3. Ribbon development.
4. Free development.
5. Combined development.

Energy-efficient space-planning decisions of residential buildings are provided by:

- reduction in the surface area of the exterior walls by reducing the amount of irregularity of the building;
- increasing the width of the construction taking into account the regulatory requirements for illumination of premises;
- increasing the length of the building considering the urban development situations;
- increasing of the total area of the apartments on the floor considering the fire safety requirements;
- using planning elements that enhance the thermal efficiency of the residential building (including the use of blanket with smoke stairwells of H2 or H3 types and the usual staircase of A2 type with an overhead lighting).

Providing of the energy efficiency of multi-block buildings using the output area widening on the floor section is recommended for the following structures:

- residential buildings with straight or turning ordinary sections;
- residential buildings with latitude T-shaped sections;
- corner sections;
- latitude buildings;
- extended meridional buildings (including those with slight shift in the plan).

Conclusions:

The study identified a need for block houses in the developments of residential buildings, which is proved by economic, social, architectural and town-planning reasons.

On the basis of the concepts, a detailed study has been made, namely, a retrospective analysis of the methods for development of urban-type settlements (the concept of "Town House"), the social dynamics of the development of the residential areas; parameters and functional-planning bases of block development forming; the general requirements as well as the project design models.

APPLICATION OF MEMBRANE TECHNOLOGIES FOR CONCENTRATED SEWAGE TREATED

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A source formation of the concentrated sewage are the enterprises easy (tanning, textile), the food-processing industry (meat-processing, oil - fatty, dairy), and also the enterprises of the heavy industry (galvanic manufacture, etc.).

It is necessary to notice, that all named sewage have the common features sharp negative influence on an environment, multicomponent structure (the raised

amount of phosphates, synthetic surface-active substances, oils, etc.), complexity in selection of treated methods and multistaging technologies of clearing.

The choice of a method and treated technology by qualitative structure and requirements to the cleared sewage has been influenced. So for the enterprises of light industry, in particular skinneries preliminary physical and chemical clearing with possible allocation of valuable components is recommended, use membrane methods of clearing also is recommended.

For the enterprises of the food-processing industry clearing with the subsequent biological clearing is recommended physicomechanical. For an intensification of process use coagulants, flocculation a process electrocoagulation and electroflotation. as tertiary treatment can be used membrane methods, in particular nanofiltration or reverse osmos.

The leachate treatment the physical, chemical, biological methods, and also their combination are used.

Application **membrane technologies** has a wide distribution caused by high reliability, technological expediency and high efficiency.

The special attention have to be given leachate treatment, as to the most toxic and dangerous.

The structure leachate of various ranges dump solid domestic waste (as in Ukraine, and the countries distant and near abroad) is non-uniform, that is caused by set of factors: in the speed and completeness of course chemical and biochemical destruction each fraction of waste products, a stage of life cycle of range, morphological waste structure.

Leachate are characterized mainly on integrated parameters – BOD (biological oxygen demand) and COD (chemical oxygen demand) which in tens times can exceed these parameters for usual sewage, and also under the contents of heavy metals, nitrogen and other substances.

High salt content a filtrate provides use membrane technologies for additional leachate treated, cause ion-exchange methods apply at such high concentration unprofitably. In this case membrane technology can be used as alternative adsorption methods.

Membrane elements can be the following types:

- Tubular;
- Rolled;
- On a basis hollow fibres
- Disk

The leading firm using the given technologies for sewage treatment of ranges is. ROCHEM (Hamburg).

At present in Ukraine (Kiev, dump №5) is maintained system of the reverse osmose PALL-ROCHEM by productivity of 220 per day which has been started on range in 1998, in 2008 - modernized and in 2013 is reconstructed.

The given system treated are used allows to lower considerably index BOD and COD, chlorides, ammonia. At a filtration through a membrane the stream is divided on the cleared water, and a concentrate. Pressure upon installations makes

from 65 up to 150 bar (depending on a degree of clearing). Received treated water it is restored on biotopes and merges in surface reservoir.

Design feature of installation is the modular disk - tubular system (fig. 1), process of clearing occurs in conditions of absence of phase transitions at dash precipitation.

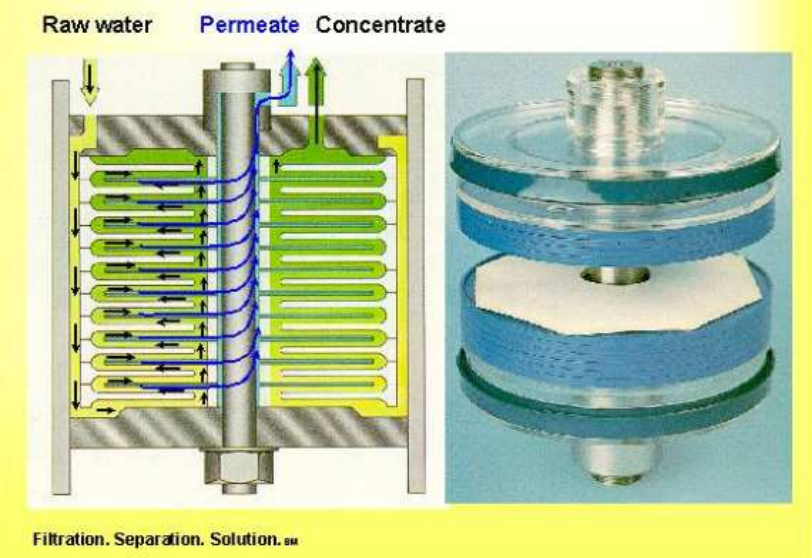

Figure 1.-Modular disk - tubular system

Membrane technologies are using it is necessary to consider, that at components sewage could be causing membranes destruction, hence water treating is necessary for reliable operation.

To preliminary processing frequently recommend to apply chlorination, carbon treatment, and coagulation.

Efficiency of oxidizing methods by prepreparation is insignificant.

At research coagulation methods by the example leachate dumpe №5 (Ukraine, Kiev) have established, the basic sulfate of aluminium that the most effective coagulant is which allows to achieve 50 %-s' degrees of clearing on COD and 80 %-s' decolourations. The filtrate after preliminary processing by the basic sulfate of aluminium and to the subsequent reverse osmose treatment corresponds norms to dump in a sewer network (according to the experimental data received on dump №5).

Except for that for an intensification preclearing process are offered to use the activated solution cougulant sulfate of aluminium. For activation it is supposed to use the special device. Which provides simultaneous and consecutive activation of a solution magnetic a field and saturation by its the anode dissolved iron.

According to the carried out researches such technological reception allows to increase efficiency of preclearing up to 30 %.

Thus, it is possible it is possible to emphasize, that leachate treating provides use of multiphasic technology, and for achievement of high results it is recommended to use membrane filtration with the various pore size, and for increase of efficiency it is necessary to pretreatment use.

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SEVERSKY DONETS RIVER AS MAIN DRINKING ARTERY OF KHARKIV REGION

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One of the most important problems of Kharkiv region is the problem of drinking water. General water resources security per one person is 4.1 thousand cubic meter per year.

Centralized drinking water supply for Kharkiv and regional settlements is made from three independent sources. 25.850 thousand m^3 / year of drinking water are taken from 240 artesian wells. 97. 575 thousand m3 / year are taken in from the channel of Dnieper-Donbas basin and, finally, from the Seversky Donets comes 4154 27 thousand m^3 / year.

The Seversky Donets is the main waterway of Kharkiv region. The water is used for drinking and industry supply in the area. Water quality of the Seversky Donets due to basic contaminants does not match regulatory standards.

The current environmental condition of the Seversky Donets and the impact of anthropogenic factors on the river was analyzed. A graphical analysis of the variability of certain pollutants concentration in the waters of the Seversky Donets in Kharkiv region was made.

The water state of the Seversky Donets is greatly affected by the anthropogenic factors of Belgorod region, in which the river arises. The environmental conditions are favorable in the upper reach of the river. However, the situation changes drastically when the Seversky Donets is passing through the city of Belgorod the catchment basin of which posseses a variety of contaminants penetrating the river during rainfalls. The list of the substances includes elements and compounds of anthropogenic and natural origin which are used in various industries.

Closer to the border of Ukraine the Seversky Donets runs through environmentally friendly area, so its purity grade increases from 5.6 (very dirty and polluted) to 3 (moderately polluted).