

EXHIBIT 4.

SIZES OF HOUSES FINANCED UNDER
THE NATIONAL HOUSING ACTS.

Source: CMHC

Floor Area (Sq. Ft.)	1954	1955	1956	1957		1st Quarter, 1958	
				Non-agency	Agency	Non-agency	Agency
Under 1,000.....	27.1	28.9	19.2	12.0	22.5	7.2	21.5
1,000-1,099.....	26.9	26.9	29.4	27.6	63.6	24.1	62.8
1,100-1,199.....	23.5	20.9	22.5	26.0	3.7	30.2	8.3
1,200-1,299.....	12.2	11.8	14.7	17.1	7.2	19.2	5.1
1,300-1,399.....	5.5	5.9	6.9	8.0	2.3	10.7	1.7
1,400 and over.....	4.8	5.6	7.3	9.3	0.7	8.6	0.6
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Dwelling Units..	39,305	57,119	37,513	26,512	11,352	3,459	6,819

EXHIBIT 5

Description of How an Individual Household
Sewage Disposal Unit Might Work and
Description of the Experimental Foamed
Plastic HutDESCRIPTION OF HOW AN INDIVIDUAL HOUSEHOLD
SEWAGE DISPOSAL UNIT MIGHT WORK

The best known individual sewage disposal unit is the septic tank and disposal tile bed. This method has been in use for over 100 years with little improvement and sometimes does not function well in congested areas.

In the septic tank the solids are reduced by settling out and digestion by bacteria called anerobes. The residue in the tank is called digested sludge. To purify this septic sludge requires the action of another bacteria called aerobes. These require large quantities of oxygen which is provided by allowing the sludge to flow through a tile bed set not too deeply in the soil so as to permit the penetration of oxygen. This action will purify the sludge quite well.

There is a unit available which uses these same principles but does much of the operation by mechanical means. The waste is flushed through a grinder which reduces the solids much as the septic tank does and the waste is then deposited into a tank containing water. Air is bubbled through this water continuously to provide oxygen for the aerobes which then purify the effluent. This process is called "activated sludge" and has been used for years in mass disposal sewage plants.

Such a unit is now available but it seems to have many limitations when used as a closed circuit re-using the same water again and again. Central Mortgage and Housing Corporation has financed a project to study this action and encourage improvements to make it operate satisfactorily.

This description of a possible individual household sewage disposal unit is based on the use of bacteria. There may be other methods and C.M.H.C. is trying to encourage additional work towards the elimination of mass sewage disposal pipes and plants.

One of the first things C.M.H.C. did when it was decided to study this problem was to have a literature search made. This search disclosed that very little research was or is being done on this subject.

The literature was checked carefully and letters were written to every major country in the world. It appears that the only country in which any work of this kind was done is the United States of America. Other countries appear to have discouraged such work because of high population densities and fear of pollution of the soils and waters. In the U.S.A., however, two units are now on the market. Both of these operate on the activated sludge or aerobic principle.

DESCRIPTION OF THE EXPERIMENTAL FOAMED
PLASTIC HUT

In the attempt to find some revolutionary approach to new construction methods Central Mortgage and Housing Corporation together with the Division of Building Research encouraged the development of a foamed plastic hut. The floor, walls and roof of this consist of various types of foamed cores with different type skins. The floor also includes water pipes and electrical conduit built-in in such a way that the jointing of the panels automatically connects the pipes. The objective is to develop materials which will provide structural strength, insulation, water resistance, rigidity and appearance, and the services, in one and which can be assembled on-site with a minimum of field labour.

A second hut is planned to be built of a material which may ultimately permit foaming in place.

If these are successful it is hoped to encourage further development along these lines.

If successfully developed such a method of construction would be particularly useful for northern construction. If the experiment is successful, it is possible to envisage two cans of liquid shipped to a site and then foamed in light weight molds up to 20 or 30 times its volume. Transport by air would be eased very much. Further, unskilled on-site labour could erect such houses easily.