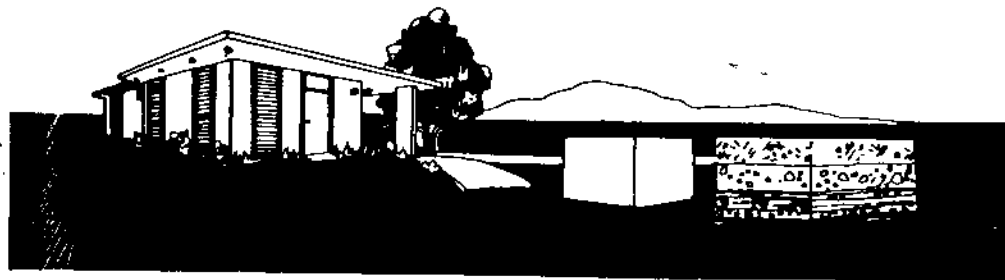


*“ALL LIVING THINGS  
OF THE EARTH  
ARE ONE”*



# INDIVIDUAL WASTEWATER SYSTEM REGULATIONS



GUAM ENVIRONMENTAL PROTECTION AGENCY  
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REVISION TO  
INDIVIDUAL WASTEWATER REGULATIONS

Message from the Guam Environmental Protection Agency Administrator

Although the Government of Guam is making substantial progress in extending municipal sewer systems throughout the Island, many rural areas will remain unsewered for an indefinite period of time. Guam law allows homes and businesses to utilize individual wastewater systems where public sewers are not available. In order to protect the environment and public health of our citizens, all individual wastewater systems must be constructed and permitted in compliance with Guam E.P.A. regulations. The cost of a septic tank and leach field is high and homeowners want to be sure their money is being spent for a properly built system which will last. The best assurance of this is a permit issued by Guam E.P.A., for the construction and operation of the system. Guam E.P.A. inspectors will review your plans, or those of your contractor, to make sure the proposed system is properly designed. Upon completion of construction, Guam E.P.A. inspectors will visit your home or business and verify that the system has been built according to your plans. Besides assuring a properly built system, this Guam E.P.A. permit is required by law.

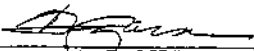
I encourage all homeowners and building contractors to become familiar with these regulations and to follow the permit process described herein. You, the homeowner, are responsible for acquiring all permits, clearances and easement agreements. We further suggest you deal only with contractors currently licensed by the Guam Contractors License Board. This is the best guarantee all of these requirements will be met.

GUAM E.P.A. Administrator

NEW TITLE:

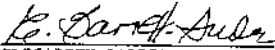
ONSITE WASTEWATER TREATMENT AND DISPOSAL SYSTEM REGULATIONS  
FOR RESIDENTIAL SEPTIC TANK AND LEACHING SYSTEM  
AND TEMPORARY TOILET FACILITIES

Adopted July 2, 1987

  
A. T. LIZAMA  
Board Chairman

APPROVED:

ATTESTED TO: DONNA M. CRUZ  
Board Secretary

  
ELIZABETH BARRETT-ANDERSON  
Attorney General

Date: 9/1/87

"ALL LIVING THINGS OF THE EARTH ARE ONE"

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ONSITE WASTEWATER TREATMENT AND DISPOSAL SYSTEM REGULATIONS  
FOR RESIDENTIAL SEPTIC TANK AND LEACHING SYSTEM,  
AND TEMPORARY TOILET FACILITIES

SECTION I. AUTHORITY

- A. Section 45106 of Chapter 45, Title 10 of the GCA authorizes the Guam Environmental Protection Agency to adopt such regulations as may be necessary to implement Chapter 48, Toilet Facilities and Sewage Disposal, of Title 10.

SECTION II. PURPOSE

The purpose of these regulations is:

- A. Protect the health of the septic tank user and his neighbors.
- B. To establish minimum standards that will ensure that wastes discharged:
1. Will not pollute or contaminate the waters of any bathing beach, shellfish breeding grounds, or stream or groundwater source which could be used for public or domestic water supply purposes or for recreational purposes;
  2. Will not pose a health hazard by being accessible to children;
  3. Will not give rise to a nuisance due to odor or unsightly appearance;
  4. Will not violate any other laws or regulations governing water pollution or sewage disposal.

SECTION III DEFINITIONS

- A. "Administrator" - means the Administrator of Guam Environmental Protection Agency or his duly authorized representative.
- B. "Individual Sewage Disposal System" means a system designed and installed to dispose of sewage from a single building or group of buildings located on one lot. Such a system may consist of a septic tank, together with a leaching field or seepage pit, or other treatment unit.
- C. "Septic Tank" means a water tight receptacle which receives the discharge of sewage and is designed and constructed so as to retain solids, digest organic matter through a period of detention, and allow the liquids to discharge into a subsurface leaching system.
- D. "Leaching System" means a subsurface system of open-jointed or perforated piping bedded in crushed rock or coral where septic tank effluent may seep or leach into the surrounding porous soil.
- E. "Sewage or Wastewater" means untreated or insufficiently treated human excreta, food wastes disposed of through sewers, wastewater, liquid wastes from residences, commercial buildings, public buildings, agricultural operations, and industrial establishments or other places of assembly, and such diluting water as may have entered the waste disposal system.
- F. "House Sewer or Building Drain" means that part of the lowest piping of a drainage system which receives the discharge from all waste lines and other drainage pipes inside the walls of the building except those discharging grease and oil, and conveys it to the building sewer pipe beginning 5 feet outside the building walls. Rain water from roof drains or any source shall not be diverted to the said system.
- G. "Water of the Territory" means all shore waters surrounding Guam, streams, lakes, springs, irrigation system, marshes, water courses, waterways, drainage system, and other bodies of water, surface and underground, natural or artificial, publicly or privately owned.
- H. "Public Sewer" means a common sewage collection system serving more than one lot, directly controlled by public authority.
- I. "Abutting Property" means that property, which lies next to any road, street or easement in which a public sewer is located. The boundary of the private property abutting the sewer need not physically touch the sewer easement so long as that piece of land separating the sewer easement from the abutting property consists of a public right of way, easement, road, or street not owned or controlled by another private owner, so that the abutting property owner would be required to obtain a private easement in order to connect this property with that of the sewer.
- J. "Cesspool" means excavation which receives or is intended to receive untreated sewage and from which the liquid directly seeps or leaches into surrounding porous soil. No cesspool construction is allowed under this regulations.
- K. "Adjacent Homeowners" means homeowners where residences are adjacent to and abut a road, street or other way or easement on which a sewer is installed.
- L. "Privy" means a structure and excavation for the disposal of human excreta by non-water carriage methods and includes the term pit privy, trench latrine, and bored-hole latrine.
- M. "Single Family Residence" means a building designed exclusively for occupancy for one family and containing only one dwelling unit.

- N. "Duplex" means a detached building containing two dwelling units. This is the same definition as found in Title XVII Section 17002 for a two-family dwelling.
- O. "Type 2" means a toilet flushed with water and connected to a septic tank and leaching system.
- P. "Type 3" means privy type, including pit privy, trench latrine and bored-hole latrine.
- Q. "Agency" means Guam Environmental Protection Agency (GEPA).

SECTION IV - NON-AVAILABILITY OF PUBLIC SEWER

- A. When public sewer intended to serve any lot or premises, is not available in any thoroughfare or right of way abutting such lot or premises, drainage piping from any building or works shall be connected to an approved private sewage disposal system.
- B. The public sewer may be considered as not being available to a single family residence or duplex or any residential building, when such public sewer is located more than two hundred (200) feet away from any proposed single family residential unit or duplex, or any existing residential building on any lot or premises which abuts and is served by such public sewer.

The Administrator may grant exemption for a single-family residential unit or duplex where a public sewer is less than 200 ft. away from the building and such residential building can not be connected to the public sewer by gravity due to obstructions. Exemption may only be granted by the Administration, if the Administrator is convinced that after written findings an exemption will not jeopardized the general public health and welfare.

- C. Vertical Alignments - Where public sewer is available to a particular building and sewer location is, (1) more than twenty (20) feet above the lowest floor level of the single family residence or a duplex; or (2) more than fifty (50) feet above the lowest floor level of any other structures, public sewer may be considered as not being available.

Exemptions, where the vertical distances between lowest floor level and the sewer is less than 20 feet, may be granted by the Administrator for a single-family residential unit or duplex when by written findings it is determined that the public health and welfare will not be jeopardize.

- D. Where water is available from PUAG, but a public sewer is not available, toilet facilities shall be type 2.

SECTION V - PRIVATE SEWAGE DISPOSAL SYSTEM (GENERAL)

- A. Where permitted by Section IV of this regulations, a building may be connected to a private sewage disposal system which complies with other provisions set forth in these regulations. The type of system shall be determined on the basis of location, soil porosity, and ground water level and shall be designed to receive all sanitary sewage from the property. The system, except as otherwise provided, shall consist of a septic tank with effluent discharge into a sub-surface disposal field.
- B. Where conditions are such that the above system cannot be expected to function satisfactorily for commercial, agricultural and industrial plumbing systems; for installations where appreciable amounts of industrial or indigestible waste are produced; for hotels, hospitals, office buildings, schools; for occupancies producing abnormal quantities of sewage or liquid wastes; the method of sewage treatment and disposal shall be first approved by the Administrator. Special sewage disposal systems for minor, limited or temporary uses shall be first approved by the Administrator.

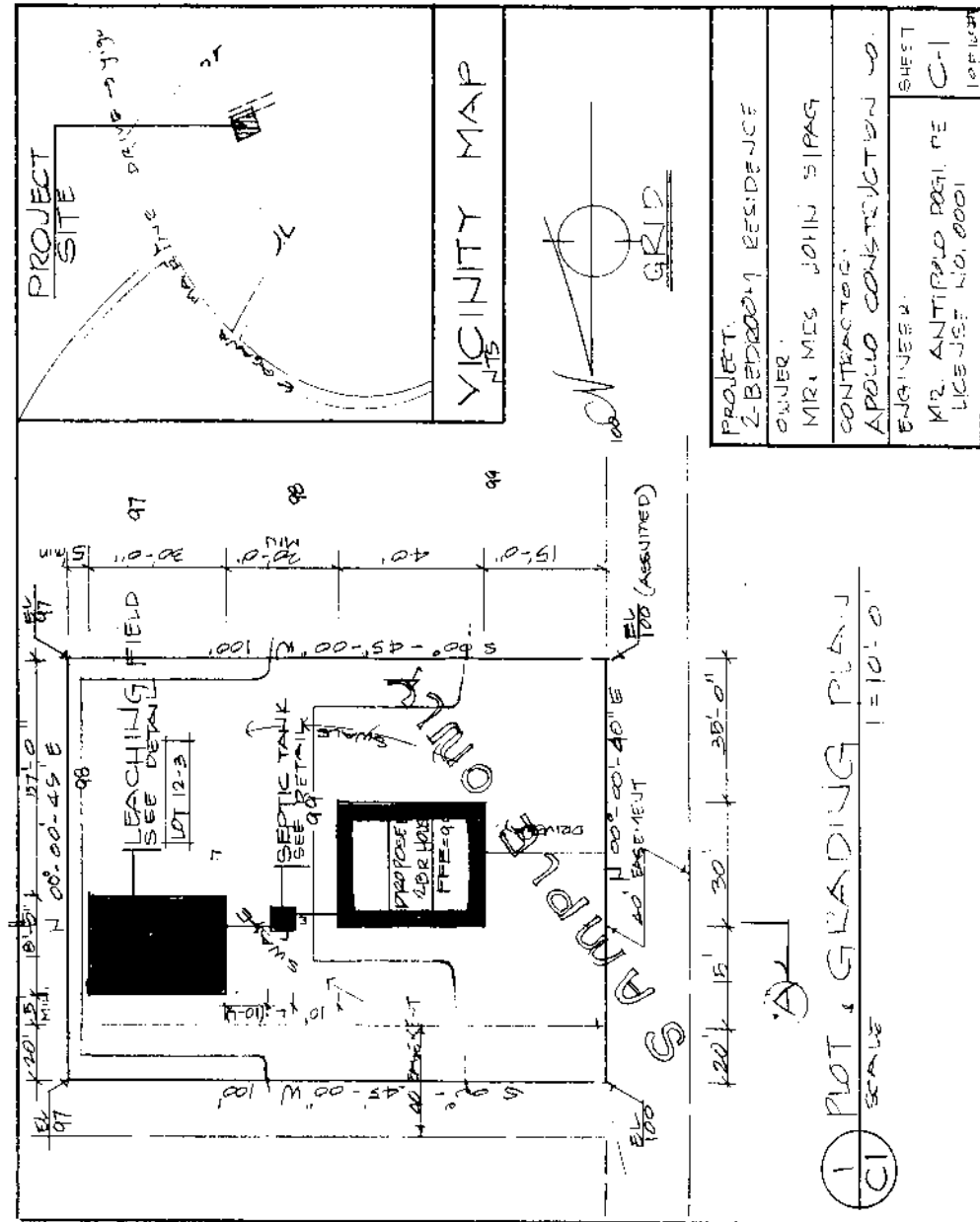
- C. Disposal systems shall be designed to utilize the absorptive portions of the soil formation. Where the ground water level extends to within twelve (12) feet or less of the ground surface or where the upper soil depth is insufficient and the underlying stratum is rock or impervious soil, a septic tank and disposal field system may not be installed.
- D. All lots served by an on site disposal system shall contain sufficient reserve area which would permit at least 100% replacement of the proposed leach field system. No division of the lot or erection of structures on the lot shall be made if such division or structure impairs the functional usefulness of the designated 100% expansion area.
- E. No property shall be improved in excess of its capacity to properly absorb sewage effluent in the quantities and by the means provided in these regulations.
- F. When there is insufficient lot area or improper soil conditions for adequate sewage disposal from a building or proposed use of the land as determined by the Administrator, no building permit shall be issued and no private sewage disposal shall be permitted. Where space or soil conditions are critical, no building permit shall be issued until engineering data and test reports satisfactory to the Administrator have been submitted and approved.
- G. Where public sewers may be installed at a future date, provision should be made in the household plumbing system for connection to such sewer upon notification by the Administrator within 5 years period after it is available.

- H. New septic tanks, leaching fields, outhouses or other on-site sewage disposal systems shall not be permitted within flood hazard areas. All sewage disposal lines shall be connected to government sewerage at the developer's expense. Sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharges from the systems into flood waters (Section IV. E. Standards for Flood Hazard Area Management, Floor Hazard and Wetland Area Rules and Regulations). Variances to such standard or procedure may be granted through appeal to the Territorial Planning Commission which may grant such variances only upon written findings that applicant satisfied all the criteria outlined granting variances under Section 17502 (a) - (d) of the Government Code of Guam.
- I. Nothing contained in these regulations shall be construed to prevent the Administrator from requiring compliance with higher requirements than those contained herein where such higher requirements are essential to maintain a safe and sanitary condition.
- J. No wastewater disposal system installations, constructions, repairs or additions shall be made by the owner of the property without written permit from the Agency.
- K. Any person whose application for a permit under this regulations has been denied shall be notified in writing as to the reason for denial and such person may within 15 days after date of official notification, shall file a written request for a hearing before the Agency. Such hearing shall be held by the Agency within 30 days after receipt of the request and upon reasonable notice to the applicant. The Board of Directors of the Agency shall affirm, modify, or revoke the denial, or issue the permit on the basis of the evidence presented at the hearing.

- L. The design criteria presented in these regulations can only be applied to systems utilized by residential units up to and including a four-plex dwelling. Systems which must serve larger residential complexes, commercial, or industrial facilities must be based on design criteria specific to the facility. The standard guidance presented within these regulations is not considered adequate for such facilities.
- M. Approval of Administrator required. No toilet or sewage facilities or single-family residences, subdivisions, apartments, motels, hotels or other multihousing facilities, commercial buildings, institutions, and industrial facilities, may be constructed without the approval of the Administrator, or put into operation without his inspection and approval.

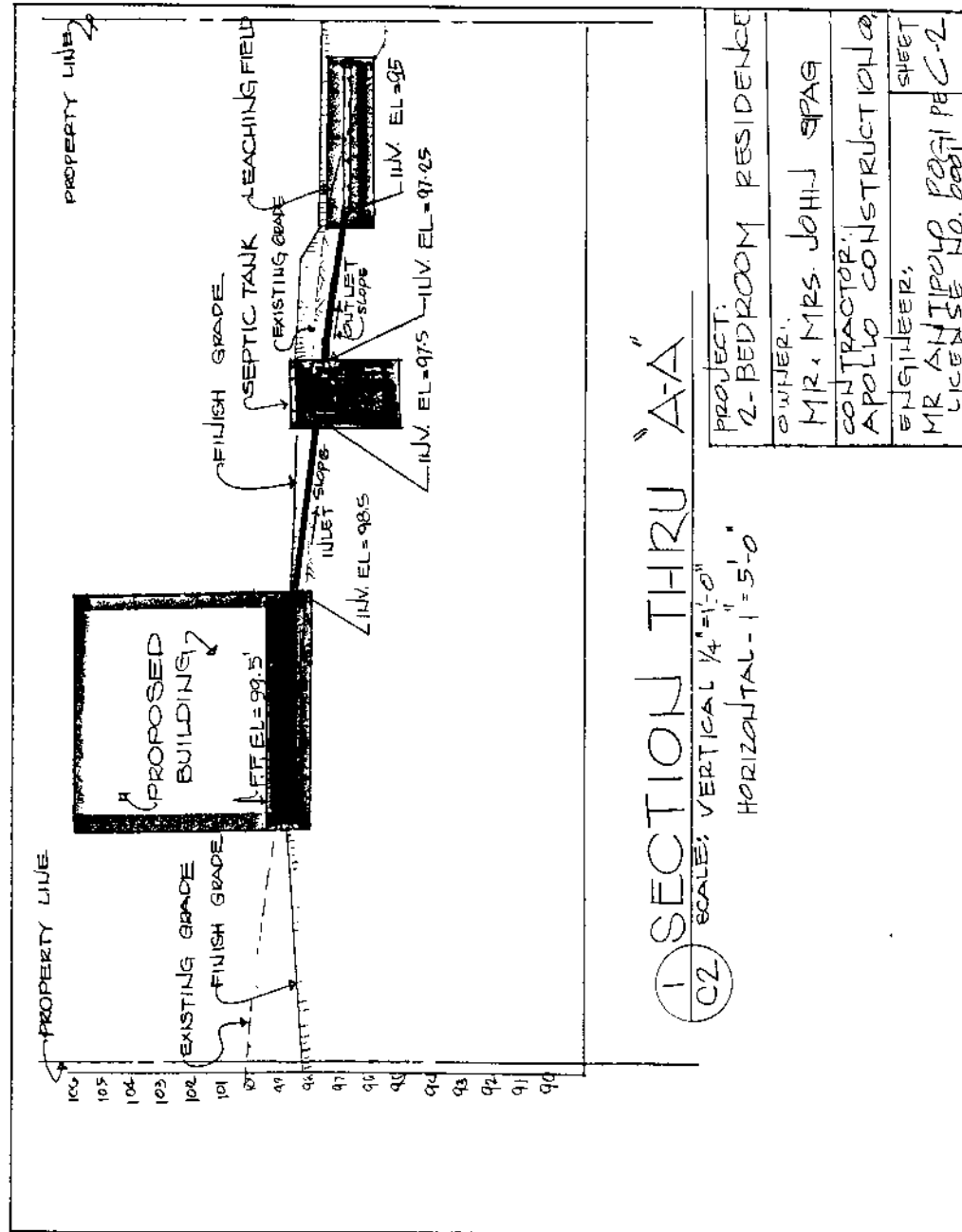
SECTION VI - PERMIT APPLICATION ISSUANCE PROCEDURES AND REQUIREMENTS FOR WASTEWATER DISPOSAL SYSTEMS

- A. Before specific plans and specifications for individual wastewater disposal system permit application are reviewed for compliance with Guam Environmental Protection Agency (GEPA) regulations, such plans and specifications shall contain the following as minimum:
  1. Vicinity Map - plans must include vicinity map to locate property showing adjacent streets with names and other land marks that can easily locate the property where the proposed improvement is to be established.
  2. Plot and Grading Plan (DWG-C-1) - plans must include a plot and grading plan, drawn to scale and completely dimensioned, showing direction and approximate slope of the ground surface, and must contain the following:





- Delineation of property boundaries, lot number and zone designation;
- Delineation of public rights of way, easements and access roads, if applicable;
- Indication of location of all present or proposed or existing retaining walls, drainage channels, water supply lines or walls, paved areas and structures on the plot with relation to lot lines and structures.
- Location of proposed or existing sewage facilities in relation to property boundaries, public rights of way, easements and access roads, existing structures and utilities, and the proposed building;
- A description of the complete installation including quality, kind and grade of materials, equipment, construction, workmanship, and methods of assembly and installation.
- A log of soil formation and ground water levels as determined by the test holes dug, in accordance with the requirements of the Administrator, at the location of the proposed leaching system.
- Topography of the area, showing contour lines and floor elevation of the existing or proposed building.
- Profile of existing ground and elevations of flowline along sewerline as per cross-section plan drawing (DWG-C-2).



3. Regardless of the type of disposal system applied for, the permit application should bear the signature of the Public Utility Agency of Guam (PUAG) for water and sewer availability verification, and approval for sewer connection if sewers are available and location of connection point. The Department of Land Management must process the plans for verification of property boundary, confirmation of ownership, zoning and itemization Territorial Planning Commission (TPC)/Territorial Seashore Protection Commission (TSPC) of conditions prior to GEPA review and their signature must be included on the Building Permit Application Form.
  - a. When a property is within the wetland zone, review and clearance and approval from Land Management, Bureau of Planning, ACOE, Department of Agriculture is required prior to GEPA review and their signature must be included with Building Permit application.
4. Design calculation of the proposed wastewater disposal system is required and the design must be done by a licensed specialty contractor or registered professional engineer.
5. A log of soil formation, percolation and water table tests should be done by a registered professional engineer and such test results should bear his stamp and signature. This requirement may be waived by the Agency, if the Agency has sufficient information to determine the suitability of the soil conditions.
6. Complete septic tank and leaching field or aeration tank and leaching field design and construction details must be included in the building plans and specifications.

- B. A building permit application form, completely filled out with name(s) and address of applicant, job location, lot, block and tract numbers, and area of lot in square feet or square meters.
- C. Three (3) complete sets of building plans, one for the Environmental Protection Agency (EPA) and the other two (2) for distribution to other agencies.
- D. Septic Tank Permit Validity - Any septic tank permit shall be void if the work authorized by said permit is not commenced within three (3) months after its issuance; or is suspended or abandoned for a period of three (3) months at any time the work has commenced; provided that for just cause stated in writing to the Administrator, the Administrator may allow up to a maximum of three (3) months extension. All such extensions shall be in writing and noted on the septic tank permit and in the individual wastewater records of the Section of Individual Wastewater Program.
- E. No building permit or certificate of occupancy under the Building Law of Guam shall be issued without prior compliance with the requirements of the above Section VI.

#### SECTION VII - CAPACITY OF SEPTIC TANKS

- A. The net volume or effective capacity below the flow line of a septic tank, for flows up to 500 gpd, should be at least 750 gallons. For flows between 500 and 1500 gpd, the capacity of the tank should equal to at least 1-1/2 days sewage flow. The liquid capacity and sizes of septic tank as determined by the number of bedrooms or duplex units in any dwelling occupancies shall be as established in Table 1 - "Guidelines for Construction of Septic Tank (Liquid Capacity)".

TABLE I  
 GUIDELINES FOR CONSTRUCTION OF SEPTIC TANK  
 (LIQUID CAPACITY)

Number of Bedrooms	Recommended Sewage Flow * (Gallons) GPD	Recommended Minimum Tank Capacity (Gallons)	Recommended Minimum Inside Tank Dimension L.W. D.
2	480	750	6' x 4' x 6'
3	720	1,080	7'-6" x 4' x 6'
4	960	1,440	7' x 6' x 6'
5	1,200	1,800	7' x 7' x 6'
6	1,440	2,160	8.5' x 7' x 6'

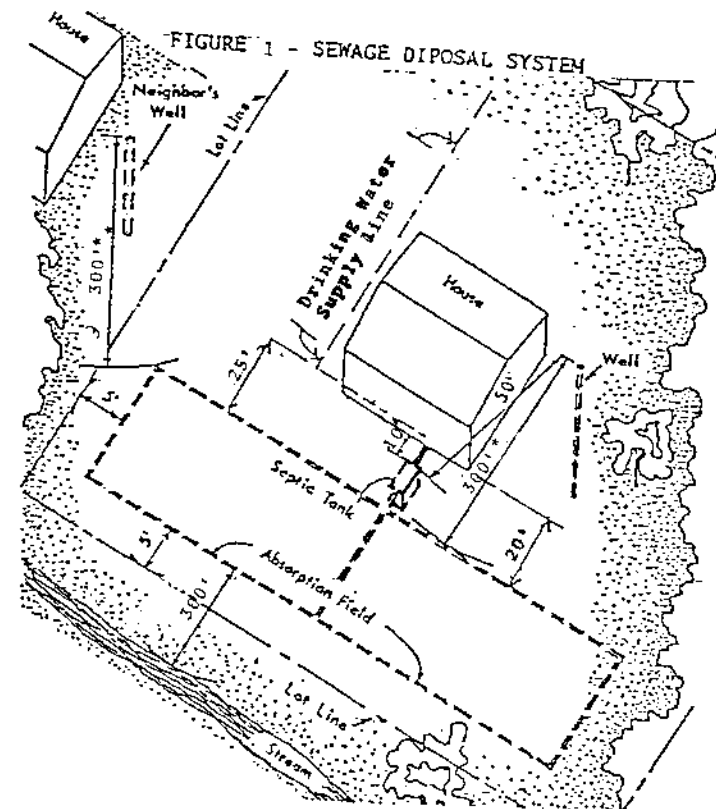
Source: GEPA, Rural Islandwide Facilities Plan, Table 5-2, Page 5-17.

Manual of Septic Tank Practice - U.S. Department of Health; Education and Welfare.

Public Health Service Publication #526

SECTION VIII - LOCATION AND INSTALLATION OF SEWAGE DISPOSAL SYSTEM

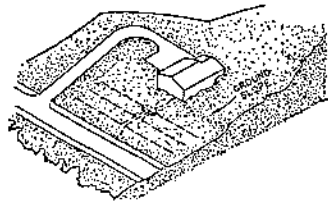
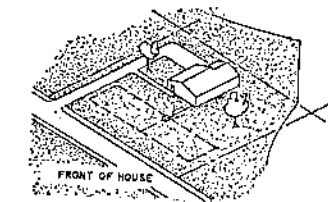
- A. No part of the system shall be located so that it is nearer to any water supply than outlined in Figure 1 and Table II, or so that surface drainage from its location may reach any domestic water supply. The distances given in Figure 1 and Table I are the minimum distances to any water of the territory, property lines, dwelling, school, public building, or a building used for commercial, or industrial purposes or as a place of assembly.
- B. Suggested location of tank and disposal field on varying ground slopes (Figures 2)



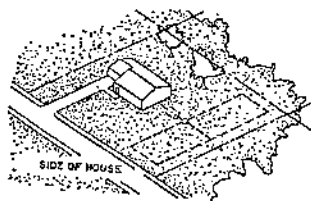
(\*) See Notes on Table II

B. Suggested location of tank and disposal field on varying ground slopes (Figures 2 )

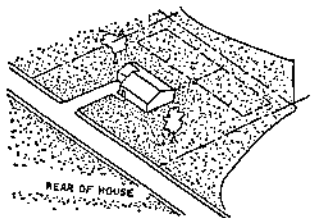
In locating the septic tank, consider future extension of a public sewer so that a minimum rerouting of the building sewer will be necessary.



When the ground slopes to the front of the house, the tank and field should be located as shown;



Illustrates the location when ground slopes to the side.



Illustrates the location when ground slopes to the rear.

C. Location shall be such as to provide not less than the stated minimum distances in Table II.

TABLE II  
MINIMUM SAFE HORIZONTAL DISTANCES IN FEET

From	To			
	Privy	Septic Tank	Absorption Bed	Absorption Field
1. Any water of the Territory		300'	300'	300'
2. Any dwelling, school, public building, or a building used for commercial or industrial purpose.	20'	10'	20'	20'
3. Property boundary lines		5'	5'	5'
4. Water lines		10'		
5. Wells		300*	300*	300*

- Note: 1. Should there be any legislative amendment to any minimum safe distance requirement, the latest amendment shall govern.
2. No septic tank shall be constructed in a position not easily accessible for emptying or cleaning.
- \*3. Minimum distance from well to sources of bacterial contamination.

Formation	Minimum Acceptable Distance
Favorable (Unconsolidated)	300 feet. Lesser distances only on Administrator's approval following comprehensive sanitary survey of proposed site and immediate surroundings.
Unknown	300 feet only after comprehensive geological survey of the site and its surroundings has established, to the satisfaction of the Administrator, that favorable formations exist.
Poor (Consolidated)	Safe distances can only be established following both the comprehensive geological and comprehensive sanitary surveys. These surveys also permit determining the direction in which a well may be located with respect to sources of contamination. In no case should the acceptable distance be less than 300 feet.