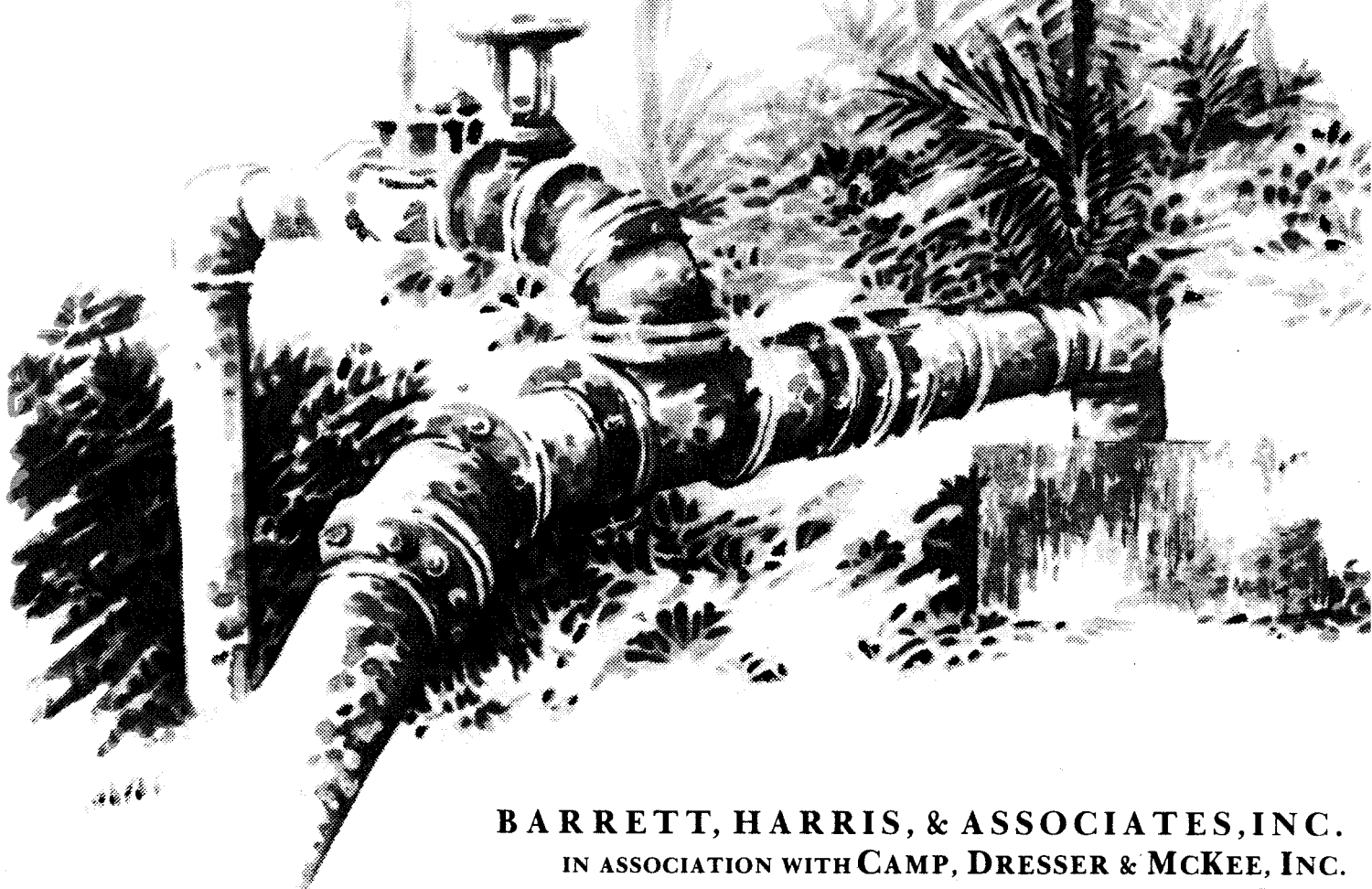




NORTHERN GUAM LENS STUDY

GROUNDWATER MANAGEMENT PROGRAM

APPENDIX D LAWS, REGULATIONS AND AGREEMENTS MANUAL



BARRETT, HARRIS, & ASSOCIATES, INC.
IN ASSOCIATION WITH CAMP, DRESSER & MCKEE, INC.

PROPERTY OF
W.E.R.I.
UNIVERSITY OF GUAM

NORTHERN GUAM LENS STUDY
GROUNDWATER MANAGEMENT PROGRAM

APPENDIX D
LAWS, REGULATIONS AND AGREEMENTS

Prepared for the
GOVERNMENT OF GUAM
GUAM ENVIRONMENTAL PROTECTION AGENCY

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in association with
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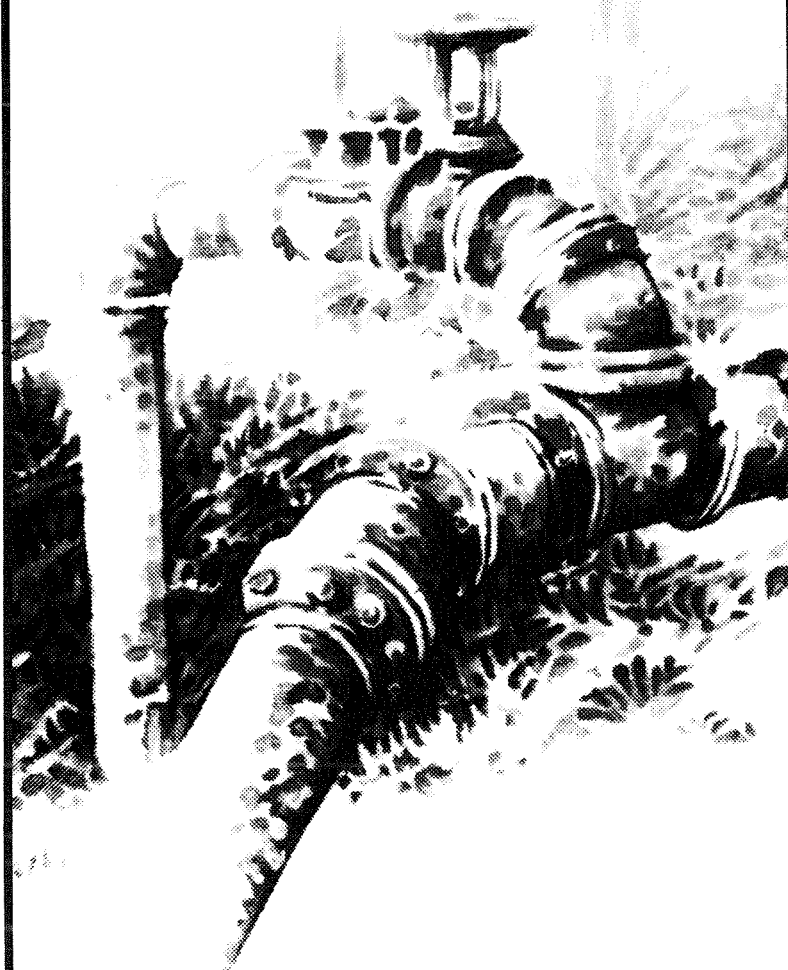
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I

INTRODUCTION



CHAPTER I

INTRODUCTION

General

This manual presents modifications to laws, regulations and inter-agency agreements that are needed to implement the provisions of the Groundwater Management Program. Proposed amendments to existing laws are presented in Chapter II in a format that presents existing laws, as they presently read, and the specific modifications that are being proposed. With respect to regulations, Chapter III presents a rewritten version to replace existing regulations governing well development and operations. Chapter IV presents an inter-agency agreement designed to assure the cooperative management of the Northern Lens by Federal and Government of Guam agencies.

It is recommended that the provisions contained in this manual be reviewed by the affected agencies and commissions of the Government of Guam for consistency with existing planning goals and program objectives. The modifications to the government codes and the proposed inter-agency agreement should be reviewed as to form and legality by the Attorney General's office prior to their introduction to the legislature.

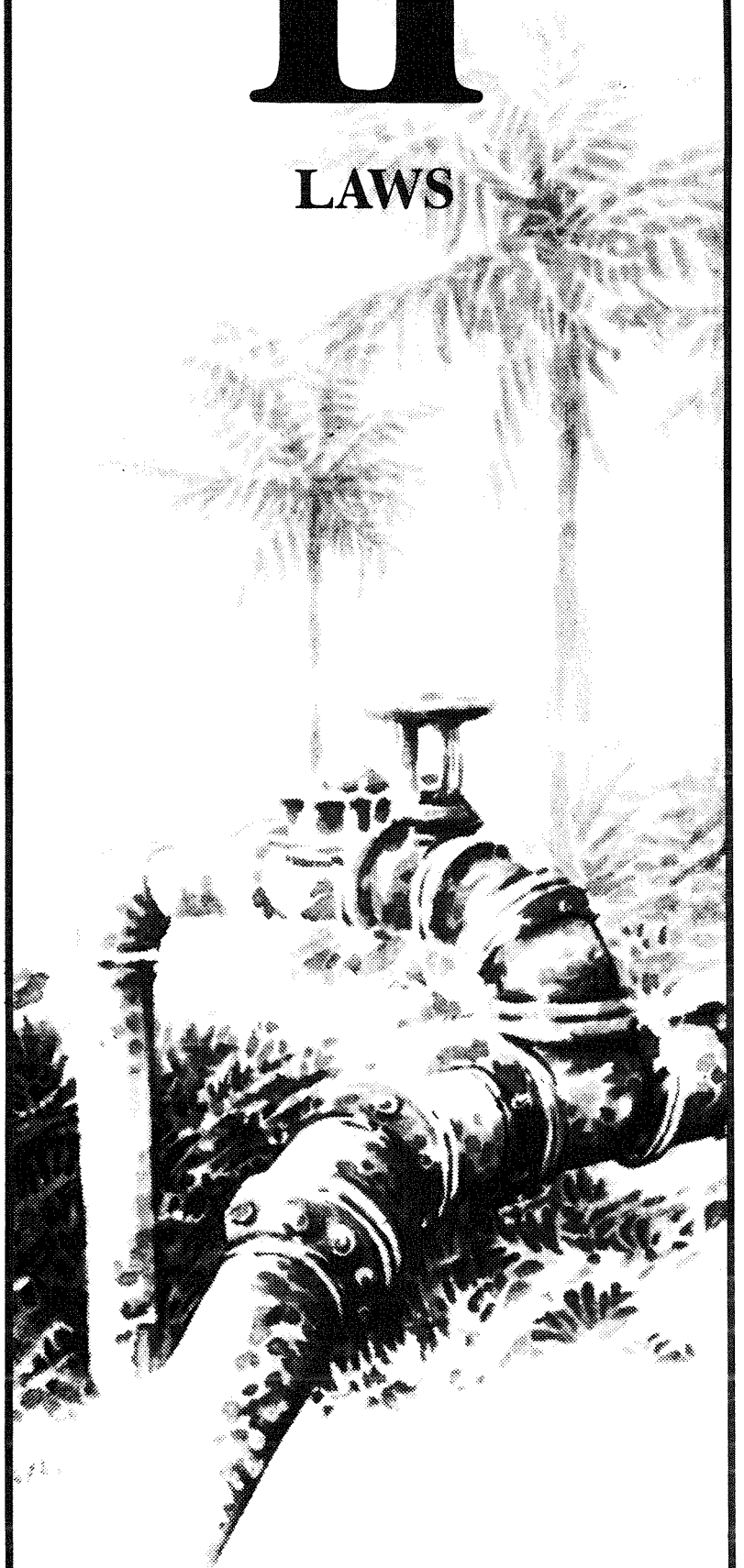
In submitting legislation modifying government codes, it is recommended that a complete package of legislation be discussed and treated as a whole. Modification of all affected government codes in one package is necessary because proposed provisions for individual titles of the code are in some cases inter-related. The integrated approach to legislation should help in coordinating the modifications to all affected laws.

The integrated approach will also be of help in promoting a broad-reaching, comprehensive perspective towards management of the Northern Lens. In view of the Northern Lens' importance as a primary source of water for Guam, such a comprehensive perspec-

tive in the enabling legislature will significantly affect the success of the overall Groundwater Management Program.

II

LAWS



CHAPTER II

LAWS

General

The laws which need to be modified as part of the implementation of the groundwater management program include the following:

- ° Water Resources Conservation Act
- ° Water Pollution Control Act
- ° Toilet Facilities and Sewage Disposal Act
- ° Zoning Law
- ° Subdivision Law

The first three acts form part of Title LXI of the Government Code of Guam, the enabling legislation establishing GEPA, its authorities and its programs. The Water Resources Conservation Act is Chapter II of Title LXI. This Act contains a declaration of policy regarding the conservation and control of Guam's water resources for the benefit of the public. The Act also addresses requirements for well drilling licenses and permits, operating permits, inspection, and reporting requirements, and the applicability of the code's provisions including penalties and injunctions for non-compliance.

The Water Pollution Control Act, Chapter III of Title LXI, declares a policy relative to the prevention, abatement and control of water pollution. The Act contains provisions establishing the authority of GEPA with regard to enforcing water quality standards. It also establishes water quality standards, inspection requirements, emergency procedures, enforcement provisions and penalties for non-compliance. A significant feature in the Act is the recognition of a groundwater protection zone.

Chapter IV of Title LXI is the Toilet Facilities and Sewage Disposal Act which establishes requirements for toilet and sewage facilities in all buildings. Approved types of facilities are

identified, as are standards for construction and maintenance of the facilities. The Act also contains provisions relative to connection of private homes to public sewer systems.

The Zoning Law and the Subdivision Law are Titles XVIII and XIX of the code, respectively. They relate to land use and land development procedures and requirements and are of importance to the Groundwater Management Program because of the need to control land uses, particularly lands using on-site wastewater disposal facilities within the groundwater protection zone.

In the following sections, the existing provisions of each act or law are presented along with proposed modifications. Existing provisions which are to be replaced or deleted are shown within a dashed line format. New provisions or proposed replacements are underlined. This format lends itself to discussion of the proposed changes or additions and sheds light on the impact of the changes upon the existing laws.

Proposed Amendments to Chapter II, Water Resources Conservation
Act, Title LXI of the Government Code of Guam

CHAPTER II

Water Resources Conservation Act

- § 57020. Declaration of policy.
- § 57021. Definitions.
- § 57022. Well driller's license.
- § 57023. Well drilling permits.
- § 57024. Well operating permits.
- § 57025. Completion report of well.
- § 57026. Wasteful use prohibited.
- § 57027. Right of inspection.
- § 57028. Meters to be installed, access to wells.
- § 57029. Sealing of wells.
- § 57030. Application of Chapter.
- § 57031. Penalties.
- § 57032. Injunctions.
- § 57033. Fees.
- § 57034. Cooperation with the United States of America.

§ 57020. **Declaration of Policy.** It is hereby declared to be the policy of the government of Guam, in recognition of its duty to conserve and control its water resources for the benefit of the inhabitants of Guam, that ~~comprehensive planning and regulation be undertaken for the protection, conservation and development of the water resources of Guam to the end that they shall not be wasted, and shall be used to the fullest extent to meet the present and future needs for domestic, agricultural, commercial, industrial, recreational and other public beneficial purposes~~ all of the water resources of Guam are the property of the people of Guam, that the general welfare requires that said water resources be put to beneficial use to the fullest extent of which they are capable, that the waste or unreasonable use or unreasonable method of diversion or extraction of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people of Guam and for the public welfare. It is further declared that an emergency condition exists with respect to the availability of surface and underground water on Guam and that restrictions are necessary to prevent overpumping of water from wells, the depletion of surface and underground water, the intrusion of salt water, sewage and other ~~contaminates~~ contaminants and the resultant permanent destruction of the utility of underground water reservoirs and sources of potable water supply. The right to water or the use of water from any surface or underground supply shall not exceed that which is reasonably required to meet the needs of public and private lands of Guam, consistent with the purposes for which such lands are or may be adaptable, subject only to reasonable laws and regulations as may be provided herein or hereinafter to preserve and protect the integrity of

such underground water supplies. It is therefore further declared that the people of Guam have a primary interest in the location, construction, maintenance, operation, modification, abandonment and destruction of water wells by virtue of the impact of such activities on the quality, purity and integrity of underground waters.

§ 57021. **Definitions.** (a) 'Person' means any individual, firm, partnership, association or corporation, both public and private, including the agencies of the Government of Guam and of the United States of America.

(b) 'Water' shall be construed to include ponds, springs, wells and streams and all other bodies of surface or underground water, natural or artificial, inland or coastal, fresh or salt, public or private.

(c) 'Well' shall be construed to mean any hole drilled, dug, or bored at any angle, either cased or uncased, with a depth exceeding twenty (20) feet for the purpose of obtaining water or knowledge of water-bearing formation or for the disposal of surface water drainage or waste materials. This definition shall not include wells used for the purpose of (1) dewatering embankments during construction, or (2) stabilizing hillsides or earth embankments.

(d) 'Beneficial use of water' shall include the use of water reasonably required for domestic, agricultural, commercial, industrial, recreational and other purposes on both public and private lands. The use of water for domestic purposes is defined as the highest beneficial use of water and the next highest use is for agriculture.

§ 57022. **Well driller's license.** (a) No person shall engage in the business of well drilling on Guam without first obtaining a license from the Administrator as hereinafter provided. Such licenses are required not only of those who make a regular business of well drilling, but all who may put down construct wells for their own purposes or for others as an incident to any line of business activity. Licenses are not required for strictly private operations when a property owner by his own labor puts down a well on his own property to supply his own dwelling or the needs of his animals or crops; provided, however, that the permit prescribed by Section 57023 of this Chapter shall be required for any such wells.

(b) An application for a license shall be made on a form prescribed and furnished by the Administrator providing such information as the Administrator deems necessary for the purpose of the issuance of licenses. The number of the license must be displayed on the well-drilling machinery of the licensee. The fee for such license shall be twenty five dollars (25.00) annually based on a schedule (which may be amended from time to time) promulgated by the Administrator pursuant to this authority, and the license shall be valid for a period of two (2) years. No person may be issued such a license who does not satisfy the Administrator that he is competent and able to drill wells in Guam.

§ 57023. **Well drilling permits.** (a) No well may be drilled unless the owner of the land on which the well is to be drilled shall, before the commencement of drilling, have obtained a permit therefor and filed a preliminary report with the Administrator.

(b) The fee for such permit shall be ~~five dollars (\$5.00)~~ based on a schedule (which may be amended from time to time) promulgated by the Administrator.

(c) The preliminary report shall be submitted on forms furnished and prescribed by the Administrator and shall contain the following such information and any other information which the Administrator may deem necessary, require.

- (1) Name and address of applicant
- (2) Location of proposed well
- (3) Sketch of location of proposed well
- (4) Purpose of well
- (5) List of existing wells on property
- (6) Name of driller
- (7) Type of pump
- (8) Proposed depth of well
- (9) Estimated amount of water for daily use.

(d) As a condition of the permit the Administrator ~~may~~ shall require the applicant to furnish one or more water samples ~~upon his request~~ for subsequent analysis by the Administrator. The cost of such analysis or analyses shall be included in the well drilling permit fee.

(e) No well drilling permit may be issued without the written endorsement of the Department of Public Health and Social Services, each application therefor to be referred to said Department.

§ 57024. **Well operating permits.** (a) Within sixty (60) days of the initial promulgation of specific regulations relating to well operating permits pursuant to Section 57005, or, in the case of new wells, within ~~thirty (30)~~ ninety (90) days from the date of filing of the completed report prescribed by Section 57025, the owner of every well shall obtain an operation permit therefor.

(b) The fee for such a permit shall be ~~five dollars (\$5.00)~~ based on a schedule (which may be amended from time to time) promulgated by the Administrator pursuant to this authority, and the permit shall be valid for a period of five (5) years.

(c) Each well operating permit shall state the maximum amount of water that may be withdrawn from the well per month, such amount to be determined by the Administrator on the basis of the use of ~~which~~ the water is to be put and such other factors as he may deem relevant to the public interest in the beneficial utilization and conservation of natural water resources. The determination of the Administrator shall be subject to review as provided in Section 57031 of this Chapter.

(d) Each well operating permit, before issuance, must bear written endorsement of the Department of Public Health and Services.

(d) The holder of every well operating permit shall file on or before January 15, annual reports on forms to be provided by, and containing such information as, the Administrator may require including, but not limited to, the amount of water extracted each month of the preceeding twelve (12) month period.

§ 57025. Completion of well. (a) Within ~~thirty~~ ⁽³⁰⁾ ninety (90) days after the completion or the termination for any reason of the drilling of any well whether or not any water is found, a report shall be filed by the driller on forms furnished and prescribed by the Administrator, indicating mean sea level (MSL) elevation of a permanent benchmark placed adjacent to the well, the MSL elevation of the ground surface at the well, the log of the well, indicating rock materials encountered, with their depth below ground surface, location of water bearing beds, yields and water levels in each, a description of the casing, and screens used, pumping tests conducted, the size and depth of the well, the capacity of the pump or pumps attached or to be attached thereto and such other information pertaining to the withdrawal of water and the operation of such well as the Administrator may deem necessary require. The drillers shall at the request of the Administrator also furnish samples of the materials encountered in the drilling of the well, which shall be taken at intervals of five (5) feet, or at every change of formation.

(b) Information to be provided under this section shall be obtained under the direction of, and shall be certified by a professional geologist or engineering geologist possessing a minimum of a baccalaureate degree in geology or engineering geology from a college or university accredited by the Engineer's Council of Professional Development or as approved by the Administrator.

§ 57026. Wasteful use prohibited. No owner of a well, whether a pumping well or a flowing well, shall discharge from the well or permit the discharge from the well of water that is allowed to run to waste and not put to ~~useful~~ ^{service} beneficial use except in connection with pumping tests. All pump tests shall be conducted in accordance with the requirements of the Administrator.

§ 57027. Right of inspection. The Administrator or his authorized representative shall have the power at reasonable hours to make such inspections of each well and take such samples as may be necessary for proper and effective supervision of the construction, repair, maintenance, and operation of wells and to read the meter attached to each well.

§ 57028. Meters to be installed, access to wells. (a) The Administrator shall install meters to all wells wherever necessary Prior to the issuance of an operating permit, an individual water meter, capable of measuring flow rate and total production, shall be installed at the well for the purpose of recording the amount of water drawn from the wells.

(b) Water meters shall be maintained in satisfactory operating condition. At no time shall a well be operated without a

water meter for more than a consecutive five (5) day period. Each well shall have an opening of not less than three quarters ($\frac{3}{4}$) inch in diameter for the measurement of water levels in the well by means of a wetted steel tape. For sanitary purposes this opening shall be sealed by means of a plug when not in use. The well shall be so constructed that this opening shall be readily accessible.

(c) Each well shall have an opening for measurement of water levels in the well. The construction and sealing of the opening shall be as prescribed by the Administrator.

§ 57029. **Sealing of wells.** For the purpose of preventing the contamination of fresh water aquifers the owner of a well, upon abandoning a well or encountering highly mineralized water in any existing or new well or test hole, shall immediately notify the Administrator and shall effectively seal such well or test hole under the supervision of and to the satisfaction of the Administrator in accordance with the requirements prescribed by the Administrator.

§ 57030. **Application of Chapter.** Except as otherwise provided, the provisions of this Chapter shall apply to the construction, maintenance, and repair of all new wells commenced constructed after the effective date of this Act and to all maintenance, repair, and enlargement work on old wells, which is of such nature or magnitude as to require the use of well-drilling machinery; provided, however, that a permit shall not be necessary to clean a well or to pull and repair a pump.

§ 57031. **Penalties.** Any person who violates any of the provisions of this Chapter or of the rules and regulations promulgated pursuant thereto shall be fined not more than five hundred dollars (\$500.00) or imprisoned for not more than six (6) months, or both. In addition, the Administrator shall, regardless of the criminal provisions of this section, have the power to withhold, modify, amend, revoke, or suspend any license or permit authorized or issued under this Chapter, such power to be exercised only pursuant to the provisions of the Administrative Adjudication Law, which law is herewith specifically made applicable to this Chapter.

§ 57032. **Injunctions.** (a) In case of noncompliance with the provisions of this Chapter or with the terms and conditions of any license or permit issued hereunder, the Administrator in addition to or in lieu of proceeding under Section 57031 may notify the Attorney General of such noncompliance. The Attorney General, upon receipt of such notification, may institute an appropriate action or proceeding at law or in equity to restrain, correct, or remove such noncompliance.

(b) For all cases of noncompliance referred to the Attorney General by the Administrator, quarterly reports shall be prepared by the Attorney General and submitted to the Administrator summarizing the status of actions taken to restrain, correct, or remove such noncompliance.

§ 57033. Fees. All fees and charges under this Chapter shall be deposited in the Public Utility Agency of Guam Fund, a special fund to be supervised by the Administrator, in accordance with the accountability requirements of the Department of Revenue and Taxation, for the exclusive purpose of financing the costs of administering the management of Guam's groundwater resources. The authorized uses of such funds shall include, but will not necessarily be limited to: (1) costs of administering well drilling, operation and abandonment permits, (2) costs of collection of annual groundwater and other related hydrologic data required to monitor performance of groundwater management programs, (3) costs of compilation and publication of an annual report on results of monitoring program, (4) allocated costs of overall administration of groundwater management program, including provision of services to the Technical Advisory Committee specified under § 57034.

§ 57034. Cooperation with United States of America. The Administrator is hereby authorized and directed to enter into agreements with agencies of the United States of America, including, but not limited to, the Departments of Navy and Air Force of the Department of Defense, the Office of Territorial Affairs and the Geological Survey of the Department of the Interior, the Environmental Protection Agency, for the purposes of implementing the provisions of this Chapter. Said agreements shall be structured in such a manner as to facilitate the rapid exchange of information and advice between the various federal and territorial agencies having a vital interest in the preservation and protection of Guam's groundwater resources. The Administrator is further authorized and directed to appoint a Technical Advisory Committee comprising representatives of the foregoing agencies and from the Guam Environmental Protection Agency, the Public Utility Agency of Guam, the University of Guam, the Bureau of Planning, and such other representatives as he may desire to provide advice to the Administrator concerning the monitoring of the groundwater management program and as to necessary changes in the management program as may be indicated by the annual reports to be prepared thereon by the Administrator. The Technical Advisory Committee shall meet at least semi-annually and a record of its proceedings shall be maintained by the Administrator and promulgated to the members of the committee. Members of the committee shall serve at the pleasure of the appropriate officer of their parent organization.

Proposed Amendments to Chapter III, Water Pollution Control,
Title LXI of the Government Code of Guam

CHAPTER III

Water Pollution Control

- § 57040. Act.
- § 57041. Statement of policy.
- § 57042. Definitions.
- § 57043. Powers and duties of the Agency.
- § 57044. Powers and duties of the Administrator.
- § 57045. Pollution unlawful: permits.
- § 57046. Inspection and entry.
- § 57047. Classification and standards.
- § 57048. Designation of groundwater protection zone.
- § 57049. Enforcement.
- § 57050. Emergency procedure.
- § 57051. Penalties.
- § 57052. Assistance by governmental agencies.

§ 57040. **Act.** This Act shall be known as the "Water Pollution Control Act."

§ 57041. **Statement of policy.** Whereas, a comprehensive program of water resource development for municipal and industrial water supply, irrigation, fish and wildlife conservation, and recreation is now in progress, and whereas, pollution of the waters of this territory may be detrimental constitute a menace to public health and welfare, and may adversely affect livestock, wildlife, fish and aquatic life, and may progressively obstruct agricultural, industrial, recreational and other legitimate beneficial uses of water, it is hereby declared to be the public policy of this territory the Government of Guam to conserve its water resources and to protect, maintain, and improve the quality and potability thereof for public water supplies, for the propagation of wildlife, fish and aquatic life, and for agricultural, industrial, recreational and other legitimate beneficial uses, to provide a comprehensive program in the public interest for the prevention, abatement and control of new or existing water pollution, to provide effective means for the carrying out and enforcement of such program, and to provide for cooperation with agencies of the Federal Government in carrying out these objectives United States of America for the purpose of implementing the provisions of this Chapter.

§ 57042. **Definitions.** For the purpose of this Act, the following words and phrases shall have the meanings ascribed to them in this Section:

(a) 'Sewage' means the water-carried waste products from the residences, public buildings, institutions or other buildings, including the excrementitious or other discharge from the bodies of human beings or animals, together with such ground water infiltration and surface water as may be present.

(e) To issue, continue in effect, revoke, modify or deny permits to any person for the collection and discharge of sewage and industrial and other wastes under such conditions as the Agency may prescribe;

(f) To advise, consult and cooperate with other agencies of the ~~Territory~~ Government of Guam; with the Federal Government and with affected groups, political subdivisions and industries, in the formulation of such comprehensive program;

(g) To collect and disseminate information relating to water pollution and the prevention, control and abatement thereof;

(h) To conduct as the Administrator deems necessary, studies, investigations, research and demonstrations relating to water pollution and the causes, prevention, control and abatement thereof.

§ 57045. **Pollution unlawful: permits.** (a) It shall be unlawful for any person to cause the pollution, as defined herein, of any waters of the territory.

(b) It shall be unlawful for any person to construct, install or operate a new sewerage sewage conveyance system, disposal system or treatment works, extensions, modifications, or additions to new and existing sewerage sewage conveyance systems, disposal systems, or treatment works, extensions, modifications or additions to factories, manufacturing establishments or business enterprises, the operation of which ~~would~~ could cause a substantial increase in waste discharges to the waters of the territory or otherwise substantially alter the physical, chemical or biological properties of the waters of the territory to make or cause to be made any new outlet for the discharge of sewage, industrial waste or other wastes into any sewerage sewage conveyance system or into the waters of this territory without first securing such permit as the Administrator may require, including the submission of plans and specifications and such other information as he deems relevant in connection with the issuance of such permits.

(c) No permit shall be issued under this section for any use in violation of Water Quality Standards adopted under this Act.

§ 57046. **Inspection and entry.** The Administrator or his duly authorized representative shall have the power to enter at reasonable times upon any private or public property for the purpose of inspecting and investigating conditions relating to pollution of any waters of the territory.

§ 57047. **Classification and standards.** In order to effectuate a comprehensive program for the prevention, abatement and control of pollution in the waters of the territory, the Agency is authorized to group such waters into classes in accordance with their present and future most beneficial uses; such classification or standards may from time to time be altered or modified. Standards of quality and purity for each such classification shall be adopted in relation to the most beneficial use and benefit to which the waters are or may in the future be put; such standards may from time to time be altered or modified.

Before streams are classified or standards established or before such standards are modified or repealed, public hearings by the Agency shall be held in connection therewith. Notice of public hearing for the consideration, adoption or amendment of the classification of waters and the standards of purity and quality thereof shall specify the water concerning which a classification is sought to be made or for which standards are sought to be adopted and the time, date and place of such hearing. Such notice is to be published at least once a week for two (2) consecutive weeks in a newspaper of general circulation and in addition shall be mailed to such other persons as the Agency has reason to believe may be directly affected by such classifications and the settings of such standards.

§ 57048. Designation of Groundwater Protection Zone:

(a) In order to implement measures to protect and preserve the integrity of underground water resources, the Agency shall prepare a groundwater protection zone map which defines those land areas which overlie existing and future groundwater development sites or provide recharge waters thereto. The groundwater protection zone map may from time to time be altered or modified based on new information including but not limited to, subsurface geological investigations, water quality analyses, climatological records, water level measurements, and hydrogeological studies and analyses. The Department of Land Management shall prepare a metes and bounds description of the land area designated by the Administrator.

(b) Before adoption of the groundwater protection zone map by the Agency or before said map is altered or modified, public hearings by the Agency shall be held in connection therewith. Notice of public hearings for the consideration, adoption or modification to the groundwater protection zone map shall indicate the time, date and place for such hearing and shall be published at least once a week for two (2) consecutive weeks in a newspaper of general circulation.

§ 57048 57049. Enforcement. (a) Whenever the Agency has reason to believe that a violation of any provision of this Act, or rule or regulation pursuant thereto, has occurred, it may cause written notice to be served upon the alleged violator or violators. The notice shall specify the provision of this Act or rule or regulation alleged to be violated, and the facts alleged to constitute a violation thereof, and may include an order that necessary corrective action be taken within a specified time. Any such order shall become final unless, no later than ten (10) days after the date the notice and order are served, the person or persons named therein request in writing a hearing before the Agency. Upon such a request, the Agency shall hold a hearing. In lieu of an order, the Agency may require that the alleged violator or violators appear before the Agency for a hearing at a time and place specified in the notice and answer the charges complained of, or the Agency may initiate action pursuant to Section ~~57050~~ 57051 of this Act.

(b) If, after a hearing held pursuant to subsection (a) of this section, the Agency finds that a violation or violations have occurred, it shall affirm or modify the order previously issued or issue an appropriate order or orders for the prevention, abatement, or control of the pollutions involved or for the taking of such other corrective action as may be appropriate. If, after hearing on an order contained in a notice, the Agency finds that no violation has occurred or is occurring, it shall rescind the order. Any other issued as part of a notice or after hearing may prescribe the date or dates by which the violation or violations shall cease and may prescribe timetables for necessary action in preventing, abating or controlling the pollution.

(c) No later than ten (10) days after the issuance of the final order of the Agency, an appeal to the ~~Island~~ Superior Court of Guam may be made against any decision of the Agency by any person who is or may be adversely affected thereby.

(d) Nothing in this Act shall prevent the Agency from making efforts to obtain voluntary compliance through warning, conference or any other appropriate means.

(e) In connection with any hearing held pursuant to this Section, the Agency, or its designate, shall have power to administer oaths, examine witnesses, and issue notices of hearings and subpoenas requiring the testimony of witnesses and the production of evidence relevant to matter involved in the hearing.

§ 57049 57050. Emergency procedure. (a) Any other provisions of law to the contrary notwithstanding, if the Administrator finds that a generalized condition of pollution exists, and that it creates an emergency requiring immediate action to protect the intended uses of the water as designated in the Standards of Water Quality for Waters of the Territory of Guam, or to protect human health or safety, the Administrator, with the concurrence of the Governor, shall order persons causing or contributing to the pollution to reduce or discontinue immediately the pollutants, and such order shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the Agency. Not more than twenty-four (24) hours after the commencement of such hearing, and without adjournment thereof, the Agency shall affirm, modify or set aside the order of the Administrator.

(b) In the absence of a generalized condition of pollution of the type referred to in subsection (a), but if the Administrator finds that pollutants from the operation of one or more polluting sources is causing imminent danger to the intended uses of the water as designated in the Standards of Water Quality for Waters of the Territory of Guam or is causing imminent danger to human health or safety, he may order the person or persons responsible for the operation or operations in question to reduce or discontinue pollutants immediately, without regard to the provision of subsection (a) of ~~Section 57048~~ Section 57049 of this Act. In such event, the requirements for hearing and affirmance, modification or setting aside of orders set forth in subsection (a) of ~~Section 57049~~ Section 57050 shall apply.

§ 57050 57051. **Penalties.** (a) Any person who violates any provision of this Act, or any rule or regulation in force pursuant thereto, shall be guilty of misdemeanor and subject on account thereof to a fine of not to exceed one thousand dollars (\$1,000.00). Each day of violation shall constitute a separate offense.

(b) Action pursuant to subsection (a) of this section shall not be a bar to enforcement of this Act, rules and regulations in force pursuant thereto, and orders made pursuant to this Act, by injunction or other appropriate remedy, and the Agency shall have power to institute and maintain in the name of this territory any and all such enforcement proceedings. Such proceedings shall be conducted in and by the ~~Island~~ Superior Court of Guam.

(c) Nothing in this Act shall be construed to abridge, limit, impair, create, enlarge or otherwise affect substantively or procedurally the right of any person to damages or other relief on account of injury to persons or property and to maintain any action or other appropriate proceeding therefor.

§ 57051 57052. **Assistance by governmental agencies.** The services and facilities of departments, agencies and instrumentalities of the government of Guam may be made available to the Agency in the exercise of its functions to the extent allowed by law.

Proposed Amendments of Chapter IV, Toilet Facilities
and Sewage Disposal, Title LXI of the Government Code
of Guam, 1974 Supplement

Chapter IV

Toilet Facilities and Sewage Disposal

- § 57060. Definitions.
- § 57061. Toilet and sewage facilities required.
- § 57062. Maintenance: responsibility.
- § 57063. Types of toilet and sewage facilities.
- § 57064. Approval of Director required.
- § 57065. Location.
- § 57066. Standards.
- § 57067. Lining required.
- § 57068. Inspection before covering.
- § 57069. Additional standards for privies.
- § 57070. ~~Cesspools and septic~~ Septic tanks to be emptied and cleaned.
- § 57071. Disposition of excreta.
- § 57072. Ordering of replacement, repair, etc.: procedure.
- § 57073. Sewer connection for underprivileged.
- § 57074. Definitions.
- § 57075. Installation of connecting lines to public sewers.
- § 57076. Installation of Type 2 facilities.
- § 57077. Notice to homeowners.
- § 57078. Application of homeowners.
- § 57079. Installation of connecting lines.
- § 57080. Installation of Type 2 toilet facilities.
- § 57081. Fund.
- § 57082. Repayment of installments.
- § 57083. Installment contracts.
- § 57084. Powers.

§ 57060. **Definitions.** (a) "Cesspool" means an excavation which receives or is intended to receive ~~raw~~ untreated liquid sewage and from which liquid seeps or leaches into the surrounding porous soil.

(b) "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.

(c) "Seepage pit" means a covered pit with open-jointed lining through which septic tank effluent or lavatory, kitchen, or laundry wastes may seep or leach into the surrounding porous soil.

(d) (c) "Septic tank" means a water-tight receptacle which receives the discharge of a sewage system or part thereof, untreated sewage designed and constructed so as to retain solids, digest organic matter through a period of detention, and allows the liquids to discharge into the subsoil outside of the tank through a buried system of open-joint piping or seepage pit. "Septic tank system" means a septic tank as herein defined to-

gether with the buried system of open-joint piping or seepage pit; an exterior leaching system.

~~(e)~~ (d) "Sewage" includes untreated or insufficiently treated human excreta, food wastes disposed of through sewers, wash water, liquid wastes from residences, commercial buildings, public buildings and industrial establishments and such diluting water as may have entered the waste disposal system.

(e) "Leaching system" means a subsurface system of open-joint or perforated piping where septic tank effluent may seep or leach into the surrounding porous soil.

§ 57061. **Toilet and sewage facilities required.** No building shall be occupied or used as a dwelling, school, public building, commercial building, industrial building or place of assembly without toilet and sewage facilities of a type required by this Chapter for the disposition of human excreta and other domestic wastes.

§ 57062. **Maintenance: responsibility.** Toilet and sewage facilities shall be maintained at all times in good repair and in a clean and sanitary condition. The owner of a property is primarily responsible for the structural integrity, good repair and maintenance of toilet and sewage facilities in conformity with the provisions of this Chapter. He is responsible for the replacement of broken or worn-out equipment or parts, and the cleaning of obstructed or broken pipes or drains. The leasee, occupant, or person in possession of property is responsible for keeping such facilities in a clean and sanitary condition.

§ 57063. **Types of toilet and sewage facilities.** (a) The following types of toilet facilities are ~~required~~ permitted under the terms and conditions as hereinafter provided:

Type 1: Toilets flushed with water and connected with a public sewer.

Type 2: Toilets flushed with water and connected with a septic tank ~~or cesspool or combination of both~~ and leaching system.

Type 3: Privy type, including pit privy, trench latrine and bored-hole latrine.

(b) When a public sewer is available, all buildings used for human occupancy, employment or recreation and situated upon lands abutting any road, street, or other way or easement in which a public sewer is located, must have suitable toilet facilities installed and connected to the public sewer, in accordance with the following schedule:

(1) Every such building constructed after the effective date of this act or after a public sewer becomes available, whichever is later, must include such installation and connection in the construction.

(2) Any such building existing at the time a public sewer first becomes available and being served ~~only~~ by either Type 2 or Type 3 facilities must be provided such installation and connection within ~~thirty~~ (30) days six (6) months after the public sewer becomes available~~7~~. provided7 however7 that upon applica-

tion, the Administrator may extend the time to not more than six (6) months but only on the basis of his express finding that such extension of time will not be hazardous to health.

(3) Any such building existing at the time a public sewer first becomes available and being served by Type 2 facilities which are entirely adequate and without defect may continue to be served by such existing facilities for a maximum period of five (5) years upon the following conditions:

a. No repairs, replacements or additions of or to such facilities will be permitted.

b. Whenever any such facility becomes defective or inadequate, connection to the public sewer must be made within thirty (30) days after notice given by the Administrator, who may, however, upon application, extend the time to not more than six (6) months if he finds that the defect or inadequacy is not hazardous to health.

c. Whenever a public sewer becomes available, the Administrator, as soon as possible, shall make or cause to be made an inspection of all Type 2 facilities on lands abutting the road, street, or other way or easement in which such sewer is located and shall promptly notify the persons concerned of his determination of which such facilities may continue to be used as above provided.

(4) The Administrator may inspect or cause to be inspected any toilet facility at any time and shall make or have made suitable inspections with such frequency as may be necessary to assure compliance with this section.

(c) Where water is available from the Public Utility Agency of Guam, but a public sewer is not available, toilet facilities shall be of Type 2, and shall be connected to an approved cesspool, septic tank, or combination of both. This subsection shall apply to all buildings constructed after the effective date of this Act. With respect to buildings in existence on the effective date of this Act, this subsection shall apply to all such buildings, except dwellings, from and after six (6) months after the effective date of this Act, or after water becomes available, whichever is later, and shall apply to dwellings from and after one (1) year after the effective date of this Act, or after water becomes available, whichever is later, except that this subsection shall not apply to any such existing building where the size of the lot or the soil permeability of the lot, as may be determined by the Administrator, is inadequate and unsuitable for the installation and operation of toilet facilities of Type 2.

(d) In all other cases, toilet facilities shall be of Type 2 or Type 3. In no case shall the construction of new cesspools be allowed after the effective date of this act.

§ 57064. **Approval of Administrator required.** No toilet or sewage facilities of single-family residences, subdivisions, apartments, motels, hotels or other multihousing facilities may be constructed without the approval of the Administrator, or put into operation without his inspection and approval. The Administrator may require any or all of the following information before giving such approval:

(1) Plot plan drawn to scale completely dimensioned, showing direction and approximate slope of surface, location of all present or proposed or existing retaining walls, drainage channels, water supply lines or walls, paved areas and structures on the plot and location of the sewage facilities with relation to lot lines and structures.

(2) A description of the complete installation including quality, kind and grade of materials, equipment, construction, workmanship, and methods of assembly and installation.

(3) A log of soil formation and ground water levels as determined by test holes dug, in accordance with the requirements of the Administrator, in close proximity to at the location of the proposed cesspool, seepage pit or disposal field leaching system.

No building permit or certificate of occupancy under the Building Law of Guam shall be issued without prior compliance with this section.

§ 57065. **Location.** No cesspool, septic tank, leaching system, seepage pit, or privy shall be located, constructed, or maintained as to contaminate any potable water supply and, in no case, shall any such cesspool, septic tank, leaching system, seepage pit or privy be located within a horizontal distance of ~~five~~ three hundred (300) feet of any river, creek, pond, reservoir, stream, well, spring, or body of fresh water, or within a horizontal distance of five (5) feet of the boundary line of any lot, or located in a position not easily accessible for emptying or cleaning. No cesspool or septic tank, or leaching system shall be constructed, located, or maintained within a horizontal distance of ten (10) feet and no privy shall be constructed, located, or maintained within a horizontal distance of twenty (20) feet, of any dwelling, school, public building, or a building used for commercial or industrial purposes, or as a place of assembly.

Provided, however, that the limitation with regard to location of any seepage pit, privy, cesspool or septic tank, or leaching system within five (5) feet of the boundary line of any lot shall not apply to any seepage pit, privy, cesspool or, septic tank, or leaching system now so located; and in other cases the Administrator may application grant a variance from the limitation as to location to avoid undue hardship resulting from the size of the lot or the soil permeability.

§ 57066. **Standards.** Every cesspool, seepage pit and privy shall have a substantial and water tight curbing around the top thereof to retain the earth without, and to prevent the seepage of the contents thereof to the surface of the earth. Every cesspool and seepage pit shall be provided with substantial and water tight cover constructed at a depth of one (1) foot below the surface of the surrounding ground to allow for earth covering. Every cesspool, seepage pit and septic tank shall be provided with a manhole not less than twelve (12) inches or more than eighteen (18) inches in diameter or of equal area for inspection and cleaning purposes.

§ 57067. Lining required. Every cesspool or seepage pit, where eaving is possible, shall be lined with concrete building blocks, or stones, or precast concrete rings, or similar material.

§ 57068. 57067. Inspection before covering. No cover shall be placed over any cesspool, seepage pit, septic tank, or privy, until the diameter, depth and other dimensions of such cesspool, seepage pit, septic tank, or privy have been inspected and approved by the Administrator, where such inspection and approval are required by this Chapter.

§ 57069. 57068. Additional standards for privies. Every privy shall be fly-proof and rat-proof, adequately vented, and provided with a suitable shelter. Seats shall have a close-fitting cover. Pits shall be of sufficient depth so that when filled the contents may be covered with a minimum of two (2) feet of earth. During use, fresh deposits of excreta shall be covered with sufficient earth or lime to exclude flies and prevent odors. Pits shall be closed and sealed when the level of excreta reaches within two (2) feet of the earth's surface. A new pit shall be built to replace the old one if other sewage facilities are not available. The Administrator may authorize the proposed location of the new pit and inspect the completed privy prior to use.

§ 57070. 57069. Cesspools and septic tanks to be emptied and cleaned. Cesspools and septic tanks shall be emptied and cleaned when necessary, or when ordered by the Administrator in the interests of public health, and the contents disposed of in such place and manner as shall be authorized by the Administrator.

§ 57071. 57070. Disposition of excreta. Untreated or improperly treated human excreta shall not be deposited into any river, creek, pond, reservoir, stream, well, or spring, or any collection of fresh water, on the surface of the ground, into or upon any public or private sidewalk, path, driveway, alley, street, highway, road, or beach, or any public place.

§ 57072. 57071. Ordering of replacement, repair, etc.: procedure. Any toilet or sewage facilities, sewage disposal system, cesspool, seepage pit, septic tank, leaching system, or privy which fails to comply with the provisions of this Chapter, or which has become dangerous to human life or health, shall be replaced, removed, repaired, altered, cleaned, or emptied by the owner of the premises, as may be ordered by the Administrator, so as to comply with the provisions of this Chapter. If the owner of such premises does not comply within fifteen (15) days after service of written notice of such order, upon the request of the Administrator work shall be done by the Department of Public Works, using appropriations of the Agency. The Director of Public Works shall determine a reasonable charge for such work and such amount shall be entered upon the real estate tax duplicate, shall be a lien upon such real estate from the date of entry, and shall be collected in the same manner as real estate taxes.

§ 57073- 57072. Sewer connection for underprivileged. The Chief Officer of the Public Utility Agency of Guam shall connect or cause to be connected without charge, the island-wide sewer system to the residences of all persons or families certified by the Agency to be 'underprivileged' within the guidelines established by the Director of Public Health and Social Services.

§ 57074- 57073. Definitions. As used in Sections 57074 57073 through ~~57084~~ 57083 inclusive:

- (a) 'Agency' shall mean the Public Utility Agency of Guam;
- (b) 'Fund' shall mean the Public Utility Agency Wastewater Fund;
- (c) 'Homeowners' shall mean persons owning private single family residences in which they reside;
- (d) 'Adjacent homeowners' shall mean homeowners whose residences are adjacent to and abut a road, street or other way or easement on which a sewer is installed.

§ 57075- 57074. Installation of connecting lines to public sewers. The Public Utility Agency of Guam is hereby authorized to install or cause to be installed connection lines to public sewers from the residences of adjacent homeowners and subject to the provisions of this Chapter to charge thereof on an installment basis.

Any such adjacent homeowner who, pursuant to the Section 57063 of the Government Code, is required to connect toilet facilities to said public sewer, may make application to the Agency for installation of said sewer connection and for repayment of the cost thereof on an installment basis as provided herein.

§ 57076- 57075. Installation of Type 2 facilities. The Public Utility Agency of Guam is hereby authorized to install or cause to be installed for homeowners Type 2 toilet facilities and to charge therefor on an installment basis subject to the provisions of this Chapter.

Any homeowner who, pursuant to Sections 57061 and 57063 of the Government Code of Guam, is required to install Type 2 toilet facilities, may make application to the Agency for installation of said toilet facilities and for repayment of the cost thereof on an installment basis as provided herein.

§ 57077- 57076. Notice to homeowners. The Chief Officer of the Agency or his authorized representative shall inform, by written notice, all adjacent homeowners that said homeowner may make application for installation of connecting lines and payment of the cost thereof on an installment basis as provided in this Chapter. This notice shall be given to such homeowners within thirty (30) days from the date the public sewer first becomes available to them and shall contain a form for making application.

Within ninety (90) days from the effective date of this Act the Public Utility Agency of Guam shall give the notice provided herein to all such persons who presently own homes abutting a road, street or other way or easement in which a public sewer is

currently located, and who have not yet connected their toilet facilities to the sewer.

The Chief Officer of the Agency or his authorized representative shall also inform, by publication of a notice at least once each month for a period of six (6) months in a newspaper of general circulation, all homeowners that they may make application for installation and connection of Type 2 toilet facilities and payment of the cost thereof on an installment basis as provided in this Chapter.

§ 57078- 57077. Application of homeowners. The adjacent homeowners desiring to have connecting sewerlines installed by the Public Utility Agency of Guam and to pay therefor on the installment basis shall, within thirty (30) days from receipt of the notice specified in Section ~~57077~~ 57076 file application for connection and installment payment with the Agency upon forms provided by the Agency.

The homeowners desiring to have Type 2 toilet facilities installed and connected by the Public Utility Agency of Guam and to pay therefor on an installment basis shall file applications for installation and connection, and installment payment with the Agency upon forms prescribed by the Agency.

§ 57079- 57078. Installation of connecting lines. The Agency shall install or cause to be installed connections from the residence of each such adjacent homeowner to the public sewer and shall commence such installations as soon as possible in order to comply with the time provisions of Section 57063 of this Chapter. This work may be done by contractors on public bid pursuant to the provisions of Section 10001.6 of the Government Code.

If an adjacent homeowner has made application in accordance with the provisions contained herein and within the time provided in Section ~~57078~~ 57077, the time limitations contained in Section 57063 of this Chapter shall be waived while connection lines are being installed by or under the supervision of the Agency.

§ 57080- 57079. Installation of Type 2 toilet facilities. After the homeowner obtains a permit from the Agency Guam Environmental Protection Agency, the Agency shall install or cause to be installed and connected Type 2 toilet facilities as soon as possible after execution of the installment contract provided for by Section ~~57083~~ 57082 of this Chapter. This work may be done by contractors on public bid pursuant to the provisions of Section 10001.6 of the Government Code.

§ 57081- 57080. Fund. (a) There is hereby established a fund to be known as the 'Public Utility Agency Wastewater Fund', which fund shall be maintained separate and apart from any other funds of the government of Guam, and independent records shall be maintained in connection therewith.

(b) All monies received by the Agency from homeowners in payment of sewer connection line or Type 2 toilet facilities installation charges shall be deposited with the Treasurer of Guam

and credited to the Fund and applied to the account of each homeowner making payment.

(c) All debts, liabilities, obligations, operating expenses, and installation costs and expenses arising from the installation of connecting lines or Type 2 toilet facilities pursuant to the provisions of this Chapter are hereby authorized to be paid from said Fund by the Treasurer of Guam upon vouchers properly certified to by the Certifying Office of the Agency.

(d) The Chief Officer of the Agency shall quarterly render to the Governor a statement reflecting the financial condition of the Fund.

~~§ 57082.~~ 57081. **Repayment of installments.** The cost of the installation of connection lines to the public sewer and of Type 2 toilet facilities shall be borne by each individual homeowner, and the cost thereof shall be repaid to the Fund on an installment basis, in equal installments over a period not to exceed four (4) years from the date the sewer connection or the toilet facility shall have been completed.

~~§ 57083.~~ 57082. **Installment contract.** The signature of the homeowner, and acceptance by the Public Utility Agency of the application form provided for in Section ~~57078~~ 57077 shall constitute a contract between the homeowner and the government of Guam. The contract shall provide for the monthly amount of installment payments to be made thereunder. Payments shall commence within sixty (60) days from the date of completion of the installation and connection of the connecting line or of the Type 2 toilet facilities.

Such contract shall provide for payment of interest to be at the rate of six percent (6%) per annum on the installment amounts due and payable. Such contract shall further provide that the entire balance shall become immediately due and payable upon default in the payment of any installment of more than sixty (60) days. If during the duration of any installment contract a single family residence is converted into income producing property or a multiple family dwelling, all unpaid installments shall become immediately due and payable. All unpaid installments shall constitute a lien upon the property for which the installation and connection was made. Upon sale of the property by the contracting homeowner, all unpaid installments shall immediately become due and payable, unless the buyer of the property shall, by written agreement with the Public Utility Agency, assume such installment contract.

~~§ 57084.~~ 57083. **Powers.** The ~~Public Utility Agency~~ Guam Environmental Protection Agency shall have the power, duty and responsibility for the operation, administration and enforcement of this chapter, ~~and shall maintain all necessary records.~~ Such power shall include the authority to make rules and regulations necessary to carry out the provisions contained herein, all in accordance with Section 21207 of the Government Code of Guam, ~~and~~ . The Public Utility Agency of Guam shall have the responsibility for operation and administration of carrying out Sections

57074 through 57082 of this Chapter, shall maintain all the necessary records, and shall have the authority to enforce collection of payments to be made by homeowners hereunder. The Public Utility Agency of Guam shall obtain from the Attorney General approval of the general form of installment contract which is to be entered into by homeowners hereunder, and approval of the general form of the assumption agreement to be entered into hereunder by subsequent purchasers.

§ ~~57085~~ 57084. **Expiration of fund.** The Public Utility Agency Wastewater Fund shall expire as of June 30, 1985, after which time, no further advances or grants shall be made. In addition, balances within the Fund at the date shall be returned to the Unappropriated Surplus of the General Fund. Loans outstanding at that date shall be repaid in the manner prescribed by contract, except that payment shall be made to the Treasurer of Guam and deposited in the General Fund account. The Chief Officer of the Public Utility Agency of Guam shall at that time relinquish all records of the Fund to the Director of Administration who shall be responsible for same and collection of loans outstanding.

Proposed Amendments to Chapters I and V of the Zoning Law,
Title XVIII of the Government of Guam

CHAPTER I

General Provisions

- § 17000. Title.
- § 17001. Purpose.
- § 17002. Definitions.
- § 17003. Interpretation.

§ 17000. **Title.** This Title shall be known as "The Zoning Law of the Territory of Guam."

§ 17001. **Purpose.** The purpose of this Title is to establish certain minimum regulations for the protection and promotion of the public health, safety and general welfare of the people of the Territory of Guam, which regulations are deemed necessary in order to encourage the most appropriate use of land, to provide adequate open spaces about buildings for light and air, to prevent undue concentration of population, and to assure adequate provisions for community utilities and facilities such as water, schools, parks and other public requirements.

§ 17002. **Definitions.** For the purpose of this Title, certain terms are defined as follows:

"Accessory Building." A detached subordinate building located on the same lot with a main building, the use of which is customarily secondary to that of the main building or to the use of the land.

"Apartment House." Same as "dwelling, multiple."

"Automobile Parking Area, Private." An open area, located on the same lot with a dwelling or hotel, for parking automobiles of the occupants of such buildings.

"Automobile Parking Area, Public." An open area, other than a street or private automobile parking area, designed to be used for the parking of two or more automobiles.

"Building." Any structure built for the support, shelter or enclosure of persons, animals, chattels, or property of any kind.

"Building Height." The vertical distance measured from the average level of the highest and lowest point of that portion of the lot covered by the building to a point midway between the highest and lowest point of the roof.

"Cluster Development." Placement of residential units in close association to each other in order to consolidate required lot area into usable open space for the benefit of those living in such residential units.

"Commission." Shall mean the "Territorial Planning Commission of Guam."

"Dwelling." A building or portion thereof designed exclusively for residential occupancy, including one-family, two-family and multiple dwellings, but not including hotels.

"Dwelling Unit." One or more rooms and a single kitchen in a dwelling, designed as a unit for occupancy by one family for living and sleeping purposes.

"Dwelling, One-Family." A detached building containing only one dwelling unit.

"Dwelling, Two-Family." A detached building containing two dwelling units.

"Dwelling, Multiple." A building containing three or more dwelling units.

"Family." An individual, or two or more persons related by blood or marriage, or a group of not more than five persons who need not be related by blood or marriage living together as a single housekeeping unit.

"Groundwater Protection Zone." An area of land which overlays existing and future groundwater development sites as defined by the Guam Environmental Protection Agency pursuant to § 57048, Title LXI, Government Code of Guam.

"Home Occupation." An occupation, carried on by occupants of a dwelling as a secondary use of such dwelling, in connection with which there is no display, no stock in trade nor commodity sold on the premises, and no other person employed.

"Hotel." A building containing six or more rooms intended or designed to be used, or which are used, rented, or hired out to be occupied, or which are occupied for sleeping purposes.

"Junk Yard." An open area where waste, scrap metal, paper, rags, or similar materials are bought, sold, exchanged, stored, baled, packed, disassembled or handled, including the dismantling or storing of wrecked automobiles or other vehicles, and buildings. The terms "dismantling" or "storing" do not include the action of a licensed automobile repairer or garage owner in stripping an automobile or other vehicle of its usable parts as long as such action is accomplished within ten (10) days of the arrival of the motor vehicle being stripped on the premises of the garage or automobile repair business.

"Lot." A parcel of land occupied or to be occupied by a use or building, and accessory buildings and uses, together with such yards, open spaces and lot area as are required by this Title, and having frontage on a street.

"Lot Line, front." The line separating the lot from the street. For the purposes of yard requirements, a corner lot has two front yards and no rear yard. Within a panhandle lot, the front lot line begins at the interior end of the panhandle.

"Lot Line, rear." The lot line which is opposite and most distant from the front lot line.

"Lot Line, side." Any lot line not a front lot line or a rear lot line.

"Lot Depth." The horizontal distance between the front and rear lot lines, measured in the mean direction of the side lot lines.

"Lot Width." The horizontal distance between the side lot lines, measured at right angles to the lot depth at a point midway between the front and rear lot lines.

"Lot Area." The total horizontal area within the lot lines of a lot.

"Nonconforming Building." A building or structure which does not conform to the regulations of this Title and which lawfully existed at the time the regulations, with which it does not conform, became effective.

"Nonconforming Use." A use of a building or land which does not conform to the regulations of this Title and which lawfully existed at the time the regulations, with which it does not conform, became effective.

"Planned Unit Development District." A substantial area in which development follows an approved plan integrating a combination of uses in an appropriate and unified manner.

"Story." That portion of a building between the surface of any floor and the surface of the floor or ceiling next above it.

"Structure." Anything constructed or erected which requires location on the ground or attached to something having a location on the ground.

"Use." The purpose of which land or a building is arranged, designed or intended or for which either land or a building is or may be occupied or maintained.

"Yard." An open space on a lot, unoccupied and unobstructed from the ground upward, except as otherwise provided in this Title.

"Yard, front." A yard adjoining the front lot line and extending across the full width of the lot, the depth of which is the minimum horizontal distance between the front lot line and a line parallel thereto on the lot.

"Yard, rear." A yard extending across the full width of the lot between the most rear main building and the rear lot line. The depth of the required rear yard shall be measured horizontally from the nearest part of a main building toward the nearest point of the rear lot line.

"Yard, side." A yard between a main building and the side lot line, extending from the front yard or front lot line where no front yard is required to the rear yard. The width of the required side yard shall be measured horizontally from the nearest point of the side lot line toward the nearest part of the main building.

§ 17003. **Interpretation.** In interpreting and applying the provisions of this Title, they shall be held to be the minimum requirements for the protection and promotion of the public health, safety and general welfare, and shall be liberally construed in furtherance of these objectives.

CHAPTER V

Yard and Area Regulations

- § 17200. Minimum yards and lot areas established.
- § 17201. General yard and area requirements.
- § 17202. Exceptions to yard and area regulations.
- § 17203. Statements of purpose: building and building height restrictions in beach areas.

§ 17200. **Minimum yards and lot areas established.** No building or structure shall be erected or maintained, nor shall any existing building or structure be altered, enlarged, moved or maintained, on any lot, unless a front yard, a rear yard, and two (2) side yards are provided and maintained on such lot. The depth of such front and rear yards and the width of such side yards shall not be less than the depth and width specified in the following "Yards and Lot Area" table. Further, no lot width or lot area, nor any lot area per dwelling shall be less than that specified in said table. A commercial building to occupy the whole width of a lot must be of four-hour fire-resistive construction. If party walls are to be erected, the written consent of the owners of adjacent lots must be obtained as a prerequisite for the issuance of a building permit to start construction. If the building to be erected is not of fireproof construction, side yards of eight (8) feet wide must be provided. In the Rural (A) Zone all structures shall have front and rear yards of twenty-five (25) feet and side yards of fifteen (15) feet; the width of each lot shall be one hundred (100) feet with an area of not less than twenty thousand (20,000) square feet. The lot area per dwelling unit in the Rural Zone (A) shall be not less than ten thousand (10,000) square feet. For lots within the groundwater protection zone, not connected to a public sewer, regardless of applied zoning district, the lot area per dwelling unit, or equivalent thereof, shall be not less than forty thousand (40,000) square feet.

YARD AND LOT AREA

Use	Front Yard Depth	Rear Yard Depth	Side Yard Depth	Lot Width	Lot Area	Lot Area per Dwelling Unit
Single Family	15 ft.	10 ft.	8 ft.	50 ft.	5,000 sq. ft.	5,000 sq. ft.
Multi-Family	15 ft.	10 ft.	8 ft.	50 ft.	5,000 sq. ft.	1,250 sq. ft.
Commercial	. . .	20 ft.	. . .	20 ft.	2,000 sq. ft.	400 sq. ft.
Light Indus.	. . .	20 ft.	8 ft.	50 ft.	5,000 sq. ft.	1,250 sq. ft.
Heavy Indus.	25 ft.	25 ft.	15 ft.	120 ft.	40,000 sq. ft.

Unless facilities are otherwise provided for loading, the rear yard must be not less than twenty(20) feet in depth.

§ 17201. General yard and area requirements. (a) No required yard or other open space provided about any building or structures for the purpose of complying with the provisions of this Title, shall be considered as providing a yard or open space for any other building or structure.

(b) No lot or parcel of land under separate ownership at the time this law became effective shall be separated in ownership or reduced in size below minimum lot width or lot area set forth in the "Yards and Lot Area" table.

(c) Where a lot in the "R1" zone has an area of ten thousand (10,000) square feet or more, a one family dwelling may be erected and maintained on each five thousand (5,000) square feet thereof, if front, side and rear yards of the depth and width specified in the "Yards and Lot Area" table are provided and maintained for each such dwelling, except for lots within the groundwater protection zone not connected to a public sewer.

(d) In the "C" and "M1" zones, every building hereafter erected on a lot which abuts a primary or secondary highway, as shown on a highway plan adopted by the Commission or Legislature, shall provide and maintain a front or side yard having a depth or width, as the case may be, of not less than that required to conform to the line of such highway.

(e) A hotel or motel, while considered a multi-family use, requires a minimum of four hundred (400) square feet of lot area per living unit in a commercial zone.

(f) A cluster development may have a reduction of yards and lot width upon approval by the Commission.

(g) Every building hereafter created on a lot which abuts a primary or secondary highway as shown on a highway plan adopted by the Commission or Legislature, shall provide and maintain a front yard having a depth of not less than that required to conform to the line of such highway.

§ 17202. Exceptions to yard and area regulations. (a) No front yard need be provided on a lot in a hillside area where the topography of the lot is such as to make it unreasonable or impractical to locate a building on the lot and provide a front yard.

(b) No side yard need be provided for a dwelling or hotel erected above the ground floor of a building, where the ground floor is designed for commercial or industrial purposes.

(c) Cornices, eaves, belt courses, sills, canopies or other similar architectural features, may project into a required side yard not more than two (2) inches for each one (1) foot of width of such side yard and may project into any other required yard space not more than thirty (30) inches.

(d) Open, unenclosed stairways or balconies, not covered by a roof or canopy, may project into a required rear yard not more than four (4) feet, and such balconies may project into a required front yard not more than six (6) feet.

(e) Open, unenclosed porches, platforms, places not covered by a roof or canopy, or landings, which do not extend above the level of the first floor of the building, may project into any required front, side or rear yard, not more than six (6) feet.

(f) A fence, lattice work screen, wall, or hedge, not more than six (6) feet in height, may be located in any required front, side or rear yard.

(g) In computing the lot area of a lot which abuts upon an alley one-half (1/2) the width of such alley may be assumed to be a portion of the lot.

(h) Accessory buildings or structures may be located and maintained in a rear yard, except in the required ten (10) foot rear yard which is that portion adjoining the rearmost main building on the lot. Such building or structures may also be located and maintained in any side yard, except in the required eight (8) foot side yards adjoining each of the side lot lines. When such buildings or structures are to be used exclusively for storage or as outdoor cooking facilities, they may be located in a rear yard walls erected on the rear and/or side lot lines; provided that such buildings or structure shall not exceed sixty (60) square feet of floor space and the roofs thereof shall not project beyond the rear or side lot lines and shall be sloped in such a manner as to prevent rain run-off from flowing to adjacent property. A storage or cooking facility may only be constructed on residential lots which meet the yard requirements provided by Section 17200 of this Code.

§ 17203. Statement of purpose: building and building height restrictions in beach areas. (a) The legislature finds the indiscriminate building of structures on the beaches of the Territory of Guam creates a menace to the well-being of the people of the territory by increasing the pollution of tidal waters, that such construction, in addition, deprives the people of Guam of their right to the untrammelled use of beach areas beyond the high water mark, and finally, that such construction destroys the natural beauty of Guam's beaches, one of the territory's greatest natural resources. Accordingly, it is the purpose of the restrictions hereinafter contained to protect the beaches of Guam for future generations, to alleviate the health problems caused by construction near tidal areas, and to make certain that the people of Guam remain free to use the beaches of the territory to the maximum extent not incompatible with private ownership of the lands adjoining said beaches.

(b) Along any beach in the Territory of Guam, no building may be constructed within thirty-five feet (35') of the mean high water mark bounding said beach, nor may any building higher than twenty feet (20') be constructed within seventy-five feet (75') of the said mean high water mark; provided, however, that if thirty percent (30%) or more of the land area of any lot bounded by a beach is affected by the provisions hereof, then as to such lot, the building restriction is reduced from thirty-five feet (35') to twenty feet (20'). For purposes of this section the term "beach" does not include those areas where the shoreline is a cliff or bluff higher than twenty-five feet (25'), nor shall it include those areas where the shoreline is bounded by village lots containing no more than a thousand (1000) square meters in those villages wherein residences have been constructed along the shoreline since prior to the Second World War, and the term

"building" includes any structure except a retaining wall that cannot be seen.

Proposed Amendments to Chapters I and V of the Subdivision Law.
Title XIX of the Government Code of Guam

Chapter I

General Provisions

- § 18000. Title.
- § 18001. Purpose and intent.
- § 18001.1 Compliance with Master Plan.
- § 18001.5 Decedents' estates.
- § 18002. Definitions.
- § 18003. Authority of the Commission.
- § 18004. Commission approval.
- § 18005. General requirements for subdivisions.

§ 18000. **Title.** This title shall be known as "The Subdivision Law."

§ 18001. **Purpose and Intent.** The purpose of this Title and of any rules, regulations, specifications and standards adopted pursuant thereto, is to control and regulate the subdivision of any land for any purpose whatsoever. Such control and regulation is determined to be necessary to provide for the orderly growth and harmonious development of the territory; to insure adequate traffic circulation through coordinated street, road and highway systems; to achieve property lots of maximum utility, and livability; to secure adequate provisions for water supply, drainage, sanitary sewerage and other health requirements; to permit the conveyance of land by accurate legal description; and to provide logical procedures for the achievement of this purpose.

§ 18001.1 **Compliance with Master Plan.** Development and/or subdivision of all lands and roads shall conform to that land use or road location delineated in the latest revision of the Territorial Master Plan initially approved in April, 1967.

(a) Construction on land designated for future road or public purposes, contrary to the use indicated in the Master Plan, shall not be authorized, irrespective of land ownership.

(b) Specifications for construction, repair and/or reconstruction of roads shall conform to Department of Public Works standards and shall follow requirements delineated for that zone in which the subdivision or construction is located.

§ 18001.5 **Exemptions: decedents' estates:** parental division of property.

(a) Chapter V of this Title shall not apply to land which is an asset of the estate of a decedent, provided however, that before the distribution of any such land by the Court, the Territorial Planner or the Commission shall require street and utility easements on said land to insure lot division consistent with the general plan; further provided however, that the minimum size of each lot shall be no less than 10,000 square feet, except that

when the lot is within the groundwater protection zone and no connection is made to a public sewer, the minimum size of each lot shall be no less than 40,000 square feet.

(b) Chapter V of this Title shall also not apply to land which has been owned in fee simple for a period of not less than five (5) years by a person who divides said land among his living children or their descendants by way of inter vivos gift; provided, however, that such land shall be deeded to said children or descendants in fee simple and said deeds shall contain alienation clauses to the effect that the children or descendants shall not sell, lease or otherwise alienate such lots for a period of at least five (5) years, the Territorial Planner or the Commission shall require street and utility easements on said land to insure lot divisions consistent with the general plan and that the minimum size of each lot shall be no less than 10,000 square feet, except that when the lot is within the groundwater protection zone and no connection is made to a public sewer, the minimum size of each lot shall be no less than 40,000 square feet.

§ 18002. **Definitions.** The following words and phrases, when used herein, shall have the meaning respectively hereto ascribed to them, except where a different meaning may be clearly indicated by the context:

(a) "Agricultural Subdivision" shall mean a subdivision having no lots, parcels or sites smaller than twenty thousand (20,000) square feet in areas outside of the groundwater protection zone or smaller than forty thousand (40,000) square feet in areas within the groundwater protection zone, and in which all lots, parcels or sites are used principally for agriculture, single family residence sites or as an agriculture-homesite combination; except that the term "agricultural subdivision" shall include a subdivision resulting from a distribution by the Court pursuant to Section 18001.5(a) or Section 18001.5(b) of this Title with no lots, parcels or sites smaller than ten thousand (10,000) square feet in areas outside of the groundwater protection zone or smaller than forty thousand (40,000) square feet in areas within the groundwater protection zone, and in which all lots, parcels or sites are used principally for agriculture, single family sites or as an agricultural homestead combination.

(b) "Commission" shall mean the Territorial Planning Commission.

(c) "Easement" shall mean a grant by the owner of land for a specified use or uses of said land to a person or persons, to the public generally, or to the government of Guam.

(d) "Engineer" shall mean a person who is registered pursuant to Title XLIII, Government Code of Guam, as an Engineer, and holds a current certificate of registration issued by the Board of Engineering and Architectural Examiners or a person exempted under the provisions of said Title XLIII.

(e) "Groundwater Protection Zone" shall mean the land area which overlies existing and future groundwater development sites as defined by the Guam Environmental Protection Agency pursuant to § 57048, Title LXI, Government Code of Guam.

~~(e)~~ (f) "Improvements" shall mean any beneficial or valuable site additions or alterations to a subdivision property including street grading and surfacing, water service, sanitary sewers, facilities provided for drainage and site grading.

~~(f)~~ (g) "Non-Access Reservation" shall mean the limiting of access between a right of way and the adjacent land. (A non-access reservation shall be provided only when required by the Commission and the right of access to and from such land across the right-of-way boundary shall be dedicated to the government of Guam).

~~(g)~~ (h) "Plan, General" shall mean the general plan or plans for guiding the physical development of the Territory of Guam as adopted by the Commission and approved by the Governor.

~~(h)~~ (i) "Plan, Precise" shall mean the detailed plan or plans for guiding and controlling the physical development of specific projects as adopted by the Commission and approved by the Governor.

~~(i)~~ (j) "Planning Division" shall mean the Planning Division of the Department of Land Management.

~~(j)~~ (k) "Record Map" shall mean the final subdivision map designed to be placed on record in the Land Records of the Department of Land Management.

~~(k)~~ (l) "Reservation" shall mean an area of land which the subdivider reserves free and clear of all structures for future specified purpose.

~~(l)~~ (m) "Resubdivision" shall mean the resubdividing of land in a subdivision or lot parcelling subdivision or portions thereof so as to create a new or different subdivision of such land other than is presently of record, and shall include modifications to lot lines, the creation of one or more additional lots or any other action of land division which is not consistent with the recorded subdivision or lot parcelling subdivision map.

~~(m)~~ (n) "Reversion to Acreage" shall mean the voiding of a previous subdivision in order to revert the platted lots contained therein back to the original parcel or parcels which existed prior to the subdivision.

~~(n)~~ (o) "Right of Way" shall include the entire width between property lines of a highway, street or alley.

~~(o)~~ "Sanitation Division" shall mean the Sanitation Division of the Department of Public Health and Social Services.

~~(p)~~ "Subdivide" shall mean the act of creating a subdivision.

~~(q)~~ "Subdivider" shall mean any individual, firm, association, syndicate, corporation, trust or any other legal entity proceeding to effect a subdivision of land for himself or another.

~~(r)~~ "Subdivision" shall mean the division of any parcel of land into six (6) or more lots. Subdivision shall include resubdivision and reversion to acreage and, where appropriate to context, relates to the process of subdividing or to the land subdivided regardless of the method used to accomplish such action, whether by sale, design, rent, lease, deed of gift, grant in gift or any other method of transferring title whether for remuneration or not and whether immediate or future.

(s) "Subdivision, Lot Parcelling" shall mean the division of a lot legally existing on the effective date of this Title into no more than five (5) parcels. Lot parcelling of a lot shall include all methods of such action whether by sale, design, rent, lease, deed of gift, grant in gift or any other method of transferring title whether for remuneration or not and whether immediate or future.

(t) "Surveyor" shall mean a person who is registered pursuant to Title XLIII, Government Code of Guam, as a land surveyor, and holds a current certificate of registration issued by the Board of Engineering and Architectural Examiners or a person exempted under the provisions of said Title XLIII.

(u) "Tentative Map" shall mean a preliminary subdivision map for the purpose of showing the design of a proposed subdivision and the existing conditions in and around it.

(v) "Territorial Planner" shall mean the Chief of Planning Division, Department of Land Management, government of Guam.

(w) "Territorial Surveyor" shall mean the person designated as the Territorial Surveyor by the Director of Land Management.

§ 18003. Authority of the Commission. The Commission shall have jurisdiction and cognizance of all matters relating to subdividing and subsequent development of land within the territory. The Commission shall prescribe and adopt such rules and regulations, which shall include, but not be limited to, specifications and standards for development of subdivisions, as are, in its judgment, necessary to effectuate the purposes and intent of this Title. Such rules and regulations may provide for delegation of functions of review and inspection of proposed, tentative and final plans and maps, and of subdivisions, to other agencies and departments of the government. Such rules and regulations shall become effective upon approval by the Governor.

§ 18004. Commission approval. No subdivision map presented for filing as a record in the Department of Land Management shall be recorded without the prior approval of the Commission. The Commission shall not approve the record map of a subdivision unless such map conforms to all the requirements of this Title and any applicable rules, regulations, specifications or standards adopted by the Commission. No subdivider shall subdivide any land except in accordance with this Title, or sell, lease such lots for a period of at least five (5) years, and further provided that before the map be filed for record, the Territorial Planner or the Commission shall require street and utility easements on said land to insure lot divisions consistent with the general plan and that the minimum size of each lot shall be no less than ten thousand (10,000) square feet. The deed transferring the property may provide that the children or descendants may mortgage the property for the purpose of constructing a residence on the property.

§ 18005. General requirements for subdivisions. In all subdivisions presented for recording under this Title, the subdivider shall:

(a) Not subdivide or develop land for any purpose contrary to the provisions of the Zoning Law, Title XVIII, Government Code of Guam.

(b) Cause every lot to abut a roadway right of way having a minimum width of forty (40) feet, except that the Commission may, where circumstances warrant, permit the subdivider to utilize roadway rights-of-way less than forty (40) feet but in no case less than twenty (20) feet in width.

(c) Except as may be provided for pursuant to Section 21208.3, Title XXII, Government Code of Guam, provide for the installation of power, water and telephone lines, fire hydrants, roads and highways within the subdivision in accord with any general or precise plan approved by the Commission.

(d) Where an established framework of local streets exists, provide for the uniformity of street widths and alignment thereto with the streets of the subdivision, and for the continuation of existing street names.

(e) Provide for adequate light, air and privacy on all lots regardless of land use, and design the location of streets to prevent excessive grading and scarring of the landscape.

(f) Provide sufficient drainage of the land to provide reasonable protection against flooding.

(g) Provide that streets within residential areas shall not be planned for through traffic in order to insure privacy and safety.

CHAPTER V

Improvements

- § 18400. Required improvements.
- § 18401. Utilities extensions - planned areas.
- § 18402. Utilities extensions - unplanned areas.
- § 18403. Time allowed for completion of improvements.

§ 18400. **Required improvements.** The subdivider shall provide the following improvements and improvement areas within time limits specified by the Commission:

(a) **Street and Alleys - Planned areas.** Where general plans have been or are hereafter duly adopted and show an area as planned for development into urban uses, the following street and alley improvements shall be required:

All street and alleys within the subdivision shall be graded and drained the full width of the right of way. The roadbed portion of the right of way shall be improved with a stabilized coral base and surfaced with a light bituminous surface treatment having a minimum width of twenty-two feet (22'). The roadway centerline gradient and right-of-way cross-section including drainage ditches, travelled roadway design and paving and shoulders shall be in conformity to criteria established by the Commission.

Permanent sidewalks having a minimum width of four feet (4') shall be laid out for all streets and shall be dedicated to the government of Guam. The Commission shall establish criteria relating to width and construction of such sidewalks, and all such sidewalks shall be in conformity thereto.

(b) **Street and Alleys - Unplanned Areas.** Where at the time of a subdivision a general plan has not been adopted or where the general plan designates the area as agricultural, the following street and alley improvements will be required.

All streets and alleys within the subdivision shall be graded and drained the full width of the right of way. The roadbed portion of the right of way shall be improved with a stabilized coral base. The roadway centerline gradient and right-of-way cross-section including drainage ditches, travelled roadway and shoulders shall be in conformity to criteria established by the Department of Public Works and adopted by the Commission.

(c) **Storm Water Drainage.** Storm drainage facilities shall be provided in all subdivisions in accordance with plans prepared by the subdivider conforming to criteria established by the Department of Public Works and adopted by the Commission. These facilities shall be designed to dispose of normal storm waters falling on the subdivision without hazard of flooding, inconvenience of ponding, and the erosion of public or private land.

(d) **Domestic Water.** Water distribution facilities shall be provided in all subdivisions in accordance with plans prepared by the subdivider conforming to criteria established by the Public Utility Agency of Guam and adopted by the Commission. Potable domestic water shall be piped onto each lot within the sub-

division. Water pipes shall be new and so sized to supply normal household and firefighting pressures.

(e) Sanitary Sewage Disposal. When sanitary sewers are provided in a subdivision, they shall be in conformity to plans prepared by the subdivider ~~satisfactory to~~ conforming to criteria established by the Public Utility Agency of Guam and adopted by the Commission. When sewers are placed within a subdivision, the minimum permissible lot size shall be as determined by the applied zoning district, ~~or in the absence of zoning, shall be not less than seven thousand (7,000) square feet.~~ or if within the groundwater protection zone, shall be not less than forty thousand (40,000) square feet. In subdivisions where sanitary sewers are not provided, the minimum permissible lot size shall be determined by the slope and characteristics of the subdivision soil and subsoil but in no event shall be less than is established by the applied zoning district, ~~or in the absence of zoning, shall be not less than seven thousand (7,000) square feet.~~ Determination of lot size shall be made on the basis of soil percolation tests made in conformity to standards developed by the Guam Environmental Protection Agency and adopted by the Commission. Lot sizes, including area and minimum widths and depths shall be related to the ability of the subdivision lands to accept the anticipated septic tank effluent whereby no sanitary problem will be created. The Commission shall ~~establish~~ adopt criteria developed by the Guam Environmental Protection Agency relating lot sizes and shapes to tested rates of seepage, and all lots created after the enactment of this Title shall conform thereto.

(f) Survey Monuments. Permanent concrete monuments shall be installed at all point of direction change in the subdivision perimeter and in the exterior lines of blocks.

§ 18401. Utilities extensions - planned areas. Where general plans have been duly adopted and show an area as planned for development into urban uses, the following development criteria will apply for subdivisions within the area so delineated:

(a) Road extensions. Where roads must be extended from existing roads in order to gain suitable access to a subdivision, the subdivider shall negotiate with the property owners involved and acquire rights of way to width and alignment approved by the Commission. The subdivider shall improve such access road or roads the same as he improves the interior subdivision roads.

(b) Power, water mains, and fire hydrants may be installed by the Public Utility Agency in accordance with Section 21208.3, Government Code of Guam.

(c) The subdivider shall provide easements for all utility extensions to the satisfaction of the Commission, and acceptable to the Public Utility Agency.

§ 18402. Utilities extensions - unplanned areas. In areas where general plans have not been adopted but where water, electrical facilities and roads exist within or adjacent to a planned subdivision area, the criteria of Section 18401 will be applicable. In unplanned areas where water service, electric service or public roads are not immediately available, the government

shall not supply any utility or road extension to make the site suitable for developemnt.

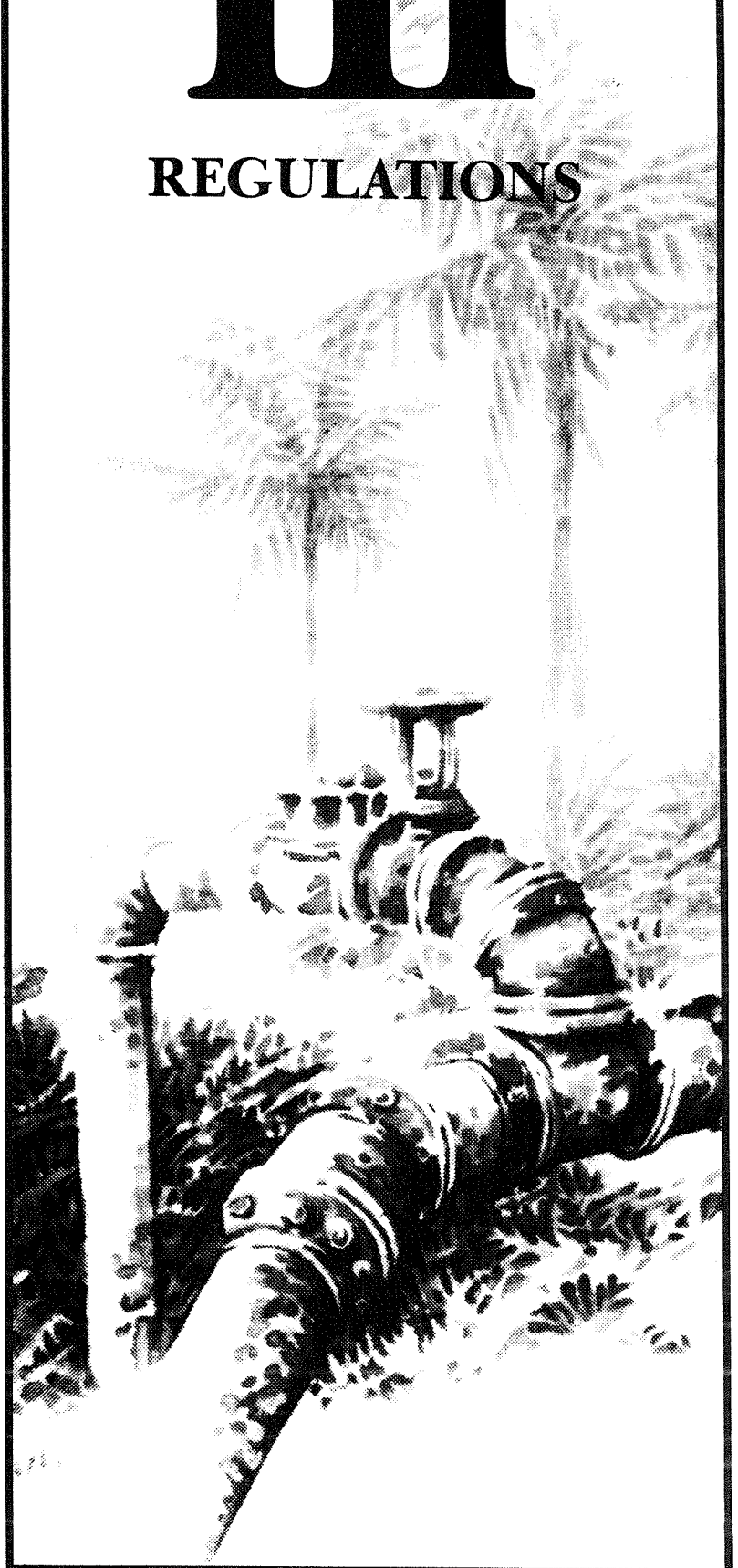
§ 18403. **Time allowed for completion of improvements.** Upon approval of the tentative subdivision plan by the Commission, the subdivider shall complete within one (1) year all of the improvements required, except that the Commission, for good cause shown, may authorize an extension of time, not to exceed twelve (12) months for such completion. Within such time, the subdivider must either:

(a) Complete the required improvements and, upon acceptance thereof by the government, file his final plans; or

(b) Furnish bond acceptable to the Commission for the completion of improvements, the bond to be in penal sum of one hundred fifteen per cent (115%) of total work costs as verified by the Director of Public Works. On approval of the bond, the final plans may be filed.

III

REGULATIONS



CHAPTER III

REGULATIONS

General

The enabling legislation of Title LXI, in particular the Water Resources Conservation Act, established the general requirements that must be met by well drillers, contractors, and operators. However, implementation of the Act required specific regulations and detailed requirements such as the type of information required in license applications as well as the form to be used in preparing such an application. These regulations were promulgated by GEPA under the authority of Title LXI.

In this section, a completely rewritten version of the existing Well Development and Operating Regulations is presented. These new regulations address licensing, permit applications for drilling and operating a well and also present specific standards for construction, inspection, and water quality. Data reporting requirements are also addressed. It should be noted that fees for applications, licenses and permits have been included in the Regulations. GEPA may wish to review and modify the fees in consideration of the level of groundwater management activities undertaken.

WELL DEVELOPMENT
AND OPERATING REGULATIONS

Rules of the
Territory of Guam

Board of Directors
for the
Guam Environmental Protection Agency

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CHAPTER I
AUTHORITY

- 1.1 Section 57005 of Chapter 1, Title LXI, of the Government Code of Guam authorizes and directs the Guam Environmental Protection Agency to promulgate rules and regulations necessary to implement the provisions of the Water Resources Conservation Act.

CHAPTER II

PURPOSE

- 2.1 The purpose of these regulations is to promote the beneficial use of the Territory's underground water resources in the interest of the people of Guam and for the public welfare by prescribing rules and procedures governing the development and operation of water supply wells.

CHAPTER III
DEFINITIONS

- 3.1 "Abandoned Well" means a well whose use has been permanently terminated and no future use is anticipated.
- 3.2 "Administrator" means the Administrator of the Guam Environmental Protection Agency.
- 3.3 "Agency" means the Guam Environmental Protection Agency.
- 3.4 "Agricultural Wells" means water wells used to supply water for irrigation or other agricultural purposes, including so called "stock wells," and not used to supply water for human consumption.
- 3.5 "Alteration, Rehabilitation or Extension" means deepening, re-perforating, the installation of packers or seal, or other material changes in the construction design of the well.
- 3.6 "Board" means the Board of Directors of the Guam Environmental Protection Agency.
- 3.7 "Community Water System" means a system for the provision of piped water for human consumption which serves a minimum of 15 service connections used by year-round residents or regularly serves a minimum of 25 year-round residents.
- 3.8 "Construction" means all acts necessary to the actual construction of a well as defined in this Chapter, but excluding the installation of surface appurtenances such as pumps and pumping equipment.
- 3.9 "Destroyed Well" means a well whose use has been permanently suspended and has been filled in accordance with the provisions of these regulations.
- 3.10 "Groundwater" means any water, except capillary moisture, beneath the land surface in the zone of saturation.
- 3.11 "Inactive Well" means a well whose use has been temporarily suspended and may be reactivated at a future date.
- 3.12 "Individual Domestic Well" means a well used to supply water for human consumption or for the domestic needs of an individual residence or commercial establishment such as an apartment house, cafe, gas station, etc., which are not served by a community water system as defined in this Chapter.

- 3.13 "Industrial Wells" means water wells used to supply industry on an individual basis and not used to supply water for human consumption.
- 3.14 "License" means a well driller license issued by the Agency permitting a person to do business in well drilling within the Territory of Guam.
- 3.15 "Monitoring Wells" means wells used for the purpose of observing subsurface hydrologic conditions and collecting hydrologic or water quality data and not for use in extracting water for a beneficial use.
- 3.16 "Permit" means a well drilling permit or well operating permit issued by the Agency.
- 3.17 "Person" means any natural person, partnership or unincorporated association of natural persons, trusts, corporations or other types of legal entities, and public entities and agencies including the United States of America and the Government of Guam and any agency thereof.
- 3.18 "Public Water Supply Well" means a well used to supply water for a community water system as defined in this Chapter.
- 3.19 "Recharge or Injection Wells" means wells constructed for the purpose of introducing water or substances into the ground as a means of replenishing groundwater basins or repelling intrusion of sea water or disposing of a substance.
- 3.20 "Repair" means any action which involves the physical alteration or replacement of any part of a well, but does not include the alteration or replacement of any portion of a well which is above the ground surface.
- 3.21 "Test Borings" means holes drilled for geologic or hydrologic exploration and not intended for use as water production wells.
- 3.22 "Well" means any hole that is drilled, bored, dug, driven or otherwise constructed at any angle by any method into the ground, for the purpose of obtaining water or knowledge of water bearing formations, disposal of liquid wastes, or for any other purpose which might affect the quality of groundwater resources.
- 3.23 "Well Driller" means any person engaged in the business of well drilling.
- 3.24 "Well Drilling" means the act of constructing a well as defined in this Chapter.

3.25 "Well Seal" means an approved device to prevent contamination from entering the well.

CHAPTER IV
WELL DRILLERS LICENSES

- 4.1 Any person who is engaged or intends to engage in the drilling of wells is required to apply for a well drillers license. The application shall be submitted to the Administrator on forms supplied by the Agency and shall include the following information:
- (a) Name and business mailing address of the applicant;
 - (b) Statement whether it is an original application or renewal application;
 - (c) If the applicant is not an individual natural person, the type of association or private or public legal entity or the agency the applicant is;
 - (d) Contractors license number;
 - (e) Statements and documents for the following:
 - (1) Bonding and financial capability
 - (2) Insurance for comprehensive and general liability coverage;
 - (3) Qualifications and experience; and
 - (f) Signature of the applicant or authorized representative thereof indicating under penalty of perjury that the information provided in the application is true and accurate to the best of his knowledge.
- 4.2 A fee of two hundred dollars (\$200), payable to the Treasurer of Guam, shall accompany each application for a well drillers license.
- 4.3 The license shall be valid for a period of two years from the date of issuance.
- 4.4 A well drillers license shall not be required for any person who performs labor or services at the direction and under the direct on-site supervision of a licensed well driller.
- 4.5 An application for a well drillers license shall be accepted if applicant proves to the satisfaction of the Administrator that:
- (1) He or it has at least a minimum experience of five (5) years continuous work in well drilling and construction;

- (2) He or it can obtain performance and payment bonds for work of this magnitude or otherwise demonstrate financial capability; and
- (3) He or it shall be able to post insurance for comprehensive and general liability coverage in accordance with legal requirements.

4.6 The Administrator shall deny an application for a well drillers license if the information submitted demonstrates that the applicant does not satisfy the requirements pertinent to the license.

CHAPTER V
WELL DRILLING PERMITS

- 5.1 A well drilling permit application shall be completed on a form provided by the Agency and submitted to the Administrator for each new well, or alteration, rehabilitation or extension of an existing well. The application shall include the following:
- (a) Name and address of the owner of the well and owner of the land on which the well is to be located. If the owner of the land and the owner of the well to be drilled are not the same, a notarized statement from the owner of the land granting permission for the construction of the well must be submitted with the application;
 - (b) A map or drawing with a scale of 1" = 50' showing the following data:
 - (1) Location of well with respect to known references such as property lines, street intersections or survey monuments, including coordinates of the well, to the nearest foot, based on the Government of Guam Triangulation Network (GGTN).
 - (2) Topography with contour intervals not greater than two (2) feet, covering a land area extending not less than 150 feet in all directions from the well.
 - (3) Property lines of property upon which the well is to be drilled.
 - (4) Location and identification of a bench mark where the completed well can be tied. Elevation of the bench mark shall be established by a Registered Land Surveyor in the Territory of Guam.
 - (5) Location of existing or abandoned wells within a radius of 500 feet.
 - (6) Sewer lines and wastewater disposal leaching fields, ponding basins, septic tanks, landfills or buildings within a radius of 500 feet.
 - (7) Other natural features such as springs, rivers or sinkholes.

(c) A statement as to the purpose for which the water is to be used; estimated pumping rate; estimated hours of operation; and the estimated volume of water to be pumped on an annual basis.

(d) Details of the proposed construction, including:

(1) The type of pump to be installed; the rated capacity (flow at a specific total dynamic head) of the pump or a pump performance curve.

(2) Hydraulic calculations supporting the sizing of the well and pump.

(3) Proposed depth of the well.

(4) A sketch showing well features, including sizing and details of casing or lining, type of screen or casing perforations proposed, water level measurement provisions, grouting of annular space, vent, water sample tap, air release valve assemblies, pressure gauge, discharge piping and fittings, etc.

(5) Size and capacity of water production meter. Meter should be capable of reading pumping rates in gallons per minute up to a flow of 150 percent of the pump capacity and be provided with a totalizer registering total volume of water pumped in gallons.

(6) Approximate elevation of the top of the well casing and statement regarding the potential for flooding.

(7) A detailed description of the procedures to be utilized in the well drilling operation and well construction.

5.2 A fee of two hundred fifty dollars (\$250.00), payable to the Treasurer of Guam, shall accompany each application for the drilling or excavation of a new well, or alteration, rehabilitation or extension of an existing well.

5.3 Application for a well drilling permit shall be made at least fifteen (15) days before drilling operations begin. No drilling shall commence without issuance of a permit by the Administrator.

5.4 The proposed site for well drilling shall be inspected in the field by the Administrator or his authorized representative prior to issuance of a well drilling permit.

- 5.5 Before a permit is granted, the owner of the well shall submit to the Administrator a bond meeting the following requirements:
- (a) The amount of the bond shall be set by the Administrator but in no case shall be greater than ten thousand dollars (\$10,000.00).
 - (b) The amount of bond as set by the Administrator shall include the estimated cost of sealing the well in accordance with these regulations should it be necessary to abandon the well for any reason prior to its completion.
 - (c) The bond shall be effective for a period covering the duration of the well drilling permit or until issuance of a well operating permit, whichever occurs first.
 - (d) The payee of the bond shall be the Government of Guam and shall be payable if the applicant fails to complete the well in accordance with the provisions of the well drilling permit.
- 5.6 The maximum capacity of the well shall not exceed the pumping rates as identified in the Northern Guam Lens Study as prepared by the Guam Environmental Protection Agency.
- 5.7 The owner of the well or his authorized representative shall notify the Administrator 48 hours in advance of initiating any drilling work and when the drilling work is completed, including the installation of the well-casing, but prior to installing any equipment or appurtenances in the well.
- 5.8 The well drilling permit shall expire when the well has been completed or after one year, whichever is less.
- 5.9 The Administrator shall deny, or impose appropriate standards or conditions in a permit to drill a new well or to alter, rehabilitate, or extend an existing well so that the proposed work shall not adversely affect the groundwater resources by:
- (1) Excessive lowering of the ambient groundwater table, or
 - (2) Causing or bringing about excessive salt water intrusion, excessive mineralization or other degradation of water quality, or
 - (3) Significant interference with the operations of existing established water sources, or

(4) Introducing contaminants into the groundwater.

- 5.10 The well drilling permit shall indicate the maximum rate, as established by the Administrator.
- 5.11 The Administrator shall require that the well driller keep a continuous log of the drilling of the well, including a description and samples of the materials encountered together with the depths to the top and bottom of each change in geologic characteristics or at five foot intervals. The log shall also include a record of water levels encountered and any changes thereof; construction details, casing grout, gravel pack, etc.; other information such as owner, driller, equipment. The well log shall be maintained on a form provided by the Agency (See Appendix J).
- 5.12 Within fifteen (15) days after construction of each well, the driller shall submit to the Administrator the well drilling log, representative samples of rock materials penetrated during drilling and the results of any pumping tests conducted.
- 5.13 The results of any pumping tests conducted by the well driller shall be furnished to the Administrator on forms provided by the Agency (See Appendix L).

CHAPTER VI
WELL OPERATING PERMITS

- 6.1 No well shall be placed into operation until a well operating permit has been obtained by the owner. Permits for injection wells are covered in Chapter XI.
- 6.2 An application to operate each new well shall be made within ninety (90) days after the drilling operations are completed and shall be submitted to the Administrator on a form provided by the Agency, signed by the owner, and shall include the following:
- (a) Name and address of the owner of the well.
 - (b) Name and address of the person who will be responsible for operation of the well, if different than the owner.
 - (c) A plan of the well showing:
 - (1) Control valves, miscellaneous fittings and appurtenances, and discharge pipes leading from the well;
 - (2) Flow metering device for recording output of the well, including size, flow range, and manufacturer;
 - (3) Diagram of the well along its axis including the following:
 - i. Ground surface and bottom of well elevation (MSL),
 - ii. Casing diameter and depth (length from ground surface),
 - iii. Limits of grouting of annular space,
 - iv. Elevation of top and bottom of well screen, well screen diameter, slot opening, and screen type,
 - v. Limits of gravel pack,
 - vi. Pump setting,
 - vii. Water level measurement devices or other piping extending down the well (inside or outside the casing); and

- (4) Chlorination and fluoridation equipment, if provided; and
 - (5) Elevation and location of a permanent benchmark to which the altitude of a measuring point on the completed well can be determined.
- (d) Well construction specifications, including:
- (1) The start and completion date of the drilling operation;
 - (2) The well drilling contractor;
 - (3) The total depth of the well, elevation of the ground surface and elevation of the well bottom, relative to mean seal level;
 - (4) Casing details specifying diameter, depth (length from surface), type, size, wall thickness, weight and material;
 - (5) Screen or perforation details specifying type, slot size, length, diameter, material and method of installation;
 - (6) Cement grouting, specifying method used in grouting, gravel size, total depth, annular thickness and yards of gravel placed;
 - (7) Well development, specifying the method used in development;
 - (8) Flow measurement and testing, specifying pump capacity, design characteristics, static water level, pumping water level, specific capacity at test and method used for flow measurement and testing;
 - (9) Drilling technique, specifying method of drilling or type of drilling;
 - (10) Protection of well on top, specifying provision on how well is protected from erosion and animals and other contamination by specifying provision for sanitary well seal, casing height above ground, and flood level elevation;
 - (11) Well disinfection by describing procedure of well disinfection and other types of laboratory control; and

(12) Log of well, specifying the formation penetrated and the stratum thickness including description and samples, whenever possible, of the materials penetrated.

(e) A statement as to the purpose for which the water is to be used, the estimated pumping rate, estimated hours of operation, and the estimated volume of water to be produced on an annual basis.

6.3 The owner of the well shall arrange with the Administrator for a water sample to be taken from the well for chemical and bacteriological analyses to be performed by the Agency. Results of the analysis must be approved by the Administrator before a permit is issued. The required water analysis shall be performed for all public water supply and individual domestic wells in accordance with the requirements shown in Appendix I, "Water Analysis Reporting Form".

6.4 Except for monitoring wells, a fee in accordance with the following schedule is required for each operating permit as per Section 57024 of the Water Resources Conservation Act. The fee includes the costs of the water quality analyses.

(a) Upon initial application and payable every five years, a fee of two hundred fifty (\$250.00) shall be assessed.

(b) In addition to the initial application fee, an annual operating fee shall be assessed based upon the maximum pumping rate authorized as stipulated in the operating permit. The annual operating fees shall be as follows:

<u>Pumping Rate (gpm)</u>	<u>Annual Fee</u>
0 to 150	\$100.00
151 to 225	\$125.00
226 to 325	\$200.00
326 to 525	\$300.00
greater than 525	\$400.00

6.5 Any well, prior to the issuance of the well operating permit, shall be inspected by the Administrator or his authorized representative.

6.6 An application for a well operating permit shall be approved if all the necessary conditions and requirements specified above have been fully met to the satisfaction of the Administrator. It shall be valid for a period of five (5) years.

- 6.7 The Administrator shall deny an application for a well operating permit if the well was not constructed, or modified or repaired or extended in accordance with the approved application plan, or other limiting conditions of the well drilling permit.
- 6.8 The well operating permit shall indicate the maximum rate as established by the Administrator the well may be pumped.
- 6.9 As a condition of the well operating permit, the owner shall, no later than January 15 of each year:
- (a) File an annual well operating report which shall include:
 - (1) Total volume of water pumped, by month, for the preceding year;
 - (2) A description and details of any alteration, rehabilitation or extension made to the well or well appurtenances during the preceding year;
 - (3) An itemization, including dates, of all maintenance performed during the preceding year including repairs or replacement of well equipment (pump, motor, chlorinator, meter, etc.) chemical treatment of the well screen, resetting of the pump, etc.
 - (b) Have paid the annual operating fees and the five-year renewable application fee, if due.
- 6.10 For wells in existence and operation at the time these regulations are approved and adopted, a well operating permit application shall be filed with the Administrator no later than 120 days after the effective date of these rules.
- 6.11 The Administrator may revoke or suspend an operating permit for a well which produces contaminated water until the causes of the contamination are removed, or if the well is not being operated in compliance with the provisions of the well operating permit.
- 6.12 Governmental agencies or other appropriate engineering or research organizations shall be required to file an operating permit application in conformance with the provisions of this Chapter for any monitoring wells used in the investigation or management of groundwater basins, except that a water quality analysis shall not be required. Such wells shall be covered with an appropriate locked cap or approved surface plate and bear the

label "Monitoring Well" and the name of the agency or organization. Monitoring wells shall remain locked at all times except when measurement or sampling is being conducted. An annual monitoring well report shall be filed with the Administrator on forms provided by the Agency (see Appendix H).

CHAPTER VII
ACTION ON APPLICATIONS

- 7.1 The Administrator may require the applicant to furnish additional information, plans or specifications before acting on an application for license or permit.
- 7.2 The Administrator shall review and act on any permit application and licenses within fifteen (15) days of receipt of the completed application. Should additional information, plans, or specifications be requested, the fifteen (15) days limitation will begin on the latest date or receipt of the requested data.
- 7.3 The Administrator shall notify the applicant in writing of his approval, disapproval or denial, or conditional approval of the application, and he shall inform the applicant of sufficient facts and reasons upon which a disapproval or conditional approval was based and afford the applicant an opportunity to appeal the final actions before the Board in accordance with Chapter XXIX of these regulations.

CHAPTER VIII
REVOKING OF LICENSES AND PERMITS

- 8.1 A well drilling permit shall expire, if the construction, alteration, rehabilitation or extension is not completed within one (1) year of the date of issuance, unless the applicant secures an extension of the expiration date.
- 8.2 The Administrator shall revoke a well drilling permit if the construction, alteration, or rehabilitation is not in compliance with the approved application, plans, or limiting conditions of the permit.
- 8.3 The Administrator may revoke a well driller's license, a well or drilling permit or a well operating permit for violation of the regulations or conditions pertaining thereto.
- 8.4 The Administrator shall revoke a well driller's license, a well drilling permit or a well operating permit for willful misrepresentation, or falsification of facts for the purpose of obtaining such license or permit.
- 8.5 The Administrator shall revoke or otherwise modify a well operating permit upon his findings that a well is not being maintained or operated in accordance with these regulations, or continuance of such permit could adversely effect the groundwater resource. The Administrator shall suspend a well operating permit if the drinking water being produced from such well is contaminated, until the cause can be traced and eliminated.
- 8.6 If the Administrator proposes to suspend or revoke a license or permit, he shall inform the licensee or permittee of sufficient facts and reasons upon which the proposed suspension or revocation is based and afford the permittee an opportunity for a hearing before the Administrator, prior to making a final decision.
- 8.7 No application for a well driller's license pursuant to these regulations may be made within one (1) year after revocation of such license.

CHAPTER IX
TRANSFER AND RENEWAL OF LICENSES AND PERMITS

- 9.1 A well driller's license, well drilling permit, or well operating permit issued pursuant to these regulations shall not, under any circumstances, be transferred from one location to another, or from one person to another, without the approval of the Administrator.
- 9.2 Renewal applications for well driller's license, well drilling permits, or well operating permits shall be treated in the same manner as the initial license or permit application.
- 9.3 The Administrator, upon his discretion, may exempt an applicant for renewal of a license or permit from particular initial permit or license requirements if such initial requirements have already been fully met by the applicant to the Administrator's satisfaction.
- 9.4 Renewal applications for well driller's license, well drilling permits, or well operating permits shall be made within thirty (30) days before expiration of such license or permit.

CHAPTER X

POSTING OF PERMITS, FALSIFYING OR ALTERING PERMITS

- 10.1 Upon granting an approval for a well drilling permit, the Administrator shall issue to the applicant a certificate, referred to as a well drilling permit, which shall be posted in a conspicuous place specified for which the permit was issued.
- 10.2 No person shall deface, alter, forge, counterfeit, or falsify a drilling permit, well operating permit, or well driller's license.

CHAPTER ELEVEN
INJECTION WELLS

- 11.1 The construction of injection wells and their operation shall be in accordance with the regulations established by the Guam Environmental Protection Agency entitled Underground Injection Control (UIC), a copy of which can be obtained from the GEPA office.

CHAPTER XII
WELL LOCATION

- 12.1 The minimum horizontal distance from a public water supply to potential sources of bacterial contamination** shall conform to the following minimum distances:

MINIMUM DISTANCE FROM WELL TO
SOURCES OF BACTERIAL CONTAMINATION*

<u>Formation</u>	<u>Minimum Acceptable Distance</u>
Favorable (Unconsolidated)	150 feet. Lesser distances only on Administrator's approval following comprehensive sanitary survey of proposed site and immediate surroundings.
Unknown	150 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 150 feet.

* Adapted from Manual of Individual Water Supply Systems (EPA-430/9-74-007)

** Horizontal distances for other possible sources of contamination will be established on a case-by-case basis.

- 12.2 Whenever there is a reasonable basis to expect that adverse conditions exist, the Administrator shall require greater distance between a well and source of contamination.

- 12.3 Whenever possible, wells shall be located up gradient (upstream) from any groundwater flow of specified sources of contamination.
- 12.4 For a public water supply or individual domestic well located down gradient (downstream) from a contaminant or pollutant source, the Administrator shall require greater distances between the well and source of contamination.
- 12.5 If contaminant/pollutant source is an injection well or drainage well, distances from the well to the contaminants or pollutants shall be upon the discretion of the Administrator.
- 12.6 The top of the casing shall terminate above any known conditions of flooding by drainage or runoff from the surrounding land.

CHAPTER XIII
SEALING THE UPPER ANNULAR SPACE

- 13.1 General Requirements. The space between the well casing and the wall of the drilled hole (the annular space) shall be effectively sealed to protect against contamination or pollution by surface and/or shallow, sub-surface waters. The minimum distance will be 100 feet or the depth to the static groundwater level. The required distance may be increased if necessary to protect the aquifer.
- 13.2 Conductor (or Surface) Casing. For public water supply wells, if used, the minimum thickness of steel conductor casing shall be one fourth (1/4) inch for single casing. Steel used for conductor casing shall, as a minimum, conform to the specifications of this regulation described in Chapter XV.
- 13.3 Sealing Material. The sealing material shall conform to the American Water Works Association specification or its latest revision thereof or shall consist of neat cement, cement grout, puddled clay, or concrete. The neat cement mixture shall be composed of one (1) bag of Portland Cement (94 pounds) to five (5) to seven (7) gallons of clean water. Cement grout shall be composed of not more than two (2) parts by weight of sand to one (1) part of cement and five (5) to seven (7) gallons of clean water per bag of cement used. Quick setting cement, retardants to setting, and other additives including hydrated lime to make the mix more fluid (up to 10 percent of the volume of cement), and bentonite (up to 5 percent) to make the mix more fluid and to reduce shrinkage, may be used.
- 13.4 Thickness of Seal. The thickness of the seal shall be at least two (2) inches, and not less than three (3) times the size of the largest coarse aggregate used in the sealing material.
- 13.5 Placement of Seal. The sealing material shall be applied in one continuous operation starting from the bottom of the interval to be sealed to the top. Temporary casing may be used but must be removed during placement of seal.

CHAPTER XIV
SURFACE CONSTRUCTION FEATURES

- 14.1 Openings. Openings designed to provide access into well casings for making measurements, adding gravel, etc., shall be protected against entrance of surface waters by installation of watertight caps or plugs. All other openings shall be sealed.
- (a) Where the pump is installed directly over the casing, all holes in the base of the pump which open into the well shall be sealed by a method acceptable to the Administrator. An annular watertight seal shall be placed between the pump head and the pump base, or a watertight seal shall be placed between the pump base and the rim of the casing, or a sanitary seal or "well cap" shall be installed to close the annular opening between the casing and the pump column pipe.
 - (b) Where the pump is offset from the well or where a submersible pump is used, the opening between well casing and any pipes or cables which enter the well shall be closed by a watertight sanitary seal or "well cap."
 - (c) All pump discharge piping, not located within the well itself, shall be located above ground.
 - (d) If the concrete base or slab (sometimes called a pump block or pump pedestal) is to be constructed around the top of the casing, it shall be free from cracks, honeycombing, or other defects likely to detract from its watertightness.
- 14.2 Well Pits. Because of their susceptibility to contamination and pollution, the use of well pits shall not be permitted.
- 14.3 Enclosure of Well and Appurtenances. For public water supply wells, the well and pump shall be enclosed with a six-foot high chain link fence or other approved security enclosure, and provided with a lock to exclude access by unauthorized persons.
- 14.4 Well Identification. Every well shall be identified by means of a sign designating the number and series of the well, e.g., A-3, and shall be posted on the outside of the well enclosure. The sign shall have a minimum size of 9 inches by 12 inches with a yellow background and black letters and numbers with a six inch minimum height.

- 14.5 Pump Blowoff. When there is any blowoff or drain line from the pump discharge, it shall be so located that there is no hazard to the safety of the water supply by reasons of flooding, back siphonage, or lack of pressure. The blowoff or drain line shall not be connected to any sewer.

CHAPTER XV
WELL CASING

- 15.1 Whenever there is a reasonable basis to expect that any well subject to these regulations could result in waste or contamination of water resources, which could be prevented through any one of the following construction techniques, the Administrator shall require the well to be cased, recased, lined, re-lined, grouted, or abandoned.

- 15.2 For all new and/or modified wells wherein casing is required, the casing and joints shall be of a quality conforming to the latest American Water Works Association specifications or be constructed any other material approved by the Administrator.

- 15.3 In all new and/or modified wells wherein casing is required, the annular space shall be grouted in a manner approved by the Administrator from a depth set by the Administrator to the ground surface.

- 15.4 Joints in the steel casing may be either of the welded or screwed type with external sleeves. Welded joints are to be made by a competent welder. External sleeve threaded joints shall be screwed to refusal before being lowered into the ground. The threads of the pipe casing and the sleeves shall be cleaned of any rust, dirt, or grease and given a coating of approved metal preservative. After the joint has been made up, all exposed surface of the joints, sleeves and uncovered threads are to be given a final coating of the same preservative.

- 15.5 The lower end of the casing shall be set at such depth and by such method chosen by the contractor and approved by the Administrator as will minimize the possibility of leakage and insure that any loose material will not enter or travel into the well.

- 15.6 Should a pump not be installed immediately after well drilling and placement of the casing, the top of the casing should be closed with a metal cap screwed or tack-welded into place or covered with sanitary well seal in a manner satisfactory to the Administrator.

- 15.7 All casing shall be placed with sufficient care to avoid damage to casing sections and joints. Where the casing will be enclosed in a ground pack, the casing shall be hung in tension while the gravel and grout material are being installed. In no case shall the casing or screen be landed on the bottom of the boring. All joints in the casing above perforations shall be at least below the depth specified in Chapter XIV.

15.8 Galvanized sheet metal pipe downspout or wood shall not be used as casing.

15.9 Minimum inside diameters for well casing shall be based on the capacity of the well as indicated below:

<u>Capacity of Well (gpm)</u>	<u>Minimum Inside Diameter of Casing (inches)</u>
200	10
350	12
500	12
750	12

15.10 The minimum wall thickness of steel well casing shall be 5/16 inch and the minimum thickness of the conductor casing, i.e., surface casing, if used, shall be 1/4 inch.

CHAPTER XVI
SEALING-OFF STRATA

- 16.1 In areas of Southern Guam where a well penetrates more than one aquifer and any of the aquifers contain water of a quality such that, if allowed to mix in sufficient quantity, will result in a significant deterioration of the quality of water in the other aquifer(s) or the quality of water produced, the strata producing such water shall be sealed off to prevent entrance of the water into the well or its migration to other aquifer(s). The producing strata shall be sealed off by placing impervious material opposite the strata and opposite the confining formations for a sufficient vertical distance (but no less than 10 feet) in either direction, or, in the case of "bottom" waters, in the upward direction. Sufficient sealing material shall be applied to fill the annular space between the casing and the wall of the drilled hole in the interval to be sealed, and to fill the voids which might absorb the sealing material. The sealing material shall be placed from the bottom to the top of the interval to be sealed.

CHAPTER XVII
DISINFECTION AND OTHER SANITARY REQUIREMENTS

- 17.1 Disinfection. All newly constructed wells or existing wells subjected to any repair work shall be disinfected before being placed into service. A chlorine solution in the proportion of 0.12 lb. calcium hypochlorite powder dissolved in 100 gallons of water providing a dosage of approximately 100 mg/l of available chlorine in the well water is normally adequate. The solution shall be introduced into the well in such a manner that all surfaces above the static level will be completely flushed with the solution. The well contents should then be agitated to uniformly distribute the chlorine throughout the well. The chlorine solution shall remain in the well for not less than 24 hours. Before providing water for consumptive use, the well shall be flushed until all traces of chlorine have been removed. After flushing the residual chlorine from the well, a water sample shall be collected for bacterial analysis. If the coliform bacteria test is positive (i.e., one or more counts per 100 ml), the well shall be disinfected again as prescribed above. Water samples shall then be retaken and reanalyzed. In no case shall the well be placed into operation until the well has been adequately disinfected as demonstrated by testing.
- 17.2 Gravel. Gravel used in gravel-packed wells shall come from clean sources and, should be thoroughly washed before being placed in the well. Gravel purchased from a supplier should be washed prior to delivery to the well site.
- 17.3 Drilling Fluid. Only fresh water shall be used in drilling fluids whether employed alone or in combination with drilling additives. Only high grade clays or commercial chemicals, approved by the Administrator, shall be used in the make-up of any drilling fluid. Drilling fluid with a mixture of water and unprocessed mud, clay, or other material will not be permitted.

CHAPTER XVIII
WELL DEVELOPMENT

- 18.1 Developing, redeveloping, or conditioning of a well shall be done with care and by methods which will not cause damage to the well or its casing or cause adverse subsurface conditions that may destroy barriers to the vertical movement of water between aquifers.

CHAPTER XIX
WATER QUALITY SAMPLING PROVISIONS

- 19.1 Except where there is free discharge from the pump (that is, except where there is no direct connection to the water delivery system), a sample tap shall be provided on the discharge line upstream of any disinfection equipment so that water representative of the water in the well may be drawn for laboratory analysis.
- 19.2 For wells provided with chlorination or other chemical feed systems, a second sample tap shall be provided at the discharge line after the point at which chlorination or other chemicals are introduced and before connection to main water line.

CHAPTER XX
LARGE DIAMETER SHALLOW WELLS

- 20.1 The use of bored or dug wells, or wells less than fifty (50) feet deep to provide public water supply shall be avoided unless there is no other feasible means for obtaining water. When used for this purpose, these wells shall be located at least five hundred (500) feet from any underground sewage disposal facility, and stricter monitoring requirements may be instituted.

CHAPTER XXI
DRIVEN WELLS

21.1 Driven wells shall not be permitted.

CHAPTER XXII

REPAIR OR DEEPENING OF WELLS, TEMPORARY COVER

- 22.1 Repair or Deepening of Wells. The Administrator shall be notified at least forty-eight (48) hours before the owner removes pumps or other devices installed in the well bore for the purpose of making repairs to the well. When such devices are removed, the Administrator shall be allowed access to the cleared well for inspection and measurements. In emergencies, the Administrator shall be notified as soon as practicable after the devices are removed.
- 22.2 All casing used in the deepening or repair of wells shall meet the requirements of Chapter XV of these regulations.
- 22.3 If the old casing is removed, the well shall be recased and sealed in accordance with the requirements of Chapter XIV of these regulations.
- 22.4 Temporary Cover. Whenever there is an interruption in work on the well, such as overnight shutdown, during inclement weather, or waiting periods required for the setting up of sealing materials, for tests, for installation of the pump, etc., the well opening shall be closed and secured with a temporary cover to insure the public safety and prevent damage to the well.
- 22.5 During interruptions extending through a period of one (1) week or more, a semi-permanent cover shall be installed. For wells cased with steel, a steel cover, with a one inch threaded opening in the center with plug tack welded to the top of the casing, is adequate.

CHAPTER XXIII
EXISTING WELLS

- 23.1 Every owner or user of any existing well within the Territory of Guam shall, upon request of the Administrator, disclose the location of such well and all other facts or information within his knowledge or possession relating to such well. He shall include a statement of the manner in which the well is being used or operated, the volume of water being drawn or flowing therefrom, and the method and means of control thereof. The owner, upon request, shall provide the Administrator, or his authorized representative, access to the well for inspection purposes.
- 23.2 Owners of wells in existence before March 9, 1967 shall not be required to alter or augment existing facilities or appurtenances to obtain data, but shall assist the Administrator, when requested, in installing facilities or altering or augmenting existing facilities at the discretion and cost of the Agency in order that such data may be obtained.
- 23.3 The owners of all active wells in operation shall be required to obtain a well operating permit. The owners of all wells to be altered, rehabilitated or extended shall first obtain a well drilling permit.
- 23.4 The Administrator shall allow continued operation of an existing well if such operation would not cause an adverse effect to the groundwater resources. Wells ordered for discontinuence of operation shall be brought into compliance according to the provision of these regulations within a reasonable time as determined by the Administrator, or the well shall be considered abandoned.

CHAPTER XXIV
UTILIZATION AND METERING OF WELL WATER

- 24.1 The Administrator may limit the amount of water drawn from any well covered under these regulations during emergency conditions or drought, or if there is a reasonable basis to expect that otherwise operation of the well will:
- (a) Excessively lower the ambient groundwater table, or
 - (b) Cause or bring about excessive salt water intrusion, excessive mineralization or other degradation of water quality which may render a domestic water source unfit for such purposes, or
 - (c) Interfere with the operations of existing established water sources.
- 24.2 For all wells from which water is to be drawn, constructed before or after the effective date of these regulations, the owner shall provide the installation of a water meter, as set forth in Chapter V of these regulations, and shall maintain such device at his own expense.
- 24.3 Prior to the replacement of pumps at a well for its operation with a rated capacity different than the rated capacity of the existing pump, an application for new well operation permit shall be filed with the Administrator. Issuance of the permit shall be subject to the approval of the Administrator, based on the criteria set forth in Chapter V of these regulations. The Administrator's decision shall be made within fifteen (15) days after filing for the well operation permit.
- 24.4 For all new wells constructed after the effective date of these regulations from which water is to be drawn, the owner shall provide and maintain the following at his own expense:
- (a) A means by which to determine water level in a manner satisfactory to the Administrator;
 - (b) Adequate access and clearance for well drilling equipment;
 - (c) Sample tap for obtaining water samples;
 - (d) Water meter capable of registering pumpage rates in gallons. The meter shall have an indicator and a totalizer and be of sufficient size to accomodate

flows up to 150 percent of the well design capacity. Accuracy shall be within two percent over the range of the water meter; and

- (e) Pressure guage on the discharge piping, reading in pounds per square inch.

CHAPTER XXV
TEST BORINGS

- 25.1 The driller shall notify the Administrator in writing prior to any test boring work.
- 25.2 Test borings deeper than 20 feet shall be treated like other wells, subject to permit requirements, except that a group of test borings located on a single property may be considered under one permit.
- 25.3 Test borings of more than 20 feet deep conducted in aquifer areas or groundwater recharge areas, unless developed into water producing or drainage well or monitoring well, must be properly destroyed in accordance with pertinent sections of Chapter XXVIII.

CHAPTER XXVI
ACCESS TO WELLS AND INSPECTION OF WELLS

- 26.1 Any duly authorized officer, employee, or representative of the Agency may enter and inspect any property, premises or place where a water well is being operated, constructed, or abandoned, for the purpose of ascertaining the state of compliance with these regulations.
- 26.2 No person shall refuse entry or access to any authorized representative of the Agency who requests entry for purposes of inspection, and who presents appropriate credentials; nor shall any person obstruct, hamper or interfere with any such inspection. If requested, the owner or operator of the premises shall receive a report setting forth all facts found which relate to compliance status.
- 26.3 If upon the basis of such inspections the Agency finds that applicable laws, rules and regulations have not been complied with, the Administrator or his authorized representative conducting the inspection shall issue a written notice to the owner or operator stating such violation for the purpose of compliance with these regulations. The owner shall have thirty (30) days to bring the well into compliance or the owner shall terminate the use of the well until the violations have been corrected. If the Administrator determines that continued operation of the well could cause an acute danger or health hazard to the people of Guam, the Administrator may terminate the use of the well.
- 26.4 The owner of any well covered under these regulations shall be responsible for providing adequate safeguards at the well at his own expense so that any person permitted to be on such property where such well is located shall not be exposed to any danger, hazard or nuisance.

CHAPTER XXVII
DISCONTINUED USE OF WELLS

- 27.1 The well owner or his authorized representative for which a well drilling or well operating permit has been issued shall submit a written statement to the Administrator when a well drilling operation has been discontinued and/or well operation terminated for more than thirty (30) days. The statement shall indicate the nature and reason for the action, the date of termination, the period of time that the well drilling is to be discontinued or the well is to be out of operation, and shall be submitted within thirty (30) days of the action. The well shall then be declared either an "inactive well" or an "abandoned well", and the drilling or operation permit shall be revoked by the Administrator.
- 27.2 A well shall be considered "abandoned" if the well is not being used in compliance with or maintained under a valid operating permit or the well has not been used for a period of twelve (12) consecutive months unless the owner shows evidence of his intention for the continued use and proper maintenance of the well in such a way that:
1. The well has no defects which will facilitate the impairment of quality of water in the well or in the water-bearing formations penetrated;
 2. The well is covered with an appropriate locked cap or approved surface plate;
 3. The well is marked so that it can be clearly seen; and
 4. The area surrounding the well is kept clear of brush or debris.
- 27.3 If the pump has been removed for repair or replacement, the well shall not be considered "abandoned," provided that evidence of repair can be shown. During the repair period, the well shall be adequately covered to prevent injury to people and to prevent the entrance of undesirable water or foreign matter into the well.
- 27.4 Monitoring wells used in the investigation or management of groundwater basins by governmental agencies or other appropriate engineering or research organizations are not considered "abandoned" so long as they are maintained for this purpose. When these wells are no longer used for this purpose or for supplying water, they shall be considered as "abandoned wells".

- 27.5 The Administrator, at his option or discretion, may convert the use of Government of Guam owned wells that have been designated as "abandoned" to a new use as a monitoring well. In this event, the well shall be properly maintained at the expense of the Agency according to the provisions specified in Section 27.4 of this Chapter.
- 27.6 All wells declared as being "abandoned wells" shall be properly destroyed in accordance with Chapter XXVIII.

CHAPTER XXVIII
REQUIREMENTS FOR DESTRUCTION OF ABANDONED OF WELLS

- 28.1 All "abandoned" wells, including test holes, shall be destroyed by their owner in such a way that they will not produce water or act as a channel for the interchange of waters, when such interchange will result in a deterioration of the quality of water in any of the water-bearing formations penetrated, or present a hazard to the safety and well being of people and animals.
- 28.2 Before the hole is filled, the well shall be investigated by a licensed well driller to determine its condition, details of construction, and whether there are obstructions that will interfere with the process of filling and sealing.
- (a) If there are any obstructions, they shall be removed if possible, by cleaning out the hole or by re-drilling.
 - (b) Where necessary, to insure that sealing material fills not only the well casing but also any annular space or nearby voids, the casing should be removed (if possible), perforated, or otherwise punctured, prior to placing the sealing material.
- 28.3 The following are requirements for filling and sealing when certain conditions have been found to exist as established through inspection by the Administrator.
- (a) When the well is wholly situated in unconsolidated material in an unconfined groundwater zone. -- If the groundwater is within fifty (50) feet of the surface, the upper twenty (20) feet shall be sealed with impervious material and the remainder of the well shall be filled with clay, sand, or other suitable inorganic material.
 - (b) Well penetrating several aquifers or formations. -- In all cases the upper twenty (20) feet of the well shall be sealed with impervious material.

In areas where the interchange of water between aquifers will result in a deterioration of the quality of water in one or more aquifers, or will result in a loss of artesian pressure, the well shall be filled and sealed so as to prevent such interchange. Sand or other suitable inorganic material may be placed opposite the producing aquifers (or formations) and other formations where impervious sealing material is not required.

Impervious material must be placed opposite confining formations for a sufficient vertical distance (but no less than 10 feet) in either direction, or in the case of "bottom" water, in the upward direction.

- (c) Well penetrating creviced or fractured rock. -- If creviced or fractured rock formations are encountered just below the surface, the portions of the well opposite this formation shall be sealed with neat cement, cement grout, or concrete. If these formations extend to considerable depth, alternate layers of coarse stone and cement grout or concrete may be used to fill the well. Fine grained material shall not be used as fill material for creviced or fractured rock formations.
- (d) Well in noncreviced, consolidated formation. -- The upper twenty (20) feet of a well in a noncreviced, consolidated formation shall be filled with impervious material. The remainder of the well may be filled with clay or other suitable inorganic material.
- (e) Well penetrating specific aquifers, local conditions. -- Under certain local conditions, the Administrator may require that specific aquifers or formations be sealed off during destruction of the well.

28.4 The following requirements shall be observed in placing fill or sealing material in wells to be destroyed:

- (a) The well shall be filled with the appropriate material (as described in this Chapter) from the bottom of the well up.
- (b) Where neat cement, cement grout, or concrete is used, it shall be placed in one continuous operation.
- (c) Sealing material shall be placed in the interval or intervals to be sealed by methods that prevent free fall, dilution, and/or separation of aggregates from cementing materials.
- (d) Where the head (pressure) producing flow is great, special care and special methods must be used to restrict the flow while placing the sealing material. In such cases, the casing must be perforated opposite the area to be sealed and the sealing material forced out under pressure into the surrounding formation.

- (e) When pressure is applied to force sealing material into the annular space, the pressure shall be maintained for a length of time sufficient for the cementing mixture to set.
- (f) To assure that the well is filled and that there has been no jamming or "bridging" of the material, verification shall be made that the volume of material placed in the well installation at least equals the volume of the empty hole.

28.5 Materials. Requirements for sealing and fill materials are as follows:

- (a) Impervious Sealing Materials. Sealing materials shall have such a low permeability that the volume of water passing through them is of small consequence.

Suitable materials include neat cement, cement grout, concrete, bentonite clays (muds), silt and clays, well-proportioned mixes of silts, sands, and clays (or cement), and native soils and natural material that have a coefficient of permeability of less than one hundred (100) feet per year. Used drilling muds are not acceptable.

- b) Fill Material. Many materials are suitable for use as a filler in destroying wells. These include clay, silt, sand, gravel, crushed stone, native soils, mixtures of the aforementioned types, and those described in Section 28.5(a). Material containing organic matter shall not be used.

28.6 Additional Requirements for Abandonment of Wells in Urban Areas. In areas developed for multiple habitation, to make further use of the well site, the following additional requirements must be met:

- (a) A hole shall be excavated around the well casing to a depth of six (6) feet below the ground surface and the well casing removed to within six (6) inches of the bottom of the excavation.
- (b) The sealing material used for the upper portion of the well shall be allowed to spill over into the excavation to form a cap at least one (1) foot thick.
- (c) After the well has been properly filled, including sufficient time for sealing material in the excavation to set, the excavation shall be filled with native soil.

- 28.7 Temporary Cover. During periods when no work is being done on the well, such as overnight or while waiting for sealing material to set, the well and surrounding excavation, if any, shall be covered. The cover shall be sufficiently strong and well enough anchored to prevent the introduction of foreign material into the well and to protect the public from a potentially hazardous situation.
- 28.8 The Administrator shall set a compliance schedule for the sealing of abandoned wells and shall notify, in writing, the owner of wells to be destroyed. The Administrator reserves the right to require the owner to replug any well where it can be determined that the previous plugging was not effective due to failure of cement seal or other causes.
- 28.9 Inspection of Destroyed Wells after Sealing or Filling. The owner shall notify the Administrator forty-eight (48) hours in advance of his intent to commence work. All destroyed wells shall be inspected during and after sealing or filling operation, by the Administrator or his authorized representative to insure that proper procedures have been carried out.

CHAPTER XXIX
PENALTIES AND APPEALS

- 29.1 Any person who violates any of the provisions of these regulations shall be penalized pursuant to the Water Resources Conservation Act, Chapter II, Title LXI, of the Government Code of Guam.
- 29.2 Any order or decision of the Administrator pursuant to these regulations, shall become final unless a hearing is requested before the Board. The Board shall have the power to review and to affirm, modify or reverse any order or decision of the Administrator so appealed. Such appeal shall be made pursuant to the provisions of the Administrative Adjudication Law, Chapter II, Title XXV, of the Government Code of Guam.
- 29.3 Any order or decision of the Board pursuant to these regulations shall be subject to an appeal therefrom to the Island Court of Guam. Such appeal shall be made pursuant to the provision of the Administrative Adjudication Law, Chapter II, Title XXV, of the Government Code of Guam.

CHAPTER XXX
SEVERABILITY

- 30.1 If any rule, section, sentence, clause, or phrase of these regulations or its application to any person or circumstance or property is held to be unconstitutional or invalid, the remaining portions of these regulations or the application of these regulations to other persons or circumstances or property shall not be affected.

APPENDIX A

APPLICATION FOR WELL DRILLERS LICENSE

Complete Items No. 1 through 7 and submit an application fee of two hundred dollars (\$200). Make checks payable to the Treasurer of Guam.

1. Date of Application _____

2. Type of Application

____ New
____ Renewal If renewal, previous well driller's license no. _____

3. Name of Applicant _____
(name of individual or name and type of
association of private or public entity
or agency)

Mailing Address _____

4. Contractors License No. _____ Date Issued _____

5. Authorized representative for applicant

Name _____ Title _____

Address _____
(If different
than above) _____

Telephone _____

6. The following documents, statements and certifications shall be attached to this application and submitted herewith.

- A. Bonding and financial capability statements
- B. Insurance for comprehensive and general liability coverage
- C. Qualifications and experience statements

7. I, _____ (Name) _____ (Title)

being duly authorized to act on the behalf of the above applicant state that I have knowledge of the facts set herein and that the same are true and correct to the best of my knowledge and belief and are made in good faith.

Signature _____ Date _____

APPLICATION FOR WELL DRILLERS LICENSE (Cont.)

(For Agency Use Only)

Recommendations:

Approved _____
Disapproved _____

Reasons for disapproval

Signed:

Administrator Date _____

Well Drillers License No. _____

Date Issued _____

Expiration Date _____

APPENDIX B
WELL DRILLER'S LICENSE

Expiration Date _____

This certifies that _____,
a duly registered well driller, with license no. _____ dated
_____ having met the requirements set forth by the
regulations for the protection, development and conservation of the
water resources of the Territory of Guam, is entitled to practice as
such in Guam for two (2) years indicated thereon.

Well Driller

Administrator

Date _____

Note: Valid only for two (2) years from date of issuance.

APPENDIX C

APPLICATION FOR WELL DRILLING PERMIT

Complete Items No. 1 through 18 and submit an application fee of two hundred fifty dollars (\$250) and a bond in the amount set by the Administrator. Make checks payable to the Treasurer of Guam.

I. Background Information

1. Date of Application _____

2. Type of Application

_____ New
_____ Extension Previous Well Drilling Permit No. _____

3. Name of Well Owner _____
(name of individual or name and type of
association or of private or public
entity or agency)

Mailing Address _____

Telephone _____

4. Name of owner of property on which well is located _____

Department of Land Management Lot Number on which well is
located _____

If owner of the land on which the well is located and the
owner of the well are not the same, written notarized
permission from the owner of the land shall be filed with the
application.

II. Driller Information

5. Name of Driller _____

6. Well Driller's License No. _____ Expiration Date _____

7. Well Driller's Contractors License No. _____

Date Issued _____

8. Proposed Well Drilling Start Date _____

9. Estimated Time Required to Complete Drilling Operation _____

APPLICATION FOR WELL DRILLING PERMIT (Cont.)

10. Method of Drilling to Be Used _____

Type of drilling fluid (indicate manufacturer and chemical composition)

III. Well Information

11. Type of Well (indicate one):

_____ Public Water Supply Well	_____ Recharge or Injection Well
_____ Individual Domestic Well	_____ Agricultural Well
_____ Industrial Well	_____ Monitoring Well

12. Purpose for which water is to be used _____

13. Estimated pumping rate:

Normal pumping rate _____ gpm

Maximum pumping rate _____ gpm

14. Estimate hours of well operation: _____ hours per month

15. Estimated volume of water to be pumped on an annual basis:

_____ gallons per year

IV. Well Plan and Construction Details

16. Attach map or drawing with a scale of 1"=50' showing the following information:

- (a) Location of well with respect to known references such as streets, property lines and survey monuments, including GGTN coordinates of the well to the nearest foot;
- (b) Topography with contours not greater than two feet (150 feet from the well in all directions);
- (c) Boundaries of property where well is located;
- (d) Location and elevation of semi-permanent benchmark established by Registered Land Surveyor;
- (e) Locations of existing or abandoned wells within a 500 foot radius;

APPLICATION FOR WELL DRILLING PERMIT (Cont.)

- (f) Location of sewer lines, leaching fields, ponding basins, dry wells, buildings, etc., within a 500 foot radius; and
- (g) Other natural features such as springs, sinkholes, etc.
17. A sketch of the well indicating the proposed depth of well, elevation of the top of the well casing and potential flood hazard area(s), casing or lining, water level measurement provisions, grouting of annular space, vents, water sample taps, air release valves, pressure gauges, discharge piping and fittings, etc., shall be attached and submitted with his application.
18. The well pump will be of the _____
(submersible, vertical turbine etc.)
type with a rated capacity of _____ gpm at a total dynamic head of _____ feet. Attach hydraulic calculations supporting the sizing of the well and pump.
19. The production meter will be _____ inches in size and capable of metering flow over a range of _____ to _____ gpm.

V. Permittee Bond

It is required that before permit be granted a permittee bond on an amount set by the Administrator but not to exceed ten thousand dollars (\$10,000) on each new well shall be submitted together with this application to the Administrator and bond shall be payable to the Treasurer of Guam effective for a period covering the life of the drilling permit or until issuance of a well operating permit, whichever occurs first.

VI. Signature

I _____, _____
Name Title

state that I have knowledge of the facts herein set and that the same are true and correct to the best of my knowledge and belief and are made on good faith.

Date _____ Signature _____

APPLICATION FOR WELL DRILLING PERMIT (Cont.)

(For Agency Use Only)

Inspection of the well site was conducted on _____
by _____

Findings:

Reviewed by the Chief Engineer:

_____ Date _____

Recommendations:

_____ Approved
_____ Disapproved

Reasons for disapproval:

Signed:

_____ Date: _____
Administrator

Well Drilling Permit No. _____
Date Issued _____
Expiration Date _____

APPENDIX D

WELL DRILLING PERMIT

This permit has been issued for the performance of work provided by the regulations for the protection, development and conservation of water resources of the Territory of Guam, and shall be valid for a period of the life of the drilling operation but not to exceed one (1) year.

Permit No. _____ Date Approved _____

Owner: _____

Location: _____

Well Driller: _____

The maximum pumping rate shall be _____ gallons per minute.

This notice must be posted visibly on the project site during the progress of the work as required by the law.

Administrator

APPENDIX E

APPLICATION FOR WELL OPERATING PERMIT

Complete Items No. 1 through 25 and submit application fee as set forth in the Well Development and Operating Regulations. No application fee is required for monitoring wells. Make checks payable to the Treasurer of Guam.

I. Background Information

1. Date of Application _____
2. Type of Application
_____ New
_____ Extension Previous Well Operating Permit No. _____
3. Name of Well Owner _____
(name of individual, company, agency, etc.)
Mailing Address _____
Telephone _____
4. Name of owner of property on which well is located _____

If owner of the land on which the well is located and the owner of the well are not the same, written notarized permission from the owner of the land shall be filed with the application.

II. Well Information

5. Type of Well (indicate one):
_____ Public Water Supply Well _____ Recharge or Injection Well
_____ Individual Domestic Well _____ Agricultural Well
_____ Industrial Well _____ Monitoring Well
6. Purpose for which water is to be used _____
7. Pumping rates:
Design pumping rate _____ gpm
Maximum pumping rate _____ gpm

APPLICATION FOR WELL OPERATING PERMIT (Cont.)

8. Estimated hours of operation _____ per day
_____ per month
_____ per year
9. Estimated volume of water to be pumped on an annual basis:
_____ gallons per year

III. Well Location

10. Provide a plot plan drawn to a scale of 1"=50' showing known references such as streets, property lines, and survey monuments, including GGTN coordinates of the well to the nearest foot.

IV. Well Drilling Summary

11. Period of well drilling:
Starting date _____
Completion date _____
12. Well Drilling Contractor _____
13. Well Drilling Permit No. _____
14. Total Depth of Well _____ feet
Elevation (MSL) of Ground Surface at Casing _____ feet
Elevation (MSL) of Top of Well Casing _____ feet
15. Describe Method and Type of Drilling _____

16. Casing:
Casing Hole Diameter _____ inches
Depth (length from surface) _____ feet
Casing Type _____ Size (ID) _____ Wall Thickness _____
Weight _____ Material _____

APPLICATION FOR WELL OPERATING PERMIT (Cont.)

17. Well Screen:

Screen Type (ID) _____ Slot Size _____ Length _____
Screen Diameter _____ Material _____
Location (from surface) _____ feet to _____ feet
Describe Method of Installation _____

18. Cement Grouting:

Material _____ Total Depth _____ Gravel Size _____
Annular Thickness _____
Cubic Yards of Cement Placed _____
Describe Method of Grouting _____

19. Describe Well Development Method(s) _____

V. Well Construction Summary

20. Flow Measurement and Testing, if performed:

Pump Capacity _____
Static Water Level _____ Pumping Water Level _____
Air Line Length _____ Top Elev. (MSL) _____
Bottom Elev. (MSL) _____
Specific Capacity at Test _____
Describe Method Used for Flow Measurement and Testing _____

APPLICATION FOR WELL OPERATING PERMIT (Cont.)

22. Provide a plan(s) of the well showing the following information:

- (a) Control valves, misc. fittings and appurtenances, and discharge piping;
- (b) Flow metering device, including size, flow range and manufacturer;
- (c) Vertical cross-section of the well showing details of the casing, grouting, pump setting, gravel pack, water level measurement devices;
- (d) Chlorination and fluoridation equipment; and
- (e) Elevation and location of permanent benchmark.

23. Describe provisions for protecting the well from erosion and animals and other contamination by specifying provisions for sanitary well seal, casing height above ground, and flood level elevation.

24. Describe procedures used for disinfecting the well.

25. If not previously submitted, attach a log of the well to the application.

IV. Signature

I _____, _____
Name Title

state that I have knowledge of the facts herein set and that the same are true and correct to the best of my knowledge and belief and are made on good faith.

Signature _____ Date _____

APPLICATION FOR WELL OPERATING PERMIT (Cont.)

(For Agency Use Only)

Inspection of the well facilities was conducted on _____
by _____

Findings:

Water sample taken on _____ by _____

Results of the water quality analyses are attached.

Reviewed by the Chief Engineer:

_____ Date _____

Recommendations:

_____ Approved
_____ Disapproved

Reasons for disapproval:

Signed:

_____ Date _____
Administrator

Well No. _____

Well Operating Permit No. _____

Date Issued _____

Expiration Date _____

APPENDIX F

WELL OPERATING PERMIT

Well No. _____

Well Operating Permit No. _____

Expiration Date _____

This certifies that Well No. _____ located at _____

_____ has met the provisions required by the regulations for the protection, development and conservation of the water resources of the Territory of Guam, and is hereby granted permit for its operation for a period of five (5) years providing the following requirements are maintained:

- (1) The maximum pumping rate shall be _____ gallons per minute.
- (2) The total annual volume of water withdrawn shall not exceed _____ million gallons.
- (3) Annual well operating reports be filed no later than January 15 of each year in conformance with the provisions of Chapter Six of the Well Development and Operating Regulations.
- (4) All other provisions of the Well Development and Operating Regulations are met.
- (5) An annual operating fee is to be submitted by no later than January 15 of each year.

Well Owner

Administrator

Date _____

APPENDIX G

ANNUAL WELL OPERATING REPORT FOR PRODUCTION WELLS

Complete Items No. 1 through 7 and submit the annual operating fee to GEPA. Make checks payable to the Treasurer of Guam.

Well Operating Permit No. _____

1. Date of Report _____
2. Name of Well Owner _____
3. Well Number _____
4. Total Water Pumped:

<u>Month</u>	<u>Gallons</u>
Jan	_____
Feb	_____
Mar	_____
Apr	_____
May	_____
Jun	_____
Jul	_____
Aug	_____
Sep	_____
Nov	_____
Dec	_____

Total Annual Production = _____ gallons

5. Describe any alteration, rehabilitation or extension made to the well during the preceeding year.

<u>Date</u>	<u>Description</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

ANNUAL WELL OPERATING REPORT
FOR PRODUCTION WELLS (Cont.)

6. Itemize all maintenance, repairs or replacement of well equipment (pumps, motors, meters, chlorination, etc.), chemical treatment of the well screen, resetting of the pump, etc., for the preceeding year.

<u>Date</u>	<u>Description</u>
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

7. I, _____, _____
(Name) (Title)
state that I have knowledge of the facts herein set and that the
same are true and correct to the best of my knowledge and belief
and are made in good faith.

Signature _____ Date _____

APPENDIX H
ANNUAL WELL MONITORING REPORT

Complete Items No. 1 through 6. Well Operating Permit No. _____

1. Date of Report _____
2. Name of Well Owner _____
3. Well Number _____
4. Describe type, method and frequency of well monitoring conducted on the well during the preceeding year:

5. Describe any alteration, rehabilitation or extention made to the well during the preceeding year:

<u>Date</u>	<u>Description</u>
-------------	--------------------

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

6. I, _____ (Name) _____ (Title)
state that I have knowledge of the facts herein set and that the same are true and correct to the best of my knowledge and belief and are made in good faith.

Signature _____ Date _____

APPENDIX I
WATER ANALYSIS REPORTING FORM

Well Drilling Permit No. _____

Previous Well Operating Permit No. _____

Well No. _____

Date of Analysis _____

By _____

I. Chemical (in mg/l unless otherwise noted)

Silica	_____	Sulfate	_____
Calcium	_____	Chloride	_____
Magnesium	_____	Fluoride	_____
Sodium	_____	Nitrate (as N)	_____
Potassium	_____	Dissolved Solids	_____
Bicarbonate	_____	pH, units	_____
Carbonate	_____	Specific Conductance (mhos)	_____
Hardness (as CaCO ₃)	_____	Color, units	_____

II. Metals and Special Constituents (in mg/l)

Arsenic	_____	Manganese	_____
Barium	_____	Mercury	_____
Cadmium	_____	Selenium	_____
Copper	_____	Zinc	_____
Cyanide	_____	Phenols	_____
Iron	_____	Surfactants (MBAS)	_____
Lead	_____		

III. Bacteriological (counts per 100 ml)

Fecal Coliform	_____
Total Coliform	_____

APPENDIX J
LITHOLOGIC LOG OF WELL

Well No.: _____ Logged By: _____
Ground Elevation: _____ Drilled By: _____
Date Started: _____ Diameter of Boring: _____
Date Completed: _____ Depth To Water: _____
Total Depth Drilled: _____

Depth		Lithologic Description	Comments
To	From		

Signature _____ Date _____
Well Driller

APPENDIX K
NOTICE TO TEST BORE

1. Name of Owner _____
2. Drilling Firm or Agency _____
3. Mailing Address _____

4. Telephone Number _____
5. Number of Proposed Test Boring _____
6. Maximum Proposed Depth of Borings _____ feet.
7. Location of Test Borings (attach map) _____

Signature _____ Date _____
Applicant

Note: All test borings are subject to the provisions of Chapter XXIX of the Guam Environmental Protection Agency's regulations for well development and operating regulations. Filing fee is not required.

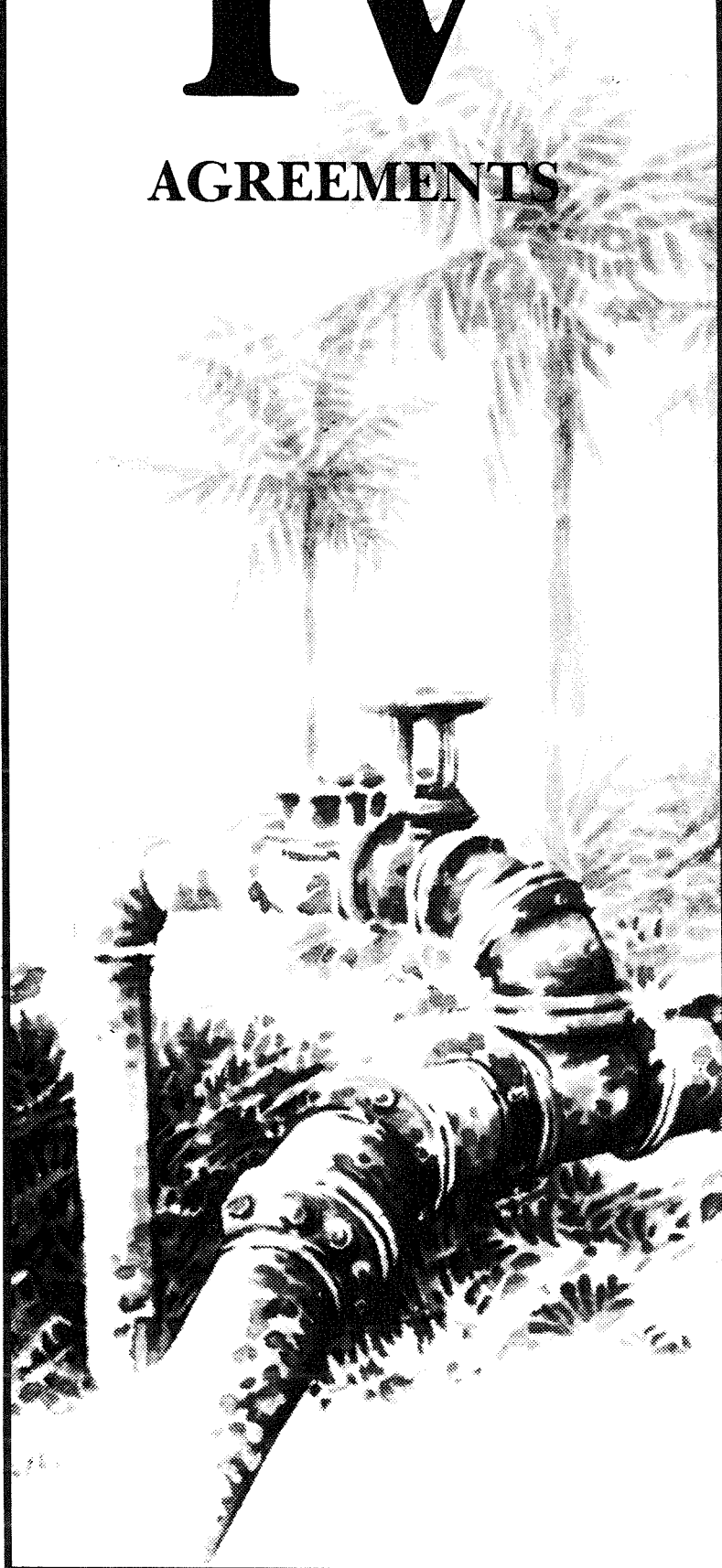
PUMP TEST FORM

Elevation of M.P.:

Time	Time Since Pumping Began, t	Discharge (gpm)	Drawdown (ft)	Comments

IV

AGREEMENTS



CHAPTER IV

AGREEMENTS

General

The need for an inter-agency agreement for a cooperative effort in managing the Northern Lens is premised on the fact that the Northern Lens is a Principal Source Aquifer and that the military commands as well as the Government of Guam obtain some of their water from this aquifer. Therefore proper management and utilization of the resource is of vital interest to the welfare of the civilian community and to national security. The proposed agreement is to be executed between the Government of Guam, the U.S. Air Force, the U.S. Navy, the U.S. Geological Survey, the Office of Territorial Affairs of the Department of Interior and the U.S. Environmental Protection Agency.

AGREEMENT FOR COOPERATIVE MANAGEMENT
OF NORTHERN GUAM GROUNDWATER RESOURCES

THIS AGREEMENT, Made this _____ day of _____, 198__, between the Guam Environmental Protection Agency, the United States Environmental Protection Agency, the United States Navy, the United States Air Force, and the United States Department of the Interior, acting by and through the Geological Survey and the Office of Territorial Affairs, witnesseth:

WHEREAS, the United States Environmental Protection Agency (USEPA) has designated the Northern Guam Groundwater System as a Principal Source Aquifer pursuant to Section 1424(e) of the Safe Drinking Water Act (PL 93-523) pursuant to notice published in the Federal Register (Vol. 43, No. 81) on April 26, 1978; and,

WHEREAS, in furtherance of said action, USEPA has entered into an agreement with the Government of Guam, acting through the Guam Environmental Protection Agency, (GEPA) on May 19, 1978, providing for the preservation and protection of the quality of said groundwater resources and for the provision of assistance of USEPA in that endeavor; and,

WHEREAS, pursuant to said agreement and in furtherance of its objectives, GEPA has caused to be prepared a program for the further protection and preservation of the quality and long-term sustainable yield of said groundwater resources, based on a detailed evaluation of the nature, occurrence, and yield of the Northern Guam Groundwater Lens, and a program for the long-term management of said Northern Lens, including, but not limited to, requirements for the design, construction and operation of wells, to ensure that the Northern Lens will not be overdrafted or otherwise subjected to long-term degradation, to the ultimate detriment of the users of said groundwater supply; and,

WHEREAS, the United States Air Force (USAF) owns and operates Andersen Air Force Base and numerous other associated facilities overlying the Northern Guam Groundwater Lens, including their appurtenant water supply features; and,

WHEREAS, the United States Navy (USN) also owns and operates the Agana Naval Air Station and numerous other associated properties and facilities overlying the Northern Guam Groundwater Lens, including their appurtenant water supply features; and,

WHEREAS, said USN and USAF properties and associated facilities derive water supplies from the Northern Guam Groundwater Lens by pumping from wells; and

WHEREAS, the maintenance of an adequate, long-term, water supply for said properties and associated facilities is vital to the military missions of the two agencies and to the security of the United States of America.

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. It is vital that the development of the Northern Guam Groundwater Lens proceed in accordance with a single, coordinated, comprehensive program, and that the management of said program be assigned to a single entity endowed with adequate powers and resources to monitor and direct said program.

2. It is also vital that all agencies deriving their water supplies from the Northern Guam Groundwater Lens assist in the management of said program by adherence to the technical requirements of the program, by furnishing of well design, construction and operational data, and by the provision of advice and assistance to facilitate the monitoring of the effectiveness of the program and to formulate required changes in the technical and institutional aspects of the program, based on operating experience.

3. The management of Northern Guam Groundwater Lens, shall be assigned to GEPA, subject to that agency being granted by the Guam Legislature all necessary powers to carry out those duties, and the designation of a Technical Advisory Committee whose membership shall include, but shall not be limited to technical representatives of the following agencies.

Government of Guam

Guam Environmental Protection Agency
Public Utility Agency of Guam
Bureau of Planning
University of Guam

United States of America

U. S. Navy
U. S. Air Force
U. S. Department of the Interior, Geological Survey

4. Members of the Technical Advisory Committee shall be appointed by the following designated officials of the agencies they represent, and shall serve at the pleasure of the appointing officials.

Government of Guam

GEPA - Administrator
PUAG - Chief Officer
BOP - Director
University of Guam - President

United States Government

USN - COMNAVMAR
USAF - Commanding Officer, Andersen Air Force Base
USGS - District Chief, Hawaii District

5. The Technical Advisory Committee shall meet at periodic intervals of no longer than six months.

6. This agreement shall have a term of five years, and may be renewed from time to time thereafter for successive terms of five years.

7. During each of the five years of the term of this Agreement, the Administrator shall prepare and disseminate to interested parties an annual report which will discuss and summarize significant aspects of the performance of the Northern Guam Groundwater Lens, and which will contain a series of appendices containing detailed operating data. The reports will cover all program elements conducted over the preceeding 12-month period, and will be prepared and distributed to the Technical Advisory Committee within six months of the end of the program year, and the final report will be published within nine months of the end of the program year. The program year shall coincide with the fiscal year of the Government of Guam.

8. During successive terms of this agreement, after the initial 5-year term, and upon the recommendation of the Technical Advisory Committee, annual progress reports may be suspended in favor of biennial or triennial reports, depending on the extent of current activities under the program and the timing of need for publication.

9. Members of the Technical Advisory Committee appointed by the USN and USAF shall supervise the compilation and submission of the data to GEPA required for the proper management of the Northern Guam Groundwater Lens from their parent commands.

10. At periodic intervals, the Technical Advisory Committee, either upon specific request of the GEPA Administrator or on its own motion shall review and/or comment on all technical and managerial aspects of the Northern Guam Len Study - Groundwater Management Program. The Committee shall review and comment on operation and technical performance reports, budgets, and financial reports, special reports and annual reports relating to the

performance of the Northern Guam Groundwater Lens under the adopted program, and shall formulate and make recommendations to the Administrator of GEPA covering technical and institutional program revisions which, in the opinion of the Committee, are necessary. Copies of all reports to be prepared by the Administrator concerning the management and operation of the program shall be furnished in draft form to the Committee for review and comment prior to their finalization. All expenses of the Committee, including secretarial, reproduction, stationary and postage, shall be budgeted as a line item in the annual budget of GEPA. All necessary travel expenses incurred by the Committee shall be borne by their appointing agency. Minutes of each meeting shall be prepared for Committee review at the succeeding meeting and shall not become final unless approved by the Committee.

11. USN and USAF agree that the financial integrity of the Northern Guam Lens Study - Groundwater Management Program will be strengthened if the USN and USAF participate in the program on the same basis as PUAG. Accordingly, it is agreed that USN and USAF will pay well construction and well operating permit fees and otherwise participate in the permit program as required by the laws of Guam in order to assure the proper financial base for support of the monitoring and reporting activities to be carried out under the Northern Guam Lens Study - Groundwater Management Program.

In return for that assistance, the Government of Guam agrees that the USN and USAF shall be permitted to pump no less water annually than they have historically pumped annually from the Northern Guam Groundwater Lens. It is agreed that, in accordance with the need to protect the Northern Lens, pumping from some wells may have to be transferred to other wells or that new wells may have to be drilled by either USN or USAF in order to relieve the draft on some portions of the Northern Lens, as described in the Northern Lens Study - Groundwater Management Program documents.

12. Participation in the agreement or the appointment of members of the Technical Advisory Committee, shall not create any liability on the part of participating agencies, except as expressly noted hereinbefore.

13. This agreement shall be effective the date first mentioned above upon execution by all parties.

GOVERNMENT OF GUAM
OFFICE OF THE GOVERNOR

By _____

Date _____

GUAM ENVIRONMENTAL PROTECTION AGENCY

By _____

Date _____

UNITED STATES GOVERNMENT
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

By _____

Date _____

UNITED STATES NAVY
COMNAVMAR

By _____

Date _____

UNITED STATES AIR FORCE
COMMANDING OFFICER, ANDERSEN AIR FORCE BASE

By _____

Date _____

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

By _____

Date _____

DEPARTMENT OF THE INTERIOR
OFFICE OF TERRITORIAL AFFAIRS

By _____

Date _____

