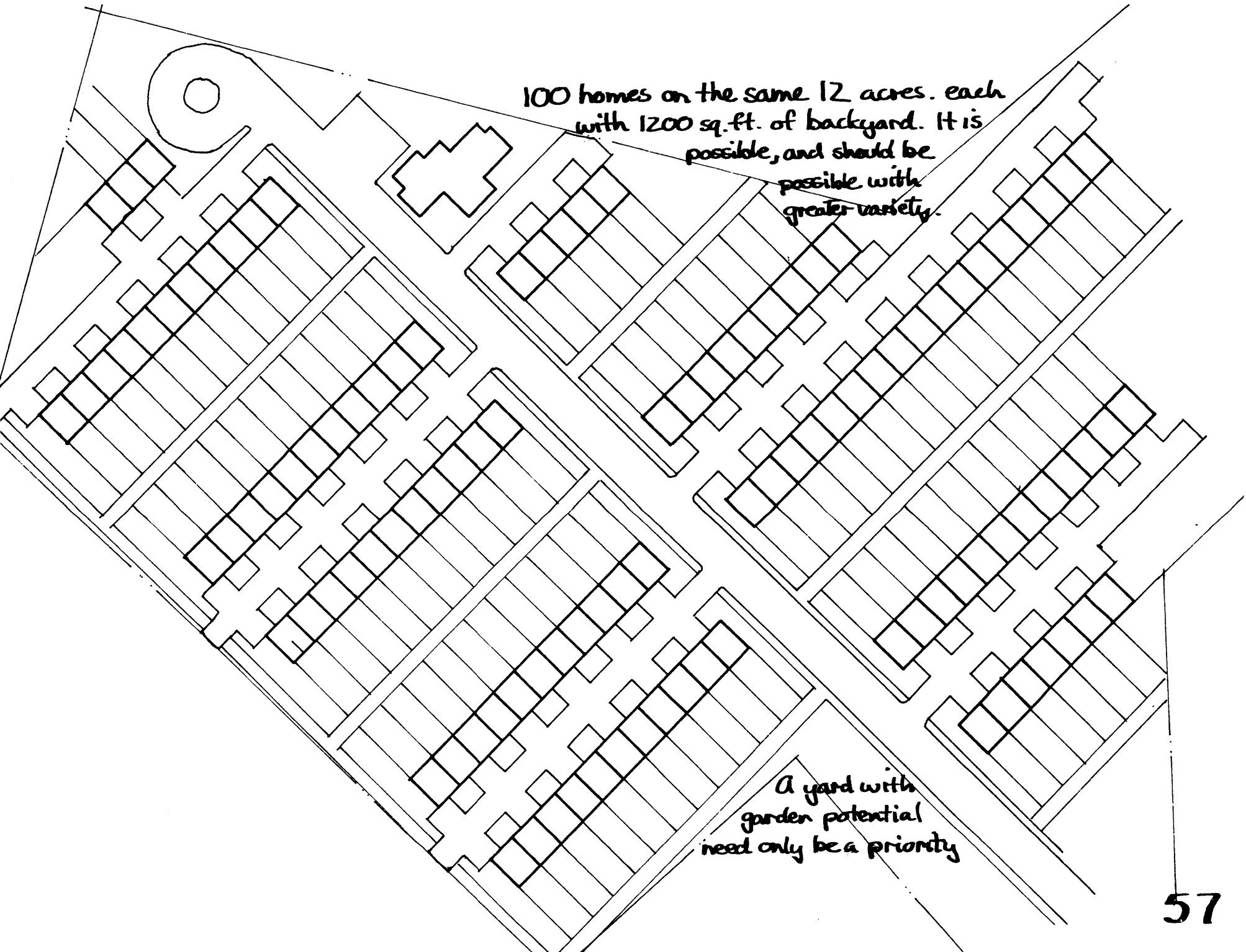


You could then really think about intensively gardening in your yard.

- a small patio
- a few dwarf fruit trees
- a real garden

Plan giving full attention to space efficiency and your own comfort.

Here in a 1000sq.ft. of yard enough (except corn) for fresh vegetables for four people all summer as well as herbs and fruit for half a year. You could plan a better garden for your particular yard characteristics and family needs, likes.

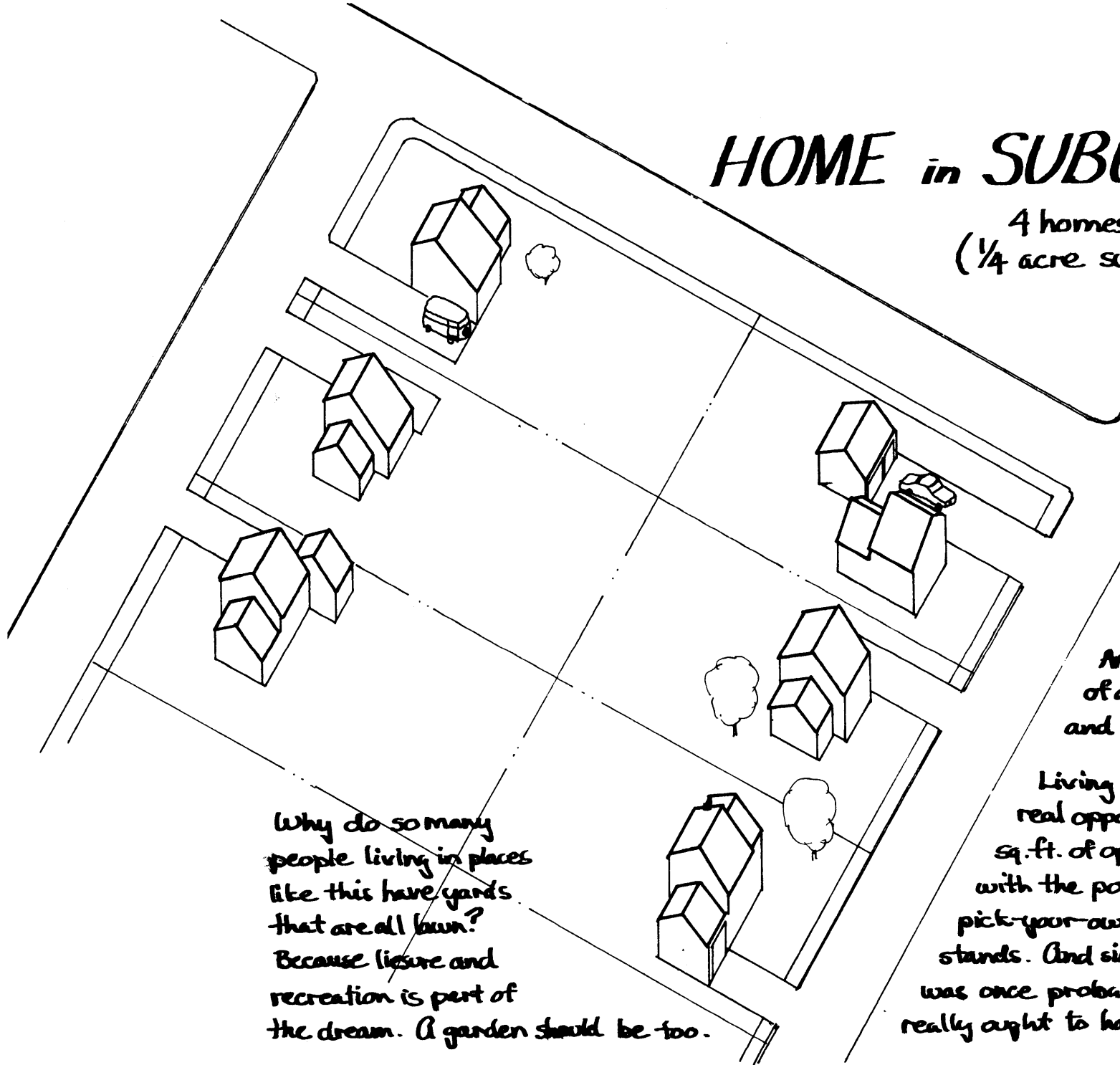


100 homes on the same 12 acres. each
with 1200 sq. ft. of backyard. It is
possible, and should be
possible with
greater variety.

A yard with
garden potential
need only be a priority

HOME in SUBURBIA

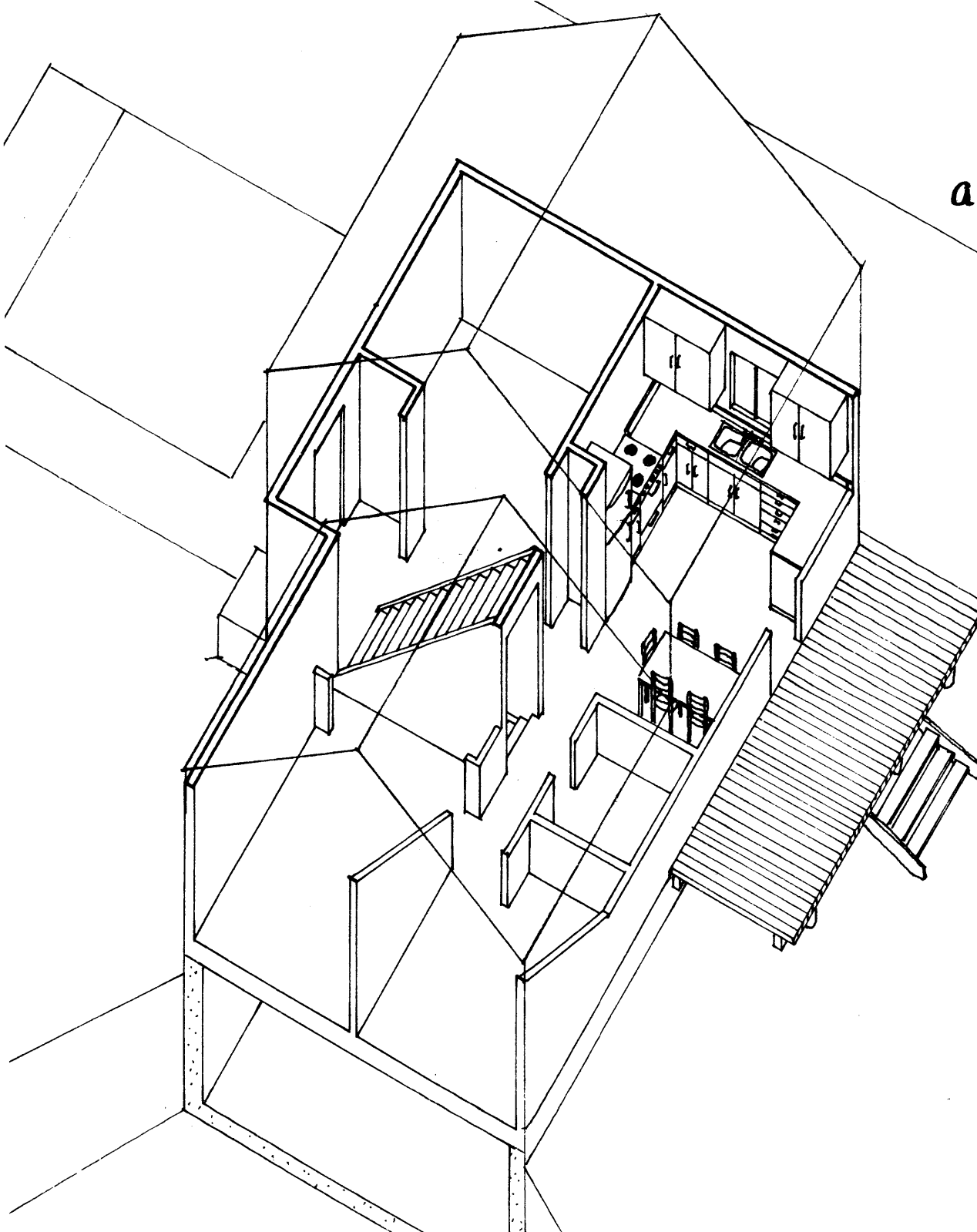
4 homes per acre
($\frac{1}{4}$ acre subdivision)



Why do so many people living in places like this have yards that are all lawn? Because leisure and recreation is part of the dream. A garden should be too.

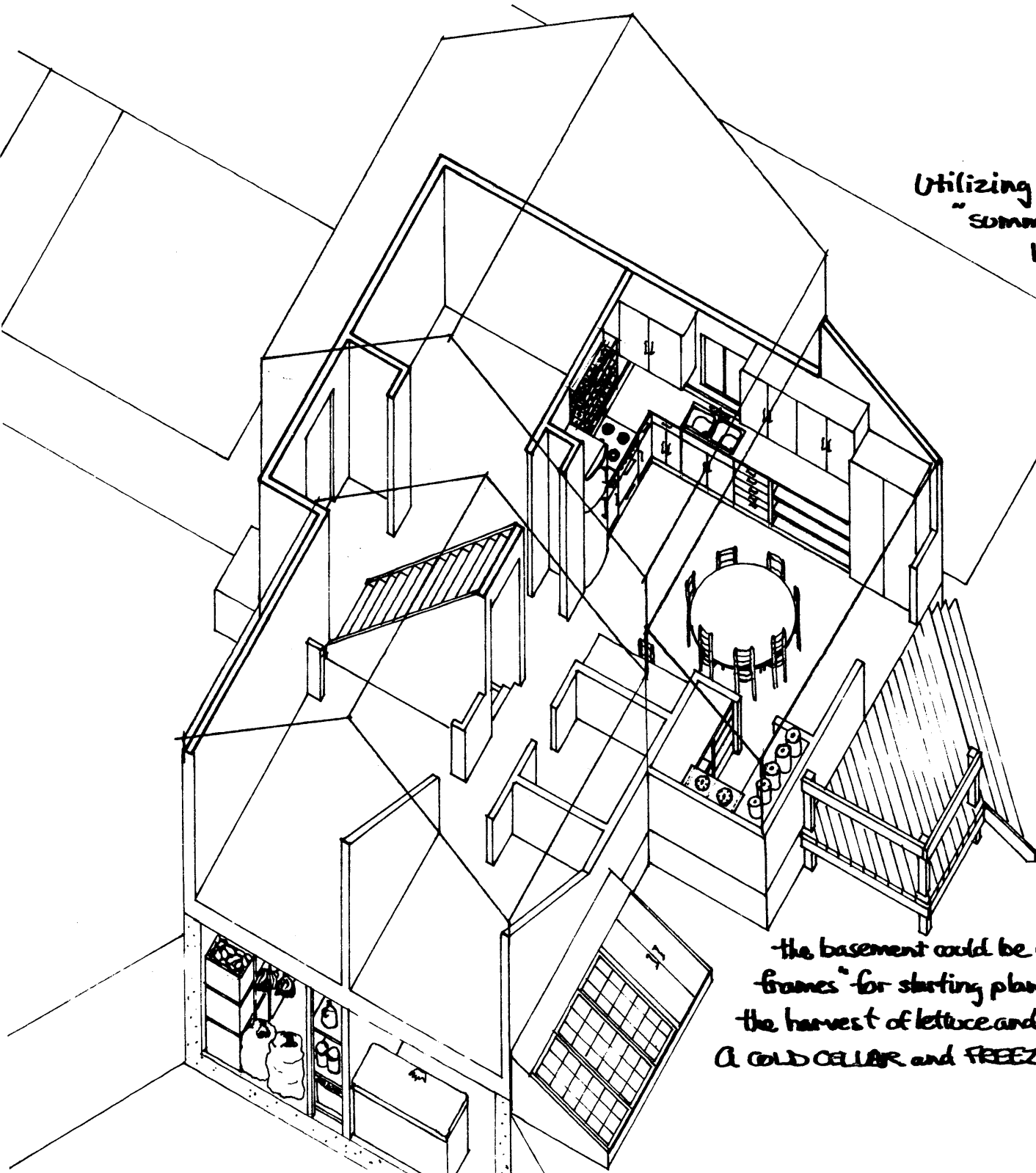
the American Dream of a separate house and yard as home.

Living here you have real opportunity. 8000 sq.-ft. of open land, along with the potential of coops, pick-your-own and farm stands. And since the land was once probably a farm you really ought to have a garden.



A typical home in this kind of neighborhood gives you sufficient kitchen work area to enable some home processing. It usually has a basement which offers potential storage space for food, though more often used for recreation.

There isn't really, however, enough storage space directly related to the kitchen. No pantry. It is not designed for real involvement at home with food provision. It should be a little larger, especially considering that it serves for eating as well as preparing foods. And it can be larger quite easily.

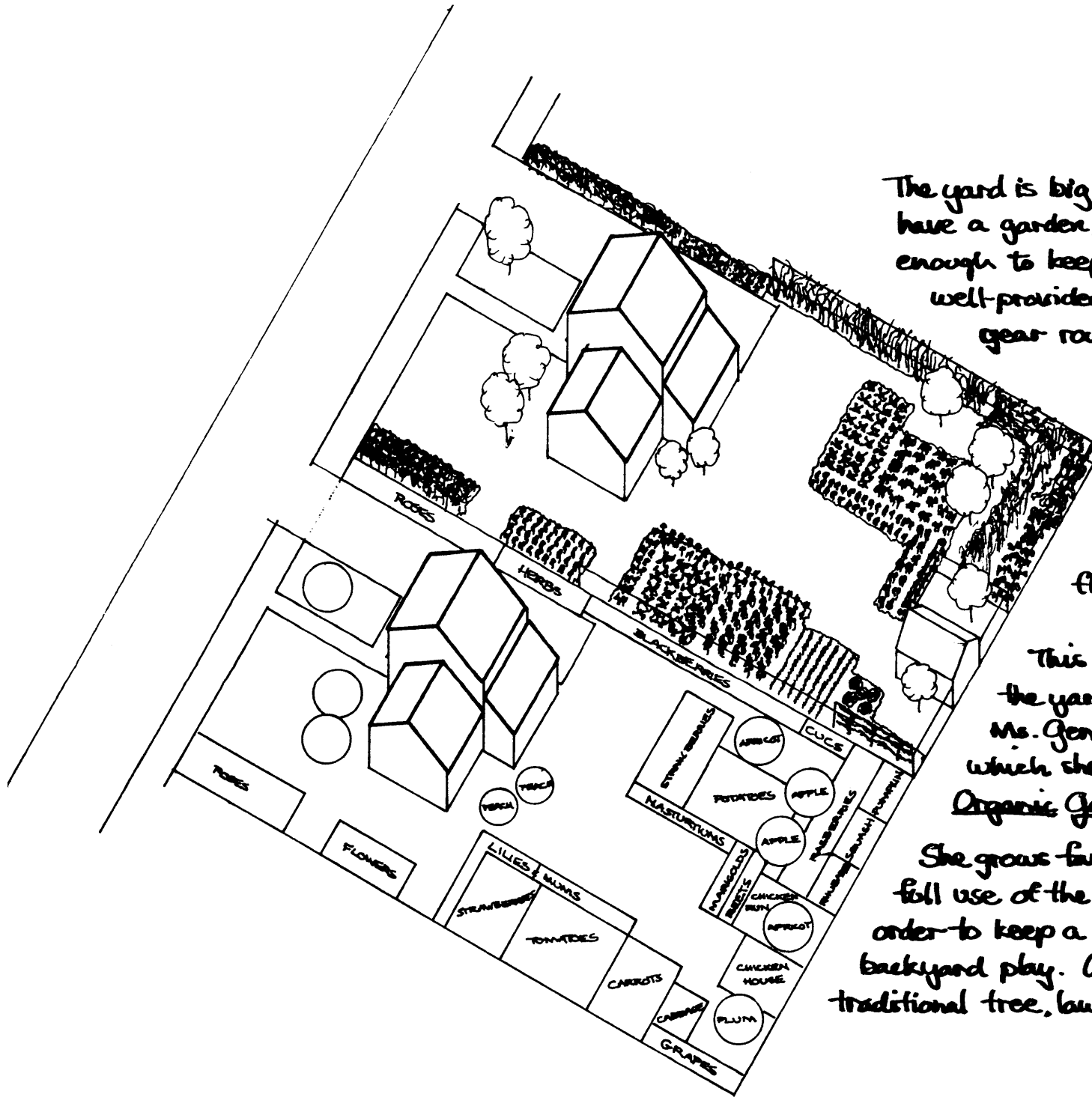


Utilizing the concept of a "summer kitchen," harvest kitchen, the original space may be enlarged to provide a pantry and other kinds of extra storage. Adding on to the house, building out on to the former deck - or somewhere else.

More room for eating. more space for work.

A drying rack for herbs and fruits over the back of the stove.

An outside entrance to the basement could be combined with some "cold frames" for starting plants in Spring and prolonging the harvest of lettuce and other crops in the Fall. A COLD CELLAR and FREEZER in the basement.



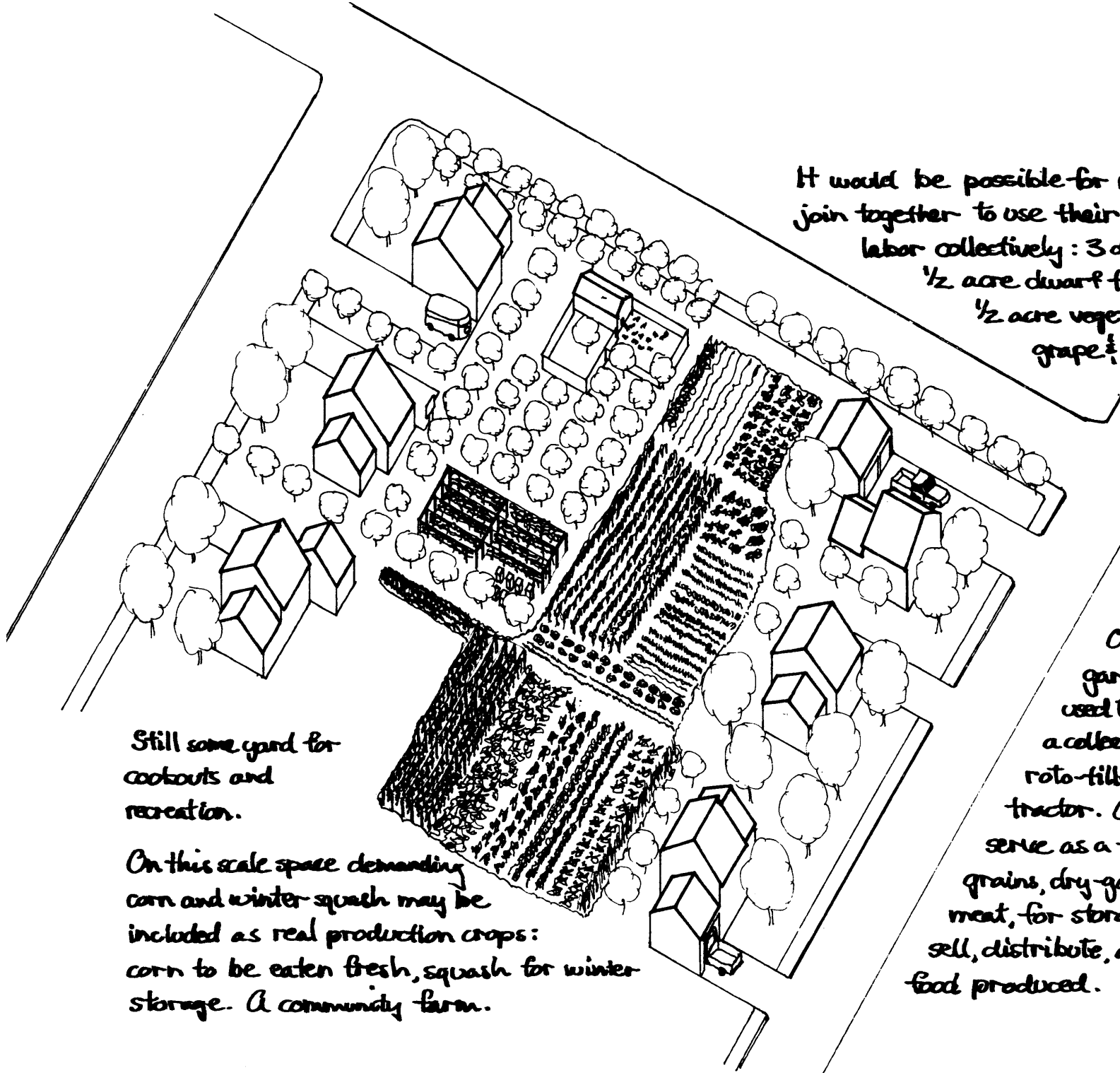
The yard is big enough to really have a garden/farm. You can grow enough to keep a family of four well-provided with vegetables all year round.

There is room for chickens or alternatively a pig, take your choice.

You have a lot of flexibility.

This particular garden is the yard of:
 Ms. Genevieve Russell
 which she describes in
Organic Gardening, May 1974.

She grows favorites, opting against full use of the land for food in order to keep a large lawn for backyard play. And she retains a traditional tree, lawn, flower front yard.

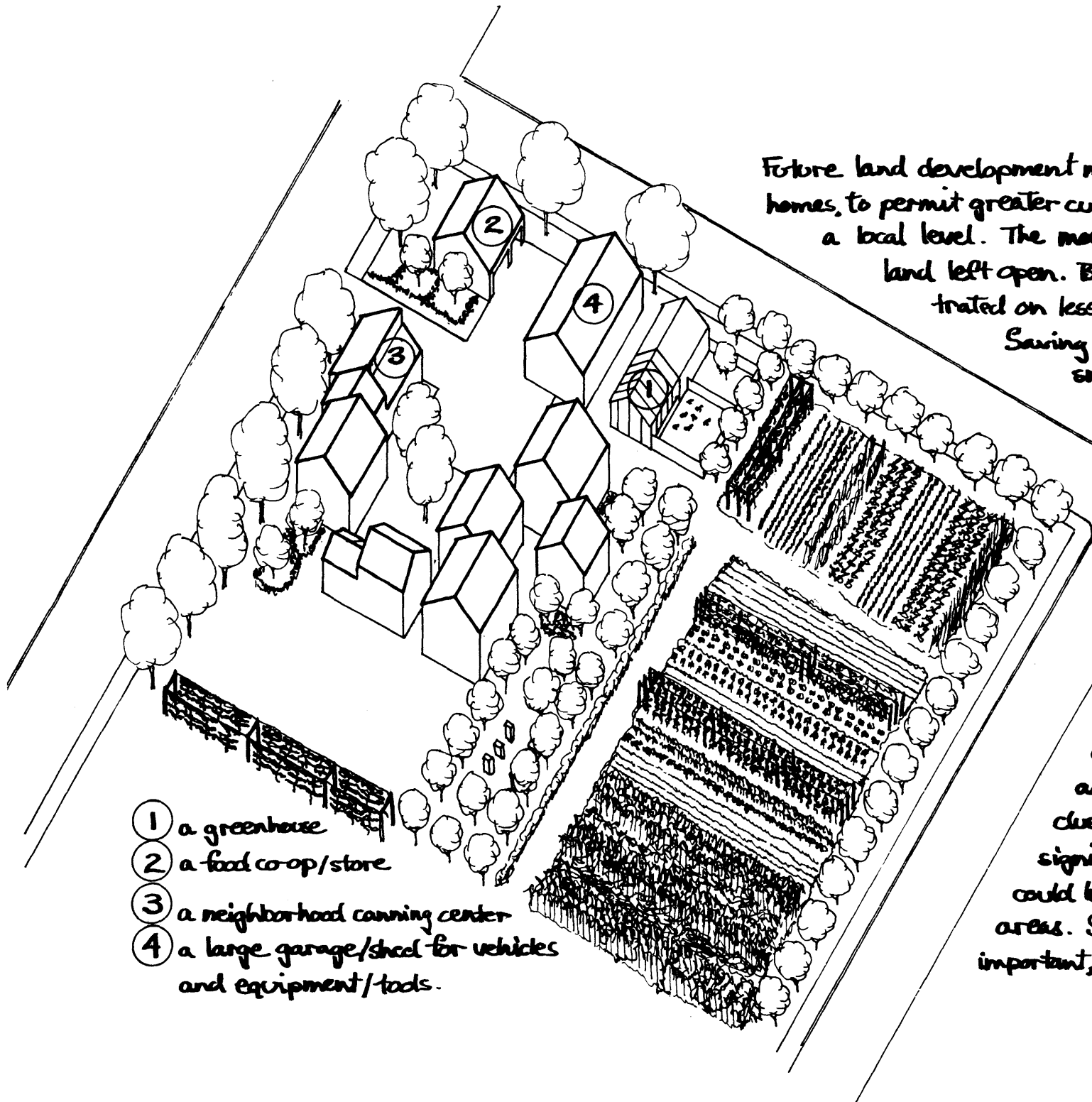


It would be possible for neighbors to join together to use their land and labor collectively: 3 dozen chickens, 1/2 acre dwarf fruit trees, 1/2 acre vegetable garden, grape, berry crops, bees.

Still some yard for cookouts and recreation.

On this scale space demanding corn and winter squash may be included as real production crops: corn to be eaten fresh, squash for winter storage. A community farm.

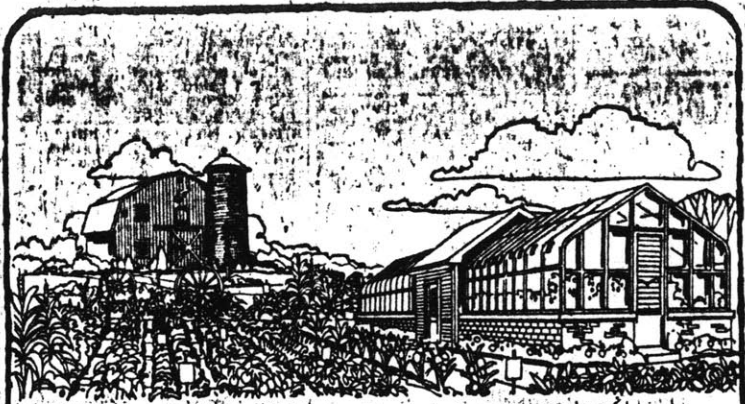
One neighbor's garage might be used to store tools, a collectively owned roto-tiller or small tractor. Another might serve as a food coop for grains, dry goods, cheese, meat, for storage, and to sell, distribute, any surplus food produced.



Future land development might cluster homes, to permit greater cultivation on a local level. The most easily tillable land left open. Buildings concentrated on less tillable areas. Saving farm land for small scale farming.

- ① a greenhouse
- ② a food coop/store
- ③ a neighborhood canning center
- ④ a large garage/shed for vehicles and equipment/tools.

On an acre and a half, the advantages of clustering are not as significant as they could be on larger areas. Still they are important, and representative.



Waterford Village where gardeners live naturally

BRIDGEWATER

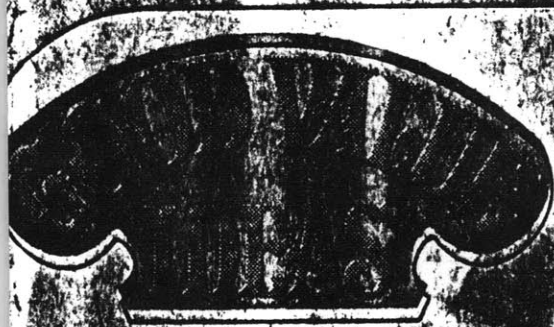
RENTS AS LOW AS \$187
INCLUDING HEAT
& HOT WATER

A picturesque colonial styled community, built on 100 acres of rolling pastures sets the horticultural atmosphere of Waterford Village. River Bend Farm and its year round greenhouse were created so residents could actively participate in planting

and caring for their own gardens. After testing their green thumbs residents can relax in their barn and silo clubhouse.

If this life-style appeals to you, you can find us by going south on route 24 to route 106 east to route 28, straight through stoplights at Bridgewater Center, left on to route 104. Open daily and Sunday from 10 a.m. to 6 p.m.

Bridgewater 697-6300



FROM

WRIGLEY'S GUM

A garden is great family fun and a good way to cut food costs. And you don't need a green thumb to get results!

An 8 x 10 ft. plot is plenty big for the vegetables shown below (about \$4.00 in seeds) and can produce up to \$100 worth of vegetables.

SPINACH
CARROTS
BEETS
CABBAGE
LEAF
LETTUCE



TOMATOES
CUCUMBERS
PARSLEY
ONIONS
RADISHES



For apartments, a 2 x 3 ft. window box, a couple of big pots and about \$2.75 in seeds may bring up to \$25 worth of vegetables.

Plant cucumbers and tomatoes in individual pots



HINT: Plant seeds outdoors only after frost-free date



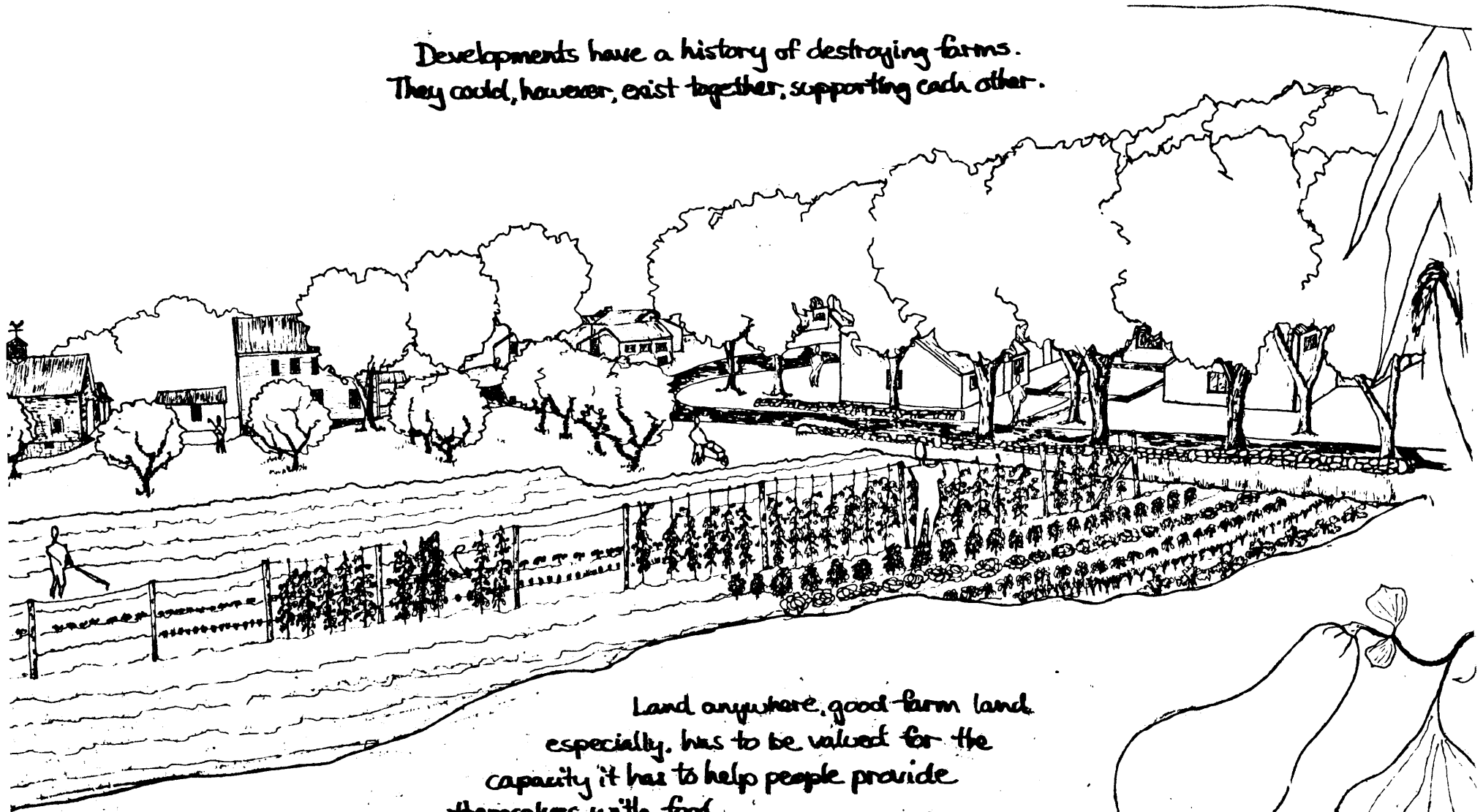
HOME and a FARM

The right side of the road here is a 30 acre farm. The left has 250 apartment homes on land once a

gravel pit, terraine too rough for good farm land.

The housing is ugly, homes far too small, but the juxtaposition with the farm is ideal. There is enough land to provide fruit and vegetables for the year round use of the 250 homes. And enough homes and people to support the farm. A child could afford to grow up "on a farm." And a farm could stay in business.

Developments have a history of destroying farms.
They could, however, exist together, supporting each other.



Land anywhere, good farm land
especially, has to be valued for the
capacity it has to help people provide
themselves with food.



Ben Logan. The Land Remembers: The Story of a Farm and its People.
New York. 1975. pages 220-223.

I ran on to the house. The wind was carrying the smoke off in a straight line from the kitchen chimney, flies few in a swarm when I opened the screen door. The kitchen was warm and steamy, filled with the smell of cooking tomatoes. Mother pushed her hair back from her face and gave me a quick smile.

"You're home early".

"Teacher said we'd be needed."

"Bless her."

"What needs to be done?"

"Everything. Your Father says the ground will be frozen by morning. Everything has to come in from the garden. I've only done the tomatoes."

I began by pulling up the carrots, beets, turnips, and long, white-rooted vegetable oysters. Some of the carrots were so long and so wound around each other I had to use a five-tined manure fork to get them up. An old white hen joined me, the same one that liked to follow the corn-cultivation in the summer. She scratched in the new-turned ground and ate worms until a gust caught her and sent her running and cackling toward the chicken house, her feathers fanned out by the wind.

There was a dull rumbling as Lyle came by with a wagonload of potatoes, horses trotting, potatoes jumping and rumbling in the bottom of the wagon box. There was another sound that was something like that. When a summer storm was coming with its far-off beginning of thunder, Father used to say, "Potato wagon coming."

Lyle waved to me and said something. The wind carried his

words off in the opposite direction. He may have counted on that. It was the kind of day he liked to say, when he thought no one would hear him, "By God, it's colder than a left-handed tit on a cast-iron witch."

I picked the last of the green beans and lettuce. The lettuce leaves were too big and would be bitter, but they were the last we would have for seven months.

Junior and Lee came home from High School. Laurance was working for my Uncle Lou that fall. Lee hurried out to help with the potatoes. Junior took the car and went to get sand from along the road. We would need it for storing the root vegetables.

I picked up hundreds of ground cherries, bright yellow and round as marbles in their paper-lantern husks. Later, we would take them across the field to a neighbor's, where a blind old lady would sit in her rocking chair and husk them for us, her hands seeing the good ones and bad ones, sorting them with never a mistake.

Leaves were blowing along the ground and the bare limbs of the big maple rattled in the wind. There was ice in the drinking cup at the well. Once when I went inside to warm my hands Mother handed me two dish towels. "Let's chase the flies out."

We propped the outside door open and started in the dining room, waving a cloth in each hand, driving the flies toward the door. They tried to turn back when they felt the cold, but we herded most of them out.

The kitchen was piled high with carrots, turnips, and beets still needing their tops cut off. The pressure cooker, filled with cans of string beans, was puffing and clicking like a steam engine.

I kept checking with Mother for instructions. Each time I saw her she seemed to have something different cradled in her apron - empty canning jars from the cellar, tomatoes, string beans, lettuce, some flowers still in bloom, a clump of dill weed.

"Want me to dig the horseradish?"

"No. We have plenty from last year. But get the rhubarb."

"All of it?"

"Only the biggest and reddest stalks."

"What about the cabbage?"

"Pull the heads up and pile them next to the wood-shed. We'll let them freeze. The men will cover them with sawdust tomorrow."

"What about the squash?"

"Only the hard ones."

Some of the squash vines were twenty feet long. I trailed them off into the grass and weeds, finding squash on some, bright yellow blossoms on others. I also found burdock burrs and Spanish bayonets that hung on to my clothes and stuck through into the skin. The big Hubbard squash were dark green with a deep prange spot where they lay against the ground. As I was carrying a bag of them in, one got away and clattered down the cellar steps ahead of me. It didn't even crack.

Mother came to the door once to look up at a long, wavering line of wild geese. They were flying with the wind, so high we could hardly hear their honking. "I hope they didn't wait too long." Mother said.

I knew what she was seeing in her mind. The migrating ducks and geese would come down somewhere for the night. Sometimes a quick freeze caught them in the sloughs along the rivers and froze them into the ice. They did there or were eaten alive by foxes and mink.

We kept passing each other at work, too busy to talk. Lyle and Junior were carrying baskets of potatoes into the cellar, dumping them into the big bin that ran all along one side. Father was putting tar paper around the foundation of the house and piling sawdust against it to keep out the wind. On days like that, Father walked fast, leaning forward more than usual,

carrying half the world on his back.

Finally, the garden was done, except for the flowers. I went on to the orchard and helped Lee with the apples. The wind was still knocking them down, the big Wolf Rivers, some of them six inches across, making loud thuds as they landed. Mother liked to joke about those giant apples. "Bring me a Wolf River," she'd say, "I want to make a pie".

Lee climbed the trees and knocked apples down, not always one at a time. I stood below, trying to catch them. There were Wealthy's and Sweet Apples on the ground with the Wolf Rivers. Some had fallen earlier. They were split open and had been "working" in the warm sun. Even with the cold wind stinging our noses, there was the sharp smell of cider in the orchard.

Bees clung to some of the apples. They had made one too many trips to collect the oozing juice and were too cold to fly back to the hive. We sorted apples as we picked them up, finding that the bees weren't too cold to sting. The good apples went to the cellar. The damaged ones went to the crowded kitchen to be canned for applesauce or to become the rich dark brown of Mother's apple butter, better on a slice of fresh white bread than any other food in the world.

Full darkness came. The wind began to fall and the cold was bitter, with a little snow spitting down. I lighted a lantern and Mother and I went out to dig the flower bulbs. The little gladiolus bulbs were like small pointed brown onions. Some of the clumps of dahlia tubers were as big as a gallon bucket. We knocked the dirt off and piled them into boxes. Mother sighed as we finished, realizing that we had forgotten, as we had forgotten each year as long as I could remember, to mark which clump of roots went with which color flower.

Mother sent me to tell Father it would be better to do the milking before supper. No food was started, unless we wanted to open a newly sealed jar of green beans. I found Father on his back under the Model T Ford, draining the water out of the radiator. I left the lantern with him and went back to the kitchen.

Mother got supper, cutting the potatoes up small so they'd cook fast. I sat half asleep behind the close warmth of her stove, cutting tops off beets, carrots, and turnips so I could bury the roots in the boxes of sand in the cellar.

That night, with the chores done and a fire roaring in the dining-room stove, the house was warm and steamy, filled with good earthy smells from the orchard and garden. Except for some late corn still drying in the fields, harvest was over. We had lived another growing season in partnership with the land. Now the land's gifts were safely stored in the cellar, barns, granary, corncrib, and haystacks. Suddenly it didn't matter that the bright days of Indian summer were over and that the ground would be frozen by morning.

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Catalogue.

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