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CHAPTER 1 -- ADMINISTRATIVE

1.1 INTRODUCTION

1.1.1 This Chapter contains information about how the Manual is to be used in conjunction with the Compact. It outlines criteria flexibility; criteria considerations for determining environmental impacts and monitoring; and a description of the numbering system of the Manual.

1.1.2 The definitions delineated in the Compact apply to all Chapters in the Manual.

1.1.3 All figures and tables referenced herein are found in Appendix 1 of the Manual and maps delineating Reservation and Tribal Trust lands are found in Appendix 2 of the Manual.

1.2 GUIDELINES FOR USE OF THE MANUAL

1.2.1 Relationship Between Compact and Manual -- The relationship is described in Part (II)(J) of the Compact

1.2.2 Criteria Flexibility -- The specific criteria contained in this Manual are flexible and have the primary goal of meeting the provisions and objectives of the Compact. Performance criteria are used where possible. Other methods of meeting overall Compact requirements and objectives will be considered by the District and the Board as appropriate under the circumstances.

It is understood that the Tribe is entitled to demonstrate that it has met the requirements and objectives of the Compact without regard to the specific criteria of this Manual.

1.2.3 Criteria Considerations for Determining Environmental Impacts -- The Tribe's Work Plan will be reviewed by the District or the purposes of advising the Board as to conformance with

conditions of the Compact and with respect to impacts on the water resources on and contiguous to Tribal lands and natural upland systems within Tribal lands.

The District will evaluate the impact of the Work Plan in relation to identified significant environmental features directly related to the water resources, and make specific recommendations as to the Work Plan based upon the evaluation.

The District will separately identify environmental features of the Work Plan which are indirectly or not at all related to water resources and evaluate the impacts of the plan on the non-water resource related environmental features. No recommendations as to the acceptability of the plan will be given based upon non-water resource related environmental impacts.

The following subsections give general information concerning the evaluation of environmental impacts.

1.2.3.1 Information utilized in the review will include aerial photographs, topographic maps and development plans, and relevant data from such other sources as site inspections, studies, and meetings with Tribal representatives.

1.2.3.2 At the request of the Tribe, the District will conduct a site inspection at a mutually convenient time. If necessary, the District will independently inspect the site to determine environmental features. Adverse impacts will not be reported or concluded without a site inspection.

1.2.3.3 The Tribe's and District's mutual,

overall goal is to avoid adverse impacts to wetlands and offset unavoidable adverse impacts to wetlands to achieve no overall net loss of wetland values and functions in accordance with 4.3.2.3.

History Note New 10-22-02

1.2.3.4 The District first makes a determination that potential impacts have been avoided to the maximum extent practicable; remaining unavoidable impacts will then be mitigated, to the extent appropriate and practicable, by requiring steps to minimize impacts and, finally, compensate for impacted wetland functions and values. This sequence is satisfied when the Criteria contained in Chapter 4 are met for Work Plan approval. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain only after all appropriate and practicable minimization has been required.

History Note New 10-22-02

1.2.3.5 Pre-submission meetings and submittal of optional explanatory information which may be useful to the District in the review process are encouraged.

1.2.3.6 The District will evaluate impacts on water resources in the following environmental categories:

A. Environmental features directly related to the water resources, such as:

1. Wetlands habitats.
History Note Revised 10-22-02
2. Natural waterbodies.

B. Environmental features which may be indirectly related to the water resources, such as:

1. Intermittent ponds. And:
2. Significant habitat diversity support systems, usually consisting of highly productive mixed upland and wetland systems with appropriate buffer areas.

C. Environmental features which are not related to the water resources, such as: unique upland habitats, usually consisting of tropical hardwood tree hammocks.

D. Preferred habitats for rare, endangered, or threatened species of plants and/or animals.

1.2.3.7 The actual impact resulting from changes to the natural habitat will be predicted by considering the existing natural system as altered by the proposed plan. It is recognized that the variety of actions associated with a plan may result in both positive and negative environmental impacts. The District, therefore, will balance both positive and negative impacts of the Work Plan to achieve a reasonable degree of protection for significant environmental habitats consistent with the overall intent of the Compact. Wetlands and proposed impacts to wetlands shall be evaluated using sound engineering and ecological principles.

1.2.4 Criteria Considerations for Monitoring

1.2.4.1 General -- The reason for monitoring requirements, including the monitoring and reporting schedules, and the parameters of interest, will normally be stated in the District evaluation for each Work Plan. Each monitoring program will be designed specifically for proposed land use or individual project in the plan in question and may include surface and/or ground water sampling. Parameters of interest will normally include, but not be limited to, water levels and chloride concentrations for water use considerations and those required by Federal Law for drainage considerations.

Monitoring required of the Tribe will be confined to locations within their boundaries. Additional sampling necessary, if any, to assess off-site impacts of the plan will be conducted by the District.

Monitoring will normally be required for sites with high pollutant generating potential, such as industrial sites and solid waste disposal sites.

1.2.4.2 Water Use: Water Monitoring -- All new withdrawal requests will be evaluated based on the withdrawal amount and the aquifer's ability to prevent excessive drawdowns or impacts on existing legal users protected under the Compact or environmental features. If the potential exists for such impacts to occur, monitoring may be required to quantify actual drawdowns as a result of the withdrawals.

In general, there are two reasons for required water monitoring:

A. Where the impacts of the proposed withdrawal may extend to environmental features protected under the Compact, or adjacent legal uses/users protected under the Compact, or

B. Where the potential exists for saline water intrusion.

1.2.4.3 Surface Water Management: Water Quality Monitoring -- All new drainage systems will be evaluated based on the ability of the system to prevent degradation of receiving waters and compatibility with state water quality standards.

A. Areas within the Tribal Reservations and Trust lands where water quality considerations are extremely important because of the sensitivity of the region include:

1. Lake Okeechobee and Lower Kissimmee River.

2. Canals currently being backpumped to Lake Okeechobee or the Conservation areas, or proposed for backpumping.

3. Outstanding Florida Waters defined as:

i. Waters within National Parks
ii. Waters within National Wildlife Refuges

iii. Waters within State Parks or Recreation Areas

iv. Waters within State Preserves

v. Waters within areas purchased under the environmentally endangered lands bond program.

4. Waters within National Preserves.

B. New developments which plan to utilize sensitive areas for disposal of stormwater will be given more detailed evaluation by the District. In addition, new projects entailing a more intensified land use and planning to discharge to sensitive receiving water, directly or indirectly, may be required to institute a water quality monitoring program. The following list of land use intensity is in ascending order:

1. Wetlands
2. Forested lands
3. Rangelands
4. Agricultural
5. Urban and built-up land.

C. In general, there are two reasons for required water quality monitoring:

1. Such data can be used to determine if the pollution abatement practices incorporated into the design for the drainage system are functioning properly.

2. In some cases there may be a real and immediate concern regarding degradation of quality in the receiving waters, regardless of the pollutant removal efficiency of the drainage system.

D. Written evaluations issued for submitted Work Plans not immediately requiring monitoring will normally include a statement to the effect that water quality monitoring may be required in the future. This is not an indication that the District is contemplating the implementation of an intensive water quality monitoring program by the Tribe. If water quality problems develop in specific areas, however, the Tribe, by virtue of that statement, is aware that the quality of the water discharged may

have to be determined.

1.3 DESCRIPTION OF NUMBERING SYSTEM OF THE MANUAL

Numbers and letters designating provisions of the Manual shall be in the following order, and shall be identified in the following manner: n is a Chapter; n.n is a Part; n.n.n is a section; n.n.n.n is a subsection; n.n.n.n.(A) is a paragraph; n.n.n.n.(A)n is a subparagraph.

CHAPTER 2 -- CRITERIA FOR WATER SHORTAGE DECLARATIONS

2.1 GENERAL

2.1.1 Purpose

2.1.1.1 This Chapter comprises the District's water shortage plan as it relates to the Tribe within the realm of the Compact. The purposes of the plan are to protect the water resources of the District from harm; to assure equitable distribution of available water resources among all water users during times of shortage consistent with the goals of minimizing adverse economic, social and health related impacts; to provide advance knowledge of the means by which water apportionments and reductions will be made during times of shortage; and to promote greater security for water use permittees and the Tribe.

2.1.1.2 These provisions apply to the Tribe and all water users including those exempt from permitting. However, they shall not apply to users whose source of water is limited solely to treated effluent or seawater. Thus, for each regulated source and type of use, the District restricts water users uniformly, regardless of whether the user uses water from a public or private utility system, pursuant to a consumptive use permit, or from a private well for domestic or individual home use.

2.1.2 Elements of the Water Shortage Plan The water shortage plan consists of the following elements:

2.1.2.1 **General** Part 2.1 presents the general goals and objectives of the District's water shortage plan. The various elements of the plan are described herein, and definitions for key

terms used in the plan are provided.

2.1.2.2 **Declaring and Implementing a Water Shortage** Part 2.2 describes the procedures the District will utilize in declaring a water shortage. Provisions are made for comparing estimated present and anticipated water supplies with estimated present and anticipated water supplies with estimated present and anticipated user needs. The impact on the water resource, if demands are met from available supplies, is also evaluated. In addition, a method for expressing the severity of a water shortage in terms of four (4) water shortage phases is provided. General user restrictions are established. Finally, procedures for implementing the water shortage declaration are presented.

2.1.2.3 **Emergency Provisions** Normally, the provisions of Part 2.2 will be sufficient to protect users within use classes during times of water shortage. At times, however, due to the peculiar circumstances which apply to each individual user, the class restrictions imposed in Part 2.2 may be inadequate to sufficiently protect individual users. Part 2.3 establishes the criteria for declaring a water shortage emergency. In addition, provisions are made for instituting water use restrictions.

2.1.2.4 **Monitoring** The District's overall program of monitoring surface and ground waters, climatic conditions, and water demand during a shortage is generally described. In addition, a monitoring program is established to determine the impact of a water shortage on the water resources of the District, and the effectiveness of a declaration of water shortage or water shortage emergency.

2.1.2.5 **Specific Restrictions** Part 2.5 establishes

specific water use restrictions for each water shortage phase and water use class. These restrictions are in addition to the general restrictions stated in Parts 2.2 and 2.3.

2.1.2.6 **Classification System** Part 2.6 classifies each user according to the source of water supply and method of withdrawal. The classification system is utilized in conjunction with Parts 2.2, 2.3 and 2.5 to determine the water use restrictions with which the users of a particular source must comply.

2.1.3 **Definitions**

2.1.3.1 **Even Numbered Address** means the house address, box number or rural route ending in the numbers 0, 2, 4, 6, 8 or the letters A-M. Post office box numbers are not included.

2.1.3.2 **Flood Irrigation** means the delivery of plant or crop irrigation water by the design and practice of the flowing of water over the surface to saturate the root zone or, in specific applications, the raising of the level of groundwater through the root zone or to the soil surface.

2.1.3.3 **Ground Water Source** means a source class within which users obtain water directly from water table aquifers or from confined or semi confined aquifers. Ground water sources are a type of source class and are identified in subsection 2.6.2.2.

2.1.3.4 **License** means, but is not limited to, the appropriate professional registration, occupational license, contractor license or applicator license for the jurisdiction in which work is being performed.

History Note: New 6-28-94.

2.1.3.5 **Low-Volume Hand Watering** means watering by one hose attended by one person, fitted with a self-canceling or automatic shutoff nozzle.

History Note: *Renumbered 6-28-94.*

2.1.3.6 **Low-Volume Irrigation** means the use of equipment and devices specifically designed to allow the volume of water delivered to be limited to a level consistent with the water requirement of the plant being irrigated, and to allow that water to be placed, with a high degree of efficiency, in the root zone of the plant. The term also includes water use in mist houses and similar establishments for plant propagation. Overhead irrigation and flood irrigation are not included.

History Note: *Amended and renumbered 6-28-94.*

2.1.3.7 **Low-Volume Mobile Equipment Washing**
means the washing of mobile equipment with a "bucket" and "sponge," or a hose with a self-canceling or automatic shutoff nozzle, or both.

History Note: *Renumbered 6-28-94.*

2.1.3.8 **Low-Volume Pressure Cleaning** means pressure cleaning by means of equipment which is specifically designed to reduce the inflow volume, as accepted by industry standards.

History Note: *Renumbered 6-28-94.*

2.1.3.9 **Low-Volume Watering** means the use of equipment, devices, materials and/or methods, including low-volume hand watering, which limit the amount of water applied to a surface to the minimum necessary for dust control or evaporation suppression; use of equipment specifically designed

to reduce flow and increase saturation efficiency to a level accepted under industry standards.

History Note: Renumbered 6-28-94.

2.1.3.10 **Method of Withdrawal Class** means the type of facility or means of extraction or diversion of the water resource employed by the user. Method of withdrawal classes within the District are specified in 2.6.3.

History Note: Renumbered 6-28-94.

2.1.3.11 **Mobile Equipment** means any public, private or commercial automobile, truck, trailer, railroad car, camper, boat, or any other type of similar equipment. The term shall not include mobile homes, boats that serve as a primary residence, sanitation or sludge vehicles, or food vending or transporting vehicles.

History Note: Amended and renumbered 6-28-94.

2.1.3.12 **Nursery Stock** means all plants, trees, shrubs, vines, bulbs, cuttings, grafts, scions, buds, flowering annual plants, aquatic plants, seeds, corns, or tubers, grown or kept for propagation, distribution or sale.

History Note: Renumbered 6-28-94.

2.1.3.13 **Odd Numbered Address** means the house address, box number or rural route ending in the numbers, 1, 3, 5, 7, or 9 or the letters N-Z. Post office box numbers are not included.

History Note: Renumbered 6-28-94.

2.1.3.14 **Odd Numbered Days** means the days whose dates end in the numbers 1, 3, 5, 7, or 9. For purposes of this Chapter the date shall be determined by the day during which a

watering period ends.

History Note: Renumbered 6-28-94.

2.1.3.15 **Overhead Irrigation** means the use of equipment and devices which deliver water under pressure, through the air, above the level of the plant being irrigated.

History Note: Renumbered 6-28-94.

2.1.3.16 **Percent Reduction in Overall Demand**

means the weighted average reduction in all water uses within a source class, regardless of the type of use or method of withdrawal, which is necessary to reduce estimated present and anticipated demand to estimated present and anticipated available water supply.

History Note: Renumbered 6-28-94.

2.1.3.17 **Plan** means the water shortage plan contained in this Chapter.

History Note: Renumbered 6-28-94.

2.1.3.18 **Source Class** means the assigned water resource from which a user is obtaining water, either directly or indirectly. Source classes within the District are specified in 2.6.2.

History Note: Renumbered 6-28-94.

2.1.3.19 **Surface Water Use Basin** means the geographical area within which a user obtains water from surface waters. Surface water use basins are a type of source class and are identified in 2.6.2.1.

History Note: Renumbered 6-28-94.

2.1.3.20 **Use Class** means the category describing the purpose for which the user is utilizing water. Use classes are

generally grouped by related uses. The four major groupings are:

Essential/Domestic/Utility/Commercial, Agriculture, Nursery/Urban Irrigation/Recreation and Miscellaneous. Neither the order of listing of the major groupings, nor the order of listing within each major grouping is intended to establish relative priorities of water use. A user may be assigned one or more use class regardless of the groupings in this subsection.

Each water user shall be given one or more of the following use classes:

A. Essential / Domestic / Utility / Commercial

1. **Essential Use** means use of water strictly for fire fighting, safety, sanitation, health and medical purposes, and the use of water to satisfy federal, state or local public health and safety requirements.
2. **Domestic Type Use** means any use of water for personal needs or for household purposes, such as drinking, bathing, heating, cooking, sanitation or cleaning, whether the use occurs in a residence or in a commercial or industrial establishment.
3. **Water Utility Use** means water used for withdrawal, treatment, transmission, and distribution by potable water systems.
4. **Power Production Use** means the use of water for steam generation, and the use of

water for cooling and for replenishment of cooling reservoirs.

5. **Commercial and Industrial Process Use**

means the use of water integral to the production of the primary goods or services provided by a business establishment.

6. **Diversion and Impoundment into Non-District Facilities**

means the diversion or extraction of water into non-District impoundments and delivery systems designed for purposes, including but not limited to, maintaining structural integrity, providing agricultural water and other non-recreational, non-aesthetic uses.

B. **Agricultural**

1. **Agricultural Use** means the use of water for the commercial production of crops or the growing of farm products including, but not limited to, vegetables, citrus and tropical fruits, pasture, nursery stock, sugar cane, rice, and sod.

2. **Livestock Use** means the use of water for drinking by or washing of livestock.

3. **Aquacultural Use** means the use of water for the spawning, cultivating, harvesting or marketing of domesticated fin-fish, shellfish, crustaceans, frogs, turtles, alligators, and other

aquatic organisms that have a sport or other economic value.

4. **Soil Flooding** means use of water for raising of water levels on agricultural lands for purposes not directly related to crop growth including, but not limited to, soil preservation, crop harvesting, and pest control.
5. **Freeze Protection** means the periodic and infrequent use of water to protect agricultural and nursery crops from permanent damage due to low temperatures. This action would be taken in response to official weather forecasting services predicting freezing temperatures.

C. Nursery / Urban Irrigation / Recreation

1. **Nursery Use** means the use of water on premises on or in which nursery stock is grown, propagated, or held for sale or distribution, or sold or reshipped.
2. **Landscape Irrigation - New Installation** means the outside watering or sprinkling of shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens, and other such flora which have been planted for less than thirty (30) days and are situated in such diverse locations as residential landscaping, parks, cemeteries, public, commercial and industrial establishments, public medians and rights of way.

3. **Landscape Irrigation - Existing Installation** means the outside watering or sprinkling of shrubbery, trees, lawns, grass, ground covers, plants, vines, gardens and other such flora which are planted and established and are situated in such diverse locations as residential landscaping, recreation areas, cemeteries, public, commercial and industrial establishments, public medians and rights of way.
4. **Recreation Area Use** means the use of water for the maintenance and support of intensive recreational areas such as, but not limited to, playgrounds, football, baseball, and soccer fields, polo fields, tennis courts, race tracks and school playgrounds.
5. **Golf Course Use** means water used to irrigate and establishment designed and used for playing golf.
6. **Water Based Recreation Use** means water used for public or private spas, swimming pools and wading pools, including water slides. This term does not include pools specifically maintained to provide habitat for aquatic life.

D. Miscellaneous

1. **Cooling and Air Conditioning Use** means the use of water for industrial cooling or for air conditioning.
2. **Dewatering Use** means the removal of water from a specific area to facilitate mining or construction.
3. **Other Outside Uses** means the use of water outdoors for the maintenance, cleaning and washing of structures and mobile equipment, including automobiles, and the washing of streets, driveways, sidewalks and similar areas.
4. **Aesthetic Use** means the use of water for fountains, waterfalls, and landscape lakes and ponds where such uses are entirely ornamental and decorative and serve no other functional purpose.

E. The Board May Establish such Additional Use Classifications as it deems Necessary.

History Note: Amended and renumbered 6-28-94.

2.1.3.21 **User** means the Tribe and any person, natural or artificial, individual, firm, association, organization, partnership, business trust, corporation, company, agent, employee or other legal entity, the United States of America, and the State and all political subdivisions, regions, districts, municipalities, and public agencies thereof, which directly or indirectly take water from the water resource, including but not limited to uses from private or

public utility systems, uses under consumptive use permits, or uses from individual wells or pumps for domestic or individual home use. The term does not include persons who use treated effluent or seawater.

History Note: Renumbered 6-28-94.

2.1.3.22 **Water Resource** means any and all water on or beneath the surface of the ground, including natural or artificial water courses, lakes, ponds, or diffused surface water, and water percolating, standing, or flowing beneath the surface of the ground.

History Note: Renumbered 6-28-94.

2.1.3.23 **Water Shortage** means that situation within all or part of the District when insufficient water is available to meet the present and anticipated needs of the users, or when conditions are such as to require temporary reduction in total use within a particular area to protect water resources from serious harm. A water shortage usually occurs due to drought.

History Note: Renumbered 6-28-94.

2.1.3.24 **Water Shortage Emergency** means that situation when the powers which can be exercised under Chapter 2 are not sufficient to protect the public health, safety, or welfare, or the health of animals, fish or aquatic life, or a public water supply, or commercial, industrial, agricultural, recreational or other reasonable uses.

History Note: Renumbered 6-28-94.

2.2 DECLARING AND IMPLEMENTING A WATER SHORTAGE

2.2.1 Evaluating Water Conditions

2.2.1.1 This section sets forth the steps the District will take to periodically evaluate water conditions within the District, in order to determine whether a water shortage should be declared.

2.2.1.2 The District shall monitor the condition of the water resources within the District as provided in 2.4.1.

2.2.1.3 Current data shall be compared to historical data to determine whether estimated present and anticipated available water supply within any source class will be insufficient to meet the estimated present and anticipated demands of the users from the source class, or whether serious harm to the water resources can be expected. The District shall seek the cooperation and assistance of the Tribe and state, county and municipal government officials in developing the historic and technical data used to periodically evaluate water conditions.

A. Present and anticipated available water supply shall be periodically estimated for each source class. Factors considered in estimating present and anticipated available supply within a source class may include:

1. Historic, current and anticipated levels in surface and ground waters, including potentiometric heads in confined and semi-confined aquifers.
2. Historic, current and anticipated flows in surface

waters.

3. The extent to which water may be transferred from one source class to another.
 4. The extent to which present water use restrictions may enhance future supplies, or postpone more stringent restrictions.
 5. Historic, current and anticipated demand of natural systems, including losses due to evapotranspiration and seepage.
 6. Historic, current and anticipated seasonal fluctuation in rainfall. And:
 7. Other water resource factors affecting present and anticipated available water supply.
- B. Present and anticipated user demands for each use and method of withdrawal class shall be periodically estimated for each source class. Factors considered in estimating the present and anticipated demands of the users within a source class may include:
1. Estimated current and anticipated demands of the Tribe and permitted users.
 2. Estimated current and anticipated demands of users exempt from permitting, but subject to the provisions of the water shortage plan.
 3. Current and anticipated demands of users

whose supply of water is established by federal law.

4. Anticipated seasonal fluctuations in user demands.
 5. The extent to which user demands may be met from other source classes. And:
 6. Other factors affecting present and anticipated water demands.
- C. Estimated present and anticipated available water supply shall be periodically compared to estimated present and anticipated user demands to determine impact on the water resource. Factors that may be considered in determining whether serious harm to the water resource may occur include:
1. Potential for increased saline intrusion or other ground water contamination.
 2. Potential for irreversible adverse impacts on fish and wildlife. And:
 3. Other factors adversely impacting the water resource.

2.2.2 Declaring a Water Shortage

2.2.2.1 If, in the opinion of the District, there is a possibility that insufficient water will be available within a source class to meet the estimated present and anticipated user

demands from that source, or to protect the water resource from serious harm, the Board may declare a water shortage for the affected source class. When the affected source extends beyond the District's boundaries, the District shall coordinate water shortage declarations with the appropriate water management districts to the extent practicable.

2.2.2.2 A water shortage may also be declared for those source classes not presently experiencing a water shortage if usage from such sources can reasonably be expected to impact the present and anticipated available water supply in those source classes identified in 2.2.2.1.

2.2.2.3 Prior to declaring a water shortage for a source class, the Board or the Executive Director may issue a water shortage warning, calling for voluntary reductions in demand within that source.

2.2.2.4 If a water shortage is declared for a source class, the District shall estimate the percent reduction in overall demand required to reduce demand to available water supply. The restricted area may include, for enforcement purposes, all or part of Reservations or Tribal Trust lands, a county, municipality, surface water basin or utility service area which impacts a source class for which a water shortage is declared.

2.2.3 Water Shortage Phases

2.2.3.1 This section establishes four phases of water shortage as a function of the estimated percent reduction in overall demand required to reduce estimated present and anticipated demand to estimated present and anticipated available water supply. The water shortage phase determines the

type of water use restrictions which will be ordered in a declared water shortage.

2.2.3.2 The following water shortage phases are established:

Water Shortage Phase Color Code % reduction in overall demand

- | | | | |
|------|-------------------------|--------|---------------|
| I. | Moderate Water Shortage | Yellow | less than 15% |
| II. | Severe Water Shortage | Orange | less than 30% |
| III. | Extreme Water Shortage | Red | less than 45% |
| IV. | Critical Water Shortage | Purple | less than 60% |

2.2.3.3 Each source class for which a water shortage has been declared shall be assigned a specific water shortage phase. More than one source class may be combined into a single class for this purpose. The water shortage phase selected for a source class may be based upon:

A: The estimated percent reduction in overall demand as determined in 2.2.2.4. And:

B: For areas with multiple sources, the extent to which users have the capability to obtain water for a source or sources other than the source class for which a water shortage has been declared.

2.2.4 General Water Use Restriction

2.2.4.1 This section specifies general water use

restrictions for all users for each water shortage phase. Specific restrictions by user class are presented in 2.5. Users desiring detailed information about the specific restrictions applying to their use should refer to 2.5.

2.2.4.2 The Board may order the water use restrictions specified in 2.5 for the appropriate water shortage phase for each affected source class. The restricted area may include, for enforcement purposes, all or part of Tribal lands, a county, municipality, surface water basin or utility service area which impacts a source class for which a water shortage is declared. Further, the Board may order any combination in lieu of, or in addition to, the restrictions specified in 2.5 and the restrictions described in 2.2.4.3, by use or method of withdrawal class, within each source class, if necessary to achieve the percent reduction in overall demand.

2.2.4.3 Additional restrictions which may be considered include:

- A. Provisions that recognize the right of water users in an area to make voluntary agreements among themselves, with the concurrence of the Board or the Executive Director, providing for the mutual reduction, sharing, or rotation of use.
- B. Provisions for the distribution of water to the Tribe and/or permittees in exchange for ceasing or reducing ground or surface water withdrawals.
- C. Provisions for the metering and reporting of all water used, diverted, impounded, extracted or withdrawn,

- D. Provisions designed to maintain minimum flows and minimum levels,
- E. Provisions which recognize the extent to which users can satisfy water demands from sources for which a water shortage has not been declared,
- F. Provisions for monitoring water levels and determining chloride concentrations in order to protect against saline water intrusion or other deterioration of water quality including the closing and plugging of wells,
- G. Restrictions on the total amount of water that may be used, diverted, impounded, extracted, or withdrawn during any day, month, or year,
- H. Restrictions on the timing of use, diversion, impoundment, extraction, or withdrawal of water,
- I. Restrictions on pumping rates or diversion rates, or
- J. Such other provisions or restrictions as are necessary to protect the water resources from serious harm.

2.2.5 Variances

2.2.5.1 The Tribe may request relief from the provisions of 2.2 by filing a request for variance pursuant 2.2.5.5.

2.2.5.2 **Criteria for Issuance** No request for variance shall be granted unless the Tribe provides reasonable assurances that the variance will not otherwise be harmful to the water resources of the District and affirmatively demonstrates that one

or more of the following circumstances exists:

- A. The variance is essential to protect health or safety.
Or:
- B. Compliance with the particular section or order from which a variance is sought will require measures which, because of their extent or cost, cannot be accomplished within the anticipated duration of the shortage.
- C. Alternative restrictions which achieve the same level of demand reduction as the restrictions from which a variance is sought are available and are binding and enforceable.
- D. The Tribe is acting as a public utility and demonstrates that special circumstances exist which necessitate the issuance of a variance. Or:
- E. The Tribe's source of water includes an approved aquifer storage and recovery installation or a water reclamation project.

History Note: Amended 6-28-94.

2.2.5.3 **Limiting Conditions** Variances granted shall be subject to the following conditions, unless waived or modified by the Board:

- A. The variance granted shall be the minimum necessary to alleviate the circumstance for which the variance was requested under 2.2.5.2.

- B. All variances shall expire upon a declaration by the Board that a water shortage no longer exists or when a more restrictive water shortage declaration is made, unless the Board specifies that the variance shall be in effect for a longer period of time, provided however, that variance conditions which require the Tribe to modify water use facilities shall remain in full force and effect until such modifications have been completed. However, when a new request for variance is filed within seven working days of the effective date of a more restrictive water shortage declaration, the existing variance shall remain in effect until final agency action on the request.

- C. Variances granted under 2.2.5.2(B) may prescribe a timetable for compliance with the restrictions from which a variance was sought.

History Note: Amended 6-28-94.

2.2.5.4 **Requests for Variance** The request shall contain the following:

- A. The specific section, order, water shortage phase or restriction from which the Tribe is requesting relief.

- B. A detailed statement of the facts which the Tribe believes demonstrate that the request qualifies for a variance under 2.2.5.2, including reports by qualified technical experts.

- C. A description of the relief desired.

- D. The period of time for which the variance is sought,

including the reasons and facts in support thereof.

- E. The damage or harm resulting, or which may result to the Tribe, from compliance with the requirements or order.
- F. If the variance is sought under 2.2.5.2(B), information identifying the restrictions which currently can be met, a description of the measures which would be necessary to meet all restrictions and the date when these measures could be completed.
- G. If the Tribe is the owner or operator of a golf course whose need for a variance arises from the operational inability of its irrigation system or works to meet the front nine back nine requirement in 2.5, the Tribe shall submit a map showing the proposed alternative division of the course in half and an explanation of the Tribe's proposed irrigation scheme. And:
- H. For requests for variance from restrictions on irrigation, a general description of the irrigation system, including pump or water system output and irrigated area, and
- I. Any other information the Tribe believes is material.

History Note: Amended 6-28-94.

2.2.5.5 Procedures

- A. Within ten working days after receipt of a complete request for variance, which contains the information listed in subsection 2.2.5.4, the staff shall recommend

to the Executive Director whether the request complies with the provisions of 2.2.5.2 through 2.2.5.4. The recommendation shall be in writing and shall constitute proposed agency action. A copy of the recommendation shall be forwarded to the Tribe.

- B. The Executive Director or his designee shall review the request and the staff recommendation. Requests which do not require immediate action or which do not comply with the provisions of 2.2.5.2 through 2.2.5.4 may be deferred for Board action. Requests which require immediate action and which comply with the provisions of 2.2.5.2 through 2.2.5.4 may be temporarily granted by the Executive Director or his designee. Temporary variances granted by the Executive Director or his designee shall be presented to the Board for concurrence, rejection or modification.

- C. The Board shall consider all deferred requests, and those temporarily granted by the Executive Director or his designee, at its next regularly scheduled meeting. The Board may grant, or deny the deferred requests and may concur in, reject or modify those requests temporarily granted by the Executive Director or his designee. All Board action shall be by written order and copies shall be furnished to the Tribe. The Tribe shall be furnished an appropriate notice of water shortage variance and any attachments which shall be prominently displayed at the place of use.

- D. The Board may revoke or modify a variance when it determines that the continued utilization of the variance is inconsistent with the objectives of the District.

History Note: Amended 6-28-94.

2.2.6 Implementing a Water Shortage Declaration

2.2.6.1 When a water shortage is declared, or if already declared if more severe restrictions are imposed, the District will notify the Tribe and publish notice of the declaration or restrictions at least once in newspapers of general circulation in the areas affected. In addition, the District shall make every effort to inform the general public of the restrictions in effect and the sources of supply which are affected. Particular attention shall be given to presenting this information in a form which is easily understood and applied by the citizens of the affected areas.

2.2.6.2 A declaration of water shortage and any provision or restriction adopted pursuant thereto under the water shortage plan may be modified or rescinded by the Board.

2.2.6.3 A declaration of water shortage and any provision or restriction adopted pursuant thereto under the water shortage plan may be modified or rescinded by the Executive Director if all of the following circumstances are present:

- A. The Board previously issued a declaration of water shortage which remains in effect.
- B. The order rendering the Board's declaration of water shortage specifically delegates to the Executive Director the authority to modify or rescind the existing water shortage restrictions. And:
- C. The District's monitoring of water conditions and plan implementation reasonably demonstrates that a modification or rescission of the Board's declaration of water shortage is warranted and necessary.

2.2.6.4 All decisions of the Executive Director made pursuant to 2.2.6 shall be by order and subject to ratification by the Board at the next scheduled Board meeting.

2.2.6.5 An order declaring a water shortage or imposing more severe restrictions shall become effective on the day after any notice required in 2.2.6.1 is published. An order declaring a water shortage shall remain in effect until modified or rescinded by the Board or the Executive Director.

2.3 EMERGENCY PROVISIONS

2.3.1 Criteria for Declaring a Water Shortage Emergency

2.3.1.1 This section sets forth the steps the District will take to evaluate water conditions within the District in order to determine whether a water shortage emergency exists. A water shortage emergency can occur under two situations; when specific users rather than classes of users must be restricted, and second, when the emergency occurs so abruptly that immediate action is needed to restrict classes of users.

2.3.1.2 The District shall monitor the condition of the water resources of the District and the needs of the users as provided in 2.4.1.

2.3.1.3 Current data shall be evaluated to determine whether any user's or classes of users' estimated present an anticipated available water supply will be insufficient to protect the public health, safety or welfare, or the health of animals, fish or aquatic life, a public water supply, or commercial, industrial, agricultural, recreational, or other reasonable-beneficial use.

- A. The present and anticipated water supply available to the user or classes of users shall be estimated. Factors that may be considered include:
1. Those factors listed in paragraph 2.2.1.3(A).
 2. The ability of the user or classes of users to obtain water from other users.
 3. The ability of the user or classes of users to obtain water from another source class. And:
 4. Other factors affecting the present and anticipated available water supply of a user or classes of users.
- B. The potential for adverse impacts on the public health, safety or welfare, or the health of animals, fish or aquatic life, or a public water supply, or commercial, industrial, agricultural, recreational, or other reasonable beneficial use shall be evaluated. Factors that may be considered include:
1. Those factors listed in paragraphs 2.2.1.3(B) and (C).
 2. The extent to which adverse impacts can be reduced by imposing additional restrictions on other users from the same source class.
 3. The extent to which restricting other users from the same source class will create other adverse

impacts.

4. If the Tribe is affected, the recommendation of its board of officials. And:
5. Other factors relating to public health, safety and welfare.

2.3.1.4 If a water shortage emergency is declared for a user, the district shall estimate the percent reduction in user demand required to alleviate the emergency.

2.3.1.5 If a water shortage emergency is declared for a class or classes of users, the Executive Director shall define the restrictions needed to alleviate the emergency, including those set forth in 2.2.2 and 2.2.3.

2.3.1.6 The Tribe is requested to immediately report any resource related water supply problems detected or experienced within Reservation and Tribal Trust lands to the District.

2.3.2 Water Use Restrictions in a Water Shortage Emergency

2.3.2.1 This section specifies water use restrictions for a user subject to an order declaring a water shortage emergency. More than one user may be included in a single order for purposes of establishing water use restrictions pursuant to 2.3.2.

2.3.2.2 Additional restrictions which may be considered include those listed in 2.2.4.3.

2.4 MONITORING

2.4.1 Monitoring

2.4.1.1 This section generally describes the data collection and analysis the District may undertake in anticipation of and during a declared water shortage or water shortage emergency. Monitoring data may be used to determine:

- A. Whether a water shortage or water shortage emergency should be declared.
- B. Whether the restrictions in effect are sufficient to protect the water resources and users within the affected area, in light of existing and anticipated climatological conditions. and:
- C. Whether the restrictions in effect are being adequately enforced.

2.4.1.2 Data may be obtained from any source available, including but not limited to:

- A. The District.
- B. Other water management districts.
- C. The Tribe and permittees who are required to submit data as a condition of their Work Plan or permit.
- D. Any local, state or federal agency. And:
- E. Any other source available.

2.4.1.3 **Resource Monitoring** -- When appropriate, the District shall collect and analyze data concerning any aspect of the water resource. Data which may be collected include, but are not limited to:

- A. Levels in surface and ground waters, including potentiometric heads in confined and semi-confined aquifers.
- B. Water quality in surface and ground waters.
- C. Flows in surface waters.
- D. Transfers of water from one source class to another.
- E. Demand of natural systems including, but not limited to, losses due to evapotranspiration and seepage.
- F. Rainfall.
- G. Impacts on fish and wildlife. And:
- H. Other data required to evaluate the status of the water resources of the District.

2.4.1.4 **Demand Monitoring** When appropriate the District shall collect and analyze data concerning any aspect of user demand upon the water resources. Data which may be collected include but are not limited to:

- A. Demands of the Tribe and permitted users.

- B. Demands of users exempt from permitting, but subject to the provisions of the water shortage plan.
- C. Demands of users whose supply of water is established by federal law. And:
- D. Other data required to evaluate demands on the water resources of the District.

2.4.1.5 When appropriate, the District may prepare a drought management report summarizing the data gathered pursuant to this section.

2.5 SPECIFIC RESTRICTIONS

2.5.1 Specific Restrictions

2.5.1.1 Upon declaration of a water shortage or water shortage emergency it shall be prohibited to use water in a manner inconsistent with the restrictions specified in this Part and 2.2. It shall be the duty of each water user to stay informed as to the phase of water shortage and the applicable restrictions for that phase. Violation of the restrictions specified in this Part and 2.2 shall be subject to enforcement action, as provided under the Compact.

History Note: Amended 6-28-94.

2.5.1.2 In addition to the restrictions specified in this Part and 2.2, wasteful and unnecessary water use is prohibited regardless of the phase of water shortage. Such wasteful and unnecessary water use shall include, but not be limited to:

- A. Allowing water to be dispersed without any practical

purpose to the water user, regardless of the type of water use.

- B. Allowing water to be dispersed in a grossly inefficient manner, regardless of the type of water use.
- C. Allowing water to be dispersed to accomplish a purpose for which water use is unnecessary or which can be readily accomplished through alternative methods without water use.

2.5.1.3 Within each section of this Part, use classes are grouped in the same sequence as in 2.1.3.20.

History Note: Amended and renumbered 6-28-94.

2.5.2 Phase I - Moderate Water Shortage The following restrictions shall apply when a phase I water shortage is declared by the District.

2.5.2.1 **Essential/Domestic/Utility/Commercial**

A. Essential Use

1. The use of water for fire fighting, safety, sanitation, health and medical purposes and other essential uses shall not be restricted.
2. Fire hydrant flushing shall be undertaken only on an emergency basis.
3. Sanitary sewer line flushing and testing shall not be restricted except on a voluntary basis.

B. Domestic Type Use

1. Residential type domestic use shall be voluntarily reduced to achieve a per capita consumption of sixty (60) gallons per person per day.
2. Domestic type use in industrial and commercial establishments shall be voluntarily reduced.

C. Water Utility Use

1. Initial pressure at the point of use (meter) shall be voluntarily reduced to levels no greater than forty-five (45) pounds per square inch. Upon reduction of pressure, the utility shall notify the appropriate fire fighting agencies and make arrangements for direct communication when additional pressure is required.
2. New water line flushing and disinfection shall be restricted to the hours of 7:00 P.M. to 7:00 A.M., seven (7) days per week.
3. As may be appropriate the utility shall institute additional voluntary conservation measures, such as reclaiming of backwash water, improving and accelerating leak detection surveys and repair programs, installing and calibrating meters, and stabilizing and equalizing system pressures.

D. Power Production Use Water used for power

production shall be voluntarily reduced.

E. Commercial and Industrial Process Use

1. Commercial car washes shall be restricted as follows:
 - a. For washes servicing passenger vehicles and mobile equipment weighing less than ten thousand (10,000) pounds,
 - i. use in excess of seventy-five (75) gallons per wash shall be prohibited. And:
 - ii. Use equal to or less than seventy-five (75) gallons per wash shall be voluntarily reduced.
 - b. For washes servicing mobile equipment weighing ten thousand (10,000) pounds or more,
 - i. use in excess of one hundred fifty (150) gallons per wash shall be prohibited. And:
 - ii. Use equal to or less than one hundred fifty (150) gallons per wash shall be voluntarily reduced.
2. Water used for commercial and industrial processes shall be voluntarily reduced.

3. Water use for cleaning, adjusting and repair of irrigation systems by a licensed person or entity shall be restricted as follows:
 - a. projects one (1) irrigated acre or greater in size shall be limited to one (1) hour per acre per week.
 - b. projects less than one (1) irrigated acre in size shall be limited to ten (10) minutes per zone per week.
4. Water use for pesticide application under the supervision of a licensed pest control operator shall be voluntarily reduced. Under the provisions of this subparagraph, the applicator must be on the premises when water is applied outside of the hours allowed for irrigation.
5. Water use for well development under the supervision of a licensed well contractor shall be voluntarily reduced.
6. Water use for mobile equipment washing by a licensed person or entity shall be voluntarily reduced.

- F. **Diversion and Impoundment into Non-District Facilities** Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced.

History Note: Amended 6-28-94.

2.5.2.2 Agriculture

A. **Agricultural Use**

1. Overhead irrigation shall be restricted to the hours of 2:00 P.M. to 10:00 A.M.
2. Low-volume irrigation hours shall not be restricted.
3. All irrigation systems shall be operated in a manner that will maximize the percentage of water withdrawn and held, which is placed in the root zone of the crop and will minimize the amount of water which is withdrawn and released or lost to the user but is not immediately available for other users.
4. Users having access to more than one source class shall maximize the use of the lesser or least restricted source class.
5. Overhead irrigation for field grown citrus nursery stock moisture stress reduction shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M. and from 1:30 P.M. to 2:00 P.M.

- B. **Livestock Use** Livestock water use shall be voluntarily reduced.
- C. **Aquacultural Use** Aquacultural water use shall be voluntarily reduced.
- D. **Soil Flooding**
 - 1. Soil flooding for vegetable seed planting, rice planting, burning of sugarcane prior to harvest and to permit harvesting of sod shall be voluntarily reduced.
 - 2. Soil flooding for all other purposes shall be prohibited.
- E. **Freeze Protection** Water use for freeze protection shall be restricted to situations in which official weather forecasting services predict temperatures likely to cause permanent damage to crops.

History Note: Amended 6-28-94.

2.5.2.3 **Nursery/Urban Irrigation/Recreation**

- A. **Nursery Use**
 - 1. Low-volume irrigation uses and low-volume hand watering shall be voluntarily reduced.
 - 2. Overhead irrigation uses shall be restricted as follows:

- a. **Inside** 8:00 A.M. to 8:00 P.M., seven (7) days per week.
 - b. **Outside** 7:00 P.M. to 7:00 A.M., seven (7) days per week.
 - c. Overhead irrigation for containerized nursery stock moisture stress reduction on stock grown in containers up to and including one (1) gallon in size shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.
3. Flood irrigation systems shall be restricted to eight (8) days per month.

B. Landscape Irrigation - New Installation

1. For installations which have been in place for less than thirty (30) days. And:
 - a. Less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours of 2:00 A.M. to 8:00 A.M., Monday through Friday.
 - b. Five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours of 12:01 A.M. to 8:00 A.M., Monday through Friday.

2. Low-volume irrigation and low-volume hand watering of new landscaping shall be voluntarily reduced.
3. Cleaning and adjusting of new irrigation systems shall be restricted to ten (10) minutes per zone on a one time basis.

C. Landscape Irrigation - Existing Installation

1. For existing installations less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours from 4:00 A.M. to 8:00 A.M. for all types of irrigation, except low volume irrigation, and 5:00 P.M. to 7:00 P.M. for low volume hand watering only, three (3) days per week.
 - a. Installations with odd addresses shall be permitted to irrigate on Monday, Wednesday and Saturday.
 - b. Installations with even addresses or no address shall be permitted to irrigate on Tuesday, Thursday and Sunday.
2. For existing installations five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours from 12:01 A.M. to 8:00 A.M., three (3) days per week.
 - a. Installations with odd addresses shall be permitted to irrigate on Monday,

Wednesday and Saturday.

- b. Installations with even addresses or no address shall be permitted to irrigate on Tuesday, Thursday and Sunday.
3. Water use for cleaning, adjusting and repair or existing irrigation systems shall be limited to ten (10) minutes per zone per week.
4. Low volume irrigation uses shall be voluntarily reduced.

D. Recreation Area Use

1. Landscape irrigation for new and existing recreation areas shall be restricted to the hours prescribed for new and existing landscape in paragraphs 2.5.2.3(B) and (C) respectively.
2. Irrigation of seeded and/or sprigged recreation areas that have been in place for less than thirty (30) days shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.
3. Watering of pervious non-vegetated recreational / sporting surfaces shall be restricted to ten (10) minutes of application prior to each recreational / sporting event. Low volume watering shall be used.

E. Golf Course Use

1. Irrigation of greens and tees shall be voluntarily reduced and shall be accomplished during non-daylight hours.
2. Irrigation of fairways, roughs and non-playing areas on the first nine (9) holes of the course shall be restricted to the hours of 12:01 A.M. to 8:00 A.M., Monday, Wednesday and Saturday.
3. Irrigation of fairways, roughs and non-playing areas on the last nine (9) holes of the course shall be restricted to the hours of 12:01 A.M. to 8:00 A.M., Tuesday, Thursday and Sunday.
4. Irrigation of seeded and / or sprigged areas that have been in place for less than thirty (30) days shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.

F. Water Based Recreation Use

1. Water based recreation water use shall be voluntarily reduced.
2. Draining of facilities into sewers or onto impervious surfaces shall be prohibited.

History Note: Amended 6-28-94.

2.5.2.4 Miscellaneous

- A. Cooling and Air Conditioning Use** The use of water for cooling and air conditioning shall be restricted to that amount of water necessary to maintain a minimum temperature of seventy-eight (78) degrees Fahrenheit.
- B. Dewatering Use** Dewatering discharge of fresh water to tide shall be prohibited.
- C. Other Outside Uses**
1. Washing or cleaning streets, driveways, sidewalks, or other impervious areas with water shall be prohibited.
 2. Mobile equipment washing with water shall be restricted to the hours and days prescribed for existing landscape irrigation in 2.5.2.3(C) using only low-volume mobile equipment washing methods and shall be conducted over a pervious surface or in an area that immediately drains to a pervious surface. Rinsing and flushing of boats after saltwater use shall be limited to fifteen (15) minutes once a day for each boat.
 3. Outside pressure cleaning shall be restricted to only low-volume pressure cleaning, seven (7) days per week.
 4. Washing boats that serve as a primary residence shall be restricted to the hours and

days prescribed for existing landscape irrigation in paragraph 2.5.2.3(C)1. Boats with an odd slip number shall be permitted to be washed on Monday, Wednesday and Saturday. Boats with an even slip number or no slip number shall be permitted to be washed on Tuesday, Thursday and Sunday.

D. Aesthetic Use

1. Non-recirculating outside aesthetic uses of water shall be prohibited.
2. Water use for outside aesthetic purposes by facilities that recirculate water shall be voluntarily reduced and must meet the following criteria:
 - a. Draining of water from outside aesthetic facilities into sewers or onto impervious surfaces is prohibited.
 - b. Outside aesthetic facilities shall not be operated when wind conditions cause water to be lost from the recirculating capacity of the facility.
 - c. Outside aesthetic facilities that leak water shall not be operated.
 - d. Outside aesthetic facilities that lose water due to an overflow shall not be operated.

3. Inside aesthetic uses of water shall be voluntarily reduced.

History Note: Amended 6-28-94.

2.5.3 Phase II - Severe Water Shortage The following restrictions shall apply when a Phase II water shortage is declared by the District.

2.5.3.1 Essential/Domestic/Utility/Commercial

A. Essential Use

1. The use of water for fire fighting, safety, sanitation, health and medical purposes and other essential uses shall not be restricted.
2. Fire hydrant flushing shall be undertaken only on an emergency basis.
3. Sanitary sewer line flushing and testing shall not be restricted except on a voluntary basis.

B. Domestic Type Use

1. Residential type domestic use shall be voluntarily reduced to fifty (50) gallons per person per day.
2. Domestic type use in industrial and commercial establishments shall be voluntarily reduced.

C. Water Utility Use

1. Initial pressure at the point of use (meter) shall

be reduced to levels no greater than forty-five (45) pounds per square inch. Upon reduction of pressure, the utility shall notify the appropriate fire fighting agencies and make arrangements for direct communication when additional pressure is required.

2. New water line flushing and disinfection shall be restricted to the hours of 7:00 P.M. to 7:00 A.M., seven (7) days per week.
3. As may be appropriate the utility shall institute additional voluntary conservation measures such as reclaiming of backwash water, improving and accelerating leak detection surveys and repair programs, installing and calibrating meters, and stabilizing and equalizing system pressures.

D. Power Production Use Water used for power production shall be voluntarily reduced.

E. Commercial and Industrial Process Use

1. Commercial car washes shall be restricted as follows:
 - a. For washes servicing passenger vehicles and mobile equipment weighing less than ten thousand (10,000) pounds,
 - i. use in excess of seventy-five (75) gallons per wash shall be

prohibited. And:

- ii. Use equal to or less than seventy-five (75) gallons per wash shall be voluntarily reduced.
 - b. For washes servicing mobile equipment weighing ten thousand (10,000) pounds or more,
 - i. use in excess of one hundred fifty (150) gallons per wash shall be prohibited. And:
 - ii. Use equal to or less than one hundred fifty (150) gallons per wash shall be voluntarily reduced.
- 2. Water used for commercial and industrial processes shall be voluntarily reduced.
- 3. Water use for cleaning, adjusting and repair of irrigation systems by a licensed person or entity shall be restricted as follows:
 - a. projects one (1) irrigated acre or greater in size shall be limited to one hour per acre per week.
 - b. projects less than one (1) irrigated acre in size shall be limited to ten (10) minutes per zone per week.

4. Water use for pesticide application under the supervision of a licensed pest control operator shall be voluntarily reduced. Under the provisions of this subparagraph, the applicator must be on the premises when water is applied outside of the hours allowed for irrigation.
5. Water use for well development under the supervision of a licensed well contractor shall be voluntarily reduced.
6. Water use for mobile equipment washing by a licensed person or entity shall be voluntarily reduced.

F. Diversion and Impoundment into Non-District Facilities Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced.

2.5.3.2 Agriculture

A. Agricultural Use

1. Overhead irrigation shall be restricted to the hours of 2:00 P.M. to 10:00 A.M.
2. Low-volume irrigation hours shall not be restricted.
3. All irrigation systems shall be operated in a manner that will maximize the percentage of water withdrawn and held, which is placed in the

root zone of the crop and will minimize the amount of water which is withdrawn and released or lost to the user but is not immediately available for other users.

4. Users having access to more than one source class shall maximize the use of the lesser or least restricted source class.
5. Overhead irrigation for field grown citrus nursery stock moisture stress reduction shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M. and from 1:30 P.M. to 2:00 P.M.

B. Livestock Use Livestock water use shall be voluntarily reduced.

C. Aquacultural Use Aquacultural water use shall be voluntarily reduced.

D. Soil Flooding

1. Soil flooding for vegetable seed planting, rice planting, burning of sugarcane prior to harvest and to permit harvesting of sod shall be voluntarily reduced.
2. Soil flooding for all other purposes shall be prohibited.

E. Freeze Protection Water use for freeze protection shall be restricted to situations in which

official weather forecasting services predict temperatures likely to cause permanent damage to crops.

History Note: Amended 6-28-94.

2.5.3.3 **Nursery/Urban Irrigation/Recreation**

A. Nursery Use

1. Low-volume irrigation uses and low-volume hand watering shall be voluntarily reduced.
2. Overhead irrigation uses shall be restricted as follows:
 - a. **Inside** 8:00 A.M. to 8:00 P.M., seven (7) days per week.
 - b. **Outside** 7:00 P.M. to 7:00 A.M., on odd numbered days.
 - c. Overhead irrigation for containerized nursery stock moisture stress reduction on stock grown in containers up to and including one (1) gallon in size shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.
3. Flood irrigation systems shall be restricted to six (6) days per month.

B. Landscape Irrigation - New Installation

1. For installations which have been in place for less than thirty (30) days. And:
 - a. Less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours of 2:00 A.M. to 8:00 A.M., Monday, Wednesday, Thursday and Friday.
 - b. Five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours of 12:01 A.M. to 8:00 A.M., Monday, Wednesday, Thursday and Friday.
2. Low-volume irrigation and low-volume hand watering of new landscaping shall be voluntarily reduced.
3. Cleaning and adjusting of new irrigation systems shall be restricted to ten (10) minutes per zone on a one (1) time basis.

C. Landscape Irrigation - Existing Installation

1. For existing installations less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours from 4:00 A.M. to 8:00 A.M. for all types of irrigation, except low volume irrigation, and 5:00 P.M. to 7:00 P.M. for low volume hand watering only, two (2) days per

week.

- a. Installations with odd addresses shall be permitted to irrigate on Wednesday and Saturday.
 - b. Installations with even addresses or no address shall be permitted to irrigate on Thursday and Sunday.
2. For existing installations five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours from 12:01 A.M. to 8:00 A.M., two (2) days per week.
- a. Installations with odd addresses shall be permitted to irrigate on Wednesday and Saturday.
 - b. Installations with even addresses or no address shall be permitted to irrigate on Thursday and Sunday.
3. Water use for cleaning, adjusting and repair or existing irrigation systems shall be limited to ten (10) minutes per zone per week.
4. Low volume irrigation uses shall be voluntarily reduced.

D. Recreation Area Use

1. Landscape irrigation for new and existing

recreation areas shall be restricted to the hours prescribed for new and existing landscape in paragraphs 2.5.3.3(B) and (C) respectively.

2. Irrigation of seeded and/or sprigged recreation areas that have been in place for less than thirty (30) days shall be allowed daily for five (5) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.
3. Watering of pervious non-vegetated recreational / sporting surfaces shall be restricted to ten (10) minutes of application prior to each recreational / sporting event. Low volume watering shall be used.

E. Golf Course Use

1. Irrigation of greens and tees shall be voluntarily reduced and shall be accomplished during non-daylight hours.
2. Irrigation of fairways, roughs and non-playing areas on the first nine (9) holes of the course shall be restricted to the hours of 12:01 A.M. to 8:00 A.M., Wednesday and Saturday.
3. Irrigation of fairways, roughs and non-playing areas on the last nine (9) holes of the course shall be restricted to the hours of 12:01 A.M. to 8:00 A.M., Thursday and Sunday.

4. Irrigation of seeded and / or sprigged areas that have been in place for less than thirty (30) days shall be allowed daily for five (5) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.

F. Water Based Recreation Use

1. Water based recreation water use shall be voluntarily reduced.
2. Draining of facilities into sewers or onto impervious surfaces shall be prohibited.
3. Existing facilities shall not be refilled except for makeup water, unless the facility is leaking more than one (1) inch of water a day. If a facility is leaking more than one (1) inch of water a day and is in need of repair, it may be drained onto pervious surface for repairs and subsequently refilled.

History Note: Amended 6-28-94.

2.5.3.4 Miscellaneous

- A. **Cooling and Air Conditioning Use** The use of water for cooling and air conditioning shall be restricted to that amount of water necessary to maintain a minimum temperature of seventy-eight (78) degrees Fahrenheit.
- B. **Dewatering Use** Dewatering discharge of fresh water

to tide shall be prohibited.

C. Other Outside Uses

1. Washing or cleaning streets, driveways, sidewalks, or other impervious areas with water shall be prohibited.
2. Mobile equipment washing with water shall be restricted to the hours and days prescribed for existing landscape irrigation in 2.5.3.3(C) using only low-volume mobile equipment washing methods and shall be conducted over a pervious surface or in an area that immediately drains to a pervious surface. Rinsing and flushing of boats after saltwater use shall be limited to fifteen (15) minutes once a day for each boat.
3. Outside pressure cleaning shall be restricted to only low-volume pressure cleaning, seven (7) days per week.
4. Washing boats that serve as a primary residence shall be restricted to the hours and days prescribed for existing landscape irrigation in paragraph 2.5.3.3(C)1. Boats with an odd slip number shall be permitted to be washed on Wednesday and Saturday. Boats with an even slip number or no slip number shall be permitted to be washed on , Thursday and Sunday.

D. Aesthetic Use

1. Non-recirculating outside aesthetic uses of water shall be prohibited.
2. Water use for outside aesthetic purposes by facilities that recirculate water shall be voluntarily reduced and must meet the following criteria:
 - a. Draining of water from outside aesthetic facilities into sewers or onto impervious surfaces is prohibited.
 - b. Outside aesthetic facilities shall not be operated when wind conditions cause water to be lost from the recirculating capacity of the facility.
 - c. Outside aesthetic facilities that leak water shall not be operated.
 - d. Outside aesthetic facilities that lose water due to an overflow shall not be operated.
3. Inside aesthetic uses of water shall be voluntarily reduced.

History Note: Amended 6-28-94.

2.5.4 Phase III - Extreme Water Shortage The following restrictions shall apply when a Phase III shortage is declared by the District.

2.5.4.1 Essential/Domestic/Utility/Commercial

A. Essential Use

1. The use of water for fire fighting, safety, sanitation, health and medical purposes and other essential uses shall not be restricted.
2. Fire hydrant flushing shall be undertaken only on an emergency basis.
3. Sanitary sewer line flushing and testing shall not be restricted except on a voluntary basis.

B. Domestic Type Use

1. Residential type domestic use shall be voluntarily reduced to forty (40) gallons per person per day.
2. Domestic type use in industrial and commercial establishments shall be voluntarily reduced.

C. Water Utility Use

1. Initial pressure at the point of use (meter) shall be reduced to levels no greater than forty-five (45) pounds per square inch. Voluntary initial pressure reductions below 45 psi shall be made consistent with the utility's ability to maintain adequate service and fire flow pressures. Upon reduction of pressure, the utility shall notify the appropriate fire fighting agencies and make arrangements for direct communication when

additional pressure is required.

2. New water line flushing and disinfection shall be restricted to the hours of 7:00 P.M. to 7:00 A.M., seven (7) days per week.
3. As may be appropriate, the utility shall institute additional voluntary conservation measures such as reclaiming of backwash water, improving and accelerating leak detection surveys and repair programs, installing and calibrating meters, and stabilizing and equalizing system pressures.

D. Power Production Use Water used for power production shall be voluntarily reduced.

E. Commercial and Industrial Process Use

1. Commercial car washes shall be restricted as follows:
 - a. For washes servicing passenger vehicles and mobile equipment weighing less than ten thousand (10,000) pounds,
 - i. use in excess of seventy-five (75) gallons per wash shall be prohibited.
 - ii. Use equal to or less than seventy-five (75) gallons but more than 50 gallons per wash shall be restricted

to the hours of 8:00 A.M. through 3:00 P.M. And:

- iii. Use equal to or less than fifty (50) gallons per wash shall be voluntarily reduced.
- b. For washes servicing mobile equipment weighing ten thousand (10,000) pounds or more,
- i. use in excess of one hundred fifty (150) gallons per wash shall be prohibited.
 - ii. Use equal to or less than one hundred fifty (150) gallons but more than 100 gallons per wash shall be restricted to the hours of 8:00 A.M. through 3:00 P.M. And:
 - iii. Use equal to or less than one hundred (100) gallons per wash shall be voluntarily reduced.
2. Water used for commercial and industrial processes shall be voluntarily reduced.
3. Water use for cleaning, adjusting and repair of irrigation systems by a licensed person or entity shall be restricted as follows:
- a. projects one (1) irrigated acre or greater in

size shall be limited to one hour per acre per week.

- b. projects less than one (1) irrigated acre in size shall be limited to ten (10) minutes per zone per week.
4. Water use for pesticide application under the supervision of a licensed pest control operator shall be voluntarily reduced. Under the provisions of this subparagraph, the applicator must be on the premises when water is applied outside of the hours allowed for irrigation.
5. Water use for well development under the supervision of a licensed well contractor shall be voluntarily reduced.
6. Water use for mobile equipment washing by a licensed person or entity shall be voluntarily reduced.

F. Diversion and Impoundment into Non-District Facilities Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced.

History Note: Amended 6-28-94.

2.5.4.2 Agriculture

A. Agricultural Use

1. Overhead irrigation shall be restricted to the

hours of 7:00 P.M. to 7:00 A.M.

2. Low-volume irrigation hours shall not be restricted.
3. All irrigation systems shall be operated in a manner that will maximize the percentage of water withdrawn and held, which is placed in the root zone of the crop and will minimize the amount of water which is withdrawn and released or lost to the user but is not immediately available for other users.
4. Users having access to more than one (1) source class shall maximize the use of the lesser or least restricted source class.
5. Withdrawals by each user from each source class in each month shall be limited to an amount that represents each user's share of the total allocation for agricultural irrigation made by the District from that source for that month and in that basin. The District's allocation for agricultural irrigation will be determined based on its evaluation of the supply capabilities of the source class, the supply capabilities of other source classes available in the area, the needs of agriculture and all other users in the area and the District's overall management strategy for handling the uncertainties of future climatological events. The share of the total agricultural irrigation allocation available to each user will be based on any prioritization among

crops the District establishes based on economic loss and equity considerations. Also the acreage and quantity of withdrawals for which the user has been permitted and the acreage and quantity of withdrawals for which the Tribe has addressed in the Work Plan.

6. Overhead irrigation for field grown citrus nursery stock moisture stress reduction shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.

B. Livestock Use Livestock water use shall be voluntarily reduced.

C. Aquacultural Use Aquacultural water use shall be voluntarily reduced.

D. Soil Flooding

1. Soil flooding for vegetable seed planting, rice planting, burning of sugarcane prior to harvest and to permit harvesting of sod shall be voluntarily reduced.
2. Soil flooding for all other purposes shall be prohibited.

E. Freeze Protection Water use for freeze protection shall be restricted to situations in which official weather forecasting services predict temperatures likely to cause permanent damage to

crops.

History Note: Amended 6-28-94.

2.5.4.3 Nursery/Urban Irrigation/Recreation

A. Nursery Use

1. Low-volume irrigation uses and low-volume hand watering shall be voluntarily reduced.
2. Overhead irrigation uses shall be restricted as follows:
 - a. **Inside** 8:00 A.M. to 8:00 P.M., on odd numbered days.
 - b. **Outside** 12:01 A.M. to 7:00 A.M., on odd numbered days.
 - c. Outside overhead irrigation for containerized nursery stock moisture stress reduction on stock grown in containers up to and including one (1) gallon in size shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.
3. Flood irrigation systems shall be restricted to four (4) days per month.

B. Landscape Irrigation - New Installation

1. For installations which have been in place for less than thirty (30) days. And:
 - a. Less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours of 2:00 A.M. to 7:00 A.M., Monday, Wednesday and Friday.
 - b. Five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours of 12:01 A.M. to 7:00 A.M., Monday, Wednesday and Friday.
2. Low-volume irrigation and low-volume hand watering of new landscaping shall be voluntarily reduced.
3. Cleaning and adjusting of new irrigation systems shall be restricted to ten (10) minutes per zone on a one (1) time basis.

C. Landscape Irrigation - Existing Installation

1. For existing installations less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours from 4:00 A.M. to 7:00 A.M. for all types of irrigation, except low volume irrigation, and 5:00 P.M. to 7:00 P.M. for low volume hand watering only, one (1) day per week.
 - a. Installations with odd addresses shall be permitted to irrigate on Saturday.

- b. Installations with even addresses or no address shall be permitted to irrigate on Sunday.
- 2. For existing installations five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours from 12:01 A.M. to 7:00 A.M., one (1) day per week.
 - a. Installations with odd addresses shall be permitted to irrigate on Saturday.
 - b. Installations with even addresses or no address shall be permitted to irrigate on Sunday.
- 3. Water use for cleaning, adjusting and repair or existing irrigation systems shall be limited to ten (10) minutes per zone per week.
- 4. Low volume irrigation uses shall be voluntarily reduced.

D. Recreation Area Use

- 1. Landscape irrigation for new and existing recreation areas shall be restricted to the hours prescribed for new and existing landscape in paragraphs 2.5.4.3(B) and (C) respectively.
- 2. Watering of pervious non-vegetated recreational / sporting surfaces shall be restricted to ten (10)

minutes of application prior to each recreational / sporting event. Low volume watering shall be used.

E. Golf Course Use

1. Irrigation of greens shall be voluntarily reduced and shall be accomplished during non-daylight hours.
2. Irrigation of tees shall be restricted to non-daylight hours three (3) days per week. The front nine (9) holes shall be restricted to Monday, Wednesday and Saturday and the back nine (9) holes shall be restricted to Tuesday, Thursday and Sunday.
3. Irrigation of fairways, roughs and non-playing areas on the first nine (9) holes of the course shall be restricted to the hours of 12:01 A.M. to 7:00 A.M., on Saturday.
4. Irrigation of fairways, roughs and non-playing areas on the last nine (9) holes of the course shall be restricted to the hours of 12:01 A.M. to 7:00 A.M., on Sunday.

F. Water Based Recreation Use

1. Water based recreation water use shall be voluntarily reduced.
2. Draining of facilities into sewers or onto

impervious surfaces shall be prohibited.

3. Existing facilities shall not be refilled except for makeup water, unless the facility is leaking more than one (1) inch of water a day. If a facility is leaking more than one (1) inch of water a day and is in need of repair, it may be drained onto a pervious surface for repairs and subsequently refilled.

History Note: Amended 6-28-94.

2.5.4.4

Miscellaneous

- A. **Cooling and Air Conditioning Use** The use of water for cooling and air conditioning shall be restricted to that amount of water necessary to maintain a minimum temperature of seventy-eight (78) degrees Fahrenheit.
- B. **Dewatering Use** Dewatering discharge of fresh water to tide shall be prohibited.
- C. **Other Outside Uses**
1. Washing or cleaning streets, driveways, sidewalks, or other impervious areas with water shall be prohibited.
 2. Mobile equipment washing with water shall be restricted to the hours and days prescribed for existing landscape irrigation in 2.5.4.3(C) using only low-volume mobile equipment washing methods and shall be conducted over a pervious surface or in an area that immediately drains to a pervious surface. Rinsing and flushing of boats after saltwater use shall be limited to fifteen (15) minutes once a day for each boat.
 3. Outside pressure cleaning shall be restricted to only low-volume pressure cleaning, Monday through Friday.
 4. Washing boats that serve as a primary

residence shall be restricted to the hours and days prescribed for existing landscape irrigation in paragraph 2.5.4.3(C)1. Boats with an odd slip number shall be permitted to be washed on Saturday. Boats with an even slip number or no slip number shall be permitted to be washed on Sunday.

D. Aesthetic Use

1. Outside aesthetic uses of water shall be prohibited.
2. Inside aesthetic uses of water shall be prohibited.

History Note: Amended 6-28-94.

2.5.5 Phase IV - Critical Water Shortage The following restrictions shall apply when a Phase IV shortage is declared by the District.

2.5.5.1 Essential/Domestic/Utility/Commercial

A. Essential Use

1. The use of water for fire fighting, safety, sanitation, health and medical purposes and other essential uses shall not be restricted.
2. Fire hydrant flushing shall be undertaken only on an emergency basis.

3. Sanitary sewer line flushing and testing shall not be restricted except on a voluntary basis.

B. Domestic Type Use

1. Residential type domestic use shall be voluntarily reduced to thirty (30) gallons per person per day.
2. Domestic type use in industrial and commercial establishments shall be voluntarily reduced to the minimum levels necessary to preserve public health and safety.

C. Water Utility Use

1. Initial pressure at the point of use (meter) shall be reduced to levels no greater than forty-five (45) pounds per square inch. Voluntary initial pressure reductions below 45 psi shall be made consistent with the utility's ability to maintain adequate service and fire flow pressures. Upon reduction of pressure, the utility shall notify the appropriate fire fighting agencies and make arrangements for direct communication when additional pressure is required.
2. New water line flushing and disinfection shall be restricted to the hours of 7:00 P.M. to 7:00 A.M., seven (7) days per week.
3. As may be appropriate, the utility shall institute additional voluntary conservation measures

such as reclaiming of backwash water, improving and accelerating leak detection surveys and repair programs, installing and calibrating meters, and stabilizing and equalizing system pressures.

D. Power Production Use Water used for power production shall be voluntarily reduced.

E. Commercial and Industrial Process Use

1. Commercial car washes shall be restricted as follows:

a. For washes servicing passenger vehicles and mobile equipment weighing less than ten thousand (10,000) pounds,

i. use in excess of seventy-five (75) gallons per wash shall be prohibited.

ii. Use equal to or less than seventy-five (75) gallons but more than 50 gallons per wash shall be restricted to the hours of 8:00 A.M. through 3:00 P.M. And:

iii. Use equal to or less than fifty (50) gallons per wash shall be voluntarily reduced.

b. For washes servicing mobile equipment

weighing ten thousand (10,000) pounds or more,

- i. use in excess of one hundred fifty (150) gallons per wash shall be prohibited.
- ii. Use equal to or less than one hundred fifty (150) gallons but more than one hundred (100) gallons per wash shall be restricted to the hours of 8:00 A.M. through 3:00 P.M.
And:
- iii. Use equal to or less than one hundred (100) gallons per wash shall be voluntarily reduced.

2. Water used for commercial and industrial processes shall be voluntarily reduced.

3. Water use for cleaning, adjusting and repair of irrigation systems by a licensed person or entity shall be restricted as follows:

- a. projects one (1) irrigated acre or greater in size shall be limited to one (1) hour per acre per week.
- b. projects less than one (1) irrigated acre in size shall be limited to ten (10) minutes per zone per week.

4. Water use for pesticide application under the supervision of a licensed pest control operator shall be voluntarily reduced. Under the provisions of this subparagraph, the applicator must be on the premises when water is applied outside of the hours allowed for irrigation.
5. Water use for well development under the supervision of a licensed well contractor shall be voluntarily reduced.
6. Water use for mobile equipment washing by a licensed person or entity shall be voluntarily reduced.

F. Diversion and Impoundment into Non-District Facilities Water used for diversion and impoundment into non-District facilities shall be voluntarily reduced.

History Note: Amended 6-28-94.

2.5.5.2 Agriculture

A. Agricultural Use

1. Overhead irrigation shall be restricted to the hours of 7:00 P.M. to 7:00 A.M.
2. Low-volume irrigation hours shall not be restricted.
3. All irrigation systems shall be operated in a manner that will maximize the percentage of

water withdrawn and held, which is placed in the root zone of the crop and will minimize the amount of water which is withdrawn and released or lost to the user but is not immediately available for other users.

4. Users having access to more than one source class shall maximize the use of the lesser or least restricted source class.
5. Withdrawals by each user from each source class in each month shall be limited to an amount that represents each user's share of the total allocation for agricultural irrigation made by the District from that source for that month and in that basin. The District's allocation for agricultural irrigation will be determined based on its evaluation of the supply capabilities of the source class, the supply capabilities of other source classes available in the area, the needs of agriculture and all other users in the area and the District's overall management strategy for handling the uncertainties of future climatological events. The share of the total agricultural irrigation allocation available to each user will be based on any prioritization among crops the District establishes based on economic loss and equity considerations. Also the acreage and quantity of withdrawals for which the user has been permitted and the acreage and quantity of withdrawals for which the Tribe has addressed in the Work Plan.

6. Overhead irrigation for field grown citrus nursery stock moisture stress reduction shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.

B. Livestock Use Livestock water use shall be voluntarily reduced.

C. Aquacultural Use Aquacultural water use shall be voluntarily reduced.

D. Soil Flooding

1. Soil flooding for vegetable seed planting, rice planting, burning of sugarcane prior to harvest and to permit harvesting of sod shall be voluntarily reduced.

2. Soil flooding for all other purposes shall be prohibited.

E. Freeze Protection Water use for freeze protection shall be restricted to situations in which official weather forecasting services predict temperatures likely to cause permanent damage to crops.

History Note: Amended 6-28-94.

2.5.5.3 Nursery/Urban Irrigation/Recreation

A. Nursery Use

1. Low-volume irrigation uses and low-volume hand watering shall be voluntarily reduced.
2. Overhead irrigation uses shall be restricted as follows:
 - a. **Inside** 8:00 A.M. to 4:00 P.M., on odd numbered days.
 - b. **Outside** 2:00 A.M. to 7:00 A.M., on odd numbered days.
 - c. Outside overhead irrigation for containerized nursery stock moisture stress reduction on stock grown in containers up to and including one (1) gallon in size shall be allowed daily for ten (10) minutes per irrigation zone from 11:30 A.M. to 12:00 P.M., 1:30 P.M. to 2:00 P.M. and 3:30 P.M. to 4:00 P.M.
3. Flood irrigation systems shall be restricted to two (2) days per month.

B. Landscape Irrigation - New Installation

1. For installations which have been in place for less than thirty (30) days. And:
 - a. Less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours of 6:00 A.M. to 7:00 A.M., Saturday

- b. Five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours of 4:00 A.M. to 7:00 A.M., Saturday.
2. Low-volume irrigation and low-volume hand watering of new landscaping shall be restricted to Monday, Wednesday and Friday.
3. Cleaning and adjusting of new irrigation systems shall be prohibited.

C. Landscape Irrigation - Existing Installation

1. For existing installations less than five (5) irrigated acres in size, water use for irrigation shall be restricted to the hours from 6:00 A.M. to 7:00 A.M. for all types of irrigation, except low volume irrigation, and 5:00 P.M. to 7:00 P.M. for low volume hand watering only, one (1) day per week.
 - a. Installations with odd addresses shall be permitted to irrigate on Saturday.
 - b. Installations with even addresses or no address shall be permitted to irrigate on Sunday.
2. For existing installations five (5) irrigated acres or greater in size, water use for irrigation shall be restricted to the hours from 4:00 A.M. to 7:00

A.M., one (1) day per week.

- a. Installations with odd addresses shall be permitted to irrigate on Saturday.
 - b. Installations with even addresses or no address shall be permitted to irrigate on Sunday.
3. Low volume irrigation uses shall be restricted to Monday, Wednesday and Friday.

D. Recreation Area Use

1. Landscape irrigation for new and existing recreation areas shall be restricted to the hours prescribed for new and existing landscape in paragraphs 2.5.5.3(B) and (C) respectively.
2. Watering of pervious non-vegetated recreational / sporting surfaces shall be restricted to ten (10) minutes of application prior to each recreational / sporting event. Low volume watering shall be used.

E. Golf Course Use

1. Irrigation of greens shall be voluntarily reduced and shall be accomplished during non-daylight hours.
2. Irrigation of tees shall be restricted to non-daylight hours one (1) day per week. The front

nine (9) holes shall be restricted to Saturday and the back nine (9) holes shall be restricted to Sunday.

3. Irrigation of fairways, roughs and non-playing areas on the first nine (9) holes of the course shall be restricted to the hours of 4:00 A.M. to 7:00 A.M., on Saturday.
4. Irrigation of fairways, roughs and non-playing areas on the last nine (9) holes of the course shall be restricted to the hours of 4:00 A.M. to 7:00 A.M., on Sunday.

F. Water Based Recreation Use

1. Draining of facilities into sewers or onto impervious surfaces shall be prohibited.
2. Filling of new or existing facilities shall be prohibited.
3. Use of makeup water shall be prohibited.

History Note: Amended 6-28-94.

2.5.5.4 Miscellaneous

A. Cooling and Air Conditioning Use

1. The use of water for cooling and air conditioning shall be restricted to that amount of water necessary to maintain a minimum temperature of seventy-eight (78) degrees Fahrenheit.

2. Cooling and air conditioning systems shall not discharge water to tide.
3. Reuse of water shall be required.

B. Dewatering Use Dewatering discharge of fresh water to tide shall be prohibited.

C. Other Outside Uses

1. Washing or cleaning streets, driveways, sidewalks, or other impervious areas with water shall be prohibited.
2. Mobile equipment washing with water shall be restricted to the hours and days prescribed for existing landscape irrigation in 2.5.5.3(C) using only low-volume mobile equipment washing methods and shall be conducted over a pervious surface or in an area that immediately drains to a pervious surface. Rinsing and flushing of boats after saltwater use shall be limited to fifteen (15) minutes once a day for each boat.
3. Outside pressure cleaning shall be restricted to only low-volume pressure cleaning, Monday and Wednesday.
4. Washing boats that serve as a primary residence shall be restricted to the hours and days prescribed for existing landscape irrigation

in paragraph 2.5.5.3(C)1. Boats with an odd slip number shall be permitted to be washed on Saturday. Boats with an even slip number or no slip number shall be permitted to be washed on Sunday.

D. Aesthetic Use

1. Outside aesthetic uses of water shall be prohibited.
2. Inside aesthetic uses of water shall be prohibited.

History Note: Amended 6-28-94.

2.6 THE CLASSIFICATION SYSTEM

2.6.1 Classification System Unless the emergency provisions of Part 2.3 are invoked, water users are regulated by class under the provisions of this water shortage plan. The sections of this Part establish the classification system which provides the basis for distinguishing among different user classes. Under the system, each water user is classified according to source, use and method of withdrawal.

2.6.2 Source Classes Source classes are generally divided into surface water use basins and groundwater sources. A water user may be assigned any combination of both surface water use basin and groundwater source classes.

2.6.2.1 Surface Water Use Basins Surface waters are classified by surface water use basin. The surface water use basins are grouped by region as follows (See Figure 2-1):

A. Water Conservation Area / Everglades National Park (See Figure 2-2) The surface water use basins in this area are directly supplied with surface water from the Water Conservation Areas and Everglades National Park. The following surface water use basin is included in the area:

1. Water Conservation Areas / Everglades National Park Water Use Basin.

B. Lower East Coast (See Figure 2-3) The water use basins in this area are directly supplied with surface water from the Water Conservation Areas or the M Canal. The following surface water use basins are included in the area:

1. Water Conservation Area 2 Water Use Basin.
2. Water Conservation Area 3 Water Use Basin.

C. Lake Okeechobee (See Figure 2-4) The surface water use basins in this area are directly supplied with surface water from Lake Okeechobee. The following surface water use basin is included in the area:

1. Lakeshore Perimeter Water Use Basin.

D. Indian Prairie (See Figure 2-5) The surface water use basins in this area are directly supplied with surface water from Lake Istokpoga and Fisheating Creek or associated surface water bodies. The following surface water use basins are included in the area:

1. Indian Prairie Water Use Basin.
2. Fisheating Creek Water Use Basin.

E. Lower West Coast (See Figure 2-6) The surface water use basins in this area are directly supplied from local surface waters. The following surface water use basins are included in the area:

1. Big Cypress Preserve Water Use Basin.
2. Fakahatchee North Water Use Basin.
3. Fakahatchee South Water Use Basin.

History Note: Amended 6-28-94.

2.6.2.2 **Ground Water Sources** Ground water sources are classified based on the available hydrologic information, and the restricted area may include aquifers underlying all or part of a county, municipality, surface water basin or utility service area, as follows:

A. Water Table Aquifers Ground waters directly recharged by surface waters and rainfall are classified according to the surface water use basin within which they are located. The titles and boundaries described in 2.6.2.1 shall apply.

B. Confined and Semi-Confined Aquifers Ground waters not directly recharged by surface waters and rainfall are classified as follows:

1. Potable Floridan Aquifer.

2. Non-Potable Floridan Aquifer.
 3. Sandstone Aquifer.
 4. Upper Hawthorn Aquifer.
 5. Other artesian or leaky artesian aquifers.
- C. Figures 2-2 through 2-6 list the water table, confined and semi-confined aquifers generally found within each surface water use basin. Adjacent areas which are supplied from a restricted ground water source may also be included in the restricted area.

History Note: Amended 6-28-94.

2.6.3 Method of Withdrawal Classes Each water user may be identified by one or more of the following methods of withdrawal classes:

2.6.3.1 **Surface waters:**

- A. Pump.
- B. Gravity flow.

2.6.3.2 **Ground waters:**

- A. Artesian well.
- B. Pumped well.
- C. Infiltration gallery.

CHAPTER 3 -- CRITERIA FOR WATER USE

3.1 INTRODUCTION

The purpose of this Chapter is to identify the procedures and information employed by the District to review the Work Plan.

The objective of the review is to insure that the Tribe demonstrates that the use is a reasonable-beneficial use, that such use will not interfere with any presently existing legal use of water protected under the Compact and is consistent with the Compact.

3.2 DEFINITIONS

3.2.1 Annual Withdrawal means the quantity of water for use on a yearly basis.

3.2.2 Area of Influence means the area of land surrounding a well or wellfield which may be impacted by the wellfield or, as a consequence of regional gradients, a land area which may impact the wellfield because groundwater flow under the land area is towards the wellfield. The area of influence of a wellfield may be determined on a case-by-case basis by defining the drawdown induced by proposed withdrawals as the boundaries of the area of influence.

3.2.3 Cone of Depression means the conical shape taken by the potentiometric surface showing the variation of drawdown with distance due to pumping from a well or wellfield within its area of influence.

3.2.4 **Conservation** means the act of reducing water usage through voluntary or mandatory altering of water use practices and/or installation of low water use systems, fixtures, and devices.

3.2.5 **Current Pumpage** means the quantity of water pumped during the recent twelve (12) month period preceding the date of Work Plan.

3.2.6 **Daily Withdrawal** means for agricultural use, the maximum monthly supplemental requirement divided by thirty (30) days.

3.2.7 **Freshwater** means an aqueous solution with a chloride concentration equal to or less than two hundred fifty (250) milligrams per liter (mg/l).

3.2.8 **Historical Maximum Daily Withdrawal** means the maximum quantity of water that was pumped on any one (1) day during the current pumpage period.

3.2.9 **Maximum Daily Withdrawal** means the maximum quantity of water which can be withdrawn on a daily basis.

3.2.10 **Potential Yield** means the amount of water that can be withdrawn from a wellfield on an annual basis without creating adverse impacts, including but not limited to, impacts on the wellfield itself, adjacent uses protected under the Compact, the environment protected under the Compact, water bodies, land use, and water quality.

3.2.11 **Saline Water** means an aqueous solution with a chloride concentration greater than 250 mg/l and less than that of seawater.

3.2.12 **Saline Water Interface** means the saline water interface is that hypothetical surface of chloride concentration between

freshwater and seawater where the chloride concentration is 250 mg/l at each point on the surface.

3.2.13 **Seawater** means an aqueous solution with a chloride concentration equal to or greater than 19,000 mg/l.

3.2.14 **Service Territory or Service Area** means the geographical region in which a water supplier has the ability and the legal right to distribute water for use.

3.2.15 **System Efficiency (Irrigation)** means the ratio of the volume of water utilized by a crop to the volume of water applied.

3.2.16 **Use Class** means the use classes described in Chapter 2 - Water Shortage.

3.3 CRITERIA

3.3.1 **General**

3.3.1.1 **Control Over Activities** -- The Tribe must have legal control over the activities or situations for which water use is proposed in the Work Plan. This includes service areas for public water supply, lands which they wish to irrigate, and lands on which pumps or wells will be located.

3.3.1.2 **Federal Agencies** -- The Tribe must provide information on necessary approvals from agencies such as Environmental Protection Agency, and other Federal agencies that have control over related activities.

3.3.1.3 **Minimum Stages, Levels, and Flows** -- Some withdrawals will be subject to limitations because of minimum surface or groundwater levels, in accordance with the requirements and objectives of the Compact and Manual.

3.3.1.4 Environmental -- The administrative procedures used to determine impacts are included in Chapter 1 of this Manual.

3.3.2 Evaluation of Water Needs

3.3.2.1 Agriculture -- For agricultural uses *excluding livestock), supplemental crop irrigation requirements will be determined by using the supplemental irrigation requirements per acre, as set forth under 3.3.2.1(b) and dividing by the system efficiencies, as set forth in 3.3.2.1(A). If the existing and/or proposed capacity is less than the supplemental crop requirement divided by the system efficiency, then the water need will be the existing and proposed capacity.

A. System Efficiency

<u>System</u>	<u>Method</u>	<u>Efficiency</u>
Surface-gravity	Seepage, furrow	50%
	Semi-closed, closed pipe	50%
	Crown flooding	50%
	Sub-irrigation	50%
Sprinkler	Sprinkler	75%
	Volume gun, traveling gun	75%
	Overhead	75%
Trickle	Drip	85%
	Spray jet	85%

B. Maximum Monthly Crop Requirements -- soil types for Tribal lands are shown on Figures 3-1 to 3-4.

1. Big Cypress Reservation (Inches per acre)

<u>Soil Type</u>	.8	3.6
Alfalfa	5.59	4.14

Avocado	3.27	2.64
Citrus	5.30	5.30
Grapes	3.48	2.16
Grass	4.37	3.42
Pasture	3.29	2.93
Sugarcane	5.31	3.97
Grain Corn	5.40	4.51
Sweet Corn	5.48	4.57
Potato	7.17	5.88
Small Vegetables	3.67	3.20
Tomato	4.96	4.18

2. Brighton Reservation (Inches per acre)

<u>Soil Type</u>	.8	1.5	3.6
Alfalfa	5.83	5.28	4.83
Avocado	3.74	3.41	3.01
Citrus	5.30	5.30	5.30
Grapes	3.70	3.16	2.58
Grass	5.45	4.16	3.74
Pastures	3.40	3.08	2.69
Sugarcane	5.50	4.95	4.27
Grain Corn	5.58	5.17	4.72
Sweet corn	5.66	5.25	4.79
Potato	7.36	6.82	6.31
Small Vegetables	3.92	3.59	3.18
Tomato	5.14	4.78	4.33

3. Hollywood (Dania) Reservation (Inches per acre)

<u>Soil Type</u>	.2	0.4	3.6
Alfalfa	6.83	6.61	4.90
Avocado	4.32	4.13	2.68
Citrus	5.30	5.30	5.30
Grapes	4.55	4.35	2.88
Grass	5.44	5.23	3.68
Pasture	3.22	3.05	1.88
Sugarcane	6.39	6.18	4.52

Grain Corn	6.48	6.264.60
Sweet corn	6.57	6.35 4.67
Potato	8.42	8.17 6.27
Small Vegetables	4.61	4.41 2.94
Tomato	6.01	5.80 4.18

4. Immokolee Lands (Inches per acre)

<u>Soil Type</u>	.8
Alfalfa	5.59
Avocado	3.27
Citrus	5.30
Grapes	3.48
Grass	4.37
Pasture	3.29
Sugarcane	5.31
Grain Corn	5.40
Sweet corn	5.48
Potato	7.17
Small Vegetables	3.67
Tomato	4.96

3.3.2.2 Public Water Supply (Potable) -- For potable water uses potable demand shall be calculated by multiplying projected population by the capita consumption.

- A. Per capita consumption will be determined using either:
 - 1. Historical average per capita daily water use calculated either by dividing average daily water withdrawals by the most recent twelve (12) months of pumpage data by the permanent resident population for the same period of time, or by determining the per capita daily water use, as described above, for each of the five (5) most recent years and choosing the highest value. Or:
 - 2. If no historical use of water exists, a design per capita use based on dwelling unit type, population characteristics, and comparison with adjacent similar developments will be used.

- B. Maximum daily withdrawal will be determined by multiplying the average daily allocation by an acceptable maximum daily to average daily withdrawal ratio determined using either:
1. Dividing the historical maximum daily withdrawal by the average daily withdrawal for twelve (12) months of record or where several years of pumpage records are available, determining the ratio for each of the previous three (3) years and using the most suitable ration. Or:
 2. For proposed developments, a ratio between 1.5 and 2.0 will be used.

3.3.2.3 **Industrial** -- For industrial uses water demand shall be based on the amount of water needed to perform an industrial process in an efficient, non-wasteful and economic manner.

3.3.2.4 **Mining (Dewatering)** -- For mining (dewatering) water demand shall be based on the amount of withdrawal required to economically and effectively remove the material.

3.3.2.5 **Livestock** -- For livestock water uses, the water needs will be determined by multiplying the estimated total number of animals by gallons needed per day per animal. Usage by beef cattle is twelve (12) gallons per day per head (gpd/head), usage for dairy cattle is 35 gpd/head for drinking and 150 gpd/head for barn use, usage by horses is 12 gpd/head.

3.3.2.6 **Freeze Protection** -- The water needed for freeze protection will be evaluated when:

- A. The Tribe makes a request.
- B. The Tribe is able to show through system design that the water can be utilized.
- C. The application of water in the proposed manner will provide freeze

protection.

- D. The use of water is in agreement with the amount of water necessary for freeze protection as commonly approved by the District, or in agreement with the University of Florida, Institute of Food and Agricultural Services. And
- E. The requested amount of water necessary for freeze protection exceeds the water needed for irrigation. The use of water for freeze protection will be subject to technical review as described under 3.3.3.

3.3.3 Evaluation of Water Availability

3.3.3.1 General -- An evaluation of the water which can be withdrawn without causing impacts on the resource, existing legal uses protected under the Compact, or the environment, will be performed on a case-by-case basis. However, where supporting technical data is not submitted to the District for review, the criteria in section 3.3.3 will be used. Available water shall be determined using, but not limited to: Hydrological data, existing aquifer performance testing, monitoring data, computer modeling, and other techniques to determine the amount of water that can be withdrawn without causing water level or potentiometric head declines that would have one or more of the following consequences:

- A. Impacts on Existing Legal Users -- Impacts on existing legal users of water protected under the Compact, defined as a decrease of ten percent (10%) or more in the withdrawal capability of an existing legal use as protected under the Compact.
- B. Impacts on Tribal Wetlands -- Significant impacts on wetlands or environmental features protected under this Compact. Significant impacts to the environmental features shall be defined as potentially occurring when a one (1) foot drawdown in the water table aquifer is projected beneath the wetland: as determined by modeling ninety (90) days of pumpage with no recharge to the aquifer. Should the potential exist for significant impacts as established by the above criteria and the withdrawal source cannot be moved, the

District may require that a monitoring program be initiated to determine actual impacts. If the monitoring program indicates that a one (1) foot drawdown occurs beneath the wetland and the District discovers that there is potential for significant adverse impact of the biological and hydrological function indicative of that wetland type, then pumpages shall be reduced or terminated.

- C. Impacts on Saline Water -- Impact as a result of saline water intrusion, defined as potentially occurring when a hydraulic head of less than one (1) foot National Geodetic Vertical Datum (NGVD) cannot be maintained between the withdrawal point and saline water during the months of November through April; or where monitoring within eight hundred (800) feet of a production well reflects chloride concentration increases at the base of the aquifer, indicating long term advancement of the saline front; or other evidence showing saline water intrusion will be a serious threat to the aquifer as a result of the withdrawal.

- D. Impacts on Aquifer Contamination -- Impacts on aquifer contamination as a result of potential movement of contaminants in the aquifer. Potential for movement shall be defined as occurring when a 1.0 foot drawdown in the aquifer is projected beneath the contaminant source; determined by modeling ninety (90) days of pumpage assuming no recharge to the aquifer. More stringent restrictions may be necessary as determined by the affected contaminant source.

- E. Impacts on Non-Tribal Land Uses -- Impacts on existing land uses protected under the Compact, on lands other than Reservations or Tribal Trust Lands, such as land subsidence or collapse; significant lowering of lake or wetland water levels; drainage of ponds and other water bodies; or appreciable damage or destruction of landscape and other vegetation. An appreciable impact on existing water bodies is defined as a drawdown of water levels of 10% or more as a direct result of lowering of water table elevations or potentiometric levels.

Should the potential exist for significant impacts as determined by the

above criteria, and the withdrawal source cannot be moved, the District may require that a monitoring program be initiated to determine actual impacts. If the monitoring program indicates that consequential drawdowns occur which may result in significant adverse impacts on existing land uses protected under the Compact then pumpages shall be reduced or terminated.

3.3.3.2 Special Provisions Applicable to Specified Reservation and Tribal Trust Lands.

A. Brighton Reservation --

1. The District shall determine, to the degree possible, whether the Tribe is getting its share of surface water, as specified in the Compact from the District canals and from District borrow canals calculated by the District on a monthly basis, and shall take the necessary steps to provide solutions to the water supply problems.

The District shall:

- i. Examine operational criteria for District structures in the Indian Prairie Basin to balance the available surface water in the northern and southern areas of the system;
- ii. To the extent feasible, seek to eliminate structural bypasses in the Indian Prairie Basin and uses of Indian Prairie Basin water by those outside the basin by substituting an alternate source for such uses; and
- iii. Cooperate with the Tribe to identify functional problems within the Tribe's internal water supply system.

2. The District shall investigate the feasibility of augmenting surface water supplies in the Indian Prairie Basin. Such efforts could include, but are not limited to, investigating the feasibility of:
 - i. Installing a pump facility on the Istokpoga Canal;
 - ii. Expanding the Lake Okeechobee Service Area to replenish the water supply in the borrow canals in the Indian Prairie Basin; and
 - iii. Modifying the regulation schedule of Lake Istokpoga.
3. The District shall report its initial findings resulting from the investigation undertaken pursuant to this section no later than December 31, 1987. The District shall propose a plan of action to fulfill requirements of this section no later than January 31, 1988 which shall be reasonably designed to assure that the Tribe will receive its share of basin waters as specified in the Compact.
4. If the above investigations do not result in the Tribe receiving fifteen percent (15%) of the total amount of water which can be withdrawn by all users from surface water in the Indian Prairie Basin as specified in the Compact, then the District shall take such action as is necessary to ensure that the requirements of the Compact are met.

CHAPTER 4 -- CRITERIA FOR SURFACE WATER MANAGEMENT SYSTEMS

4.1 INTRODUCTION

The objective of this Chapter is to identify the procedures and information used by the District to review the Work Plan.

4.2 DEFINITIONS

4.2.1 Appropriate and Practicable: is defined as measures to offset unavoidable impacts that are appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics and effects to public safety in light of overall project purposes.

History Note: New 10-22-02

4.2.2 Buffer Zone: means an area adjacent to the wetland which protects wetland functions and minimizes adverse impacts of development on the wetland functions.

4.2.3 Class I Landfill: means landfills which receive solid waste, and which receive a monthly average of twenty (20) tons or more of solid waste per day as weighed by scale, if available, or fifty (50) cubic yards or more of solid waste per day as measured in place after covering.

4.2.4 Class II Landfill: means landfills which receive solid waste, and which receive a monthly average of twenty (20) tons or less of solid waste per day as weighted by scales, if available, or less than fifty (50) cubic yards of solid waste per day as measured in place after covering.

4.2.5 Control Device: means an element of a discharge structure which allows the gradual release of water under controlled conditions. This is sometimes referred to as the bleed-down mechanism, or "bleeder."

4.2.6 Control Elevation: means the lowest elevation at which water can be released through the control device.

4.2.7 Creation: The establishment of new wetlands by conversion of other land forms.

History Note: New 10-22-02

4.2.8 Detention: means the delay of storm water runoff prior to discharge into receiving waters.

4.2.9 Detention Volume: means the volume of open surface storage behind the discharge structure between the overflow elevation and control elevation.

4.2.10 Discharge Structure: means a structural device, usually of concrete, metal, timber, through which water is discharged from a project to the receiving water.

4.2.11 Ecological Value: The value of functions performed by wetlands and other environmentally sensitive areas. These functions include providing habitat for wildlife, corridors for wildlife movement, food chain support, groundwater recharge, water storage and flow attenuation, and water quality enhancement.

History Note: New 10-22-02

4.2.12 Elevation: means the height in feet above mean sea level according to National Geodetic Vertical

Datum (NGVD).

4.2.13 Endangered Species: Those animal species and plant species which are listed as endangered in 50 Code of Federal Regulations 17.12.

History Note: New 10-22-02

4.2.14 Enhancement: Improving the ecological value of wetlands, which may include associated uplands that have been degraded in comparison to their historic condition.

History Note: New 10-22-02

4.2.15 Historic Discharge: means the peak rate at which runoff leaves a parcel of land by gravity in an undisturbed/natural site condition, or the legally allowable discharge at the time of plan submission.

4.2.16 Impervious: means land surfaces which do not allow, or minimally allow, the penetration of water; included as examples are building roofs, normal concrete and asphalt pavements, and some fine grained soils such as clays.

4.2.17 Listed Species: Those animal species which are endangered, threatened or of special concern, and those plant species listed in 50 Code of Federal Regulation 17.12, when such plants are found to be located in a wetland.

History Note: New 10-22-02

4.2.18 Mitigation: Mitigation is defined as the replacement of the chemical, physical and biological functions of wetlands which are lost as a result of adverse impacts through compensation. Compensation for impacts usually consists of restoration, enhancement, creation, preservation,

or a combination thereof.

History Note: New 10-22-02

4.2.19 Mitigation Program: A Mitigation Program is defined in this case as wetland, which may include associated upland, restoration, creation, enhancement, and in exceptional circumstances preservation undertaken expressly for the purpose of compensating for unavoidable wetland losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial. It typically involves the consolidation of small, fragmented wetland mitigation projects into one large contiguous site. Units of restored, created, enhanced or preserved wetlands are expressed as "functional units per acre" which may subsequently be withdrawn to offset "debts of units" incurred at a project development site. Ideally, mitigation programs are developed and functioning in advance of development impacts.

History Note: New 10-22-02

4.2.20 Mitigation Functional Units Acreage: Represents the increase or decrease per acre of the presence of function resulting from the mitigation or impact activities.

History Note: New 10-22-02

4.2.21 Overflow Elevation: means the design elevation of a discharge structure at which, or below which, water is contained behind the structure, except for that which leaks out, or bleeds out, through a control device down to the control elevation.

4.2.22 Protected Wetland: means wetland areas that have been mitigated pursuant to the criteria established in 4.3.2.3, or set aside through project design, conservation, or specified in the Compact for preservation, to ensure continued biological and hydrologic function indicative of that wetland type. Protection of wetlands may also include mitigation necessary to fully compensate for wetland losses in a manner that contributes to the long-term ecological functioning of the Reservation within which the impact occurs.

History Note: Revised 10-22-02

4.2.23 Preservation: The protection of wetlands, which may include associated uplands, from adverse impacts by inclusion in a mitigation area to be preserved.

History Note: New 10-22-02

4.2.24 Restoration: Converting to a historic condition those wetlands, which may include associated uplands, which currently exist as a land form which differs from the historic condition.

History Note: New 10-22-02

4.2.25 Retention: means the prevention of storm runoff from direct discharge into receiving waters; included as examples are systems which discharge through percolation, exfiltration, filtered bleed-down and evaporation processes.

4.2.26 Retention/Detention Area (Dry): means a water storage area with a bottom elevation at least one foot above the control elevation of the area. Included sumps, mosquito control swales and other minor features may be at a lower elevation.

4.2.27 Retention/Detention Area (Wet): means a water

storage area with a bottom elevation lower than one foot above the control elevation of the area.

4.2.28 Threatened Species: Those animal species and plant species which are listed as threatened in 50 Code of Federal Regulations 17.12.

History Note: New 10-22-02

4.2.29 Water Management Areas: means areas to be utilized for the conveyance or storage of storm water or environmental preservation.

4.2.30 Wetlands: means areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, wet prairies, river overflows, mud flats, and natural ponds.

4.2.31 Wetland Assessment Methodology: The assessment methodology for determining the functional value of a wetland. An example of an assessment methodology is the Wetland Rapid Assessment Procedure (WRAP), September 1997, Technical Publication REG 001 and the Numeric Functional Assessment (NFA) based on the joint State/Federal Mitigation Bank Review Team Process for Florida, Operational Draft, October, 1998.

History Note: New 10-22-02

4.2.32 Wetland Delineation: A determination

of the landward extent of wetlands, including isolated wetlands, pursuant to the United States Army Corps of Engineers Wetlands Delineation annual Technical Report Y-87-1. Nothing herein is intended to expand or reduce the determination of the landward extent of wetlands on the Reservations.

History Note: New 10-22-02

4.3 CRITERIA

4.3.1 General: The administrative procedures used to determine environmental impacts are included in Chapter 1 of this Manual. Part 4.4 gives design information generally used by the District for review of surface water management systems which may be utilized by the Tribe to meet the criteria of this Chapter.

4.3.2 Technical

4.3.2.1 Water Quantity

A. General: This subsection refers to flood and drought frequency impacts interchangeably with rainfall frequency. However, additional calculations may be necessary to identify other combinations of site conditions and rainfall frequencies which might result in impacts of the specified frequency. Examples include designs affected by spring tides, fluctuating tides and fluctuating receiving water stages.

B. Discharge: Off-site discharge is limited to amounts which will not cause additional adverse off-site impacts. These amounts are:

1. Historic discharges. Or:

2. Amounts determined in previous District permit actions. Or:

3. Amounts specified in District criteria and set forth as follows:

<u>Canal</u>	<u>Allowable Runoff</u>	<u>Design</u>
<u>Frequency</u>		
C-40, C-41	35.4 Cubic Feet per second per square mile (CSM)	10 Year
L-28	11.8 CSM)	25 Year

Unless otherwise specified by previous District permits or District criteria, a storm event of three (3) day duration and twenty-five (25) year return frequency shall be used in computing off-site discharge. Allowable discharges will be designated by the District on a case-by-case basis upon request.

C. Flood Plain Encroachment: There shall be no net encroachment into that floodplain which is encompassed by the one hundred (100) year event, and which will adversely affect the existing rights of others. Storage volumes for purposes of compensation shall be calculated based upon the loss of storage between the level of the one hundred (100) year event and the average wet season water table level.

D. Overdrainage and Water Conservation

Systems shall be designed to attempt to:

1. Maintain water table in existing District permitted Public Water Supply wellfield cones of depression. And:

2. Preserve site environmental values (see section 1.2.3 and subsection 4.3.2.3 of this Manual). And:

3. Maintain water tables no more than six (6) feet below natural ground. And:

4. Not waste freshwater. And:

5. Not lower water tables which would adversely affect the rights of others as protected under the Compact. And:

6. Preserve site ground water recharge characteristics.

E. Historic Basin Storage: Provision must be made to replace or otherwise mitigate the loss of historic basin storage provided by the project site.

F. Off-Site Lands: On-site diversion swales, dikes, may be necessary to allow the passage of drainage from off-site upland areas to downstream areas. Diking of project development areas may be necessary to contain water at or above stages identified in the project discharge computations.

4.3.2.2 Water Quality

A. Standards: Projects shall be designed so that discharges will meet State water quality standards.

B. Retention/Detention Criteria

1. Retention and/or detention in the overall system, including swales, lakes, canals, greenways, shall be provided for by satisfying one of the three (3) following criteria or equivalent combinations thereof (Note: Figure 4-1 can be utilized where the conditions can be met):

a. Wet detention volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage of imperviousness, whichever is greater.

b. Dry detention volume shall be provided equal to seventy-five percent (75%) of the above amounts computed for wet detention.

c. Retention volume shall be provided equal to fifty percent (50%) of the above amounts computed for wet detention. Retention volume included in flood protection calculations requires a demonstration of guarantees of long term operation and maintenance of system bleed-down ability.

2. Commercial or industrial areas shall provide at least one-half (1/2) inch of dry detention or retention pre-treatment as part of the required retention/detention, unless reasonable assurances can be offered that hazardous materials will not enter the project's surface water management system. Such assurances may include deed restrictions on sale property occupancy, recorded lease agreements, ordinances, licenses, engineered containment systems.

3. Systems with inlets in grassed areas will be credited with up to 0.2 inches of the required wet detention amount for the contributing areas. Full credit will be based on a ratio of 10:1 impervious area runoff to pervious area with proportional credit granted for greater ratios.

4. Projects having greater than forty percent (40%) impervious area and which discharge directly to sensitive receiving water shall provide at least one-half (1/2) inch of dry detention or retention pre-treatment as part of the required retention/detention. Sensitive receiving waters are defined in 1.2.4.3(A) of this Manual.

And:

Water bodies within a District permitted public water supply wellfield cone-of-depression, which are not separated from the aquifer by strata at least ten (10) feet thick, having an average saturated hydraulic conductivity of less than 0.1 foot per day; where the cone-of-depression is defined by one of the following:

a. In those areas of the District where no local wellfield protection ordinance has been adopted by the local governing body, the one (1) foot drawdown line, as expressed in the water table aquifer under conditions of no rainfall and one hundred (100) days of pumpage at the permitted average daily pumpage rate (where significant canal recharge is indicated, canal recharge representative of a once in a one hundred (100) year drought will be considered).

b. Broward County Wellfield Protection Ordinance contour for Zone

5. Water surface and roofed areas can be

deducted from site areas for water quality pervious/impervious calculations.

6. Different standards may be applied to urban public highway projects.

C. High Density Projects: Projects which have more than forty percent (40%) impervious area may be required to use retention rather than detention, depending on such variables as:

1. Sensitivity of receiving water.
2. Soils.
3. Arrangement of on-site facilities.

D. Projects Located Within Cones of Depression: Retention/detention area locations shall not reduce hydraulic recharge distances to public water supply wells in excess of two percent (2%), nor shall wet retention/detention areas be closer to public water supply wells than three hundred (300) feet.

E. Solid Waste Facilities

1. Surface water management systems shall be so designed and constructed as to maintain the integrity of the landfill at all times (during construction, operation, closure and post closure). Assurances must be provided that:

- a. All flows will be conveyed at

non-erosive velocities.

b. The project is designed to minimize erosion.

2. Design features in support of this requirement may include, but not be limited to:

a. Slopes adequate to promote runoff but not affect slope stability.

b. Intermediate benches or swales which reduce runoff velocities and limit erosion.

c. Vegetation of closed portion of landfill.

3. Class I and II landfill projects shall provide adequate assurance that leachate will not enter the surface water management system. This assurance may be provided through affirmative demonstration that all applicable State standards for design and emplacement of liners, leachate collection systems, and treatment and disposal of leachate will be met.

4. Borrow pits shall not be included in the surface water management system unless the Tribe can affirmatively demonstrate that leachate will not enter the borrow pit, and that State water quality standards will be met.

5. Dewatering operations at active, unlined landfills will not be permitted.

6. For Class I and II landfills the District

may require one or more of the following additional Best Management Practices:

a. Detention in excess of the quantities stated in 4.3.2.2(B).

b. Dry detention areas.

c. Dry conveyance swales with adequate dimensions to permit maintenance.

d. Filter mechanisms for additional water quality enhancement prior to discharge.

e. Skimmers in front of discharge structures to restrict discharge of floatable materials.

f. Screw gates on water control structures capable of restricting discharge of poor quality surface water.

g. Vegetation of appropriate portions of the water management system including, but not limited to, conveyance swales.

7. To provide information for assessing the need for Best Management Practices at a specific site, the District will require a hydrogeologic investigation that should, at a minimum, provide information on:

a. The hydrogeologic properties of the formations underlying the landfill, including aquifer characteristics, groundwater elevations and direction, and rate of groundwater flow.

b. Location of existing wells within one-half mile of the site perimeter.

c. Locations and specifications of existing or proposed monitor wells.

8. The Tribe should consult with the District during the design of the project to determine the requirements which will apply for a particular project.

F. Use of Natural Areas and Existing Water Bodies

Natural areas and existing water bodies may be used for retention/detention purposes on some occasions, when not in conflict with environmental or public use considerations (see 1.2.3 and 4.3.2.3 of this Manual). Candidate areas for such purposes might include:

1. Previously degraded areas.
2. Man-made areas (such as borrow pits).
3. Extensive areas which have the ability to absorb impacts easily.
4. Areas incorporated into a system with mitigation features.

G. Underground Exfiltration Systems

1. Systems shall be designed for the retention volumes specified in paragraph 4.3.2.2(B) for retention systems, exfiltrated over one (1) hour for retention purposes prior to overflow, and based on test data for the site. (Note: Such systems should not be proposed for projects to be operated by entities other than single owners or entities with full time maintenance staff.)

2. A safety factor of two or more shall be applied to the design to allow for geological uncertainties.

3. A dry system is one with the pipe invert at or above the average wet season water table.

H. Sewage Treatment Percolation Ponds: Above ground pond dikes shall not be within two hundred (200) feet of water bodies or one hundred (100) feet of dry retention/detention areas. Additional calculations may be necessary in unusual cases, requiring deviations from these dimensions.

4.3.2.3 Environmental

A. References to wetlands in this subsection are those wetlands designated for protection under Part V.D. of the Compact. Wetlands and appropriate buffer areas shall be protected except as otherwise outlined in Part V.D. of the Compact.

B. Wetlands (in on-site uplands and/or impacted wetlands) may be created to replace natural wetlands as provided in Part V.D.4. of the Compact. To the extent appropriate and practicable, wetlands on-site shall be

incorporated into the surface water management system in a manner that protects their hydroperiod and fish and wildlife values.

C. Habitat Diversity Systems: Natural systems composed of distinct upland/wetland systems shall be preserved where it is evident that the two are interdependent. Proposed Work Plan activities shall not impact the values of wetland functions so as to cause adverse impacts to:

1. the abundance and diversity of fish, wildlife and listed species; and
2. the habitat of fish, wildlife and listed species;

De minimis effects shall not be considered adverse impacts for the purposes of this subparagraph. The assessment of impacts expected as a result of proposed activities on the values and functions that any wetland provides to fish, wildlife, and listed species will be based on the best scientific judgment or some other mutually acceptable assessment procedure.

History Note: Revised 10-22-02

D. Lake/Canals - Wetland Separation: Lakes/canals which may adversely affect wetland areas shall be separated from the wetlands protected under the Compact by a minimum distance of two hundred (200) feet unless tests, calculations or other information demonstrate deviation from this dimension is appropriate.

E. Water Levels: Water tables shall not be altered such that off-site wetlands, or wetlands protected under the Compact, are adversely affected. Control elevations shall be established which maintain or improve pre-development

hydroperiods in wetlands made part of a surface water management system. In areas to be developed, water shall be routed to preserved wetlands not made part of the surface water management system, so as to approximate pre-development hydroperiods.

F. Zones: Buffer zones shall be provided around all wetlands that are to be protected or incorporated into a surface water management system. Actual delineation of the buffer zone may vary according to site specific conditions, provided it extends at least fifteen (15) feet landward from the edge of the wetland in all places and averages twenty-five (25) feet from the landward edge of the wetland.

Proposed buffer zones shall be delineated on the Work Plan.

Buffer zones may consist of natural features suitable for the particular site, such as undisturbed uplands, open water bodies, wildlife corridors, or other appropriate natural or structural features.

Upland areas or wildlife corridors adjacent to buffer zones may be incorporated in areas set aside in satisfaction of Part V.D.4. of the Compact, provided they are in excess of the minimum buffer zone.

G. Mitigation:
History Note: New 10-22-02

Intent: Wetlands greater than forty (40) contiguous acres as described in Part V.D.2. of the Compact, may be

protected through the provision of a mitigation proposal which satisfies the following requirements. Protection of wetlands may also include mitigation necessary to fully compensate for unavoidable adverse impacts to wetlands in a manner that contributes to the long-term ecological functioning of the Reservation within which the impact occurs. In undertaking such mitigation, the Tribe's and District's mutual, overall goal is to avoid adverse impacts to wetlands and offset unavoidable adverse impacts to wetlands to achieve no overall net loss of wetland values and functions.

H. Sequencing: In evaluating Work Plan and Work Plan amendment submittals, as a practical matter, information on all facets of a project, including potential mitigation, is ideally gathered and reviewed at the same time. First, the District makes a determination that potential impacts have been avoided to the maximum extent practicable. Second, the remaining unavoidable impacts are minimized to the extent appropriate and practicable. Finally, compensatory mitigation for unavoidable adverse impacts to wetland resource values and functions is required.

1. Avoidance allows Work Plan approval for only the least environmentally damaging practicable alternative. The thrust of this section on alternatives is avoidance of impacts. Compensatory mitigation may not be used as a method to reduce environmental impacts in the evaluation of the least environmentally damaging practicable alternatives.

2. Minimization. Appropriate and practicable steps to minimize the adverse impacts will be required through project design modifications and Work Plan conditions. The term "modification" shall not be construed as including the alternative of not implementing the system in some form, nor

shall it be construed as requiring a project that is significantly different in type or function. A proposed modification which is not technically capable of being made is not economically viable, or which adversely affects public safety through the endangerment of lives or property is not considered "practicable". A proposed modification need not remove all economic value of the property in order to be considered not "appropriate and practicable". Conversely, a modification need not provide the highest and best use of the property to be "appropriate and practicable". The District will give full consideration to the views of the Tribe and the resources available to the Tribe when making this practicability determination.

3. Compensatory Mitigation. Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain after all appropriate and practicable minimization has been required. Compensatory actions (e.g., restoration, enhancement, preservation, restoration of existing degraded wetlands or creation of man-made wetlands) should be undertaken, when practicable, in areas adjacent or contiguous to the discharge site (onsite compensatory mitigation). If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographic area if practicable (i.e., in close physical proximity and, to the extent possible, the same reservation). In determining the compensatory mitigation required, the values and functions lost by the resource to be impacted must be considered.

I. Mitigation Guidelines:

History Note: New 10-22-02

1. General Provisions: Compensatory mitigation for impacts to wetlands greater than 40 contiguous acres in size shall be determined on a case-by-case basis and reflect a no-net loss of wetland Functional Value Units (Units) on the Reservation(s). Units shall be determined using the Wetland Rapid Assessment Procedure (WRAP) and Numeric Functional Assessment (NFA). The below-listed ratios are proposed as guidelines to be used by the Tribe and the District to ensure that there is not an overall loss of wetland function. For impacts to wetlands that are less than 40 contiguous acres in size, the Tribe will have the option of using the multiplier (1), regardless of WRAP score.

WRAP SCORE	MULTIPLIER
≤ .50 =	1:1
.51 to .59 =	1.5:1
.60 to .69 =	2:1
.70 to .74 =	3:1
.75 to .84 =	4.5:1
≥ .85 =	5:1

2. a. Wetland Assessment: Appropriate wetland assessment procedures for determining the values and functions of a wetland will be used to qualitatively assess the wetlands to be impacted, as well as the mitigation proposed. Factors including wetland size, temporal loss, risks associated with mitigation success and other special circumstances which warrant weighting, for example the regional setting of the wetland and the effect of the Central and Southern Florida Flood Control Project, will be taken into consideration in the assessment of any proposed impacts and mitigation. See the Wetland Rapid Assessment Procedure (WRAP), September 1997, Technical Publication REG 001 and the Numeric Functional Assessment based on the joint State/Federal Mitigation Bank Review Team Process for Florida, Operational Draft, October, 1998 for examples of how to perform this assessment. Multipliers shall be used to determine the required compensatory mitigation for impacts to wetlands of forty (40) contiguous acres in size or more as follows:

Example 1: The Tribe proposes to impact (fill) wetland X (45 acres) for residential development. Wetland X is greater than forty (40) contiguous acres in size so the ratios will need to be used. The completed WRAP/NFA analysis for that wetland provides a score of 0.65. This equates to a proposed impact of 45 acres X .65 (WRAP Score) X 2 (Multiplier), or 58.5 units of impact that require compensation. To offset this impact, an equal amount of units would be deducted from the advanced mitigation program ledger, or a mitigation project would be required that would produce an equal number of units.

Example 2: The Tribe proposes to impact (fill) wetland X (20 acres) for industrial development. This wetland is less than forty (40) contiguous acres in size. The completed WRAP/NFA analysis for the wetland provides a score of 0.73. However, since this wetland is less than forty (40) contiguous acres in size, the Tribe has the option of using either a multiplier of (1) or the same acreage of mitigation, regardless of the WRAP/NFA score. This equates to a choice between the following mitigation options: (20 acres X .73 WRAP/NFA score) X 1 (Multiplier) = 14.6 Units required; or in the alternative 20 acres of mitigation for the 20 acres of impacts). 2. b. Alternative

Wetland Assessment: Alternative wetland assessment methodologies may be considered that are mutually acceptable to the Tribe and the District.

3. Proposed Mitigation (including Advanced Mitigation): WRAP/NFA scores will be conducted for each proposed mitigation site in order to determine the mitigation potential/objective and an average or overall score will be developed. Upon acceptance of a suitable mitigation plan, a post-WRAP/NFA score will be designated. The difference between the two WRAP/NFA scores (known as mitigation lift) will determine the amount of Functional Value Units (Units) available for each respective site. For example, if the average WRAP/NFA score of an advanced mitigation site is 0.4 and the post-WRAP/NFA score is determined to be 0.9, then the "lift" will be 0.5. This number multiplied by the advanced mitigation acreage will provide the total number of units available. Accordingly, a 524 acre melaleuca-dominated area proposed for enhancement for mitigation would result in 262 Units ($524 \times .5 \text{ (lift)} = 262 \text{ Units}$).

4. Melaleuca Dominated Wetlands

When the District evaluates mitigation proposals to offset impacts to Melaleuca dominated wetlands, the following factors will be considered to determine the appropriate mitigation. However, the following factors shall only be considered for impacts to those wetlands that are less than forty (40) contiguous acres in size no matter what the WRAP score and to those wetlands that are greater than forty (40) contiguous acres in size that have a WRAP score of .51 or higher:

Unavoidable impacts to wetland areas that contain 50% or greater coverage of melaleuca shall require less mitigation than that which is normally required under Section 4.3.2.3.I. The amount of required mitigation, as calculated under Section 4.3.2.3.I shall be reduced by 25% when mitigating for impacts to wetlands containing greater than 50% coverage of melaleuca.

Melaleuca within the wetland to be impacted shall be mapped in units not larger than 1/2 acre which differentiate coverages of 50%-75% and 76%-100%. The Tribe may elect to measure coverage in more detail. The District shall allow the use of larger mapping units when the Tribe can demonstrate that:

a. 1/2 acre mapping units will impose an economic hardship due to the large size of the wetland impact areas; and

b. Mapping in larger units will not result in additional acreage qualifying for the ratios in this subsection. The coverage of melaleuca shall be defined as the absolute percentage of the area in question that lies under the crown of a melaleuca tree with a one inch or greater trunk diameter at breast height. The crown of each melaleuca tree shall be considered a solid shape without regard for holes or openings among the leaves and branches. Any valid vegetative sampling method shall be acceptable for estimating melaleuca coverage, including visual observation, use of random sample points, a grid of points, or line or belt transects. (See Bonham, C.D. 1989, Measurements for Terrestrial Vegetation for guidance in estimating coverage.)

Aerial photography may be used to complement on-the-ground estimates of melaleuca coverage for large tracts.

5. Mitigation Proposals: The Tribe shall provide reasonable assurances that proposed mitigation will: offset adverse impacts due to regulated activities; and achieve mitigation success by providing viable and sustainable ecological and hydrological functions. The Tribe shall submit detailed plans describing proposed construction, establishment, and management of mitigation areas. These plans should include the following information, as appropriate for the type of mitigation proposed:

- a. An aerial or satellite imagery of mitigation area and region.
- b. A soils map of the mitigation area and other soils information pertinent to the specific mitigation actions proposed.
- c. A hydrologic features map of the mitigation area and adjacent hydrologic contributing and receiving areas.
- d. A map of vegetation communities within the mitigation area.
- e. Construction drawings detailing proposed hydrological alterations and all structural components associated with proposed activities.
- f. Proposed construction activities, including a detailed schedule for implementation.

g. A vegetation planting scheme if planting is proposed, and schedule for implementation.

h. Sources of plants and soils used in wetland creation.

i. Measures to be implemented during and after construction to avoid adverse impacts related to proposed activities.

j. A management plan comprising all aspects of operation and maintenance, including water management practices, vegetation establishment, exotic and nuisance species control, fire management, and control of access.

k. A description of the activities proposed to control exotic and nuisance species should these become established in the mitigation area.

l. A description of anticipated site conditions within the mitigation area after the mitigation plan is successfully implemented.

m. A topographic map of the mitigation area and adjacent hydrologic contributing and receiving areas.

n. A description of current hydrologic conditions affecting the mitigation area.

o. A proposed monitoring plan to demonstrate mitigation.

p. A mitigation ledger. The ledger listing of the number and type of mitigation acres in the Mitigation Program.

q. GIS vector overlays of mitigation areas and areas debited from the mitigation areas.

6. Innovative Mitigation Proposals: Innovative mitigation proposals proposed by the Tribe which deviate from the practices described above shall be considered on a case-by-case basis.

7. Monitoring: Proposed mitigation for wetland impacts on a reservation shall include the submittal of a proposed monitoring plan, if the proposed mitigation involves creation, restoration or enhancement of wetlands. This plan shall be reviewed and mutually agreed upon prior to any associated impacts occurring. The plan shall be designed in such a manner as to demonstrate the level of mitigation success. The Tribe shall monitor the progress of mitigation areas until success can be demonstrated. Monitoring parameters, methods, schedules, and reporting requirements will be specified by the District in Work Plan conditions.

8. Preservation of Mitigation Areas: The Tribe shall propose and be responsible for implementing methods that assure that mitigation areas will not be adversely impacted unless such impacts are subsequently concurred with through future Work Plans or Work Plan amendments. The Tribe's commitment to preserve the mitigation areas shall be

specifically described in any Work Plan proposed under Part VII, Section A. of the Compact.

9. Mitigation Success: Due to the wide range of types of projects which may be proposed for mitigation, specific success criteria will be determined on a case-by-case basis (which may include but not be limited to wetland assessment procedures). The success criteria to be included in the Work Plan conditions will specify the minimum requirements necessary to attain a determination of success. The mitigation shall be deemed successful by the District when the mitigation area has achieved viable and sustainable ecological and hydrological functions and the specific success criteria in the Work Plan are met. If success is not achieved within the timeframe specified within the Work Plan, remedial measures shall be required. Monitoring and maintenance requirements shall remain in effect until success is achieved.

J. Cumulative Impacts:

History Note: New 10-22-02

The Tribe shall provide reasonable assurances that a proposed Work Plan activity will not cause unacceptable cumulative impacts upon wetlands within the same Reservation as the proposed activity.

1. The impact on wetlands and other surface waters shall be reviewed by evaluating the impacts to water quality as set forth in subsection 4.3.2.2 and by evaluating the impacts to values and functions identified in 4.3.2.3.

2. The Tribe must provide reasonable assurance that the proposed system, when considered with

other projects which are existing or activities regulated under the Compact which are under construction, or projects for which Work Plan approval has been sought, will not result in unacceptable cumulative impacts to water quality or the functions of wetlands and other surface waters within the same Reservation. If the Tribe proposes to mitigate adverse impacts within the same Reservation as the impacts, and if the mitigation fully offsets the impacts, the District will consider the Work Plan activity to have no unacceptable cumulative impacts upon wetlands and other surface waters.

3. The cumulative impact evaluation is conducted using an assumption that reasonably expected future Work Plan approvals with like impacts will be sought, thus necessitating equitable distribution of acceptable impacts among future activities.

4. Cumulative impacts are considered unacceptable when the proposed system, considered in conjunction with the past, present, and future activities as described in 4.3.2.3.J.2. would result in a violation of applicable water quality standards or significant adverse impacts to values and functions of wetlands identified in 4.3.2.3. within the same Reservation. However, if there are no cumulative impacts when considering the Reservation's location within the watershed as a whole then the District will consider the Work Plan activity to have no unacceptable cumulative impacts on wetlands or other surface waters.

5. The Tribe may propose measures such as preservation to prevent cumulative impacts. Such preservation shall comply with subparagraph 4.3.2.3.I.8. If unacceptable cumulative impacts are expected to occur, the

Tribe may propose mitigation measures, as provided for in paragraph 4.3.2.3.

4.3.2.4 Construction

A. Discharge Structures:

1. All design discharges shall be made through structural discharge facilities. Earth berms shall be used only to disperse or collect sheet flows from or to ditches, swales, served by discharge structures.

2. Discharge structures shall be fixed so that discharge cannot be made below the control elevation, except that emergency devices may be installed with secure locking devices. Either the District or an acceptable governmental agency will keep the keys for any such devices.

3. Non-operable discharge structures shall be constructed so that they are just that. Flashboard risers should not be used for urban construction.

4. Discharge structures should include gratings for safety and maintenance purposes. The use of trash collection screens is desirable.

5. Discharge structures shall include a "baffle" system to encourage discharge from the center of the water column rather than the top or bottom. Discharge structures from areas with greater than fifty percent (50%) impervious area, or from systems with inlets in paved areas, shall include a baffle, skimmer, or other mechanism suitable

for preventing oil and grease from discharging to and/or from retention/detention areas.

6. Direct discharges, such as through culverts, storm drains, weir structures, to receiving waters will normally be allowed which, by virtue of their large capacity, and configuration, are easily able to absorb concentrated discharges. Such receiving waters might include existing storm sewer systems and man-made ditches, canals and lakes.

7. Indirect discharges, such as overflow and spreader swales, are required where the receiving water or its adjacent supporting ecosystem might be degraded by a direct discharge. The discharge structure would therefore discharge into the overflow, spreader swale, which in turn would release the water to the actual receiving water. Such receiving waters might include natural streams, lakes and marshes and land naturally receiving overland sheetflow.

8. Pumped systems will only be allowed where the Tribe accepts responsibility for perpetual operation.

B. Control Devices/Bleed-Down Mechanisms for Detention Systems:

1. Gravity control devices shall normally be sized based on a design discharge of one-half (1/2) inch of the detention volume during the first day. The devices should incorporate dimensions no smaller than six (6) square inches of cross sectional area, two (2) inches minimum dimension, and twenty degrees (20°) for V notches.

2. Gravity control devices shall be of a V or

circular shaped configuration to increase detention time during minor events.

3. Pumped control devices shall normally be sized based on a design discharge of twenty percent (20%) of the detention volume in one (1) day.

C. Dry Retention/Detention Areas: (not applicable to natural or mitigation wetland areas):

1. Dry retention/detention areas shall have mechanisms for returning the groundwater level in the area to the control elevation.

2. Mosquito control ditches or other appropriate features for such purpose, shall be incorporated into the design of dry retention/detention areas.

3. The design of dry retention/detention areas shall incorporate considerations for regular maintenance and vegetation harvesting procedures.

D. Wet Retention/Detention Areas:

1. Dimensional Criteria: (as measured at or from the control elevation)

a. Area: 0.5 acre minimum.

b. Width: One hundred (100) feet minimum for linear areas in excess of two hundred (200) feet length. Irregular shaped areas may have narrower reaches but should average at least one hundred (100) feet. (Note: Area and width requirements may be waived for projects to

be operated by the Tribe.)

c. Depth: A minimum of twenty percent (20%) of the area shallower than six (6) feet is required up to 2.5 percent of the project waterbody and contributing area (including side slopes), and twenty five to fifty percent (25%-50%) of the area deeper than twelve (12) feet is desirable.

d. Side Slopes: For purposes of water quality enhancement and maintenance, all wet retention/detention areas should have below ground side slopes no steeper than 4:1 (horizontal:vertical) out to a depth of two (2) feet below the control elevation, or an equivalent substitute. Side slopes should be topsoiled, nurtured or planted from two (2) feet below to one (1) foot above control elevation to promote vegetative growth. Littoral zone vegetation growth survival shall be a consideration of plan approval. For above ground impoundment dikes located where failure could cause significant damage to non-Tribal property, or involve loss of human life, would create a public health hazard, or could cause irreversible environmental or water quality damage, recommended side slopes for vegetated earth should be no steeper than 2.5:1 (horizontal:vertical) for external slopes and 3:1 (horizontal:vertical) for internal slopes.

For other dikes, side slopes for vegetated earth may be increased, but should be no steeper than 2:1 (horizontal:vertical) for dikes external to the Tribe's property.

e. Bulkheads: Bulkheads may be allowed for no more than forty percent (40%) of the shoreline length, but compensating littoral

zone must be provided.

2. Support Facility Design Criteria:

a. Perimeter maintenance and operation easements of twenty (20) feet (minimum preferable) width at slopes no steeper than 4:1 (horizontal:vertical) should be provided beyond the control elevation water line.

b. Control elevations should be no higher than two (2) feet below the minimum road centerline elevation in the area served by the control device in order to protect the road subgrade.

E. Exfiltration Systems: Exfiltration systems shall be designed to meet the following criteria:

1. Minimum pipe diameter of twelve (12) inches.
2. Minimum trench width of three (3) feet.
3. Rock in trench must be enclosed in filter material, at least on the top and sides. And:
4. All inlets shall be provided with maintenance sumps.

F. Deep Water Bodies: Water bodies shall meet both of the following criteria:

1. Entrapped salt water, resulting from inland migration of salt water during hurricane tide conditions

or penetration of the freshwater/salt water interface, will not adversely impact existing legal water users as protected by the Compact.

2. The penetration of a water-bearing formation exhibiting poorer water quality, in terms of chloride concentrations, will not adversely impact existing legal water users as protected by the Compact, or result in adverse environmental impacts.

G. Impervious Areas: Runoff shall be discharged from impervious surfaces through retention areas, detention devices, filtering and cleansing devices, and/or subjected to some type of Best Management Practice prior to discharge from the project site. For projects which include substantial paved areas, such as shopping centers, large highway intersections with frequent stopped traffic, and high density developments, provisions shall be made for the removal of oil, grease and sediment from storm water discharges.

H. Stagnant Water Conditions: Configurations which create stagnant water conditions such as hydraulically dead end canals are to be avoided, regardless of the type of development.

4.4 DESIGN INFORMATION

4.4.1 Antecedent Conditions: Antecedent conditions for design purposes are average wet season.

4.4.2 Rainfall: Reference Sources include:

SFWMD Technical Publication No. 81-3 and the following distribution table:

Time of (hours)	Cumulative Percentage Peak One Day Rainfall
0	0
24	14.6
48	35.9
58	57.2
59	62.8
59.5	67.8
59.75	82.8
100% One Day Rainfall	
60	101.5
60.5	108.8
61	112.6
62	117.7
72	135.9

-- Actual gage data analyzed by accepted statistical methods.

-- U.S. Department of Agriculture, Soil Conservation Service, Rainfall Frequency Atlas of Alabama, Florida, Georgia and South Carolina for Durations from 30 Minutes to 24 Hours and Return Periods from 1 to 100 years (1973).

-- Florida Department of Transportation Drainage Manual (Second Edition, revised 1978). Revised Rainfall Intensity Curves per Directive No. 0736-01-79.

4.4.3 Evapotranspiration: Amounts can be estimated as follows:

4.4.3.1 Groundwater depth 0 to 1' - 0.3 ET/day

4.4.3.2 Groundwater depth 1' to 2.5' - 0.2 ET/day

4.4.3.3 Groundwater depth 2.5' to 4' - 0.1 ET/day

4.4.3.4 Groundwater depth below 4' - 0 ET/day

4.4.4 Storage:

4.4.4.1 Open Surface: If open surface storage is to be considered in the review, the Tribe should submit stage-storage computations. If open surface storage plus discharge is to be considered, the stage discharge computations should also be submitted. Actual rather than allowable discharges shall be used in routing. Often for the more extreme events, such as a one hundred (100) year frequency, discharge should be ignored because the high tail water stage in the receiving water effectively prevents any but a negligible discharge. In such cases a mass accounting of on-site water will suffice, if adjacent areas can safely be ignored.

4.4.4.2 Ground: The Soil Conservation Service has made the following estimate of soil storage, capability for the normal sandy soils found within the District in their average natural state:

<u>Depth to Water Table</u>	<u>Cumulative Water Storage</u>
1'	0.6
2'	2.5
3'	6.6
4'	10.9

For the same sandy soils which have been compacted intentionally or incidental to earthwork operations,

the cumulative storage should be reduced twenty-five percent (25%).

Groundwater storage beneath impervious surfaces generally appears impractical to any great degree because of the trapped air, which water cannot displace. It further appears impractical below four (4) feet depths, except in high sandy coastal ridge areas, because of the relationship between infiltration rates and runoff rates in most parts of south Florida.

4.4.5 Infiltration and Percolation

4.4.5.1 Ground Surface: Ground surface infiltration will be reviewed on the basis of commonly accepted procedures such as those of Soil Conservation Service (see U.S. Department of Agriculture, Soil Conservation Service Technical Paper No. 149 "A Method for Estimating Volume and rate of Runoff in Small Watersheds" (1973), and U.S. Department of Agriculture, Soil Conservation Service Technical Release No. 55, "Urban Hydrology for Small Watersheds" (1975); or Rational Method (see Florida State Department of Transportation, "Drainage Manual" (2nd Edition, rev. 1978); or standard Civil Engineering textbooks), unless test data are submitted to justify other procedures.

4.4.5.2 Subsurface: Subsurface exfiltration will be reviewed only on the basis of representative or actual test data submitted by the Tribe. Tests shall be consistent as to elevation, location, soils, with the system design to which the test data will be applied. The Dade County Department of Environmental Resource Management and Florida Department of Transportation are suggested as reference sources to the Tribe for test procedures and design and

maintenance performance of subsurface exfiltration systems.

4.4.6 Runoff: The usual methods of computation are as follows:

- A. Rainfall minus losses and storage.
- B. Soil Conservation Service (see U.S. Department of Agriculture, Soil Conservation Service, "National Engineering Handbook, Section 4, Hydrology" - 1972), with extra attention to hydrologic accounting of water table conditions.

C. Rational method, for water quality retention/detention purposes.

4.4.7 Receiving Water Stage

4.4.7.1 Regulated Systems: Design and maintained stage elevations should be available either from the local jurisdiction or the District. Stages for frequencies other than the design will be estimated by the District upon request from the Tribe.

4.4.7.2 Non-Regulated Systems: The Tribe should compute receiving water stages for such systems from the best available data and submit the results to the District for review and concurrence before utilizing such results in further computations.

4.4.7.3 Any System: Variable tailwater stages should be considered if they have a significant influence on the design.

4.4.8 Discharge

4.4.8.1 Allowable Discharges: Peak discharge, for purposes of meeting maximum allowable discharges, may normally be computed as the maximum average discharge over a time period equal to the time of concentration of the contributory area.

4.4.8.2 Non-Urban Gravity Systems: Rural gravity systems which are to be connected to District facilities are generally reviewed on the basis of the discharge culvert operating at a fixed head loss to meet the allowable discharge rate. This basis is justified by the estimate that the upstream headwater generated by rural runoff will be unable to collect at the upstream culvert and appreciably faster than the rate at which the receiving water rises.

CHAPTER 5 -- CRITERIA FOR WELL CONSTRUCTION

5.1 INTRODUCTION

The objective of this Chapter is to outline the standards for the construction, alteration, operation, maintenance, and abandonment of any water well.

5.2 DEFINITIONS

5.2.1 Annulus or Annular Space means any artificially created void existing between a well casing or liner pipe and a borehole wall, or the space between two casings or liner pipes.

5.2.2 Aquifer means a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield useful quantities of groundwater to wells and springs.

5.2.3 Casing Diameter or Diameter of Casing means the largest inside diameter of the final casing.

5.2.4 Dewatering means the use of wells or other such equipment to temporarily lower a water level, as may be necessary during construction activities.

5.2.5 Drive Shoe means any device specifically designed, fabricated, or installed to protect the end of a well casing or liner pipe from collapse or other damage while the casing or liner pipe is being driven into place in a well.

5.2.6 Gang Well means a system where two (2) or more water wells are coupled together with a common header or manifold.

5.2.7 **Grout** means a mixture of water, Portland cement (American Concrete Institute type 1; American Concrete Institute type II, Class H; American Concrete Institute type III; or any other types of cement approved by the District), and sand (not more than two (2) parts of sand to one (1) part of cement by weight), and other additives listed under 5.2.11, or other additives approved by the District. Grout composition shall not exceed six (6) gallons of water per cubic foot of cement.

5.2.8 **Inspection Port** means any opening not less than three-quarters (3/4) inch in diameter through which unobstructed access to the inside of the casing can be obtained for measuring water levels. Inspection ports shall be threaded openings temporarily sealed with a removable watertight plug.

5.2.9 **Liner** means a metallic or non-metallic pipe which is installed either within the outer casing to improve, repair, or protect the outer casing, or below the outer casing to seal off caving material which may be encountered in the open hole of the well.

5.2.10 **Monitoring Well** means a well used primarily to monitor hydrologic parameters such as water levels or water quality.

5.2.11 Neat Cement Grout means grout without addition of sand but may include bentonite (not to exceed five (5) pounds per ninety-four (94) pound sack of cement), calcium chloride (not to exceed 3 lbs. per 92 lb. sack of cement), or retarder (not to exceed 1 lb. per 94 lb. sack of cement), or other admixtures approved by the District to reduce permeability or shrinkage, increase fluidity, adjust slurry weight and/or control set time. Neat cement grout composition shall not exceed six (6) gallons of water per cubic foot of cement.

5.2.12 Observation Well means a well used primarily to observe the elevation of the water table or potentiometric surface, or to determine water quality, in the aquifer.

5.2.13 Public Water Supply Well means a well constructed for the purpose of supplying water to a public water system.

5.2.14 Public Water System means a system designed to provide to the public piped water for human consumption, if such a system has at least fifteen (15) service connections, or regularly serves at least twenty-five (25) individuals daily, at least sixty (60) days out of the year.

5.2.15 Sand-Point Well means any device which is driven into place in unconsolidated earth materials, and which consists of a pipe with an attached perforated metal tube or screen, designed to permit the passage of water.

5.2.16 Test Hole means an artificial hole in the ground drilled, bored, cored, washed, or jetted, the intended use of which includes obtaining data for engineering and/or for geophysical or geological exploration; prospecting for minerals or products of mining or quarrying; not for the purposes of either producing, disposing of, or searching for water.

5.2.17 Well means a water well, but specifically excludes a test hole, or observation well or a monitoring well.

5.2.18 **Well Casing** means a metallic or non-metallic pipe installed in a borehole to prevent caving, provide structural strength, seal off zones of poor water quality, or prevent the interchange of waters between aquifers.

5.3 CONSTRUCTION, REPAIR AND ABANDONMENT STANDARDS--

This Part relates to the standards and criteria for the construction, repair and abandonment of wells.

5.3.1 **Construction Methods** -- Wells must be so constructed, cased, grouted, plugged, capped, or sealed as to prevent uncontrolled surface flow, uncontrolled movement of water from one aquifer or zone to another, contamination of groundwater or surface water resources, or other adverse impacts.

5.3.2 **Location** -- Wells shall be located so as not to pose a threat of contamination to the water resource.

5.3.3 Casing and Liner Pipe Standards

5.3.3.1 Well casing and liner pipe shall be new, or shall be pipe or casing in like new condition. Such casing or pipe shall not be used unless free of leaks, corrosion, and dents; is straight and true, and is not out of round. Welded or seamless black or galvanized pipe or casing, or stainless steel pipe or casing, or approved types of non-metallic pipe shall be used for well casing or liner pipe.

Well casing installed by driving, shall not have less than the dimensions and weights specified in Table 1, unless otherwise approved by the District, and shall conform to the American Society for Testing and Materials (ASTM) A53-77A Type S, Grade A, except as noted below.

Table 1
MINIMUM DIMENSIONS AND WEIGHTS FOR
BLACK OR GALVANIZED STEEL CASING OR
LINER PIPE INSTALLED BY DRIVING

nominal size (in.)	outside diameter (in.)	wall thickness (in.)	plain end weight (lbs./ft)
3	3.500	0.216	7.58
3.5	4.000	0.226	9.11
4	4.500	0.237	10.79
	or	0.188	or 8.62
5	5.563	0.258	14.62
6	6.625	0.280	18.97
8	8.625	0.277	24.70
10	10.750	0.307	31.20
12	12.750	0.330	43.77

5.3.3.2 Black or galvanized steel casing or liner pipe set into place without driving shall not have less than the dimensions and weights specified in Table 2 and shall conform to the American Petroleum Institute (API) Standard 5L, Grade A.

Table 2
MINIMUM DIMENSIONS AND WEIGHTS FOR
BLACK OR GALVANIZED STEEL CASING OR
LINER PIPE SET INTO PLACE WITHOUT DRIVING

nominal size (in.)	outside diameter (in.)	wall thickness (in.)	plain end weight (lbs./ft)
3	3.500	0.125	4.51
3.5	4.000	0.134	5.53
4	4.500	0.142	6.61
5	5.500	0.154	8.79
5.5	6.000	0.164	10.22
6	6.625	0.185	12.72
8	8.625	0.188	16.90

5.3.3.3 Black or galvanized steel casing installed by driving with a nominal size between twelve (12) and thirty (30) inches shall have a minimum wall thickness of 0.375 inches and shall be of weights as specified by American National Standards for Wrought Steel and Wrought Iron Pipe ANSI B36.10-1970, for standard pipe. Pipes larger than thirty (30) inches shall have a minimum wall thickness of 0.500 inches and shall be of weights as specified by American National Standards for Wrought Steel and Wrought Iron Pipe ANSI B36.10-1970, for standard pipe.

Four (4) inch nominal size pipe with a wall thickness of 0.188 shall be certified by the manufacturer to be in accordance with American Petroleum Institute (API) Standard 5L or ASTM A589-73, A120-77, A53-77A, A252-77A Grade 2.

5.3.3.4 Black or galvanized steel casing or liner pipe set into place without driving, with an outside diameter less than 3.500 inches shall have a wall thickness of not less than 0.125 inches. Black or galvanized steel casing or liner pipe with a nominal size between eight (8) and sixteen (16) inches shall have a wall thickness of not less than 0.250 inches. Steel casing or liner pipe with a nominal size of sixteen (16) inches or more shall have a wall thickness of not less than 0.375 inches.

5.3.3.5 Stainless steel pipe used for casing or liner pipe shall be Schedule 10S of the American National Standards Institute (ANSI B 36.19-1976), or stronger classification.

5.3.3.6 Polyvinyl Chloride (PVC) pipe may be used for well casing or liner pipe. Any PVC pipe used to construct a water well shall have been marked by the manufacturer, under a method specified by the National Sanitation Foundation, Ann Arbor, Michigan, as suitable for use in potable water systems. Any PVC pipe larger than 4.5 inches outside diameter used for well construction or repair shall have a working pressure rating of not less than 200 p.s.i. at seventy-three degrees (73°F) Fahrenheit or shall be ASA Schedule 40. Other non-metallic pipe may be approved by the District.

5.3.3.7 Steel well casing and liner pipe may be joined in a watertight manner by threaded couplings or electrical welding methods. PVC pipe shall be joined by solvent bonded or threaded couplings or other approved method which shall meet the strength requirements of casing as specified in 5.3.3.6 above.

5.3.3.8 Non-metallic and stainless steel well casing or liner pipe shall not be installed or seated by driving, unless prior approval is obtained from the District.

For well casing or liner pipe installed by driving, the casing or pipe shall not butt together inside threaded couplings unless the joint is

electrically welded so as to be completely watertight. A drive shoe is required for use on casing or pipe installed by driving unless exempted by the District.

5.3.4 Well Construction Requirements

5.3.4.1 In the construction of a well, reasonable caution shall be taken to maintain the premises in sanitary condition and to minimize the entrance of contaminants into the water resource. Water and materials used in construction shall be reasonably free of contamination.

5.3.4.2 Wells which penetrate multiple aquifers or zones shall be completed so as to prevent cross-contamination of different aquifers or zones if significantly different water quality exists between these aquifers or zones, and to prevent leakage of water from one aquifer or zone to another aquifer or zone.

5.3.4.3 Casing shall extend from above top of grade to the well screen for wells finished into unconsolidated aquifers.

- A. The well screen shall be attached to the casing with a watertight seal. or:
- B. Be sealed against the casing with a packer. Or:
- C. The screen assembly shall overlap the casing by at least ten (10) feet.

5.3.4.4 Wells finished into consolidated aquifers, require a continuous casing to extend from above top of grade into the top of the aquifer. For artesian wells the casing shall penetrate the entire thickness of the overlying formations above the aquifer or producing zone within the aquifer.

5.3.4.5 Notwithstanding the provisions of 5.3.4.4 above, the District may grant waivers for seating or casing within the confining zone

above an artesian aquifer on a case-by-case basis when, in the opinion of the District, extending casing to the top of the aquifer would present undue hardship, provided that:

- A. The casing extends a sufficient distance into the confining zone so as to prevent movement of water from the artesian aquifer to overlying aquifers.
- B. The District determines that such construction will not adversely affect the water resources.

5.3.4.6 In all cases casing shall extend from land surface to a minimum of three (3) feet below land surface.

5.3.5 **Grouting and Sealing** Wells shall be grouted and sealed to protect the water resources from degradation caused by movement of waters along the well annulus either from the surface to the aquifer or between aquifers, and to prevent loss of artesian pressure in artesian aquifers. All wells shall be constructed and sealed using a method which insures that an open or unnaturally permeable annular space does not remain when a well is completed.

5.3.5.1 The casing shall be centered in the borehole prior to grouting and sealing. In those cases where, during grouting operations, circulation of the grout is lost so that the annular space being grouted cannot be filled in one continuous operation, a tremie pipe shall be installed in the annular space to a point immediately above the zone of lost circulation, and the annulus shall be bridged at that point by sand and other approved material introduced through the pipe. Grouting or sealing of the annular space shall be completed using the pipe or other approved methods. A tremie pipe, or other approved technique, may also be used to complete grouting when the total volume of grout to be emplaced exceeds that which can be safely emplaced in one continuous operation. The minimal set time for grouting of casing before drilling operations may continue, shall be twelve (12) hours.

5.3.5.2 Wells less than four (4) inches in diameter must have a

minimum of a one (1) inch annular space for grouting. Wells equal to or greater than four (4) inches in diameter must have an annular space equal to or greater than two (2) inches for grouting.

5.3.5.3 Wells constructed in unconsolidated formations by any method which creates an annular space shall be grouted no more than ten (10) feet above the top of the screen to land surface.

5.3.5.4 The District may grant individual exceptions or may exempt any areas of Tribal lands from the requirements of grouting the annular space of that part of the well which penetrates an unconsolidated formation, except that the uppermost three (3) feet of the casing must be grouted to provide protection from contaminated surface water.

5.3.5.5 All other wells shall be grouted from the bottom of the casing to land surface.

5.3.5.6 Grouting and sealing of water wells shall be accomplished by the practices and methods recommended by section A1-8.4 of AWWA A100-66, AWWA Standard for Deep Wells, American Water Works Association, Inc., or other methods approved by the District.

5.3.5.7 Wells constructed by methods which require driven well casing are exempt from section 5.3.5, provided the following conditions are met:

- A. Casing shall be driven from land surface to its final depth in a borehole smaller in diameter than nominal outside diameter for the casing used, or be driven from land surface to its final depth ahead of the drill bit.
- B. A drive shoe is used.
- C. No annular space exists after casing is installed.
- D. The uppermost three (3) feet of the casing must be grouted to provide protection from contaminated surface water.

- E. The well is sealed in accordance with subsection 5.3.5.9.
- F. All other requirements of Part 5.3 are met.

5.3.5.8 **Temporary Well Seals** Whenever there is a temporary interruption in work on the well during construction, repair, or abandonment, the well opening shall be sealed with a substantial watertight cover. Except for those areas of the District designated by the District, any well in which pumping equipment is installed, seasonally or periodically shall, whenever pumping equipment is not installed, be capped with a watertight cap or valve. If a temporary well seal is installed, an unobstructed inspection port must be provided for wells six (6) inches or greater in diameter.

5.3.5.9 **Permanent Well Seals** Wells located on ground subject to flooding shall be properly sealed to prevent the movement of contaminants and surface water into the well. The upper end of the well casing shall include a watertight seal with any vent above the one hundred (100) year flood level. Pumping equipment and any necessary pipe or electrical connections shall be so installed as to prevent inadvertent introduction of contaminants into the well. Pumping equipment and any necessary piping or electrical connections installed within the casing shall be installed through a well seal. An unobstructed inspection port equipped with a temporary removable plug shall be provided and accessible at the wellhead for wells six (6) inches or greater in diameter.

5.3.6 **Explosives** The use of explosives in well construction or development is prohibited unless specifically approved by the District.

5.3.7 **Flowing Wells** If the well flows at land surface, each well shall be provided with a valve so adjusted that only a supply of water is available which is necessary for ordinary use by the Tribe. Upon determination by the District that the water in an artesian well is of such poor quality as to have an adverse impact upon an aquifer or other water body which serves as a source of public drinking water, or which is likely to be such a source in the future, such well shall be plugged in accordance with 5.3.8.

5.3.8 **Abandoned Well Plugging**

5.3.8.1 Any well which was not constructed in accordance with the standards of Part 5.3 and fails to be corrected upon written notice shall be deemed an abandoned well.

5.3.8.2 Any well which is an abandoned artesian well under section 5.3.7 or subsection 5.3.8.1, shall be plugged in accordance with subsection 5.3.8.3.

5.3.8.3 All abandoned wells shall be plugged by filling them from bottom to top with neat cement grout. The plugging shall be to restore or improve the hydrologic conditions which existed before the well was constructed.

CHAPTER 6 -- CRITERIA FOR UNDERGROUND INJECTION PROJECTS

6.1 INTRODUCTION

6.1.1 General

6.1.1.1 All projects involving underground injection as defined in 40 CFR 144, shall be reviewed by the District for appropriateness to the hydrogeology of the area, to ensure that the project will not interfere with designated uses of water, and is consistent with the terms and conditions of the Compact. In performing this review, the District shall consider whether the minimum criteria set forth under 40 CFR 144 and all other applicable federal legislation have been met. The District shall also consider the extent to which the project meets the standards and specifications applicable to similar projects within the District but not constructed on Tribal lands or Reservations.

District's approval of an underground injection well or project shall be contingent on the injection well or project meeting the minimum requirements outlined below.

6.1.1.2 **Purpose** The purpose of the District review is to ensure that the proposed project is designed to protect the quality of the State's underground sources of drinking water and to prevent degradation of the quality of other aquifers adjacent to the injection zone that may be used for other purposes. This purpose may be achieved through the construction and operation of injection wells in such a way that the injected fluid remains in the injection zone, and that unapproved interchange of water between aquifers is prohibited.

6.1.1.3 **Scope**

A. The District review will cover all injection wells defined below, as Class I, III, IV and V wells.

B. Injection wells defined as Class II wells below, are not included in this Chapter.

C. Specific Inclusions The following wells are included among those types of injection activities which are covered by this Chapter. (This list is not intended to be exclusive but is for clarification only.)

1. Any injection well other than a Class II well located on a drilling platform inside Florida's territorial waters.
2. Any dug hole or well that is deeper than its largest surface dimension, where the principal function of the hole is emplacement of fluids.
3. Any septic tank or cesspool used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, to dispose of fluids containing hazardous waste.

D. Specific Exclusions The following are not covered by this Chapter:

1. Injection wells located on a drilling platform or other site that is beyond Florida's territorial waters.
2. Any septic tank systems subject to Chapter 10D-6, Florida Administrative Code, and any individual or single family residential waste disposal systems.
3. Any dug hole which is not used for emplacement of fluids underground.
4. Any well utilized in conjunction with the operation of an earth-coupled heat pump system as defined below.

6.1.2 Definitions When used in this section, the following words shall have these meanings unless the context clearly indicates otherwise:

6.1.2.1 **Abandoned Well** means a well, the use of which has been permanently discontinued or which is in a state of disrepair such that it cannot be used for its intended purpose or for observation purposes.

6.1.2.2 **Acidizing** means the injection of acid through the borehole or "well" into a "formation" to increase permeability and porosity.

6.1.2.3 **Allowable Stress** means the allowable stress for a material is the maximum stress that may be safely applied, which equals the yield-point stress divided by an appropriate factor of safety.

6.1.2.4 **Annular Monitor Well** means any pipe or tubing which is permanently placed in the annulus of an injection well to monitor a discrete zone.

6.1.2.5 **Annulus or Annular Space** means any artificially created void existing between a well casing or liner pipe and a borehole wall, or between two (2) casings or between tubing and casing or liner pipe.

6.1.2.6 **Aquifer** means a geological formation, group of formations or part of a formation that is capable of yielding a significant amount of water to a well or spring.

6.1.2.7 **Area of Review** means the area surrounding an "injection well," described according to the criteria set forth in 6.1.3.2, or in the case of a well field, the project area plus a circumscribing area with a fixed width of not less than one (1) mile.

6.1.2.8 **Casing** means a pipe or tubing of appropriate material, of varying diameter and weight, lowered into a borehole during or after drilling in order to support the sides of the hole and thus prevent the walls from caving, to prevent loss of drilling mud into porous ground, or to prevent water, gas, or other fluid from entering or leaving the hole.

6.1.2.9 **Catastrophic Collapse** means the sudden and utter failure of adjacent or overlying strata which has been caused by removal of underlying materials.

6.1.2.10 **Cementing** means the operation whereby a cement slurry is pumped into a drilled hole or forced behind the casing.

6.1.2.11 **Centralizer** means a casing accessory used to properly align a casing within the open hole, or to properly align one (1) casing within another casing, or to properly align a tubing within a casing.

6.1.2.12 **Cluster Well** means a well where two (2) or more monitor tubes of different lengths are emplaced within a single borehole to monitor two (2) or more discrete zones.

6.1.2.13 **Confining Bed** means a layer of impermeable or distinctly less permeable material stratigraphically adjacent to one (1) or more aquifers.

6.1.2.14 **Confining Zones** means a geological formation, group of formations, or part of a formation that is capable of limiting fluid movement from an injection zone.

6.1.2.15 **Contaminant** means any substance which is harmful to plant, animal or human life.

6.1.2.16 **Conventional Mine** means an open pit or underground excavation for the production of minerals.

6.1.2.17 **Disposal Well** means a well used for the disposal of waste into a subsurface stratum.

6.1.2.18 **Dry Well** means a well usually lined or filled with rocks which holds drainage water until it percolates into the ground.

6.1.2.19 **Earth-Coupled Heat Pump System** means any space heating/cooling system in which water containing no additives is circulated through a continuous section of buried pipe, such that the earth is utilized as a thermal exchange medium, but no fluid is either extracted from, or injected into, any underground formation.

6.1.2.20 **Emergency Disposal Method** means an effluent disposal method that, after prior District approval, is only available for short term discharge under emergency conditions when the primary disposal method is inoperable.

6.1.2.21 **Exempted Aquifer** means an aquifer, or its portion

that meets the criteria in the definition of "underground source of drinking water," but which has been exempted according to the procedures of 40 CFR 144.7.

6.1.2.22 **Experimental Technology** means a technology which has not been proven feasible under the conditions in which it is being tested.

6.1.2.23 **Exploratory Pilot Hole** means a hole drilled for the purpose of obtaining subsurface information, or as a guide for the drill bit to follow when drilling the final hole.

6.1.2.24 **Exploratory Well** means a cased well drilled in an area in which there is limited hydrologic and geologic data, to obtain sufficient data to determine the feasibility of injection. With prior District approval, an exploratory well may be plugged and abandoned, converted to a monitor well, or used as an injection well if it meets all applicable standards for a Class I well.

6.1.2.25 **Facility or Activity** means an "injection well system," or any other facility or activity that is subject to this Chapter.

6.1.2.26 **Factor of Safety** means the ultimate load divided by the safe load, or the ultimate strength divided by the allowable stress.

6.1.2.27 **Fault** means a surface or zone of rock fracture along which there has been displacement.

6.1.2.28 **Flow Rate** means the volume per unit time of the flow of fluids which emerge from an orifice, pump, turbine, or which pass along a conduit or channel.

6.1.2.29 **Fluid** means material or substance which flows or

moves, whether in a semi-solid, liquid, sludge, gas, or any other form or state.

6.1.2.30 **Formation** means a body of rock characterized by a degree of lithologic homogeneity or similarity, which is prevailingly, but not necessarily, tabular and is mappable on the earth's surface or traceable in the subsurface.

6.1.2.31 **Formation Fluid** means fluid present in a formation under natural condition, as opposed to introduced fluids, such as drilling mud.

6.1.2.32 **Ground Water** means water below the land surface in a zone wherein all of the interstices are filled with water.

6.1.2.33 **Hazardous Waste** means a hazardous waste as defined in 40 CFR 261.3.

6.1.2.34 **Hydrogeology** means the branch of hydrology that deals with ground water, its occurrence and movements, its replenishment and depletion, the properties of rocks that control ground water movement and storage, and the methods of investigation and use of ground water.

6.1.2.35 **Injection Pressure** means the pressure required to inject fluid, as measured at the wellhead.

6.1.2.36 **Injection Well** means a well into which fluids are being or will be injected, by gravity flow or under pressure.

6.1.2.37 **Injection Well System** means the portion of the disposal system from the effluent side, or pressure side, of the injection pump to the bottom of the injection well.

6.1.2.38 **Injection Zone** means a geological formation, group of formations, or part of a formation receiving fluids directly through a

well.

6.1.2.39 **Lithology** means the description of rocks on the basis of their physical and chemical characteristics.

6.1.2.40 **Multi-Horizon Monitor Well** means any well which is used to monitor in each of two (2) or more discrete zones.

6.1.2.41 **New Injection Well** means a well which has not been approved by the District and which began injection after the effective date of the Compact.

6.1.2.42 **On-Site Monitor Well** means a well associated with an injection well or facility, that is used primarily to monitor the mechanical integrity of the injection well(s) and/or to monitor the effectiveness of the confining beds overlying the injection zone.

6.1.2.43 **Overdrill** means the amount by which the nominal diameter of the open hole exceeds the diameter of the casing to be set in the hole.

6.1.2.44 **Owner** means the Tribe, person, entity, or corporation with legal title to the property on which an injection well exists.

6.1.2.45 **Packer** means a device lowered into a well to produce a fluid-tight seal.

6.1.2.46 **Plugging** means the act or process of stopping the flow of water, oil, or gas into, or out of, a formation through a borehole or well penetrating that formation.

6.1.2.47 **Radioactive Waste** means any waste which contains radioactive material in concentrations which exceed those listed in 10 CFR Part 20, Appendix B, Table II, Column 2.

6.1.2.48 **Regional Monitor Well** means a well used primarily to monitor the distant effects of injection from one (1) or more

injection facilities.

6.1.2.49 **Satellite Monitor Well** means a well associated with an injection facility that is used primarily to monitor the effects of injection from a single injection well or facility.

6.1.2.50 **Subsidence** means the lowering of the natural land surface in response to: Earth movements; lowering of fluid pressure; removal of underlying supporting material by mining or solution of solids, either artificially or from natural causes; compaction due to wetting (hydrocompaction); oxidation of organic matter in soils; or added load on the land surface.

6.1.2.51 **Surface Casing** means the first string of well casing to be installed in the well.

6.1.2.52 **Test Well** means the first injection well constructed in a well field, which is used for specific formation testing and to prove the feasibility of the injection well system. A test well is designed to be used as an injection well, if injection is proved feasible and environmentally acceptable.

6.1.2.53 **Tubing** means piping material placed inside the final string of casing to protect the casing, and to convey the injected fluid to the injection zone.

6.1.2.54 **Underground Source of Drinking Water** means an "aquifer" or its portion which meets the definition in 40 CFR 144.3.

6.1.2.55 **Well** means a bored, drilled or driven shaft, or a dug hole, which has a depth greater than the diameter of the largest surface dimension.

6.1.2.56 **Well Casing** means a metallic or non-metallic pipe installed in a borehole to prevent caving, provide structural strength, seal off subsurface zones, or prevent the interchange of waters between aquifers.

6.1.2.57 **Well Injection** means the subsurface emplacement of fluids through a well by gravity flow or under pressure.

6.1.2.58 **Well Log** means a record obtained from a well that provides data on well construction or the formations penetrated.

6.1.2.59 **Well Monitoring** means the measurement, by on-site instruments or laboratory methods, of the physical, chemical, or biological parameters required to evaluate the performance of an injection well system.

6.1.2.60 **Well Plug** means a watertight and gastight seal installed in a borehole or well to prevent movement of fluids.

6.1.2.61 **Well Record** means a concise statement of the available data regarding a well.

6.1.2.62 **Well Stimulation** means any of several processes used to clean the well bore, enlarge channels, and increase pore space in the interval to be injected, thus making it possible for injected fluids to move more readily into the formation, and includes, but is not limited to: 1) surging; 2) jetting; 3) blasting; 4) acidizing; 5) hydraulic fracturing.

6.1.3 **General Provisions**

6.1.3.1 **Classification of Injection Wells** Injection wells are classified as follows:

A. Class I

1. Wells used by generators of hazardous wastes, or by owners or operators of hazardous waste management facilities to inject hazardous waste beneath the lowermost formation containing, within one quarter (1/4) mile of the well bore, an underground source of drinking water.

2. Other industrial and municipal (publicly or privately owned) disposal wells which inject fluids beneath the lowermost formation containing, within one quarter (1/4) mile of the well bore, an underground source of drinking water.

B. Class II Wells which inject fluids:

1. Which are brought to the surface in connection with conventional oil or natural gas production and may be commingled with waste waters from gas plants, which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.
2. For enhanced recovery of oil or natural gas. And:
3. For storage of hydrocarbons which are liquid at standard temperature and pressure.

C. Class III Wells which inject for extraction of minerals, including:

1. Mining of sulfur by the Frasch process.
2. Solution mining of minerals. (Note: Solution mining of minerals includes sodium chloride, Potash, phosphate, copper, uranium and any other mineral which can be mined by this process.)

D. Class IV Wells used by generators of hazardous wastes or of radioactive wastes, by owners or operators of hazardous waste management facilities, or by owners or operators of radioactive waste disposal sites to dispose of hazardous wastes or radioactive wastes into, or above a formation which, within one quarter (1/4) mile of the well, contains either an underground source of drinking water or an exempted aquifer.

E. Class V Injection wells not included in Class I, II, III, or IV. Class V wells, which are grouped together by expected quality of

the injection fluid, include:

1. **Group 1**

- a. Air conditioning return flow wells used to return, to any aquifer, the water used for heating or cooling. An air conditioning supply well, heat pump, and return flow well used to inject water containing no additives into the same permeable zone from which it was withdrawn constitute a closed loop system.
- b. Cooling water return flow wells used to inject water previously used for cooling.

2. Group 2

- a. Recharge wells used to replenish, augment, or store water in an aquifer.
- b. Salt water intrusion barrier wells used to inject water into a fresh water aquifer to prevent the intrusion of salt water into the fresh water.
- c. Subsidence control wells (not used for the purpose of oil or natural gas production) used to inject fluids into a zone which does not produce oil or gas to reduce or eliminate subsidence associated with the overdraft of fresh water.
- d. Connector wells used to connect two (2) aquifers to allow interchange of water between those aquifers.

3. Group 3

- a. Wells which are part of domestic waste treatment systems.
- b. Swimming pool drainage wells.
- c. Devices receiving wastes, which have an open bottom and sometimes have perforated sides. This Chapter does not apply to single family residential waste disposal systems.
- d. Wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.
- e. Injection wells used in experimental technologies.

4. Group 4

- a. Dry wells used for the injection of wastes into a subsurface formation.

- b. Sand backfill wells used to inject a mixture of water and sand, tailings or other solids, into mined out portions of subsurface mines.
 - c. Wells other than Class IV used to inject radioactive waste, provided the concentrations of the waste do not exceed federal drinking water standards.
 - d. Injection wells used for in situ recovery of phosphate, uraniferous sandstone, clay, sand, and other minerals extracted by the borehole slurry mining method.
5. **Group 5** Drainage wells used to drain surface fluid, primarily storm runoff or lake level, (by gravity flow) into a subsurface formation.
6. **Group 6**
- a. Injection wells associated with the recovery of geothermal energy for heating, aquaculture and production of electric power.
 - b. Other wells.

6.1.3.2 **Area of Review**

- A. An area of review, which shall apply to each Class I and Class III well, well field, project or area of the State, and which may apply to a Class V injection well, shall be determined by the Tribe taking into account the zone of endangering influence, which is the area in which the increased pressures in the injection zone may cause the migration of the injected, and formation fluid into an underground source of drinking water. The area of review is the land surface overlying the zone of endangering influence.
- B. In determining the area of review, the information to be used shall include, but not be limited to: Chemical, physical, and biological characteristics of the injection fluids and formation fluids; hydrogeology; appropriate mathematical models, if available, for

computing pressure and concentration changes in the injection zone as a function of distance and time; population; ground water use and dependence; and historical practices in the area. A radius around the injection well of one (1) mile shall be a minimum. In the case of a well field project, a fixed width of not less than one (1) mile for the circumscribing area shall be a minimum.

6.1.3.3 **Corrective Action**

- A. Coverage** The Tribe, for Class I or Class III injection well proposals, shall identify, and for any Class V well may identify, the location of all known wells within the area of review for the injection well(s) which penetrate the injection zone or confining zone. For such wells on Tribal lands, which are in use or improperly sealed, completed, or abandoned, the Tribe shall also submit a plan describing such steps or modifications as are necessary to prevent movement of fluid into underground sources of drinking water ("corrective action").
- B. Criteria and Factors** In determining the adequacy of corrective action proposed by the Tribe under (A) of this subsection and in determining the additional steps needed to prevent fluid movement into underground sources of drinking water, the following criteria and factors shall be considered.
1. Nature, volume, and injection rate of the injected fluid.
 2. Nature of native fluids, or by-products of injection.
 3. Potentially affected population.
 4. Geology.
 5. Hydrology.
 6. History of the injection operation.

7. Completion and plugging records for all wells.
8. Abandonment procedures in effect at the time the well was abandoned.
9. Hydraulic connections with underground sources of drinking water.
10. Life of injection well. And:
11. Pressure considerations.

C. Requirements

1. **Existing Injection Wells** Any proposal for an existing injection well requiring corrective action shall include a schedule for completion of any corrective action prescribed by, or acceptable to, the District. In addition, schedules for corrective action shall require completion of the corrective action not later than three (3) years after the effective date of the plan.
2. **New Injection Wells** No new injection well may commence injection until all required corrective action has been completed. Construction of a new injection well prior to the completion of all required action will not be approved unless the Tribe can affirmatively demonstrate that such construction will not pose a threat to the quality of the waters of the State.
3. **Class III Wells Only** When setting corrective action requirements, the District and the Tribe shall consider the overall effect of the project on the hydraulic gradient in potentially affected underground sources of drinking water, and the corresponding changes in potentiometric surface(s) and flow direction(s) rather than the discrete effect of each well. If a decision is made that corrective action is not necessary, based on the determinations above, the monitoring program required in section 6.2.5 shall be designed to verify the validity of such determinations.

6.1.3.4 Mechanical Integrity

A. An injection well has mechanical integrity if:

1. There is no leak in the casing, tubing or packer. And:
2. There is no fluid movement into an underground source of drinking water through channels adjacent to the injection well bore.

B. One of the following tests shall be used to evaluate the absence of leaks under subparagraph (A)(1) of this subsection:

1. Monitoring of annulus pressure.

Or:

2. Pressure testing of inner casing or tubing.

C. One of the following methods shall be used to determine the absence of fluid movement under subparagraph (A)(2) of this subsection:

1. A temperature or noise log, and monitoring of adjacent overlying aquifers. Or:

2. A temperature or noise log, monitoring of adjacent overlying aquifers, and radioactive tracer logs.

D. The use of tests to demonstrate mechanical integrity, other than those listed in paragraph (B) and subparagraph (C)(1) of this subsection, may be allowed with written approval from the District.

E. In conducting and evaluating the tests enumerated in this subsection, or others to be allowed by the District, the Tribe shall apply methods and standards generally accepted in the industry. When the Tribe reports the results of mechanical integrity tests, the

Tribe shall include a description of the test(s) and the method(s) used. Monitoring and other test data submitted since the previous evaluation shall be assessed and reviewed.

- F. A plan for any Class I or III well or injection project which lacks mechanical integrity shall not be - and for any Class V well may not be approved until the Tribe shows to the satisfaction of the District that the well has mechanical integrity or unless the Tribe affirmatively demonstrates that the injection well will not pose a potential threat to the waters of the State.

6.2 CRITERIA AND STANDARDS FOR CLASS I AND CLASS III WELLS

6.2.1 General Prohibition of Class I Wells Injecting Hazardous Wastes The construction of any well meeting the classification in subparagraph 6.1.3.1(A)(1) shall be prohibited on Tribal lands or Reservations.

6.2.2 Evaluation of Geologic and Hydrologic Environment

6.2.2.1 General

A. Class I Wells The Tribe shall demonstrate to the District's satisfaction that the hydrogeologic environment is suitable for waste injection without endangering the underground sources of drinking water or modifying the ambient water quality of other aquifers overlying the injection zone. In the Class I well construction submittals the Tribe shall address the proposed testing and sampling procedures for adequately defining the depth at which total dissolved solids exceed 10,000 mg/l in formation waters. An assessment of the lateral position at which total dissolved solids exceed 10,000 mg/l in the injection zone waters shall also be provided. The District may request that the Tribe provide, in addition to site specific and area of review information, regional information that will allow prediction of the regional impact of the proposed injection well.

B. Class III Wells The District shall evaluate each proposed mining

operation for potential effects of the mining activity on the underground sources of drinking water, and shall, at a minimum, consider the effects of depressurization of the aquifer on the water quality of any underground sources of drinking water. The Tribe must demonstrate that the hydrogeologic environment is suitable for injection for extraction of minerals or energy without endangering the underground sources of drinking water, unless the aquifer is an exempted aquifer.

No Class III mining activity shall be allowed in an underground source of drinking water, or shall result in violation of federal drinking water standards, unless the aquifer is an exempted aquifer.

6.2.2.2 Confining Zone

- A. Class I Wells** At least one confining zone above the injection zone is required. The Tribe shall demonstrate that the confining zone(s) has sufficient areal extent, thickness, lithologic and hydraulic characteristics to prevent injected fluid migration, and that it insures protection of underground sources of drinking water.

- B. Class III Wells** If an underground source of drinking water exists above or below the proposed mining zone, a confining zone is required between the mining zone and the underground source of drinking water. The confining zone must be of such thickness, areal extent, and permeability to constrain the effects of the mining to the mining zone, and the integrity of the confining zone must be maintained for the life of the project.

- C. Testing of Confining Zone for Class I and III Wells** The Tribe shall provide sufficient data such as logs, lithologic cores, water samples, and drill stem tests (or aquifer tests) to adequately demonstrate the confining characteristics of the bed. A monitoring system, which may include, but not be limited to, one (1) or more on-site monitor well(s), designed to evaluate the long-term effectiveness of the confining zone may be required. If the Tribe does not propose a monitoring system, the Tribe shall

demonstrate that it is not needed. The geophysical logs may include, but not be limited to:

1. Electric Log
2. Natural Gamma-Ray
3. Fluid Conductance Log
4. Caliper Log
5. Static and Pumping Temperature Log
6. Spinner Flowmeter
7. Acoustic Velocity
8. Density Log
9. Porosity Log

6.2.2.3 Injection Zone - Class I Wells The Tribe shall demonstrate that the proposed injection zone has sufficient extent, thickness, lithologic and hydraulic characteristics to adequately receive waste.

A. Testing of Injection Zone The purpose of testing the injection zone is to demonstrate the zone's capacity for receiving injected fluid. The Tribe shall demonstrate the suitability of a proposed zone by determining the hydraulic characteristics, lithology, thickness, extent, and compatibility of injection and formation fluids. Testing of the injection zone shall include a pumping injection test at a flow rate of not less than the maximum design capacity of the well, and of such duration that can demonstrate the trend of the injection pressure on the long-term operating conditions. If an adequate water supply for the injection test does not exist, and data collected during drilling strongly indicate the presence of confining bed(s), the Tribe may use secondarily treated domestic wastewater effluent for testing only with prior approval. Testing of the injection zone may include, but not be limited to:

1. Water Samples
2. Withdrawal Tests
3. Video Television Survey
4. Lithologic Cores

5. Drill Cuttings
6. Geophysical Surveys such as:
 - a. Electric Survey
 - b. Natural Gamma-Ray
 - c. Fluid Conductance Survey
 - d. Caliper Survey
 - e. Static and Pumping Temperature Survey
 - f. Spinner Flowmeter
 - g. Acoustic Velocity
 - h. Focused Resistivity
 - i. Density Survey
 - j. Porosity Survey.

6.2.3 Well Construction Standards for Class I and III Wells

6.2.3.1 General Design Considerations

- A. All Class I and III wells shall be cased and cemented to prevent the movement of fluids into, or between underground sources of drinking water, and to maintain the quality of aquifers above the injection zone that may be used for monitoring or other purposes.
- B. All Class I wells shall be designed and constructed in such a fashion that they inject into a formation which is below the lowermost formation containing, within one quarter (1/4) mile of the well bore, an underground source of drinking water.
- C. In the design specifications for a Class I well, the Tribe shall address the problem of corrosion, proposed protective measure(s), and, if appropriate, proposed methods of monitoring. The Tribe shall consider thickness and type of cement, number and thickness of casings, casing material, casing coatings, formation fluid (water) quality, injection fluid quality and life expectancy of the well.

For Class I wells all outer surfaces of uncemented casings or portions of casings shall be coated or otherwise protected against corrosion. This protection shall extend for a minimum distance of thirty (30) feet above and below the uncemented portion of the casing.

D. All Class I injection wells, except those municipal wells (publicly or privately owned) injecting non-corrosive wastes, shall inject fluids through tubing with a packer set immediately above the injection zone, or tubing with an approved fluid seal as an alternative. The tubing, packer and fluid seal shall be designed for the expected service.

1. The use of other alternatives to a packer may be allowed with the written approval from the District. The alternative method shall reliably provide a comparable level of protection to underground sources of drinking water.

2. In determining and specifying requirements for tubing, packer, or alternatives, the following factors shall be considered:

a. Depth of setting.

b. Characteristics of injection fluid (chemical content, corrosiveness, and density).

c. Injection pressure.

d. Annular pressure.

e. Rate, temperature and volume of injected fluid. And:

f. Size of casing.

E. For Class 1 wells the following designs are not allowed:

1. Annuli between casings open to the land surface in any injection well. And:

2. Monitoring tubes emplaced and cemented in the annulus adjacent to the innermost or injection string of casing.
- F. For all Class 1 wells, the Tribe shall address potential surge and water hammer protection to ensure the safety and integrity of any injection well system.
- G. District approval is required prior to any remedial procedures that alter the basic design specifications, materials, or character of a Class I or III well.

6.2.3.2 **Exploratory Pilot Hole** An exploratory pilot hole in any Class I well, or for Class III wells, at any proposed injection well site may be required, and the hole to be drilled in stages. If the Tribe does not propose an exploratory pilot hole, the Tribe must demonstrate that it is not needed.

6.2.3.3 **Drilling** Submittal of a step-by-step drilling plan may be required, to be included in the design specifications for Class I and III wells. The drilling plan shall specify the proposed drilling program, sampling, coring, and testing procedures.

- A. For Class I wells, a deviation survey will be run at least every ninety (90) feet (every three (3) joints) of the cased portion of the well and at more frequent intervals when necessary, to insure that the casing can be set and centered for cementing. The maximum deviation at each measurement shall not exceed one degree (1F) deviation from vertical. This requirement may be waived, or less stringent requirements applied in some cases, provided that the Tribe submits proof that such modification will not adversely affect the successful construction and future operation of the well in such a way as to threaten underground sources of drinking water with contamination.
- B. For Class I wells, directional surveys may be required, if, after an analysis of the well design and drilling program, it is deemed

necessary. The directional survey shall be conducted during drilling or in the pilot hole and the reamed hole as separate surveys before running the casing.

- C. The Tribe may be required to demonstrate that salt used for density control during drilling will not adversely affect the establishment of background water quality for monitoring purposes.

6.2.3.4 Casings

- A. The casings used in the construction of each newly drilled Class I and III well shall be designed for the life expectancy of the well, and shall be new and unused for Class 1 wells.
- B. The number, thickness, type of materials, and length of casing shall be sufficient to protect the quality of drinking water resources, the integrity of the well, and the confining strata. At a minimum, the final string of casing shall be made of seamless mild steel pipe having a 0.500 inch wall thickness. If the Tribe proposes to use pipe composed of other than 0.500 inch wall seamless mild steel for the final casing, they shall demonstrate that the proposed material and thicknesses will not compromise the integrity or operation of the well.
- C. Exact setting depths of all casings shall be determined in the field based on all available information, and subject to District approval.

6.2.3.5 Cementing

- A. The Tribe shall submit the proposed cementing program with the design specifications for Class I or III wells. The cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. In determining and specifying casing and cementing requirements, the following factors shall be considered:
 - 1. Depth to the injection zone.
 - 2. Injection pressure, external pressure, internal pressure, and axial loading.
 - 3. Hole size.
 - 4. Size and grade of all casing strings (wall thickness, diameter, nominal weight, length, joint specification, and construction

material).

5. Corrosiveness of injected fluid, formation fluids, and temperatures.
 6. Lithology of injection and confining zones. And:
 7. Type or grade of cement.
- B. Cement must be compatible with the injected fluid, native fluids, and the formation, but in no case less than the quality of American Society of Testing and Materials Type 2 or its equivalent (Standard Specification for Portland Cement, American National Standards Institute/American Society of Testing and Materials C 150-78(a), 1978).
- C. Design specifications, when submitted for approval, shall include a list of cement additives which may be needed in the operation. If an additive is not in the design specifications, the Tribe shall obtain prior approval for its use. Accurate records shall be kept and all additives used shall be reported.

- D. Use of cement additives, water/cement ratio, and the type of water used for mixing shall be determined by the Tribe, provided the integrity, containment, corrosion protection, and structural strength of the cement are not significantly affected.
- E. Prior to cementing, the hole shall be in condition to allow optimum bonding of the cement to the casing and formation, and to prevent channeling.
- F. Cement placement shall be in such a manner that the purposes and characteristics of the cement are retained, and shall be subject to approval and in accordance with "A Standard for Deep Wells." American Water Well Association A100-66, 1966.
- G. The Tribe shall submit the cement testing program for approval. The purpose of the cement testing program is to insure that the cement seal is adequate to prevent migration of fluids in channels, microannular space, or voids in the cement. The methods of testing may include, but are not limited to:
 - 1. Pressure testing of the cement plug at the bottom of the casing - to not less than 1.5 times the expected injection pressure or fifty (50) pounds per square inch, whichever is greater.
 - 2. Temperature survey - must be run within forty-eight (48) hours after cementing.
 - 3. Cement bond survey.
- H. During cementing, adequate pressure differentials shall be maintained to prevent collapse or distortion of the casing.
- I. For Class I wells, the final string of casing shall have a nominal overdrill of ten (10) inches unless the Tribe can affirmatively demonstrate that an overdrill of not less than five (5) inches is sufficient. The annulus surrounding the final string of casing shall have

a nominal five (5) inch cement thickness from the bottom of the casing to land surface. These requirements may be modified, provided that the Tribe submits proof that such modification will not adversely affect the successful construction and future operation of the well in such a way as to threaten an underground source of drinking water with contamination. The remaining casings must have a minimum thickness of two and one-half (2-1/2) inches of cement surrounding the casings with not less than five (5) inches of overdrill. A nominal ten (10) inch overdrill shall be required with any intermediate string of casing for which an annular monitor tube of up to two and three eighths (2-3/8) inch maximum outer diameter is to be emplaced. Commensurate increases in the overdrill shall be required for monitor tubes larger than 2 3/8 inches in outer diameter. The Tribe shall include a centralizing outline for the purpose of centralizing the casing when submitting the cementing program, to provide adequate annular space around the casing for proper cementing.

6.2.3.6 Testing During Drilling and Construction of New Class I Wells

- A. Appropriate geophysical surveys and other tests shall be conducted during the drilling and construction of new Class I wells. A descriptive report, interpreting the results of such geophysical surveys and tests shall be presented for in-progress reviews, as part of periodic progress reports, or in letter form as appropriate. Such reports shall include field copies of the surveys and test data and analyses results at the level required to support field decisions made during drilling or proposed during in-progress reviews. At a minimum, such surveys and tests shall include:
1. Deviation checks which shall be in accordance with subsection 6.2.3.3. Such checks shall be at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.
 2. Such other geophysical surveys and tests as may be necessary after taking into account the availability of similar data in the area of the drilling site, the construction plan, and the need for additional

information that may arise from time to time as the construction of the well progresses. In determining which geophysical surveys and tests shall be required, the following geophysical surveys shall be considered for use in the following situations:

- a. For surface casing intended to protect underground sources of drinking water:
 - i. Resistivity, sonic survey, spontaneous potential, and mechanical or sonar caliper surveys before the casing is installed.

And:

- ii. A cement bond, temperature, or density survey after the casing is set and cemented.

- b. For intermediate and long strings of casing intended to facilitate injection:

- i. Resistivity, spontaneous potential, porosity, and gamma ray surveys before the casing is installed.

- ii. Fracture finder surveys. And:

- iii. A cement bond, temperature, or density survey after the casing is set and cemented.

- c. For Class I wells in which an annular monitor tube is proposed for other than the final or innermost casing:

- i. A caliper survey in the reamed hole which is to contain the monitor tube and.

- ii. A temperature survey may be required in the monitor tube after the monitor tube has been set and cemented.

- B. The following information concerning the injection formation shall be determined or calculated for new Class I wells:

1. Fluid pressure.
2. Temperature.
3. Fracture pressure.
4. Other physical and chemical characteristics of the injection matrix.
And:
5. Physical and chemical characteristics of the formation fluids.

6.2.3.7 **Testing Integrity of Completed Class I Wells** Upon completion of construction, the completed wells will be tested to assure that the wells will function as built. Tests to be performed may include, but not be limited to:

- A. Cement Bond Survey.
- B. Temperature Survey.
- C. Pressure test of final casing to at least 1.5 times the expected injection pressure for one (1) hour, with no pressure drop after temperature correction.
- D. Video Television Survey - from top to bottom of the well for baseline monitoring purposes.
- E. Injection tests.
- F. Withdrawal Tests - if necessary and if possible. And:
- G. Caliper survey.

6.2.3.8 **Testing of Class III Wells**

- A. Appropriate geophysical surveys and other tests shall be conducted during the drilling and construction of new Class III wells. Upon completion of construction, the completed well system will be tested to assure that the well system will function as designed at the design operation pressures. A descriptive report interpreting

the results of such surveys and tests shall be prepared and submitted. The surveys and tests appropriate to each type of Class III well shall be determined based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses. At a minimum, such surveys and tests shall include deviation checks conducted on all holes where pilot holes and reaming are used, at sufficiently frequent intervals to assure that vertical avenues for fluid migration in the form of diverging holes are not created during drilling.

- B. Where the injection zone is a water bearing formation, the following information concerning the injection zone shall be determined or calculated for new Class III wells:
 - 1. Fluid pressure.
 - 2. Temperature.
 - 3. Fracture pressure.
 - 4. Other physical and chemical characteristics of the injection zone.
 - 5. Physical and chemical characteristics of the formation fluids. And:
 - 6. Compatibility of injected fluids with formation fluids.
- C. Where the injection formation is not a water bearing formation, the information listed in subparagraphs (B)(3) and (B)(4) of this subsection must be submitted.

6.2.3.9 Environmental Concerns During Construction

- A. For Class I and III wells, the disposal of drilling fluids or cuttings, and the disposal of formation water or waste during testing shall be in a sound environmental manner that avoids violation of federal

surface and ground water quality standards. The proposed disposal method must be approved by the District prior to start of construction.

- B. For Class I wells the use of drilling pads will be required. The pads will be designed to collect spillage of contaminants and to support the heaviest load that will be encountered during drilling. At locations where the unconfined aquifer contains less than 10,000 mg/l total dissolved solids, monitor wells capable of detecting any contamination of the unconfined aquifer from drilling activities shall be required.
- C. For Class I wells, flow control shall be used when drilling into formations in which pressure heads exceed land surface, to prevent uncontrolled release of formation or drilling fluids at land surface.
- D. For Class III wells, the Tribe is advised that permits may be required for surface facilities associated with the mining activity.

6.2.4 Operating Requirements for Class I and III Wells

6.2.4.1 Class I Well Operating Requirements Operating requirements for Class I wells shall, at a minimum, specify that:

- A. To preserve the integrity of the formations, bottom hole (including hydrostatic) pressure shall not exceed a maximum so as to insure that the injection pressure does not initiate new fractures in the injection zone, initiate fractures in the confining zone, significantly alter the fluid movement capabilities of the confining zone, or cause the movement of injection or formation fluids into an underground source of drinking water or into an essential monitoring zone.
- B. The integrity of the well structure shall be protected; hence, total pressure shall not exceed the maximum allowable stress of the materials used to construct the well.
- C. Injection for disposal purposes is prohibited:
 - 1. Between the outermost casing protecting the underground sources

of drinking water and the well bore.

2. Through annular monitor tubes. And:
3. Through wells designed to monitor the injection zone except when specifically designed as a temporary injection well or approved (in writing) for emergency discharge use.
- D. Unless an alternative to a packer has been approved, the annulus between the tubing, where required, and the final or innermost string of casing shall be filled with a fluid and a pressure shall be maintained on the annulus. Both the type of fluid and the proposed pressure shall be approved.
- E. The maximum velocity of injected fluid shall not exceed the point where the mechanical limits of the well design or structure of the formation will be adversely affected. The maximum injection velocity of a well that begins operation after June 1, 1985 shall not exceed eight (8) feet per second (ft/sec), unless the Tribe can prove that higher velocities will not compromise the integrity or operation of the well.

6.2.4.2 **Class III Well Operating Requirements** Operating requirements prescribed for Class III wells shall, at a minimum, specify that:

- A. Injection pressure at the wellhead shall not exceed a maximum which shall be calculated to assure that the pressure in the injection zone during injection does not initiate new fractures in the confining zone, or cause the migration of injection or formation fluids into an underground source of drinking water.
- B. Injection between the outermost casing protecting underground sources of drinking water and the well bore is prohibited.
- C. Where the proposed mining operation includes mining a portion of the confining zone, a sufficient amount of confining zone must remain to provide an effective confinement that protects aquifers above and below the mining area.

6.2.4.3 **Operation and Maintenance Manual**

- A. The operation and maintenance manual(s) for injection well disposal facilities, or portions thereof, shall be prepared for the use of operators, maintenance personnel, technicians, laboratory personnel and others, as appropriate, and shall consist of:
 - 1. Written instructions provided to the injection system operators for the safe, reliable operation of the system.
 - 2. Records of the basic engineering design and equipment description.
 - 3. A program to assure proper maintenance of the system.
- B. Each operation and maintenance manual is subject to approval.
- C. The Tribe or operator of the facility shall provide a copy of the approved manual to the operators, maintenance personnel, technicians, laboratory personnel and others, as appropriate. The manual(s) shall be available for reference at the facility or other approved site.
- D. Revisions to the Manual may be required to reflect any facility modifications performed, in order to comply with the requirements of this Chapter, or to reflect experience resulting from facility operation.

6.2.4.4 **Abnormal Events**

- A. In the event the Tribe is temporarily unable to comply with any of the criteria outlined in this Chapter, due to breakdown of equipment, power outages, destruction by hazard of fire, wind, or by other cause, the Tribe shall notify the District. Notification shall be made to the office of the District within twenty-four (24) hours of breakdown or malfunction - in person, by telephone, or by telegraph.

- B. A report shall be required within seventy-two (72) hours of the notification referenced in (A), above. A final written report shall be submitted within two (2) weeks and shall describe the nature and cause of the breakdown or malfunction, the steps being taken or planned to be taken to correct the problem and prevent its reoccurrence, emergency procedures in use pending correction of the problem, and the time when the facility will again be operating in compliance with the criteria in this Chapter.
- C. If the Tribe is unable to use the approved primary disposal method under emergency conditions, the Tribe may use an emergency discharge only if prior approval of the emergency method has been obtained. The Tribe shall address the emergency disposal methods in the plan and the operating manual.
- D. In the event a well must be redeveloped, the Tribe shall address disposal of backwashed fluids. The disposal method shall be approved.

6.2.5 Monitoring Well Construction Standards for Class I and III Wells

6.2.5.1 General Design Considerations

- A. For Class I wells, associated on-site, cluster, multi-horizon, or annular monitoring wells shall not penetrate the injection zone or final confining bed.
- B. For satellite and regional monitor wells associated with Class I wells, cluster or multi-horizon monitoring wells may penetrate the injection zone or final confining bed only if the Tribe can demonstrate that the underground sources of drinking water and confining strata will be protected, the integrity of the monitoring and injection well system will be protected, and the well is designed in such a way that it can be easily repaired.
- C. All monitoring wells constructed for Class III injection operations shall be constructed in accordance with Chapter 5 and applicable

federal rules and regulations.

- D. Approval is required prior to any remedial procedures that alter the basic design specifications.

6.2.5.2 **Exploratory Pilot Hole** For Class I wells, an exploratory pilot hole may be required, and the hole may be required to be drilled in stages. If the Tribe does not propose an exploratory pilot hole, the Tribe must demonstrate that it is not needed for logging or other purposes.

6.2.5.3 **Drilling** A step-by-step drilling plan may be required to be submitted with the design specifications.

6.2.5.4 **Casings and Tubing**

- A. The casings or tubing used in the construction of each newly drilled well shall be designed for the life expectancy of the well.
- B. The number, thickness, type of material, and length of casing or tubing shall be sufficient to protect the quality of drinking water resources, and the integrity of the well and the confining strata. The type of materials used in the monitoring well shall not bias the sampling parameters used in the monitoring program.
- C. Exact setting depths for all casings or tubing shall be determined in the field, based on all available information, and subject to prior approval.

6.2.5.5 **Cementing**

- A. The Tribe shall submit the proposed cementing program with the design specifications. The cement used in the construction of each newly drilled well shall be designed for the life expectancy of the well. The Tribe shall submit a list of proposed additives for District approval.

- B. Cement must be compatible with the native fluids and the formation, but in no case less than the quality of American Society for Testing and Materials Type 2 or its equivalent (Standard Specification for Portland Cement, American National Standards Institute/American Society for Testing and Materials, C150-781A, 1978).
- C. Cement placement shall be in such a manner that the purposes and characteristics of the cement are retained, and shall be subject to approval and in accordance with "AWWA Standard for Deep Wells," American Water Well Association, A100-66, 1966.
- D. The Tribe shall submit the cement testing program for approval.
- E. For Class I monitor wells, other than annular monitor wells, a nominal thickness of two and one-half (2-1/2) inches of cement surrounding the casings with not less than five (5) inches of overdrill is required, except for the annulus being used for monitoring in wells with open annulus monitoring.
- F. All casings and tubing shall be centralized where possible to ensure uniform cementing.
- G. All outer surfaces of casing or tubing which are uncemented shall be protected from corrosion for a minimum of thirty (30) feet above and below the uncemented portion.

6.2.5.6 Testing of Monitoring Well Construction

Tests may include, but not be limited to:

- A. Cement Bond Survey.
- B. Temperature Survey.
- C. Pressure test to at least 1.5 times the expected ultimate monitoring

pressure, but not less than fifty (50) pounds per square inch for one (1) hour, with no pressure drop after temperature correction.

- D. A pumping test to determine if the monitor well has sufficient capacity to yield a representative ground water sample.
- E. Chemical analyses of water from strata tapped by well.
- F. Water level measurement referenced to mean sea level.

6.2.6 Monitoring Requirements for Class I and III Wells

6.2.6.1 Class I Wells For Class I wells, monitoring requirements shall, at a minimum, include:

- A. The analysis of the injected fluids at a frequency specified by the District, to yield representative data on their characteristics.
- B. The installation and use of continuous indicating, recording, and totalizing devices to monitor flow rate and volume, and installation and use of continuous indicating and recording devices to monitor the injection pressure and the pressure on the annulus between the tubing and the final or innermost string of casing, if there is an annulus.
 - 1. A controlled injection test or a bottom hole pressure survey, if a long-term trend of increasing injection pressure is indicated.
- C. A demonstration of mechanical integrity at least once every five (5) years during the life of the well. And:
 - 1. As part of the baseline monitoring information, a video television survey from the surface to the bottom of the injection zone shall be run prior to injection, but after completion of testing, except for those wells that inject through tubing or where it is physically

impossible to do so, and every five (5) years thereafter, or more frequently if deemed necessary.

2. The television survey may be either black and white or color.
 3. Adequate provisions must be made to centralize the camera in the borehole.
 4. Before running the survey, adequate provisions shall be made to assure that fluid in both the casing and open borehole is of sufficient clarity to provide a baseline survey of acceptable quality.
- D. Within the area of review, the type, number, and location of well(s) to be used to monitor any potential migration of fluids into, or in the direction of underground sources of drinking water, and pressure in the underground sources of drinking water; the parameters to be measured and the frequency of monitoring shall be stated by the District.
- E. The background water quality of the injection zone and the monitoring zone(s) shall be determined prior to injection for both domestic wastewater and industrial Class I wells (including reverse osmosis reject water), in accordance with the sampling and testing methods approved by the District.
1. Background levels shall be determined pursuant to the following criteria:
 - a. For monitor zones in underground sources of drinking water - the primary and secondary drinking water quality parameters, and the minimum criteria provided in federal legislation.
 - b. For the injection zone and monitor zones in other ground waters - the criteria shall be established on a case-by-case basis.
- F. Monitor wells shall be required above the injection zone near the injection well, field or project.
1. The Tribe shall be able to monitor the following:

- a. The absence of fluid movement adjacent to the well bore as required in subsection 6.1.3.6. And:
- b. The long-term effectiveness of the confining zone.
- G. Monitor wells may be required above and in the injection zone at a sufficient distance from the well, field or project for regional monitoring.
- H. For Class I wells, a five (5) gallon unacidized representative sample of native water from the injection zone shall, where practical, be collected and provided to a laboratory specified by the District.
- I. **Post-Closure Monitoring** For Class I wells, the Tribe may be required to submit a post-closure monitoring plan designed to monitor the attenuation of any pressure effects and water quality changes caused by the underground injection operation, both in the injection zone and/or in overlying aquifers. The proposed monitoring plan shall, at a minimum, utilize the injection wells and associated monitor wells, to the extent that they are capable of yielding representative ground water samples. The proposed monitoring plan may also include other accessible wells.
 - 1. Items to be addressed by the Tribe in the proposed post-closure monitoring plan shall include, but not be limited to:
 - a. Designation of the wells to be used for post-closure monitoring.
 - b. The parameters to be monitored, by well.
 - c. The sampling frequency.
 - d. The proposed duration of the post-closure monitoring period. And:
 - e. A documented estimate of the total cost of the post-closure monitoring program.

2. A revision of the post-closure monitoring plan may be required, when appropriate, in order to reflect changes in the design or scope of the underground injection operation, inflation of costs associated with the plan, or other factors resulting from the construction or operation of the injection well system. The Tribe also may initiate modification of the post-closure monitoring plan, subject to approval.

6.2.6.2 **Class III Wells** For Class III wells, monitoring requirements shall, at a minimum, specify:

- A. The analyses of the physical and chemical characteristics of the injected fluid with sufficient frequency to yield representative data on its characteristics.
- B. Installation and use of continuous recording devices to monitor the injection pressure, flow rate and volume.
- C. The demonstration of mechanical integrity pursuant to subsection 6.1.3.6, at least once every five (5) years during the life of the well.
- D. Weekly monitoring of fluid level and of the parameters chosen to measure water quality in the injection zone with sufficient frequency to yield representative data on its characteristics.
- E. Quarterly monitoring of wells adjacent to the injection site to detect any migration from the injection zone into an underground source of drinking water.
- F. All Class III wells may be monitored on a field or project basis rather than an individual well basis by manifold monitoring. Manifold monitoring may be used in cases of facilities consisting of more than one (1) injection well operating with a common manifold. Separate monitoring systems for each well are not required provided the Tribe/operator demonstrates that manifold monitoring is comparable to individual well monitoring.
- G. The Tribe may be required to monitor for a period of time after

mining operations cease. If the monitoring reveals violations, the Tribe must investigate and take corrective action.

H. Monitoring Criteria

1. Where injection is into a formation which contains water with less than 10,000 mg/l total dissolved solids, monitoring wells shall be completed into the injection zone and into any underground sources of drinking water above, and may be required below, the injection zone which could be affected by the mining operation. These wells shall be located in such a fashion as to detect any excursion of injected fluids, process by-products, or formation fluids outside the mining area or zone. The monitoring wells shall be located so that they will not be physically affected if the operation is subject to subsidence or catastrophic collapse.
2. Where injection is into a formation which does not contain water with less than 10,000 mg/l total dissolved solids, monitoring wells may be required above and in the injection zone.
3. Where the injection wells penetrate an underground source of drinking water in an area subject to subsidence or catastrophic collapse, an adequate number of monitoring wells shall be completed into the underground source of drinking water to detect any movement of injected fluids, process by-products or formation fluids into the underground source of drinking water. The monitoring wells shall be located outside the physical influence of the subsidence or catastrophic collapse.
4. Monitoring for subsidence may be required.
 - l. In determining the number, location, construction and frequency of monitoring of the monitoring wells the following criteria shall be considered:
 1. The population relying on the underground source of drinking water affected or potentially affected by the injection operation.

2. The proximity of the injection operation to points of withdrawal of drinking water.
3. The local geology and hydrology.
4. The operating pressures and whether a negative pressure gradient is being maintained.
5. The toxicity and volume of the injected fluid, the formation water, and the process by-products. And:
6. Number of injection wells per unit area.

6.2.7 Reporting Requirements for Class I and III Wells

6.2.7.1 Class I Exploratory Well Construction and Class I Test/Injection Well Construction

- A. Periodic data reports and progress reports may be required that may include, but not be limited to, the following:
 1. Driller's log
 2. Geophysical surveys
 3. Core analyses
 4. Lithologic Logs
 5. Drill stem tests
 6. Pump tests
 7. Daily job (construction) reports
 8. Water quality analyses.
- B. Interpretation of data contained in the data reports or progress reports is required at the completion of each significant phase of construction, such as completion of test well construction and testing, completion of injection well construction, and completion of injection well testing.

- C. The Tribe shall submit final reports of all data collected from the exploratory well with interpretations, with the plan for a Class I test/injection well construction and testing. The final report submitted with the proposal for a Class I Injection Well Operation Plan shall include, but not be limited to, the following:
1. A map showing the location of the proposed injection wells or well field area and the applicable area of review. Within the area of review, the map must show the number and location of all producing wells, injection wells, abandoned wells, dry hole, surface bodies of water, springs, public water systems, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads. The map should also show faults, if known or suspected. Only information of public record and pertinent information known to the Tribe is required to be included on the map.
 2. A tabulation of data on all wells within the area of review which penetrate into the proposed injection zone, confining zone, or proposed monitoring zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the District may require.
 3. Maps and cross sections indicating the general vertical and lateral limits within the area of review of all underground sources of drinking water, their position relative to the injection formation and the direction of water movement, where known, in each underground source of drinking water which may be affected by the proposed injection.
 4. Maps and cross sections detailing the hydrology and geologic structures of the local area.
 5. Generalized maps and cross sections illustrating the regional geologic setting.
 6. Proposed operating data:

- a. Average and maximum daily rate and volume of the fluid to be injected.
- b. Average and maximum injection pressure. And:
- c. Source and an analysis of the chemical, physical, radiological and biological characteristics of injection fluids, including any additives for Class III wells. For Class I wells, a demonstration that the effluent quality meets the applicable federal standards.
7. Proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of, and other information on the injection zone.
8. Proposed stimulation program.
9. Proposed injection procedure.
10. Engineering drawings of the surface and subsurface construction details of the system, including design features for surge control and water hammer protection.
11. Contingency plans to cope with all shut-ins or well failures, or, for Class III wells, catastrophic collapse, to protect the quality of the waters of the State including emergency discharge provisions.
12. Plans (including maps) and proposed monitoring data to be reported for meeting the monitoring requirements in 6.2.6.
13. For wells within the area of review which penetrate the injection zone, but are not properly completed or plugged, the corrective action proposed to be taken under 6.1.3.3.
14. Construction procedures including a cementing and casing program, logging procedures, deviation checks and a drilling, testing and coring program.

15. For Class III wells, expected changes in pressure, native fluid displacement, direction of movement of injection fluid.
16. For Class III wells, a proposed monitoring plan, which includes a plan for detecting migration of fluids into underground sources of drinking water, a plan to detect water quality violations in the monitoring well, and the proposed monitoring data to be submitted.
17. For Class I, a period of temporary injection operation for the purposes of long term testing shall be required. Each well shall be tested for integrity of construction, and shall be followed by a short term injection test of sufficient duration to allow for the prediction of the operating pressure.
18. During the period of temporary injection operation, the District may require periodic inspections at certain stages of construction.
19. For Class III wells, a period of temporary operation for the purpose of testing shall be required. Each well must first be tested for integrity of construction, prior to any injection testing.

6.2.7.2 **Class I Injection Well Operation**

- A. The Tribe must submit the proposed methodology for collection and reporting of operational data, to ensure that the data is collected, correlated, and reported in a fashion that would enable the District to evaluate well performance.
- B. The frequency of reporting shall at a minimum include:
 1. Operating reports on:
 - a. The physical, chemical and other relevant characteristics of injection fluids.
 - b. Daily readings of the pressure and flow for each well shall be

submitted. For each domestic effluent disposal well, a specific injectivity test shall be performed quarterly while the pumping rate to the well(s) has been set at a predetermined level and reported as the specific injectivity index (gpm/specific pressure (psig)). The Tribe shall propose which pumping rate will be used based on the expected flow, the design of the pump station, including the volume of the wet well and pump type(s), and the type of pump controls used.

- c. Monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure. And:
 - d. The results of monitoring prescribed under subsection 6.2.5.1.
2. Reporting the results within three (3) months after the completion of:
- a. Periodic tests of mechanical integrity.
 - b. Any other test of the injection well conducted by the Tribe if required.
 - c. Any well work over.
- C. Additional data to be submitted with the periodic operations reports, at the request of the District.
- D. Progress reports, if required, shall be submitted no later than thirty (30) days following each interim date and the final date of compliance.

6.2.7.3 Class III Well Construction/ Operating/ Plugging and Abandonment Reports

- A. Periodic data reports and progress reports may be required that may include, but not be limited to, the following:
- 1. Driller's log

2. Geophysical surveys
 3. Core analyses
 4. Lithologic logs
 5. Drill stem tests
 6. Withdrawal or aquifer tests
 7. Number of wells constructed, abandoned, in operation, and recorded on property deeds
 8. Results of post-closure monitoring
 9. Daily construction reports
- B. The frequency of reporting shall be specified by the District. However, the Tribe may be required to submit monthly operating reports that shall include, but not be limited to, the number of wells constructed, number in operation, number abandoned, and number of wells recorded on property deeds for that month.
- C. Interpretation of data contained in the data reports or progress reports is required at the completion of each significant phase of construction.
- D. **Reporting Requirements** Reporting requirements shall, at a minimum include:
1. Quarterly reporting on required monitoring.
 2. Results of mechanical integrity and any other periodic test to be reported with the first regular quarterly report after the completion of the test. And:
 3. Monitoring may be required to be reported on a project or field basis rather than individual well basis.

- E. At least once every year, but more frequently if specified, the Tribe shall record the plugging method and location of each well abandoned during that year in the public records of the County.
- F. The Tribe shall submit a Final Report with interpretations of all data collected. The Final Report shall include, but not be limited to, all information and data collected under Part 6.2, with appropriate interpretations.

6.2.7.4 Abandonment Reports for Class I and III Wells

- A. Upon completion of plugging and abandonment of a well or well field, the Tribe shall submit a Final Report which includes, but is not limited to, the following:
 - 1. Certification of completion in accordance with approved plans and specifications by the engineer of record.

2. Evidence, such as a sealed copy or certification from the county clerk, that a surveyor's plot of the location of the abandoned wells has been recorded in the County public records.

6.2.8 Plugging and Abandonment Criteria and Procedures for Class I and III Wells

6.2.8.1 A well may be ordered plugged when it has been abandoned or when it is determined to be a threat to the waters of the State.

6.2.8.2 Any Class I or III well approval shall include conditions to ensure that plugging and abandonment of the well will not allow the movement of fluids either into an underground source of drinking water, or from one underground source of drinking water to another. The Tribe shall be required to submit a plan for plugging and abandonment, which may include post-closure monitoring of the injection operation. The post-closure monitoring plan shall be designed in accordance with the requirements of paragraph 6.2.6.1(l). For the purposes of this section, temporary intermittent cessation of injection operations is not abandonment. Where applicable, the plugging and abandonment plan shall address the proposed post-closure monitoring.

6.2.8.3 Prior to abandoning Class I or III wells, the well shall be plugged with cement in a manner which will not allow the movement of fluids either into, or between underground sources of drinking water. Class III wells may be plugged using other plugging materials if it is satisfactorily shown that such materials will prevent movement of fluids into, or between underground sources of drinking water. The proposed plugging method and type of plugging material shall be approved.

6.2.8.4 Placement of the plugging material shall be accomplished by one of the following methods:

A. The Balance Method.

- B. The Dump Bailer Method.
- C. The Two-Plug method. Or:
- D. Any other recognized method as effective or more effective than the above which is approved by the District.

6.2.8.5 The well to be abandoned shall, prior to the placement of the cement plug(s), be in a state of static equilibrium, with the mud weight equalized from top to bottom, either by circulating the mud in the well at least once or by a comparable approved method.

6.2.8.6 The Tribe shall notify the District at least hundred eighty (180) days before conversion or abandonment of a Class I well, unless abandonment within a lesser period of time is necessary to protect the waters of the State.

6.2.8.7 For all Class I wells, the final or innermost string of casing shall be filled with neat cement grout, or an approved equivalent, from the bottom of the casing to the surface. The use of other fillers may be allowed in the open hole, provided that the objectives of confining injected fluids to the injection horizon and prevention of migration of injected and/or native fluids between aquifers are satisfied. Annular monitor tubes in an injection well may be left unplugged temporarily if they are to be used for their intended purpose and do not compromise the objectives listed above. If temporarily left open, the annular monitor tubes shall be plugged with cement at the end of post-closure monitoring. If the tubes are not used for monitoring, they shall be filled with neat cement from the bottom of the monitor zone to land surface.

6.2.8.8 The plugging and abandonment plan required in section 6.2.8 shall, in the case of a Class III well field which underlies or is in an exempted aquifer, also demonstrate that no movement of contaminants from the mined zone into an underground source of drinking water will occur. Aquifer cleanup and monitoring shall be prescribed where deemed necessary and feasible to insure that no migration of contaminants from the mined zone into an underground

source of drinking water will occur.

6.2.8.9 In the event a radioactive source tool has been irretrievably lost down an injection well, the District shall be immediately notified. The well shall not be plugged until all applicable Nuclear Regulatory Commission regulations have been satisfied.

6.2.8.10 The Tribe or operator of a well must provide adequate documentation that the well was properly abandoned.

6.3 CRITERIA AND STANDARDS FOR CLASS IV WELLS

6.3.1 **General** For the purposes of this Chapter the definition of a Class IV well specifically includes the disposal of fluids containing hazardous waste from any septic tank or cesspool used by generators of hazardous waste, or by owners or operators of hazardous waste management facilities, into, or above an underground source of drinking water.

6.3.2 **General Prohibition of Class IV Wells**

The construction or operation of any Class IV well is prohibited.

6.4 CRITERIA AND STANDARDS FOR CLASS V WELLS

6.4.1 **General**

6.4.1.1 This Part sets forth criteria and standards for all injection wells not covered in previous sections. Generally, wells covered in this Part inject non-hazardous fluids into, or above formations that contain underground sources of drinking water. Included are wells not covered in Class IV that inject natural and man-made radioactive materials, provided these concentrations do not exceed current federal drinking water standards.

6.4.1.2 **Classification of Class V Wells** Various types of Class V wells that exist or may exist in Florida are grouped together by expected quality of the injected fluid, in order to facilitate the

determination of permitting, operating, and monitoring requirements for these wells. The groups are:

- A. **Group 1** Wells associated with thermal energy exchange processes, which include air conditioning return flow wells and cooling water return flow wells. Cooling water return flow wells may be part of a closed-loop system, with no hazardous additives, or part of an open-loop system that may use additives.

- B. **Group 2** Recharge wells, saltwater intrusion barrier wells, connector wells, and subsidence control wells.
- C. **Group 3** Wells which are part of domestic waste treatment systems, swimming pool drainage wells, injection wells used in experimental technologies, and wells used to inject spent brine into the same formation from which it was withdrawn after extraction of halogens or their salts.
- D. **Group 4** Non-hazardous industrial and commercial disposal wells, which include laundry waste, dry wells, sand backfill wells, and nuclear disposal wells used to inject radioactive wastes, provided the concentrations of the waste do not exceed federal drinking water standards, and injection wells used for in situ recovery of phosphate, uraniferous sandstone, clay, sand, and other minerals extracted by the borehole slurry mining method.
- E. **Group 5** Lake level drainage and stormwater drainage wells.
- F. **Group 6** Geothermal wells and "other" wells.

6.4.1.3 The use of any Class V well for injection shall not present a hazard to any existing or future use of an underground source of drinking water.

6.4.2 **Well Construction Standards for Class V Wells**

6.4.2.1 The variety of Class V wells and their uses dictate a variety of construction designs consistent with those uses, and precludes specific construction standards for each type of Class V well outlined in this Chapter. However, a well must be designed and constructed for its intended use, in accordance with good engineering practices, and the design and construction must be approved.

6.4.2.2 The design criteria for Class I wells (6.2) may be applied to the construction of Class V wells, including surge and water hammer protection measures, and other factors.

6.4.2.3 Class V wells shall be constructed so that their intended use does not violate applicable federal water quality standards at the point of discharge, except where specifically exempted. Migration or mixing of fluids from aquifers of substantively different water quality (through the construction or use of a Class V well) shall be prevented by preserving the integrity of confining beds between these aquifers through cementing or some other acceptable method.

6.4.2.4 A well completion report, defining details of construction and describing various formations penetrated by the well, shall be submitted within two (2) days after completion of the drilling operation.

6.4.2.5 Samples of formations penetrated may be required. If required, and when drilling is completed, samples shall be forwarded to:

**State Geologist
903 West Tennessee Street
Tallahassee, Florida 32304**

6.4.2.6 If casing is used within the well, it shall, at a minimum, meet the requirements for water well construction set forth in Chapter 5.

6.4.2.7 Class V wells shall not be dynamited, except with written permission from the District.

6.4.2.8 A test well or boring shall be filled with cement within five (5) days after completion of the testing for which it was drilled. Such test wells or borings shall not be used as drainage wells unless approval has been obtained in accordance with this Chapter.

6.4.3 **Operating Requirements for Class V Wells**

6.4.3.1 All Class V wells shall be operated in such a manner that they do not present a hazard to an underground source of drinking water. Effluent quality shall meet applicable federal standards.

6.4.3.2 Pre-treatment may be required for fluids injected through existing wells, to insure that the injected fluid does not violate federal water quality standards.

6.4.3.3 Operating requirements may be imposed on Group 1 - cooling water return flow wells on an open-loop system, with additives; Group 3, except for swimming pool drainage wells; Group 4; and Group 6.

6.4.3.4 Operating requirements may be imposed on Groups 2 and 5.

6.4.4 **Monitoring Requirements for Class V Wells**

6.4.4.1 The need for monitoring shall be determined by the type of well, nature of the injected fluid, and water quality of the receiving aquifer. Monitoring requirements may be imposed for Groups 1, 2, 3, 5 and 6.

6.4.4.2 The nature of the fluid being injected into, or above an underground source of drinking water from Group 4 wells is such that

monitoring may be required for wells in this group.

6.4.4.3 The frequency of monitoring shall be determined based on the location of the well, the nature of the injected fluid and applicable federal regulations.

6.4.5 **Reporting Requirements for Class V Wells**

6.4.5.1 Reporting requirements shall be determined by the type of well and nature of injected fluid.

6.4.5.2 Reporting shall be required for:
Group 1 - cooling water return flow wells on an open-loop system, with additives; Group 3, except for swimming pool drainage wells; Group 4 and Group 6.

6.4.5.3 Reporting may be required for Groups 2 and 5.

6.4.6 **Plugging and Abandonment for Class V Wells**

6.4.6.1 A Class V well may be ordered plugged and abandoned when it no longer performs its intended purpose, or when it is determined to be a hazard to the ground water resource.

6.4.6.2 Prior to abandoning Class V wells, the well shall be plugged with cement in a manner which will not allow movement of fluids between underground sources of drinking water. The proposed plugging method and type of cement shall be approved. Placement of the cement shall be accomplished by any recognized and acceptable method.

CHAPTER 7 ADMINISTRATIVE PROCEDURES

7.0 GENERAL

Notwithstanding any other provision of this chapter, upon agreement between the Tribe and the District, any provision in this chapter relating to time periods may be extended.

History Note: Renumbered 6-28-94.

7.1 APPROVAL AND AMENDMENT OF WORK PLANS

7.1.1 Timeframes for Submittal, Approval and Amendment of Work Plans

7.1.1.1 General On or before June 1 of each year, the Tribe may submit to the District four (4) copies of a Work Plan describing the anticipated work to be initiated by the Tribe, or by individuals or entities whose plans are approved by the Tribe on one or more of the Tribe's Reservations or Tribal Trust Lands in the upcoming fiscal year (October 1 - September 30), or for such other periods as are acceptable to the District. A Work Plan is not required for any fiscal year or other period in which the Tribe does not intend to commence any new projects. If the Tribe is delayed in submitting its Work Plan or makes an early submission, or if the District modifies its procedures for scheduling meetings, the dates specified under this section shall be modified to allow the same number of days under the procedure as written. Board action will occur at the first monthly meeting after the required number of days under the procedural steps have passed, unless the Tribe and the District agree to an amendment pursuant to 7.1.1.11. The work plan shall include such information as is specified in this chapter.

7.1.1.2 Timeframe for Notice of Receipt of Work Plan

The District shall by June 15 publish notice of receipt of the work plan in a newspaper having general circulation as defined in chapter 50, Florida Statutes. The District also shall provide a copy of the notice to any person who has filed a written request for

notification of any work plan affecting a particular designated area no earlier than six (6) months before the date specified in the notice. For all persons, publication shall constitute legal notice. The publication shall expressly state that notice of further action shall only be provided to persons requesting such notice in writing by July 15.

7.1.1.3 **Timeframe for Review** The District staff shall review the annual work plan, evaluate the proposals contained therein in accordance with the criteria and principles contained in Parts (I) through (VI) of the Compact and in accordance with the provisions of Chapter 2 through 6 of the Manual. By June 15 the District shall advise the Tribe in writing of any additional information required.

7.1.1.4 **Timeframe for Submittal of Additional Information**
By July 1, the Tribe shall submit in writing the additional information requested by the District or advise the District in writing of the Tribe's decision not to supply part or all of the additional information requested.

7.1.1.5 **Timeframe for Proposed District Action** By July 21, the District shall prepare staff recommendations which shall contain a recommendation of concurrence, or concurrence in part, concurrence with conditions, or objection to the proposed Work Plan, and supporting reasons. Such recommendation shall constitute proposed District action.

7.1.1.6 Timeframe for Notice of Proposed District Action

By July 21, the District shall provide a notice of proposed District action and a copy of the staff report pursuant to 7.1.1.5 to the Tribe and to any persons requesting notice of proposed District action pursuant to this chapter. The notice of proposed District action shall state that requests for a hearing must be received by the District Clerk and the Tribe on or before August 4.

7.1.1.7 Timeframe for Hearing

Upon written request filed with the District Clerk and the Tribe (unless filed by the Tribe) on or before August 4 to the Board by the Tribe or any substantially affected third persons, a hearing shall be scheduled for the September meeting of the Board. Requests for a hearing shall contain the information specified in this chapter. At the August Board meeting, the Board will review requests for hearings that have been filed, and shall deny frivolous requests for hearings or requests that have been filed by persons lacking a significant interest which is substantially affected. The Board cannot deny any request by the Tribe or an agency of the State listed under Part (I)(J) of the Compact for a hearing.

7.1.1.8 Timeframe for Filing a Notice of Reliance

A person may file a notice reliance on the proposed District action concerning the proposed Work Plan. Such notice of reliance shall be in lieu of a request for hearing, under this chapter, and shall be filed on or before August 4. The notice of reliance shall contain the information set forth in this chapter. The filing of a notice of reliance shall preserve the rights of the filing person as specified in this chapter, in the event the final District action differs materially from the proposed District action.

7.1.1.9 Timeframe for Final District Action

The proposed District action shall become final District action as of the August Board meeting, if:

- A. the District staff report recommends concurrence, objection, or concurrence with conditions with all or part of the proposed work plan, and no requests for hearings are received by the District Clerk

on or before August 4; or

- B. all timely requests have been dismissed by the Board as frivolous, or as having been filed by persons lacking a non-frivolous interest which is substantially affected.

7.1.1.10 **Hearings on Proposed Work Plans** At the September Board meeting, the Board shall conduct hearings on all approved requests for hearing and shall concur or object, in whole or part, or concur with conditions to the proposed Work Plan, constituting final District action. Failure to hold a hearing shall constitute acceptance of the Tribe's proposed Work Plan as final District action.

7.1.1.11 **Timeframe for Amendment to Work Plans** The Tribe shall submit to the District amendments to any Work Plan effective under the Compact. The Tribe shall not implement any amendments without concurrence by the Board. If the amendment is reasonable, the Board shall not withhold concurrence. The procedures set forth under this chapter shall apply to Work Plan amendments, with dates modified to allow the same number of days between each step as are allocated under the procedures as written.

7.1.1.12 **Service of Written Order** Copies of the written order under this chapter shall be served on all persons who timely requested a hearing or timely filed a notice of reliance.

7.1.2 Approval and Amendment of Work Plan -- Post Board Action

7.1.2.1 **Timeframes for Rehearing** Following District action, the Tribe:

A. may, within thirty (30) days of Board decision, request the Board for a rehearing. The request for rehearing shall contain the information set forth in this chapter. The District shall give seven (7) days notice to the parties to the initial hearing of such request and shall agenda the rehearing at the next Board meeting held after such notice has been provided. The request for rehearing shall contain the information set forth in this chapter. The Board shall concur or object to the Work Plan in whole or part, which action shall constitute final District action. The written order recording the final District action shall contain the information set forth in this chapter. Copies of the written order shall be served on all parties to the hearing.

B. shall, with or without rehearing, within ninety (90) days of the final Board decision, give notice to the District by filing with the District Clerk and to all persons who timely requested a hearing or timely filed a notice of reliance, by mailing first class on the same day as notice is provided to the District of the Tribe's intention to:

1. implement the Work Plan as approved following final District action, including final District action under this chapter; or
2. implement the proposed Work Plan or amendment without complying with part or all of final District action.

The notice shall contain the information set forth in this chapter.

7.1.3 Approval and Amendment of Work Plan -- Action Following Tribal Notice

7.1.3.1 **Timeframe for Commencement of Suit** The District or any person who timely requested a hearing or timely filed a notice of reliance, shall have forty-five (45) days to commence suit in federal court, after filing by the Tribe of notice pursuant to this chapter with the District Clerk. The District and any other party shall have the burden of showing that the Tribe's proposed Work Plan or amendment violates the Compact or the Manual.

If the District does not file suit in federal court within forty-five (45) days of receipt of notice pursuant to this chapter, by the Tribe, the District shall be deemed to have concurred with the Tribe's intention to proceed as set forth in such notice. Any other person who timely requested a hearing or who timely filed a notice of reliance shall have ten (10) days following the expiration of the forty-five (45) day limit set forth under this chapter to commence suit in federal court ex rel the District to enforce final District action taken under this chapter.

Upon the filing of a suit in federal court by the District, all work pursuant to the challenged Work Plan or amendment shall be stayed pending resolution by the court or by settlement, unless the parties agree otherwise.

7.1.4 Early Work Orders for Work Prior to Submission of a Tribal Work Plan

7.1.4.1 **Work that May be Authorized Prior to Submission of a Tribal Work Plan** The Tribe and the District recognize that certain kinds of work related to the construction and/or alteration of surface water management systems, and incidental site work associated with such systems, are not harmful either to the water resources of the Tribe's Reservation and Trust Lands or to the water resources of adjoining lands and that such kinds of work are consistent with the objectives of both the Tribe and the District. If such work satisfies the conditions set forth in paragraph B of this subsection the commencement of such work may be authorized

prior to the approval of a Tribal Work Plan which includes the work. The Water Resource Management Department of the Seminole Tribe (Department) may authorize such work by issuing an early work order under procedures specified in the Tribal Water Code. This section sets forth the requirements for qualifying for an early work order and the procedures by which the Department shall give notice to the District of its intent to issue an early work order and for the District to interpose any objections it may have. No construction or alteration of a surface water management system shall be commenced until the permittee receives written authorization to proceed from the Department.

A. Relationship to Tribal Water Code The Tribal Water Code sets forth the procedure through which a person can apply to the Department for an early work order. Potential applicants should consult the Tribal Water Code for further guidance.

B. Conditions An applicant for an early work order must give reasonable assurances that all of the following conditions will be satisfied.

1. The proposed surface water management system must meet the criteria specified in Chapter 4 of this Manual.
2. The project or incidental site work must not be located in natural water bodies, viable wetlands habitat, surface waters of the state, or an Outstanding Florida Water as listed in Rule 17-3.041, Fla. Admin. Code.
3. If the project proposes to connect with, place structures in or across, or otherwise make use of works of the District, the permittee must obtain approval from the District for such use before commencing work.

History Note: New 6-28-94.

7.1.4.2 Action by the Department

A. Notice to the District The Department shall process

applications for early work orders in accordance with procedures set forth in the Tribal Water Code, including the preparation of a report by the Administrator of the Department which shall include a determination of whether the proposed work qualifies for any early work order and, if conducted as planned, would comply with the Tribal Water Code, the Compact, and all applicable federal and tribal environmental laws and regulations. If the Administrator determines that the proposed work so qualifies, the Administrator shall give notice to the District that unless the District disapproves the application within 10 days as provided in subsection 7.1.4.3, the Department will issue an early work order. The Administrator's notice to the District shall include a copy of the application and the Administrator's report.

B. Authorization to proceed Unless the District disapproves the application within 10 days as provided in subsection 7.1.4.3, the Department may issue an early work order, which shall constitute authorization to proceed with the early work specified in the application. The authorization shall include any limiting conditions requested by the District and may include any other reasonable conditions that are appropriate to assure that the permitted work will not be inconsistent with the overall objectives of the Tribe and the District and will not be harmful to water resources protected under the Compact. In addition, each early work order shall also include the following conditions:

1. The early work order may be revoked by the Department at any time for violation of:
 - a. the terms of its conditions;
 - b. other applicable Tribal law or regulations; or
 - c. the Water Rights Compact and Criteria Manual.
2. The applicant shall not refuse immediate entry or access to any authorized representative of the Tribe or the District who requests entry for purposes of inspection of the early work and presents

appropriate credentials.

3. If, in the opinion of Department or District staff, the incidental site work is the cause of adverse water resource impacts, the Department staff will so notify the applicant and the applicant shall take corrective action specified by the Department.
4. The property must be restored to the satisfaction of the Department if the permit under the Tribal Water Code is ultimately denied or the permitted project is otherwise not in accord with the incidental site work authorized in the early work order.
5. The applicant agrees to hold and save the District and the Tribe harmless from any and all liability arising from property damage or bodily injury as a result of the work conducted pursuant to early work order.
6. Any damage to off-site property which may have been caused by the incidental site work authorized in the early work order must be mitigated or otherwise offset to the satisfaction of the Department.
7. The activities are commenced at the applicant's own risk.
8. The applicant shall proceed to timely obtain all permits required under the Tribal Water Code.
9. This early work order only applies to authorization from the South Florida Water Management District and the Water Department of the Seminole Tribe; it is possible that additional permits from federal authorities may be necessary, and nothing contained herein relieves the permittee from timely compliance with applicable federal and tribal laws.

History Note: New 6-28-94.

7.1.4.3 Action by the District

A. Notice of objection The District may advise the Department that, in its view, the proposed work does not qualify for an early

work order. Such notice of objection must be communicated to the Department no later than 10 days from the date the Administrator's notice to the District is received. In such cases, the District's action shall be final, not subject to review, and the Department shall not issue an early work order.

B. Concurrence The District may expressly indicate concurrence in the proposed work by advising the Department in writing that the Department may issue an early work order only if certain specified conditions are included in the early work order. In such cases, the Department shall include any such conditions if it issues an early work order. If the District takes no action within 10 days from the date the Administrator's notice is received (or if the tenth day falls on a Saturday or Sunday or holiday on the next working day), the District shall be deemed to have given its concurrence for the Department to issue an early work order.

History Note: New 6-28-94.

7.1.4.4 Reporting in Next Annual Work Plan The Department shall include a summary report of all work authorized under early work orders in any year in the next annual work plan submitted to the District. The District's review of such work and associated planned work included in the proposed work plan shall be on a de novo basis -- the fact that certain aspects of the work may have been completed shall not determine whether the remainder of the work will be authorized or whether work that has been completed complies with the requirements of the Compact.

History Note: New 6-28-94

7.1.4.5 Expiration, Revocation or Suspension of Early Work Orders

A. Each early work order shall expire on the date of final District action, or federal district court action, whichever is later, on the Tribal Work Plan, which includes the project for which the early work order was issued. Any further work associated with the early work order must thereafter be authorized in a Tribal Work Plan approved under the Compact.

B. Violations of this section or of any of the conditions included in an early work order may result in revocation or suspension of the early work order.

C. The Administrator may revoke or suspend an early work order as provided in the Tribal Water Code.

History Note: New 6-28-94

7.1.5 Enforcement of Compact Rights and Obligations Other Than the Work Plan and Amendments

7.1.5.1 Tribe and District

A. In any instance where the District notifies the Tribe that it has initiated rulemaking for establishment of new programs or changes in rules, regulations or procedures, under the provisions of Part II(J)(5) of the Compact, the District will use its best efforts to advise the Tribe as to the specific portion of the new program, rules, regulations or procedures it believes may be appropriate for application to the Tribe. Following notice from the District, the Tribe will use best efforts to advise the District as early as possible of its concerns by providing comments during the development of the rules.

B. The District and the Tribe shall use best efforts to resolve disputes concerning the enforcement of rights and obligations created by the Compact through informal meetings, or if agreed, through mediation, arbitration, or third party facilitation. Notwithstanding the notice requirements for filing suit in federal court specified in this chapter, each party shall give the other earlier notice of intention to commence suit in federal court if practicable.

C. If the Tribe believes that the District or other person is engaged in or will engage in conduct violating the Compact, the Tribe shall give the District fifteen (15) days notice before commencing action in federal court to enforce the Compact, unless the delay would cause irreparable injury, and the Tribe is seeking a temporary restraining order. Such notice shall contain the information set forth in this chapter.

D. If the District believes the Tribe is engaged in or will engage in conduct violating the Compact, the District shall give the Tribe fifteen (15) days notice before commencing action in federal court to enforce the Compact, unless the delay would cause irreparable injury, and the District is seeking a temporary restraining order. Such notice shall contain the information set forth in this chapter.

1. The Tribe may request a hearing before the Board on the matter in issue. If the Tribe requests a hearing, the District shall not commence action in federal court until the Board has finally disposed of the matter in issue unless the delay would cause irreparable injury, and the District is seeking a temporary restraining order. The request for hearing shall contain the information set forth in this chapter.
2. If the Tribe has by Tribal Council Resolution requested the District to enforce the provisions of the Compact against any third party pursuant to this chapter, the District shall not commence action in federal court until the Board has responded to the Tribe's request for assistance unless the delay will cause irreparable injury and the District is seeking a temporary restraining order.

History Note: Amended and renumbered 6-28-94

7.1.5.2 Enforcement by the Tribe and the District Against Persons Conducting Activities on Reservation and Tribal Trust Land

In individual cases the Tribe may, through Tribal Council Resolution, request the District to enter Reservation and Tribal Trust Lands for the purpose of enforcing the provisions of the Compact against persons other than the Tribe conducting activities on Reservation or Tribal Trust lands.

A. The request accompanying the Resolution shall specify to the best of the Tribe's knowledge the identity of the alleged violator, the location and nature of the alleged violation, and any additional information deemed relevant or material by the Tribe. The District may request the Tribe to provide other information reasonably necessary to aid in investigating the Tribe's request.

B. Upon Tribal request through Resolution, the District shall investigate the allegations contained in the Resolution. The Tribe shall assist the District in the investigation of the allegations. The District shall complete its investigation within thirty (30) days of receipt of the Tribal request through Resolution.

C. Within ten (10) days of completion of the investigation, the District shall advise the Tribe of the District's findings and any proposed enforcement action the District intends to take.

D. The District may use any State administrative and judicial procedures authorized under State law and District rules, regulations and orders to satisfy the Tribal request through Resolution.

E. Absent such Resolution, the District must challenge alleged violations of the Compact through the procedures set forth under Chapter 7 of this Manual and Part (VIII) of the Compact and will defer to Tribal jurisdiction exercised pursuant to the Tribal Water Code approved under the Compact.

7.1.5.3 Conflicts with Permit Applications or Other Requests for Approval

A. The Tribe shall identify to the District geographical areas and types of permit applications or other requests for approval for which the Tribe desires the District to provide notification. The Tribe may periodically amend its request for notice. The District shall use best efforts to notify the Tribe of any other permit applications or other requests for approval that may potentially affect the Tribe's rights under the Compact.

B. Within fifteen (15) days of receipt, the District shall give written notice to the Tribe of any permit application or other request for approval of which the Tribe requests notice under this chapter. The notice shall contain the information set forth in this chapter.

C. Within twenty (20) days of receipt of notice of application,

the Tribe may request notice of proposed District action, and may comment on the permit application or any other request for approval, and shall furnish any additional information explaining and supporting its comments. The District staff shall expressly consider the Tribe's comments and shall address such comments in the District's written analysis of the application.

D. The District shall provide the Tribe with notice of proposed District action on those applications and other requests for approval for which the Tribe has requested notice of proposed District action or provided comments under this chapter, and a copy of the District's analysis of the applications or other requests for approval.

The notice shall contain the information set forth in this chapter and include a date for filing notice of objection by the Tribe. The Tribe shall be given a reasonable time, but not less than ten (10) days to file such a notice of objection.

E. The Tribe may, within the period for filing specified in the District notice, file a notice of objection with the District Clerk and the applicant.

1. The notice of objection shall contain the information set forth in this chapter and shall state with reasonable specificity the basis for the Tribe's objection and the Compact rights affected.
2. Within twenty (20) days of receipt of a Tribal notice of objection, the applicant shall file a response with both the District Clerk and the Tribe.

F. Failure by the Tribe to timely file a notice of objection shall preclude the Tribe from further objection to the proposed District action unless a timely request for hearing is filed by the applicant or a substantially affected third person; or the Board takes final District action which differs materially from the proposed District action.

1. The District shall notify the Tribe within ten (10) days of the filing with the District Clerk of any request, by the applicant or a substantially affected third person, for a hearing pursuant to state

law concerning any application or other request for approval of which the Tribe receives notice under this chapter.

2. No later than the date final District action is filed with the District Clerk, the District shall serve the Tribe with copies of any final District action which differed materially from the proposed District action which was noticed to the Tribe under this chapter.

G. At the next regularly scheduled Board meeting following receipt of the Tribe's notice of objection, the Board shall review the Tribe's notice of objection and shall determine whether the proposed District action would substantially and adversely affect the Tribe's rights under the Compact.

1. If the Board determines that the proposed District action would not substantially and adversely affect the Tribe's rights under the Compact, and no administrative hearing under state law is requested by the applicant or other substantially affected third person, the Tribe shall have thirty (30) days to file suit in federal district court. Such court action shall be decided in a timely manner as provided in the "Seminole Land Claims Settlement Act of 1987".
2. If the Board determines that proposed District action will substantially and adversely affect the Tribe's rights under the Compact, final District action shall be modified to resolve those objections raised by the Tribe that have been determined to substantially and adversely affect the Tribe's rights under the Compact. If the final District action differs materially from proposed district action, the applicant and others who have been notified of proposed District action shall have an opportunity to request a hearing pursuant to District rules. If the Tribe continues to object to the modified final District action and no administrative hearing is requested, the Tribe shall have thirty (30) days to file suit in federal district court. Such court action shall be decided in a timely manner as provided in the "Seminole Land Claims Settlement Act of 1987". If no hearing is requested and the Tribe does not file suit, the modified final District action shall become final District

action.

H. If an administrative hearing under state law is requested, concerning an application or other request for approval of which the Tribe receives notice under this chapter, the Tribe shall have thirty (30) days from the date of either filing of the request for hearing or Board evaluation of a Tribal notice of objection, whichever occurs later, to elect:

1. to intervene as a party to the administrative hearing; or
2. to request in writing that the District, in the event the Board has determined that the proposed District action substantially and adversely affects the Tribe's rights under the Compact, represent the Tribe's interest in whole or part in the administrative hearing, provided that such representation will not involve the District in a conflict of interest as provided in Chapter 112, Florida Statutes (1985); or
3. to refrain from participating in the administrative hearing; or
4. to file an action in federal district court which shall be decided in a timely manner as provided in the "Seminole Land Claims Settlement Act of 1987". The court action shall stay any administrative hearing on the issues raised in such action, unless a party to the hearing demonstrates to the court that the Tribe will not be unreasonably injured and allows the hearing to proceed.

I. If the Tribe requests the District to represent the Tribe's interests in the state administrative hearing pursuant to this chapter, the District shall represent the Tribe's interests unless and until the District determines a conflict of interest exists or unless and until the Tribe requests the District to terminate representation of Tribal interests.

1. Immediately upon District determination of a conflict of interest or a Tribal request for termination of District representation, the District and Tribe shall notify all parties to the administrative hearing and the presiding hearing officer.

2. If the District determines there is a conflict of interest, the administrative hearing shall be stayed for a period of no less than thirty (30) days to allow the Tribe time to assume its own representation. If the Tribe requests the District to terminate representation, the Tribe may seek a stay of the administrative hearing, which shall not be unreasonably withheld.

J. If the Tribe elects to proceed under subparagraphs 1, 2, or 3 of paragraph (H) of this subsection, the Tribe shall not file any action in federal district court until final District action has occurred. Any court action filed under this paragraph shall be filed within forty-five (45) days of the date of final district action and shall be limited to review of the final District action. Such review shall not be de novo.

K. If the District fails to provide notice as required under this chapter, and the Tribe has not or could not with reasonable diligence have learned of any District action on the application for permit or other request for approval in time to participate in the proceedings under this subsection, the District shall give actual notice to the Tribe immediately upon discovering the failure. The Tribe shall have twenty-one (21) days from receipt of actual notice to file a notice of objection with the District Clerk and request a hearing to consider the issues raised in such notice of objection. The notice shall contain the information set forth in this chapter. If final District action has occurred, the District shall give notice to the applicant that such final District action is no longer final. Regardless of whether final District action has occurred, the District, Tribe, applicant and substantially affected third person shall proceed under the provisions of this chapter, as though notice were properly given in the first instance.

7.1.5.4 Substantially Affected Third Persons

A. Any substantially affected third person may file a written complaint with the District Clerk alleging that the Tribe or District is in violation of any of the provisions of the Compact, the Manual, or

the terms and conditions of any approved work plan.

B. The complaint shall contain the information set forth in this chapter. Upon the filing of the complaint with the District Clerk, the District shall give the Tribe notice and a copy of all materials filed.

C. Upon receipt of a complaint filed pursuant to this subsection, the District shall conduct an investigation and make a determination as to whether there are substantial grounds to believe a violation has occurred, and whether any enforcement action is necessary. The District may conduct other investigations as are authorized or required by State law, District rules, regulations and orders. The District shall give notice to the complainant and the Tribe of its findings and intended enforcement action, if any.

D. If the complainant or the Tribe is not satisfied with the District's findings or intended action upon completion of the investigation, either party may file a request for a hearing before the Board. Such request shall be filed within fourteen (14) days of notice of the District findings, and shall contain the information set forth in this chapter. The hearing shall be scheduled for Board consideration no later than forty-five (45) days after the request for hearing is filed. The Tribe and the complainant may participate in the hearing. The Board shall take final District action concerning the complaint. No action in federal district court shall be commenced until the Board has taken final District action, unless delay would cause irreparable injury, and the relief requested is a temporary restraining order.

7.2 EMERGENCY SITUATIONS

7.2.1 Emergency Action by the Tribe

A. In the case of serious and unforeseen or unforeseeable circumstances, the Tribe may take emergency action which may be in violation of the Compact, the Manual, or the terms and conditions of approved work plans. Within 24 hours of the

occurrence of the emergency, the Tribe shall give the District notice, by the best means available, of the emergency and the intended action of the Tribe. Unless the Tribe and the District agree otherwise, the Tribe shall present to the Board, at the first monthly meeting of the Board following the emergency action, a report of action taken under this subsection along with any action the Tribe proposes for conforming specific acts taken during the emergency to the Compact and the Manual. The Board may, at the following Board meeting, require the Tribe to conform specific acts taken under this subsection to the standards set forth in the Compact. Failure by the Board at such Board meeting to request the Tribe to conform its acts shall constitute acceptance of the results of the Tribe's emergency acts and shall constitute final District action, unless the Tribe and the District agree otherwise. The Tribe shall, within sixty (60) days of the Board's request, notify the District of the Tribe's intention to comply, or refusal to comply, with part or all of the request. The notice shall contain the information set forth in this chapter. The District shall have forty-five (45) days from filing of the Tribe's notice under this subsection to commence action in federal district court. If the District does not file suit in federal district court within the forty-five (45) days, the District shall be deemed to have accepted the results of the Tribe's emergency acts.

B. Nothing in (A) of this section shall limit the District from issuing emergency action orders and taking emergency actions pursuant to this chapter.

7.2.2 Emergency Action by the District

A. The District shall employ the resources of the District to take all reasonable action necessary to alleviate any emergency condition governed by this subsection.

B. Notwithstanding any other provision in this chapter, the District may issue an emergency order, other than a water shortage emergency order, to the Tribe when the following factors are present:

1. the time requirements set forth under this chapter cannot reasonably be satisfied; and
2. the situation is due to construction, alteration, operation, maintenance, or abandonment of Tribal facilities authorized pursuant to the Compact, and there exists either imminent danger to life or property, or imminent danger of irreparable harm to water resources.

C. The District may issue an emergency water shortage order to the Tribe when the following factors are present:

1. the District has imposed water shortage restrictions on the Tribe and other similarly situated users by class of use, source, or manner of withdrawal as authorized under Part (III)(D)(1) of the Compact; and
2. the District affirmatively finds that the imposition of further restrictions by class of use, source, or manner of withdrawal will not prevent irreparable harm to the water resources of the District or significant harm to human health and safety; and
3. the District affirmatively finds that the imposition of restrictions on the Tribe's use, source, or manner of withdrawal which are different from those imposed on other users, is necessary to prevent irreparable harm to the water resources of the District or significant harm to human health and safety.

D. An emergency order issued pursuant to (B) and (C) of this section shall state with particularity the action to be taken, that the requirements of (C) of this section have been met, and the expiration date of the emergency order.

1. The emergency order shall require only such action as is essential to alleviate the emergency; and
2. the duration of the emergency order shall be no longer than the

time necessary to alleviate the emergency, not to exceed the expiration date set forth in the emergency order.

E. Any emergency orders issued under this section shall be presented to the Board for ratification at the first monthly meeting following the issuance of the emergency order.

F. If the Tribe objects to part or all of an emergency order, the Tribe may request a hearing before the Board.

1. The request must be in writing, must contain the information set forth in this chapter, and must be filed with the District Clerk within three (3) days of service on the Tribe of the emergency order. The Board shall hold a hearing and shall render its decision at the next Board meeting following the filing of the request which shall constitute final District action, unless the parties agree otherwise.
2. Unless the Tribe files notice pursuant to (G) of this section, the Tribe shall comply with all provisions of the emergency order until the Board determines otherwise or until the emergency order expires, whichever occurs first.

G. In the alternative, the Tribe, within three (3) days of service on the Tribe of the emergency order, may file with the District Clerk a notice of refusal to comply with part or all of the emergency order.

1. The notice of refusal to comply shall state with reasonable specificity the part or parts of the emergency order with which the Tribe does not intend to comply and the basis for the refusal to comply;
2. The District, following notice to the Tribe, may petition the federal district court for a temporary restraining order to enforce the emergency order.

H. Within forty-five (45) days of the expiration of the emergency order, the Tribe may request the District to remedy the effects of

specific acts taken pursuant to the emergency order. The District shall not be required to remedy the effects of acts taken to bring the Tribe into compliance with the Compact or Manual. The District shall, within forty-five (45) days of receipt of the request to remedy, notify the Tribe of the District's intent to comply, or refusal to comply, with part or all of the request. The notice shall contain the information set forth in this chapter. Upon receipt of a notice of refusal, the Tribe may commence action in federal district court.

7.3 INFORMATION REQUIREMENTS AND CHECKLISTS

7.3.1 Information Requirements This section includes a description of the information requirements.

7.3.1.1 Proposed Work Plan A proposed Work Plan submitted under 7.1 shall contain:

A. A status report on any previously approved Work Plans, if a status report is a condition to any approved Work Plan which has not been completed, abandoned, or terminated.

B. Information on proposed increases in water use, describing the type of use, method, location and amount of withdrawal. The plan shall provide information crucial to the District to determine reasonable-beneficial use; impact, if any, on presently existing legal users protected under the Compact, and impact on natural systems.

C. Information on proposed pesticide use and underground injection plans.

D. And information on proposed surface water management work including, but not limited to, a description of purpose, type, and design specifications. The Work Plan shall provide information required to enable the District to assess impact on water resources, water quantity, and water quality.

7.3.1.2 Notice of Receipt of a Proposed Work Plan

Notice of receipt of a proposed Work Plan under 7.1.1 shall

contain:

A. A description of the physical location of the property affected in the proposed Work Plan.

B. A general description of the projects proposed in the Work Plan. And:

C. A statement that notice of further action will be provided only to persons who have requested such notice in writing by July 15.

7.3.1.3 **Notice of Proposed District Action** Notice of proposed District action under 7.1.1.5 shall contain:

A. A statement that the District recommends objection, or concurrence in whole or in part with the proposed Work Plan, with or without conditions.

B. A statement that the staff report provides supporting reasons for the District's recommendations. And:

C. A statement that requests a hearing must be filed with the District Clerk and the Tribe on or before August 4.

7.3.1.4 **Request for a Hearing** A request for a hearing under 7.1.1.7 shall contain:

A. A request for a hearing by the Tribe shall contain:

1. The specific exceptions to the proposed District action.
2. A demand for relief, which may include, but is not limited to, a request that the hearing be delayed beyond the September Board meeting. Or:
3. A notice of revision and resubmittal of the revised proposed Work Plan to the District. And:

4. Any other information that the Tribe deems relevant.

B. A request for a hearing by a substantially affected third person shall contain:

1. The name and address of the third person.
2. An explanation of how a non-frivolous interest of the third person will be substantially affected.
3. The specific exceptions to the Tribe's proposed plan or the proposed District action including reference to specific provisions of the Compact or Manual allegedly violated. And:
4. Other information the third party contends is relevant.

C. A request for a hearing by a State agency as listed under Part (I)(J) of the Compact shall contain:

1. The specific exceptions to the Tribe's proposed plan or the proposed District action, including reference to specific provisions of the Compact, Manual, or applicable federal laws allegedly violated.
2. An explanation of how the agency will be substantially affected.
3. A demand for relief. And:
4. Other information the agency contends is relevant.

7.3.1.5 **Notice of Reliance** A notice of reliance under 7.1.1.8 shall contain:

- A. The name and address of the person filing the notice.
- B. An explanation of how the non-frivolous interest of the person filing will be substantially affected.

C. A concise statement regarding how the person is relying upon the proposed District action.

D. And any other information the person contends is relevant.

7.3.1.6 Tribal Request for a Rehearing A Tribal request for rehearing following District action under 7.1.2.1(A) shall contain:

A. Specific objections to the final District actions.

B. A demand for relief. And:

C. Any other information the Tribe contends is relevant.

7.3.1.7 Written Final District Order A written final District order under 7.1.2.1(A) shall contain:

A. A statement of the final District action, including, but not limited to, a statement of the Board's objection, concurrence, or concurrence in part with the proposed Work Plan, with or without conditions. And:

B. A detailed explanation of the basis for the final District action.

7.3.1.8 Tribal Intent Written notification of Tribal intent under 7.1.2.1(B) shall contain:

A. A statement indicating that the Work Plan as approved, following final District action, will be implemented. Or:

B. A statement indicating the Tribe will implement the proposed Work Plan without complying with part or all of final District action. Notification of compliance with part shall include which part will be implemented.

7.3.2 Information Requirements for Proceedings Other than Work Plan Proceedings

7.3.2.1 **Notice of Intent to File Suit** A notice of intent to file suit under 7.1.5.1(B) and 7.1.5.1(C) shall contain:

A. A description of the action in which the District, the Tribe or other person believe that the Tribe, the District or other person is, or will be, engaged in and which violates, or will violate, the Compact.

B. A citation of the specific provisions of the Compact, Manual, or approved active Work Plan which is, or will be, violated by the Tribe's conduct. And:

C. A statement of relief sought.

7.3.2.2 **Request for a Hearing** A request for a hearing under 7.1.5.1(C)(1) shall contain:

A. A concise statement as to why the conduct challenged by the District does not violate the specific provisions of the Compact, the Manual, or an active Work Plan alleged by the District to be violated. And:

B. Any other information the Tribe contends is relevant.

7.3.2.3 **Notice to the Tribe of Receipt of Permit Application**
Notice of receipt of a permit application under 7.1.5.3 shall contain:

A. A description of the physical location of the parcel for which an application for a permit or other for approval has been received.

B. A general description of the purpose of the permit application or other request for approvals. And:

C. A statement identifying the project location for the permit application or other request for approval as within the Tribe's designated request area under 7.1.5.3(A); or, as identified through

the District's best efforts, to be located outside the Tribe's designated request area but potentially affecting the Tribe's rights under the Compact.

7.3.2.4 **Notice to the Tribe of Proposed District Action**

Notice of proposed District action on an application under 7.1.5.3(D) shall contain:

- A. A statement that proposed District action recommends approval, rejection, or approval with conditions of the request for a permit or other approval.
- B. A concise explanation of how the proposed agency action affects the Tribe's rights under the Compact.
- C. A statement that the District's written analysis provides supporting reasons for the proposed District action and the effect such action will have on the Tribe's rights under the Compact. And:
- D. A deadline for filing notice of objection.

7.3.2.5 **Notice of Objection to the Proposed District Action**

Notice of objection to the proposed District action on an application under 7.2.5.3(E)(1) shall contain:

- A. The specific objections to the permit application or other request for approval.
- B. A concise explanation of how specific rights of the Tribe under the Compact will be substantially and adversely affected by the approval, or approval with conditions, of the permit application or other request for approval. And:
- C. Any other information the Tribe contends is relevant.

7.3.2.6 **Actual Notice of Objection** An actual notice of objection to the permit application or other request for approval

under 7.1.5.3(K) shall contain the information required under 7.3.2.5.

7.3.2.7 **Written Complaint** A written complaint by a substantially affected third person under 7.1.5.4(B) shall contain:

A. The name and address of the person filing the written complaint.

B. An explanation of the non-frivolous interest of the person filing and how such non-frivolous interest is substantially affected.

C. An explanation of how the conduct of the Tribe or the District violates specific provisions of the Compact, the Manual, or the terms and conditions of an active Work Plan. And:

D. Any other information the person contends is relevant.

7.3.2.8 **Request for a Hearing** A request for a hearing by the complainant or Tribe to the findings of the District to the written complaint under 7.1.5.4(D) shall contain:

A. A statement that the complainant filed a written complaint under 7.1.5.4(A), and a summary of the nature of the complaint.

B. Specific objections to the District's findings and intended action, including an explanation as to the failure of the District's findings and intended agency action to address the allegations raised in the written complaint.

C. The remedy requested. And:

D. Any other information the person contends is relevant.

7.3.3 Information Requirements for Emergency Situations

7.3.3.1 **Notice of Intent to Comply or Refusal to Comply**

A notice of intent to comply or a refusal to comply to an

emergency order under 7.2.1(A) shall contain the following:

- A. A statement that the Tribe or the District intends to comply with the request to comply, or refuses to comply in whole or in part with a request to comply.
- B. If the Tribe or the District refuses to comply in part, a specific statement identifying the parts of the request with which the Tribe or the District intends to comply and the parts with which the Tribe or the District refuses to comply.
- C. The basis for any refusal to comply with a request to comply.
- D. Information regarding any other actions the Tribe or the District intends to take to comply with the request to comply, and the time schedule for such actions.

7.3.3.2 **Request for a Hearing to an Emergency Order**A

request for hearing to an emergency order under 7.2.2(F)(1) shall contain:

- A. A statement as to the specific parts of the emergency order to which the Tribe objects.
- B. The basis for the Tribe's objection to part or all of the emergency order. And:
- C. Any other information the Tribe contends is relevant.

7.3.3.3 A notice of intent to comply or refusal to comply under 7.2.2(H) shall contain the information required under 7.3.3.1

7.3.4 Information Requirements for Modification and Amendment of Manual

7.3.4.1 **Request for a Hearing** A request for a hearing by substantially affected third persons under Part (VII)(G)(4)(b) of the Compact shall contain:

- A. The name and address of the person filing the request.
- B. An explanation of the non-frivolous interest of the person filing and how such non-frivolous interest is substantially affected.
- C. An explanation as to how the agreement to modify, amend, or otherwise change the Manual violates the Compact. And:
- D. Any other information the person contends is relevant.

7.3.5 Applicable Checklists Applicable tables for the checklists are included at the end of this Chapter.

7.3.5.1 Checklist for Public Water Supply This checklist is for a typical project. Complex projects and large withdrawals in sensitive areas may require additional information.

A. General

1. State the requested annual quantity of water (gals/year) needed. This quantity should equal the annual quantity which will be pumped at a future point in time, or may equal the existing pumpage if no future increases in pumpage are anticipated. The requested quantity should equal average daily pumpage multiplied by three hundred sixty-five (365) days.
2. Explain briefly the derivation of annual demand:
 - a. Indicate the projected population used to determine the annual demand.
 - b. Indicate proposed consumption of water per capita on a permanent population basis. If proposed per capita consumption is greater than existing consumption, please explain the difference.
3. Indicate the maximum daily pumpage associated with the projected average day pumpage.
4. Indicate the amount of maximum daily to average daily demand ratio used in calculating the projected maximum daily pumpage. Explain briefly the basis for using this number.
5. Indicate the source of water.

B. Location

1. Provide a location map.
2. Provide a map delineating the area to be served and a site map of existing and proposed wellfield and treatment plant facilities. Number the wells, pumps and culverts on the map to correspond

with Tables A, B, and C.

C. Facilities

1. Describe all existing and proposed wells by completing Table A.
2. Describe all existing and proposed surface water pumps by completing Table B.
3. Describe all existing and proposed culverts essential to the operation of the wellfield by filling out Table C.
4. Describe the existing wellfield operation schedule, including those wells that are primary, secondary, stand-by, and the well rotation schedule.

D. Population, Service Area, and Water Use

1. Indicate the number of people, and number of equivalent residential connections presently served.
2. Indicate - in acres - the size of area served.
3. Provide information on present, past, and projected water use by filling out Tables D, E, and F.

E. Raw Water Quality Provide recent information on raw water quality.

F. Water Problems Explain any problems the utility or any other user is currently experiencing or causing as a consequence of withdrawals.

G. Irrigation If any of the projected water use will be for irrigation of golf courses or park areas, please indicate the following:

1. Area in acres which will be irrigated.

2. Type of vegetation to be irrigated.
3. Approximate maximum monthly water use.
4. Approximate average annual water use. And:
5. Show irrigated area on map.

H. Impacts

1. Will the proposed water use affect domestic, irrigation, or other public water supply wells?
2. Will the proposed water use affect any adjacent lake levels?
3. Will the proposed water use cause saltwater intrusion?
4. Will the proposed water use impact environmental features that have either a direct or indirect relationship to the water resources of the District (wetland habitat, natural water bodies, intermittent ponds, upland areas), preferred habitats for rare, endangered or threatened species?

I. Reverse Osmosis Treatment If reverse osmosis is proposed indicate the following:

1. Withdrawal capacity.
2. Potable water supply capacity.
3. Reject water discharge capacity.
4. The treatment efficiency ratio.
5. The amount of raw water that can be blended with the R.O. permeate.

6. The highest level of total dissolved solids (TDS) or chlorides that can be efficiently and economically treated using the installed membranes.
7. The chloride ion concentration in both the reject water and receiving water body. And:
8. Location of effluent discharge on a map.

7.3.5.2 Irrigation Water Use Checklist The following water uses should utilize this checklist: Livestock, nursery, recreational area, soil flooding, agricultural, freeze protection, golf course and landscape irrigation.

This checklist is for a typical project. Complex projects, large withdrawals, or withdrawals in sensitive areas, may require additional information. Only the applicable information need be submitted.

A. General

1. If the project is existing, an aerial photograph that shows the crop must be submitted with the application.
2. Indicate the source of water.

B. Location

1. Provide a location map.
2. Provide a site map showing the property boundaries, irrigated area, wells, pumps, culverts, canals, ditches, roads, and other landmarks. Number the wells, pumps and culverts to correspond with Tables A, B, and C. Show areas served by irrigation systems as described in Table G.

C. Facilities

1. Describe all existing and proposed wells by completing Table A.
2. Describe all abandoned flowing wells by completing Table A.
3. Describe all existing and proposed surface water irrigation pumps by completing Table B.
4. Describe all existing and proposed irrigation withdrawal culverts by completing Table C.

D. Crop Type by Irrigation System For each type of irrigation system (flood, drip, microjet, overhead) fill out a Table G form. For example, if a grower has one hundred fifty (150) acres of citrus on drip and five hundred (500) acres on flood, two copies of the Table G form would need to be filled out, one for drip and another for flood irrigation. Three copies of the Table G form are attached. "Acres planted" is the irrigated acreage minus roads, ditches, canals, swales.

E. Water Usage

1. Indicate the amount of water required, on a maximum monthly basis, for irrigation of each crop.
2. Explain the basis for the crop requirements in "1" if different from Chapter 3 of the Manual.

F. Water Problems Explain any water problems currently being experienced by the Tribe as a result of withdrawals.

G. Frost Protection Describe methods of freeze protection and water quantities desired.

H. Impacts

1. Will the proposed water use affect domestic, irrigation, or other public water supply wells?
2. Will the proposed water use affect adjacent lake levels?
3. Will the proposed water use cause saltwater intrusion?
4. Will the proposed water use affect environmental features that have either a direct or indirect relationship to the water resources of the District (wetland habitat, natural water bodies, intermittent ponds, upland areas) and preferred habitats for rare, endangered or threatened species?

7.3.5.3 Checklist for Mining Dewatering Water Use This checklist is for a typical project. Complex projects, large withdrawals, or withdrawals in sensitive areas may require additional information. Only the applicable information need be submitted.

A. General

1. Explain in detail why dewatering is necessary. Indicate the method

of excavation.

2. Explain briefly the derivation of the requested annual demand and average daily withdrawal.
3. Indicate the maximum daily pumpage and how it was derived.
4. Indicate the source of water.

B. Location

1. Provide a location map.
2. Provide a site map, showing pit area (existing and/or proposed dimensions, including maximum depth of excavation); stockpile area; dikes and levees (cross sections designating height, width, side slopes); retention/detention area location and linear extent; pumps; culverts; structures (with numbers to correspond with Tables A and B); ditches; and canals (designating side slopes and dimensions including height, width and depth).
3. Provide an aerial photo and topographic map of the site.

C. Facilities

1. Describe all existing and proposed surface water pumps by completing Table B.
2. Describe all existing and proposed culverts by completing Table C.

D. Operation Description

1. Indicate the elevation to which the ground water level will be drawn down as a consequence of dewatering. Indicate the maximum depth of the pit to be excavated.
2. Describe how discharge turbidity will be controlled.

E. Historical Information - Water Problems

1. Provide information on past construction and practices, pumpage, and pollution.
2. Describe any water problems that have occurred within one mile of the project site.

F. Water Table/Geologic Borings Data Provide information on wet and dry season water table elevations. Include logs and attach data of borings that have been made at the pit site.

G. Drainage System (Stormwater) Indicate the routing of stormwater and retention/detention system facilities. Provide computations.

H. Structural Stability Provide information on the structural stability of dikes, levees, structures and pit slopes.

I. If a Landfill Operation in Conjunction with the Mining/Dewatering Project (in addition to above detailed requirements) is proposed, provide the following --

1. Landfill location map and site map.
2. Date landfill started operating.
3. Expected life of landfill.
4. Type of waste accepted (please indicate the type of waste accepted in the past if different from waste accepted presently).
5. Methods of waste disposal, indicating how and where the waste is and has been buried. Elaborate on waste buried below the water table.
6. Site engineering plans and information, to include:
 - a. Groundwater pollution control measures.
 - b. Leachate collection system and treatment. Has leachate been found at the site? And:
 - c. Location and type of liners.
7. Monitoring program for groundwater pollution control. If any:

- a. Please indicate location of monitoring wells on a map showing areal extent and location of landfill.
- b. Provide well logs and well construction detail.
- c. Supply all water quality and water level data collected during the monitoring program. And
- d. Supply any additional information or reports related to the effect of the landfill on groundwater quality or levels.

J. Evaluation/Impact

1. Will the dewatering operation affect off-site building foundations?
2. Will the dewatering operation significantly affect adjacent lakes, domestic water use, or irrigation wells?
3. Will the dewatering operation cause saline water intrusion or potable water to be discharged to tide water?
4. Will the dewatering operation impact environmental features that have either a direct or indirect relationship to the water resources of the District (wetland habitat, natural water bodies, intermittent ponds, upland areas), preferred habitats for rare, endangered or threatened species?

7.3.5.4 Checklist for Industrial Water Use The following water uses must utilize this checklist: Power production, commercial and industrial processes, cooling and air conditioning, navigation, water based recreation, aquacultural, diversion and impoundment into non-District facilities, any other uses which are not on the checklist.

This checklist is for a typical project. Complex projects, large withdrawals, or withdrawals in sensitive areas may require additional information. Only the applicable information need be

submitted.

A. General

1. Indicate the quantity of water needed as an annual demand (gals/year), and whether it is the annual quantity which will be pumped at a future point in time, or is equal to the existing pumpage if no future increases in withdrawals are anticipated. The requested quantity should equal the projected average day pumpage multiplied by 365 days.
2. Explain briefly the derivation of the requested allocation.
3. Indicate the maximum daily pumpage associated with the projected average daily pumpage.
4. Indicate the maximum day to average day demand ratio used in calculating the projected maximum day pumpage. Explain briefly the derivation of this number.
5. Indicate the source of water.

B. Location

1. Provide a location map.
2. Provide a site map, showing the location of wells, pumps, and culverts which correspond with Tables A, B, and C.

C. Facilities

1. Describe all existing and proposed wells by completing Table A.
2. Describe all existing and proposed surface water pumps by completing Table B.
3. Describe the existing pump operation schedule, including which pumps are primary, secondary, stand-by, and pump rotation

schedule.

D. Process Describe the process and how water is used in the process. Indicate the nature of changes to the water by the process including thermal, physical, and chemical changes.

E. Water Usage Fill out Table D using the most recent twelve (12) months of pumpage records.

F. Water Problems Explain any water problems currently experienced within one (1) mile of the project site.

G. Wastewater Disposal Describe the manner in which wastewater is disposed (i.e., evaporation, percolation ponds, drainage wells, canal discharge, spray irrigation)

H. Impacts Document any impact on other users, the saline water interface, adjacent water bodies, land uses, or pollution sources that the proposed withdrawals may have.

1. Will the proposed water use affect domestic, irrigation, or other public water supply wells?
2. Will the proposed water use affect adjacent lake levels?
3. Will the proposed water use cause saltwater intrusion?
4. Will the proposed water use affect environmental features that have either a direct or indirect relationship to the water resources of the District (wetland habitat, natural water bodies, intermittent ponds, upland areas), preferred habitats for rare, endangered or threatened species?

7.3.5.5

Checklist for Surface Water Management

A. Site Information Must Include:

1. A detailed location sketch.

2. Topographic map (with contours) of the site and adjacent hydrologically related areas, showing location and description of bench marks (minimum of one per major water control structure).
3. Overall map of the area showing where runoff presently goes; and size, location, topography, and land use of off-site areas which drain through, onto, and/or from the project.
4. Identification of seasonal water table elevations. If the project is in the known floodway of a natural stream, it should be identified and approximate flooding depths determined. The one hundred (100) year flood plain elevations and limits should be identified if applicable.
5. A description of vegetative cover. Wetland areas and wetland areas to be traded/mitigated should be identified.
6. A recent aerial photograph of the project area with project boundaries delineated.
7. Paving, grading and drainage plans, with special attention to perimeter site grading.
8. Percolation tests must be submitted if percolation or exfiltration systems are proposed. Percolation tests shall be representative of design conditions.
9. Complete description of measures to be implemented during the construction period to mitigate adverse quantity and quality of off-site impacts. And:
10. Indicate whether surface or groundwater withdrawals are proposed for irrigation or other on-site water use.

B. Submit Master Drainage Plan Showing:

1. Location of all water bodies with details of size, side slopes,

elevations and depths.

2. Location and details of all major water control structures. Control elevations of the control structures must be included along with any seasonal water level regulation schedules.
3. Drainage basin boundaries showing direction of flow, taking into account off-site runoff being routed through or around the project.
4. Locations of roads and buildings along with their proposed elevations. Sufficient site grades to justify the proposed stage storage curves.
5. Right-of-way and easement locations for the drainage system, including all areas to be reserved for water management purposes, describing the legal method to be utilized.
6. Location and size of internal minor water management facilities. And:
7. Nearby existing off-site water management facilities such as wells, lakes, which might be affected by the proposed construction or development. The names and addresses of the owners of such facilities should also be submitted.

C. Submit Drainage Calculations, Including:

1. Design storms used, including depth, duration and distribution.
2. Off-site inflows.
3. Stage storage computations for the project and stage discharge computations for the outfall structure(s).
4. Acreages and percentage of property proposed as:
 - a. Impervious surfaces (excluding water bodies).

- b. Pervious surfaces (green areas).
 - c. Lakes, canals, retention areas. And:
 - d. Total acreage of project.
5. Runoff routing calculations showing discharges, elevations, and volumes retained and/or detained during applicable storm events. Included should be the necessary mathematical computations to demonstrate that the proposed development will not remove net storage from the basin for events up to the one hundred (100) year frequency.
 6. Calculations required for determination of minimum building floor and road elevations. And:
 7. Calculations which demonstrate compensation for flood plain encroachment, if applicable.

D. Legal and Institutional Information Must Include:

1. Indication how water and wastewater service will be supplied. Letters of commitment from off-site suppliers must be included, if applicable. And:
2. Documentation of physical availability of receiving water system to receive project discharge, if such is not evident.

7.3.5.6 Checklist for Underground Injection For projects involving construction - engineering drawings, specifications, and design data shall be submitted. Attach one (1) eight and one-half (8 1/2) inch USGS site location map, indicating section, township, range, and latitude/longitude for the project.

A. General Information

1. Project status: New, existing, or modification.
2. Well type: Exploratory well, or test/injection well.
3. Type:
 - Class I Exploratory Well Construction and Test
 - Class I Test/Injection Well Construction and Test
 - Class I Well Operation
 - Class I Well Plugging and Abandonment
 - Class III Well Construction/Operation/Plugging and Abandonment
 - Class V Well Construction
 - Class V Well Operation
 - Class V Well Plugging and Abandonment.
4. Facility identification.

5. Well identification: Well number, purpose, and location (latitude and longitude)
6. **General Projection Description** Describe the nature, extent, and schedule of the injection well project. Refer to existing and/or future pollution control facilities, and expected improvement in performance of the facilities. Attach additional sheet(s) if necessary or cross-reference the engineering report.

B. Engineering and Hydrologic Data Required for Support of Application to Construct, Operate, and Abandon Class I, III, or V Injection Well SystemsThe following information shall be provided for each type of application.

1. **Class I Exploratory Well Construction and Testing** Provide:
 - a. A conceptual plan of the injection project. Include the number of injection wells, proposed injection zone, nature and volume of injection fluid, and proposed monitoring program.
 - b. A preliminary area of review study. Include the proposed radius of the area of review with justification for that radius. Provide a map showing the location of the proposed injection well or well field area and the applicable area of review. Within the area of review, the map must show the number or name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, public water systems, mines (surface and subsurface), quarries, water wells, and other pertinent surface features, including residences and roads. The map should also show faults, if known or suspected. Only information of public record and pertinent information known to the Tribe is required to be included on this map.
 - c. Information regarding proposed other uses of the exploratory well.
 - d. A drilling and testing plan for the exploratory well. The drilling plan must specify the proposed drilling program, sampling,

coring, and testing procedures. And:

e. An abandonment plan.

2. **Class I Test/Injection Well Construction and Testing** Submit:

- a. A map showing the location of the proposed injection wells or well field area for which a permit is sought and the applicable area of review. Within the area of review, the map must show the number or name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, public water systems, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads. The map should also show faults, if known or suspected. Only information of public record and pertinent information known is required to be included on this map.
- b. Tabulation of data on all wells within the area of review which penetrate into the proposed injection zone, confining zone, or proposed monitoring zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the District may require.
- c. Maps and cross sections indicating the general vertical and lateral limits within the area of review of all underground sources of drinking water, their position relative to the injection formation and the direction of water movement - where known - in each underground source of drinking water which may be affected by the proposed injection.
- d. Maps and cross sections detailing the hydrology and geologic structures of the local area.
- e. Generalized maps and cross sections illustrating the regional geologic setting.
- f. The following proposed operating data:
 - i. Average and maximum daily rate and volume of the fluid to be injected.

- ii. Average and maximum injection pressure. And:
 - iii. The source, and an analysis of the chemical, physical, radiological and biological characteristics of injection fluids.
 - g. The proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of and other information on the injection zone.
 - h. The proposed stimulation program.
 - i. The proposed injection procedure.
 - j. Engineering drawings of the surface and subsurface construction details of the system.
 - k. Contingency plans to cope with all shut-ins or well failures, so as to protect the quality of the waters of the State, including alternate or emergency discharge provisions.
 - l. Plans (including maps) and proposed monitoring data to be reported for meeting the monitoring requirements in Chapter 6 of the Manual.
 - m. Information on wells within the area of review which penetrate the injection zone but are not properly completed or plugged, and the corrective action proposed to be taken to satisfy criteria outlined in Chapter 6 of the Manual.
 - n. Construction procedures, including a cementing and casing program, logging procedures, deviation checks, proposed methods for isolating drilling fluids from surficial aquifers, proposed blowout protection (if necessary), and a drilling, testing, and coring program.
3. **Class I Injection Well Operation** A report shall be submitted for a Class I well operation which shall include, but not be limited to, the following information:

- a. Results of the information obtained in 7.3.5.6.(B)(2)., including:
- i. All available logging and testing program and construction data on the well or well field.
 - ii. A satisfactory demonstration of mechanical integrity for all new wells, pursuant to Chapter 6 of the Manual.
 - iii. The actual operating data, including injection pressures versus pumping rates, where feasible, or the anticipated maximum pressure and flow rate at which the well will operate, if approved by the District.
 - iv. The actual injection procedure.
 - v. The compatibility of injected waste with fluids in the injection zone.
And:
 - vi. The status of corrective action on defective wells in the area of review within Tribal lands.
- b. Record drawings, based upon inspections by the engineer or person under his direct supervision, with all deviations noted.
- c. Sealed certification of completion, submitted by the engineer of record.
- d. If requested by the District, operation manual including emergency procedures.
- e. Proposed monitoring program and type of monitoring data to be submitted.
- f. Proof that the existence of the well has been recorded on the surveyor's plan at the county courthouse. And:
- g. The proposed plugging and abandonment plan pursuant to

Chapter 5 of the Manual.

4. **Class I** **Well Plugging and Abandonment** Provide:

- a. The reasons for abandonment.
- b. A proposed plan for plugging and abandonment describing the preferred and alternate methods, and justification for use, including:
 - i. The type and number of plugs to be used.
 - ii. The placement of each plug, including the elevation of the top and bottom.
 - iii. The type, grade, and quantity of cement or any other approved plugging material to be used. And:
 - iv. The method for placement of the plugs.
- c. The procedure to be used to meet the requirements of Chapter 6.

5. **Class III** **Well Construction** Furnish:

- a. A map showing the location of the proposed injection wells or well field area and the applicable area of review. Within the area of review, the map must show the number or name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, public water systems, mines (surface and subsurface), quarries, water wells and other pertinent surface features including residences and roads. The map should also show faults, if known or suspected. Only information of public record and pertinent information known is required to be included on this map.
- b. A tabulation of data on all wells within the area of review which penetrate into the proposed injection zone, confining zone, or proposed monitoring zone. Such data shall include a description of

each well's type, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the District may require.

- c. Maps and cross sections indicating the general vertical and lateral limits within the area of review of all underground sources of drinking water, their position relative to the injection formation, and the direction of water movement - where known - in each underground source of drinking water which may be affected by the proposed injection.
- d. Maps and cross sections detailing the hydrology and geologic structures of the local area.
- e. Generalized maps and cross sections illustrating the regional geologic configuration.
- f. Proposed operating data:
 - i. Average and maximum daily rate and volume of the fluid to be injected.
 - ii. Average and maximum injection pressure. And,
 - iii. Source and an analysis of the chemical, physical, radiological, and biological characteristics of injection fluids, including any additives.
- g. Proposed formation testing program to obtain an analysis of the chemical, physical, and radiological characteristics of, and other information on the injection zone.
- h. Proposed stimulation program.
- i. Proposed injection procedures.
- j. Engineering drawings of the surface and subsurface construction details of the system.

k. Contingency plans to cope with all shut-ins, well failures or catastrophic collapse, so as to protect the quality of the waters of the State as defined in Chapter 6 of the Manual, including alternate or emergency discharge provisions.

l. Plans (including maps), and proposed monitoring data to be reported for meeting the monitoring requirements in Chapter 6 of the Manual.

m. Outline of corrective action, proposed to be taken for wells within the area of review which penetrate the injection zone, but are not properly completed or plugged, according to Chapter 6 of the Manual.

n. Construction procedures including a cementing and casing program, logging procedures, deviation checks, proposed methods for isolating drilling fluids from surficial aquifers, and a drilling, testing and coring program.

o. A certificate that the Tribe has ensured, through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well as required by Chapter 6 of the Manual.

p. Expected changes in pressure, native fluid displacement, or direction of movement of injection fluid. And:

q. A proposed monitoring plan, which includes a plan for detecting migration of fluids into underground sources of drinking water, a plan to detect water quality violation in the monitoring wells, and the proposed monitoring data to be submitted.

6. Class III Well Operation Phase The following information shall be provided to the District prior to obtaining approval for the operation of the well or well field:

a. All available logging and testing program data and construction data on the well or well field.

- b. A satisfactory demonstration of mechanical integrity for all new wells pursuant to Chapter 6 of the Manual.
- c. The actual operating data, including injection pressure versus pumping rate - where feasible - or the anticipated maximum pressure and flow rate at which the well will operate, if approved by the District.
- d. The results of the formation testing program.
- e. The actual injection procedure. And:
- f. The status of corrective action on defective wells in the area of review.

7. Class III Well Plugging and Abandonment Submit:

- a. The justification for abandonment.
- b. A proposed plan for plugging and abandonment describing the preferred and alternate methods to include:
 - i. The type and number of plugs to be used.
 - ii. The placement of each plug including the elevation of the top and bottom.
 - iii. The type, grade and quantity of cement or any other approved plugging material to be used.
 - iv. The method for placement of the plugs.
- c. The procedure to be used to meet the requirements of Chapter 6 of the Manual.

8. Class V Well Construction Furnish:

- a. The type and number of proposed Class V Wells:
 - i. Wells receiving domestic waste.
 - ii. Saltwater intrusion barrier wells.
 - iii. Cooling water return flow wells.
 - iv. Subsidence control wells.
 - v. Open-looped system, sand backfill wells.
 - vi. Experimental technology wells.
 - vii. Wells used to inject spent brine.
 - viii. Radioactive waste disposal after halogen recovery wells (provided the concentrations of the waste do not exceed state drinking water standards).
 - ix. Borehole slurry mining wells.
 - x. Other non-hazardous industrial or commercial disposal wells.
 - xi. Other (explain):
- b. Project Description:
 - i. Description and use of proposed injection system.
 - ii. Nature and volume of injected fluid (Note: The District may require an analysis, including bacteriological analysis). And:
 - iii. Proposed pretreatment.
- c. Water well contractor's name, title, state license number, address, phone number and signature.

d. Well design and construction details (for multi-casing configurations or unusual construction provisions, an elevation drawing of the proposed well should be attached), to include:

- i. Proposed total depth.
- ii. Proposed depth and type of casing(s).
 - iii. Diameter of well.
- iv. Cement type, depth, and thickness.
- v. Injection pumps (if applicable):
_____gpm@_____psi

Controls: _____

e. **Water Supply Wells** When required, attach a map section showing the locations of all water supply wells within a one (1) mile radius of the proposed well. The well depths and casing depths should be included. Any required results of bacteriological examinations of water from all water supply wells within one (1) mile, and drilled to approximate depth of proposed well, should be attached.

f. **Area of Review (may be required at District's discretion)**
Include the proposed radius of the area of review with justification for that radius. Provide a map showing the location of the proposed injection well or well field area and the applicable area of review. Within the area of review, the map must show the number or name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, public water systems, mines (surface and subsurface), quarries, water wells, and other pertinent surface features including residences and roads. The map should also show faults, if known or suspected. Only information of public record and pertinent information known

is required to be included on this map.

9. Class V Well Operation Final report of the construction that includes the following information may be submitted to operate:

- i. Type of Well.
- ii. Construction and testing summary to include:
 - (a) Actual Dimensions: Diameter, well depth, casing depth.
 - (b) Results of Initial Testing.
- iii. Proposed operating data, containing:
 - (a) Injection rate (GPM).
 - (b) Description of injected waste.
 - (c) Injection pressure and pump controls.
- iv. Proposed monitoring plan (if any), including:
 - (a) Number of monitoring wells.
 - (b) Depth(s).
 - (c) Parameters.
 - (d) Frequency of sampling.
 - (e) Instrumentation (if applicable) flow pressure.

10. Class V Well Plugging and Abandonment To include information on:

- a. The type of well.

- b. Proposed plugging procedures, plans and specifications.
- c. Reasons for abandonment.

APPENDIX I
TO
CRITERIA MANUAL
FOR SEMINOLE
WATER RIGHTS COMPACT

**TABLE A
DESCRIPTION OF WELLS**

WELL NO.				
Map Designation				
Existing/Proposed				
Diameter (Inches)				
Total Depth				
Cased Depth				
Screened Interval				
Pumped or Flowing				
Working Valve (f. Artesian (Yes/No)				
Pump Manufacturer and Model No.				
Pump (Centrifugal, Type Jet, Deep Jet, Turbine, etc.)				
Intake Depth (NGVD)				
Pump Capacity (GPM at <u> </u> FT of head at <u> </u> PSI)				
Active (Yes/No)				
Year Drilled				
Type of Meter				
Florida Plane Coordinates				

**TABLE B
DESCRIPTION OF SURFACE WATER PUMPS**

Drainage District:				
Pump No.				
Map Designation				
Surface Water Body				
Existing or Proposed				
Pump Manufacturer and Model Number				
Pump Type				
Pump Capacity				
Pump Horse Power				
Pump Diameter				
Elevation of Intake (MSVD)				
Is pump a two way pump?				
Florida Plane Coordinates				

**TABLE C
DESCRIPTION OF CULVERTS**

CULVERT NO.				
Map Designation				
Water Body				
Existing or Proposed				
Diameter**				
Height**				
Width**				
Type of Culvert***				
Culvert Length				
Invert Elevation (NGVD)				
Type of Control Device				
Irrigation or Drainage				
Florida Plane Coordinates				

*For Circular Culverts

**For Elliptical Culverts

***Corrugated Metal, reinforced concrete, etc.

TABLE E
PAST WATER USE

Year	Past Population	Number of Units*	Total Annual (MG)	Average Day (MGD)	Maximum Day (MGD)
19					
19					
19					
19					
19					
19					
19					
19					
19					
19					
19					

*Cumulative

TABLE F
PROJECTED WATER USE

Year	Projected Population	Number of Units*	Total Annual (MG)	Average Day (MGD)	Maximum Day (MGD)
19					
19					
19					
19					
19					
19					
19					
19					
19					
19					

*On separate sheet of paper separate units into types of units, number of persons/unit, and water usage/unit for each year on a cumulative basis.

WATER SHORTAGE RESTRICTIONS ESSENTIAL/DOMESTIC/UTILITY/COMMERCIAL

	ESSENTIAL USE	DOMESTIC TYPE USE	WATER UTILITY USE	POWER PRODUCTION USE COMMERCIAL & INDUSTRIAL PROCESSES USE	DIVERSION & IMPOUNDMENT INTO NON-DISTRICT FAC.
PHASE I Moderate Shortage (Yellow)	Fire fighting or medical uses - No restrictions. Hydrant flushing - only on emergency basis. Sewer line flushing - voluntary reductions.	Residential domestic use - voluntarily reduced to 60 gallons per person per day. Commercial & industrial domestic type use - voluntarily reduced.	Pressure - Voluntary reduction to 45 psi initial pressure at point of service (meter). Notify appropriate fire-fighting agencies. New waterline cleaning & disinfection - restricted to 7 p.m.-7 a.m. Voluntary system conservation.	Commercial car washes - For vehicles under 10,000 lb. gross wt. use restricted to 75 gal. or less per wash; vehicles greater than 10,000 lb. gross wt. restricted to 150 gal. or less per wash. Other power production, commercial & industrial processes - voluntary.	Voluntary reduction in diversions
PHASE II Severe Shortage (Orange)	Same as Phase I	Residential domestic use - voluntarily reduced to 40 gallons per person per day. Commercial & industrial domestic type use - voluntarily reduced.	Pressure - Same as Phase I, except pressure reduction is mandatory.	Same as Phase I	Same as Phase I
PHASE III Extreme Shortage (Red)	Same as Phase I	Residential domestic use - voluntarily reduced to 40 gallons per person per day. Commercial & industrial domestic type use - voluntarily reduced.	Pressure - Voluntary reduction below 45 psi initial pressure at point of service (meter). Maintain adequate line and fire flow pressures.	Commercial car washes - for vehicles under 10,000 lbs. gross wt. Use above 75 gal. per wash prohibited. Use between 75 gal. & 150 gal. restricted to 8 a.m. - 3 p.m. Use 50 gal. or less - voluntary. Vehicles over 10,000 lbs. gross wt. - Use above 150 gal. per wash prohibited; Use between 150 & 180 gal. restricted to 8 a.m. - 3 p.m. Use 100 gal. or less - voluntary.	Same as Phase I
PHASE IV Critical Shortage (Purple)	Fire fighting or medical uses - No restrictions. Hydrant flushing - only on emergency basis. Sewer line flushing - only on an emergency basis.	Residential domestic use - voluntarily reduced to 30 gallons per person per day. Commercial & industrial domestic type use - voluntarily reduced to minimum levels required for health & safety.	Pressure - Same as Phase III	Other commercial, industrial & power production processes - voluntary.	Same as Phase I
				Same as Phase III	

MORE THAN 60% REDUCTION - NO OUTSIDE WATER USE
OTHER RESTRICTIONS AS DIRECTED BY GOVERNING BOARD

WATER USE

	AGRICULTURAL USE	AQUACULTURAL USE LIVESTOCK USE	SOIL FLOODING	FREEZE PROTECTION
PHASE I Moderate Shortage (Yellow)	Overhead, except portable volume restricted to 2 p.m. to 10 a.m. Low volume - no restrictions Voluntary use of water conservation techniques. Maximize use from sources not experiencing shortages.	Voluntary reduction in use.	Pest Control, soil preservation - flooding prohibited. Sugarcane - flooding for burning prior to harvesting - voluntary reduction. Sod-flooding to permit harvesting - voluntary reduction.	Limited to situations in which official weather forecast services predict freezing temperatures likely to cause permanent damage to crops.
PHASE II Severe Shortage (Orange)	Same as Phase I	Same as Phase I	Same as Phase I	Same as Phase I
PHASE III Extreme Shortage (Red)	Overhead to 10 a.m. to 7 p.m. to 1 a.m. Low volume - 75% restriction. Voluntary use of water conservation techniques. Maximize use from sources not experiencing shortages. Withdrawals limited based upon availability of water, permitted acreage and allocation and relative value of agricultural products.	Same as Phase I	Pest Control, Soil Preservation - Flooding prohibited. Sugarcane - Same as Phase I. Sod-flooding to permit harvesting - prohibited.	Same as Phase I
PHASE IV Critical Shortage (Purple)	Same as Phase III	Same as Phase I	Same as Phase III	Same as Phase I

**MORE THAN 60% REDUCTION - NO OUTSIDE WATER USE
OTHER RESTRICTIONS AS DIRECTED BY GOVERNING BOARD**

Figure 2-1
Sheet 2 of 4

WATER SHORTAGE RESTRICTIONS NURSERY/URBAN IRRIGATION/RECREATION

**WATER BASED
RECREATION USE
(INCLUDES POOLS,
WATER SLIDES,
SWIM AREAS)**

**LANDSCAPE IRRIGATION LANDSCAPE IRRIGATION
NEW INSTALLATION EXISTING INSTALLATION
RECREATION AREA USE RECREATION AREA USE**

	NURSERY USE	LANDSCAPE IRRIGATION LANDSCAPE IRRIGATION NEW INSTALLATION EXISTING INSTALLATION RECREATION AREA USE RECREATION AREA USE	GOLF COURSE USE	WATER BASED RECREATION USE (INCLUDES POOLS, WATER SLIDES, SWIM AREAS)
PHASE I Moderate Shortage (Yellow)	Low volume-voluntary watering-voluntary Overhead-inside-6 a.m.-8p.m., 7 days per week Overhead outside-7p.m.-7a.m., 7 days per week Flood - 8 days per month	Under 5 acres-2 a.m.-8 a.m., Mon.-Fri. 5 acres or over-12:01 a.m.-8 a.m., Mon.-Fri. Low volume hand watering - voluntary. New irrigation system cleaning & adjusting - 10 min. per zone, one time only.	Under 5 acres-4 a.m.-8 a.m., Mon, Wed, & Sat for odd house addresses & Tues, Thurs, Sun for even house addresses with no address 5 acres or over-Same as under 5 acres except hrs. limited to 12:01 a.m.-8 a.m.	Filling - permitted for new and existing facilities. Draining - only permitted onto pervious surfaces, no draining into sewers. Makeup - permitted for new and existing facilities
PHASE II Severe Shortage (Orange)	Low volume-voluntary watering-voluntary Overhead-inside-6 a.m.-8p.m., 7 days per week. Overhead-outside-7 p.m.-7a.m., odd numbered days Flood - 6 days per month.	Under 5 acres-2 a.m.-8 a.m., Mon, Wed, Thurs, Fri. 5 acres or over-12:01 a.m.-8 a.m., Mon, Wed, Thurs, Fri. Low vol. hand watering - voluntary New irrig. system clean. & adjust. 10 min. per zone, one time only.	Under 5 acres-4 a.m.-8 a.m. on Wed & Sat for odd house addresses; Thurs & Sun for even house addresses & locations with no address. 5 acres or over- Same as under 5 acres, except hours limited to 12:01 a.m.- 8 a.m.	Filling - permitted for new facilities, prohibited for existing facilities Draining - same as Phase I Makeup - Same as Phase I
PHASE III Extreme Shortage (Red)	Low volume-voluntary watering-voluntary Overhead-inside-8 a.m.- 8 p.m., odd numbered days Overhead - outside-12:01 a.m.-7 a.m., odd numbered days. Flood - 4 days per month.	Under 5 acres-2 a.m.-7 a.m., Mon, Wed, Fri. 5 acres or over - 12:01 a.m.-7 a.m., Mon, Wed, Fri. Low volume hand watering - voluntary New irrigation system cleaning & adjusting - 10 min. per zone, one time only.	Under 5 acres - 4 a.m.- 7 a.m. on Sat for odd house addresses; Sun for even addresses & locations with no address. 5 acres or over - Same as under 5 acres except hrs. limited to 12:01 a.m. to 7 a.m.	Same as Phase II
PHASE IV Critical Shortage (Purple)	Low volume-voluntary watering-voluntary Overhead inside-8 a.m.-4 p.m., odd numbered days Overhead outside-2 a.m.-7 a.m., odd numbered days Flood- 2 days per month.	Under 5 acres-8 a.m.-7 a.m., Sat. 5 acres or over-4 a.m.-7 a.m., Sat. Low volume hand watering -Mon, Wed, Fri. New irrigation system cleaning & adjusting - prohibited.	Under 5 acres - 6 a.m.- 7 a.m. on Sat for odd house addresses & Sun for even house addresses and locations with no addresses. 5 acres or over- Same as under 5 acres except hrs. limited to 4 a.m - 7 a.m.	Filling - prohibited for new and existing facilities Draining - same as Phase I Makeup - prohibited

**MORE THAN 60% REDUCTION - NO OUTSIDE WATER USE
OTHER RESTRICTIONS AS DIRECTED BY GOVERNING BOARD**

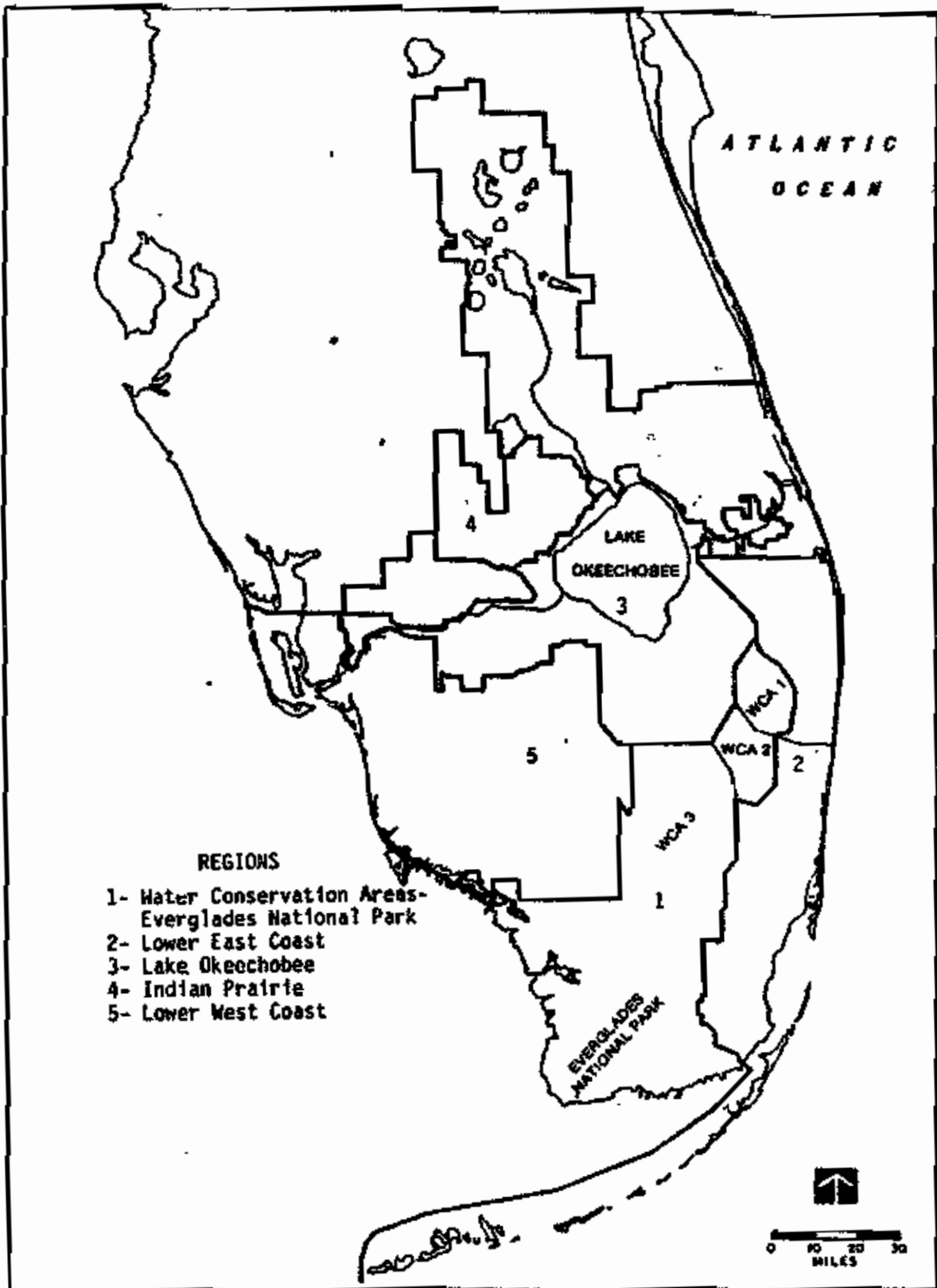
Figure 2-1
Sheet 3 of 4

Figure 2-1
Sheet 3 of 4

WATER SHORTAGE RESTRICTIONS MISCELLANEOUS

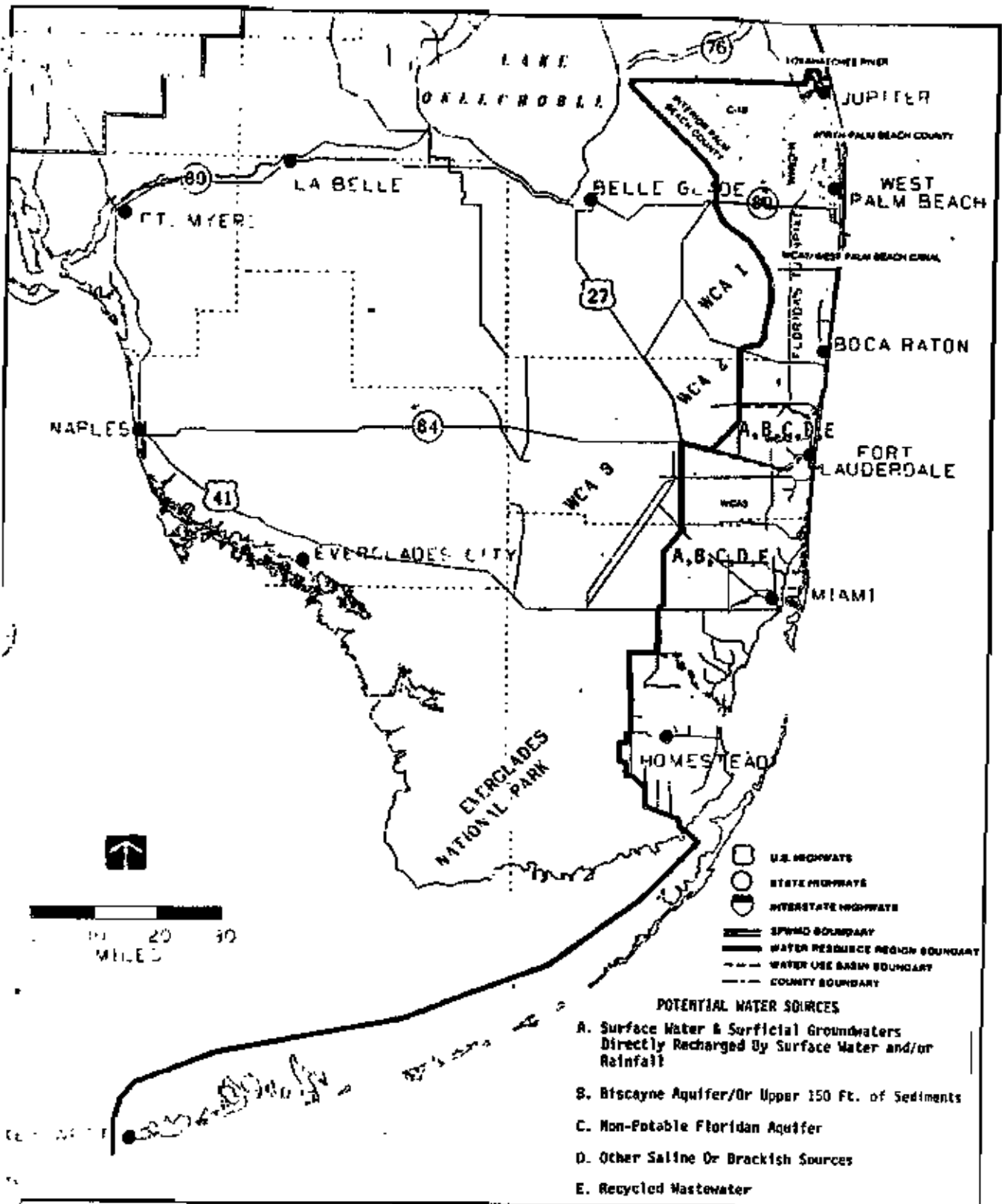
	COOLING & AIR CONDITIONING USE	DEWATERING USE	NAVIGATION USE	OTHER OUTSIDE USES	AESTHETIC USE (includes fountains, waterfalls, etc.)
PHASE I Moderate Shortage (Yellow)	Restricted to water necessary to maintain temperatures no colder than 78°F.	Discharge of fresh- water to salt prohibited.	(Not Applicable)	Street, driveway, sidewalk washing or cleaning prohibited. Vehicle washing/non- commercial; pressure washing only, during irrigation hrs. & days, low volume only. Outside pressure cleaning-low volume programs only, 7 days/week.	Outside-Prohibited inside - Voluntary reductions.
PHASE II Severe Shortage (Orange)	Same as Phase I	Same as Phase I	(Not Applicable)	Same as Phase I	Same as Phase I
PHASE III Extreme Shortage (Red)	Same as Phase I	Same as Phase I	(Not Applicable)	Street, driveway, sidewalk-Same as Phase I Vehicle washing (non- commercial); Same as Phase I Outside pressure cleaning-low volume programs only, Mon. through Fri.	Outside - Prohibited Inside - Prohibited
PHASE IV Critical Shortage (Purple)	No immediate discharge to freshwater; water reuse required.	Same as Phase I	(Not Applicable)	Street, driveway, sidewalk-Same as Phase I Vehicle washing (non- commercial); Same as Phase I Outside pressure cleaning-low volume programs only Mon & Wed.	Same as Phase III

**MORE THAN 66% REDUCTION - NO OUTSIDE WATER USE
OTHER RESTRICTIONS AS DIRECTED BY GOVERNING BOARD**



WATER SHORTAGE PLAN REGIONS

Figure 2-2



LOWER EAST COAST REGION

Figure 2-4

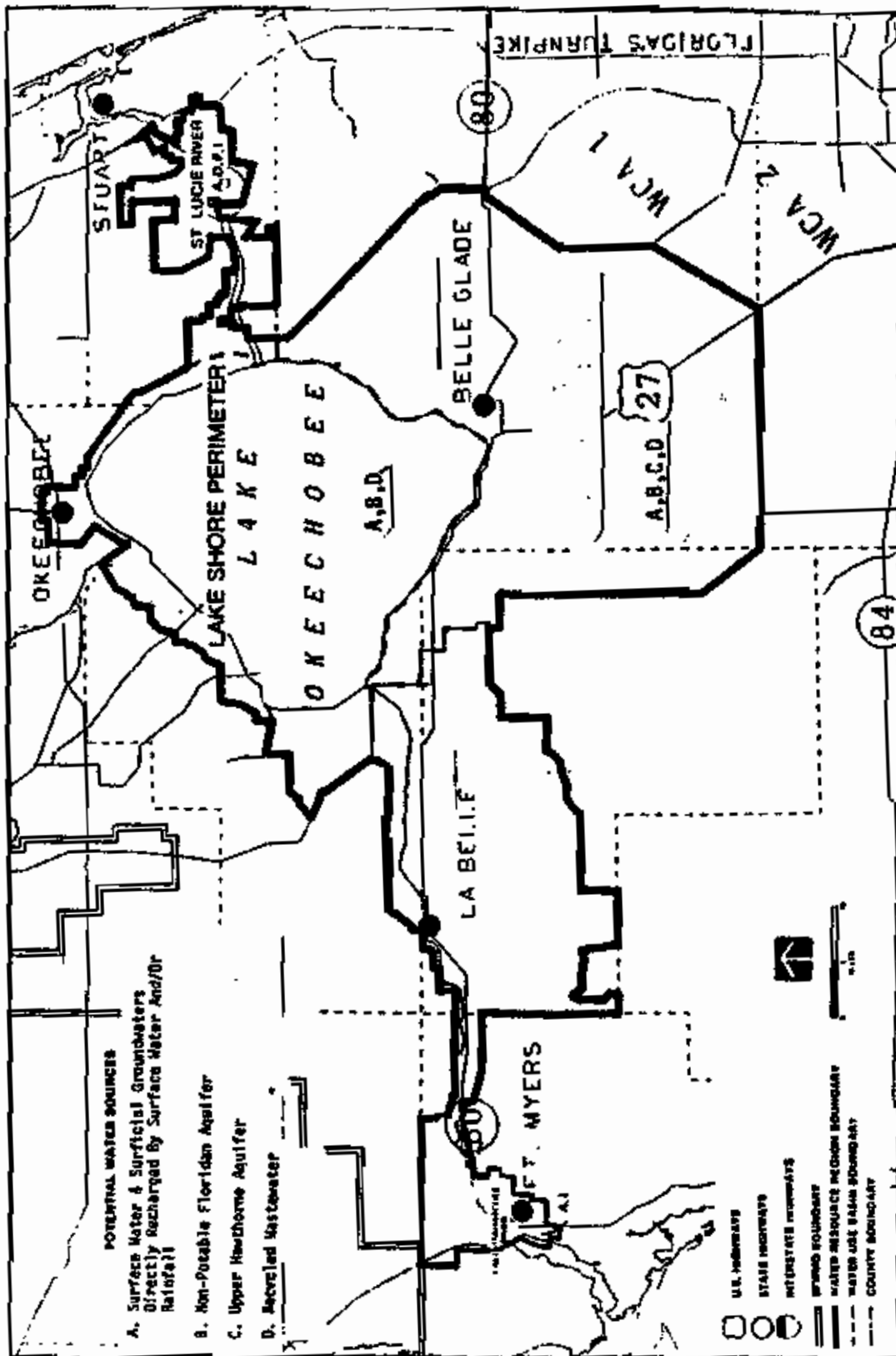


Figure 2-5

LAKE OKEECHOBEE REGION

Figure 2-5

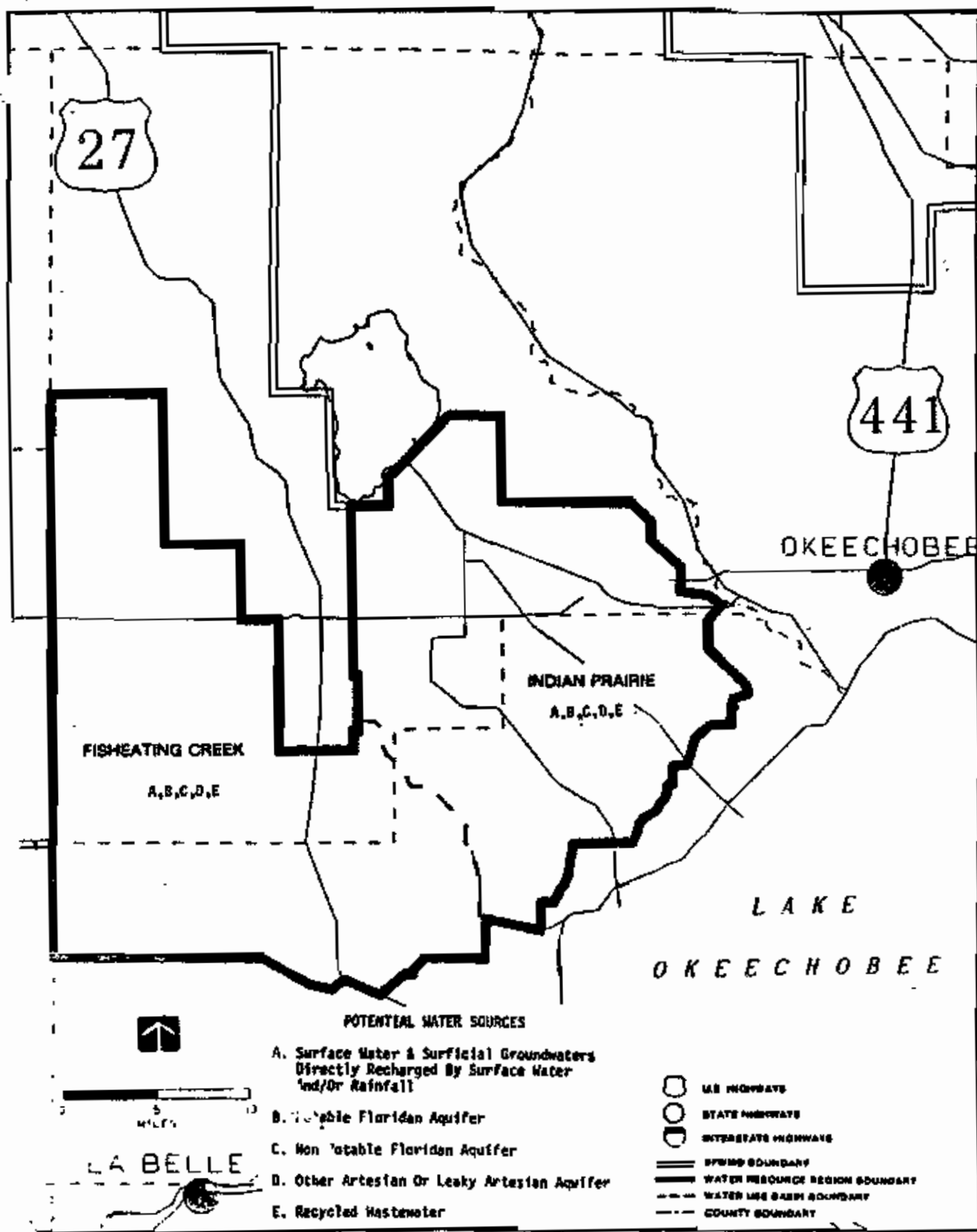


Figure 2-6

INDIAN PRAIRIE REGION

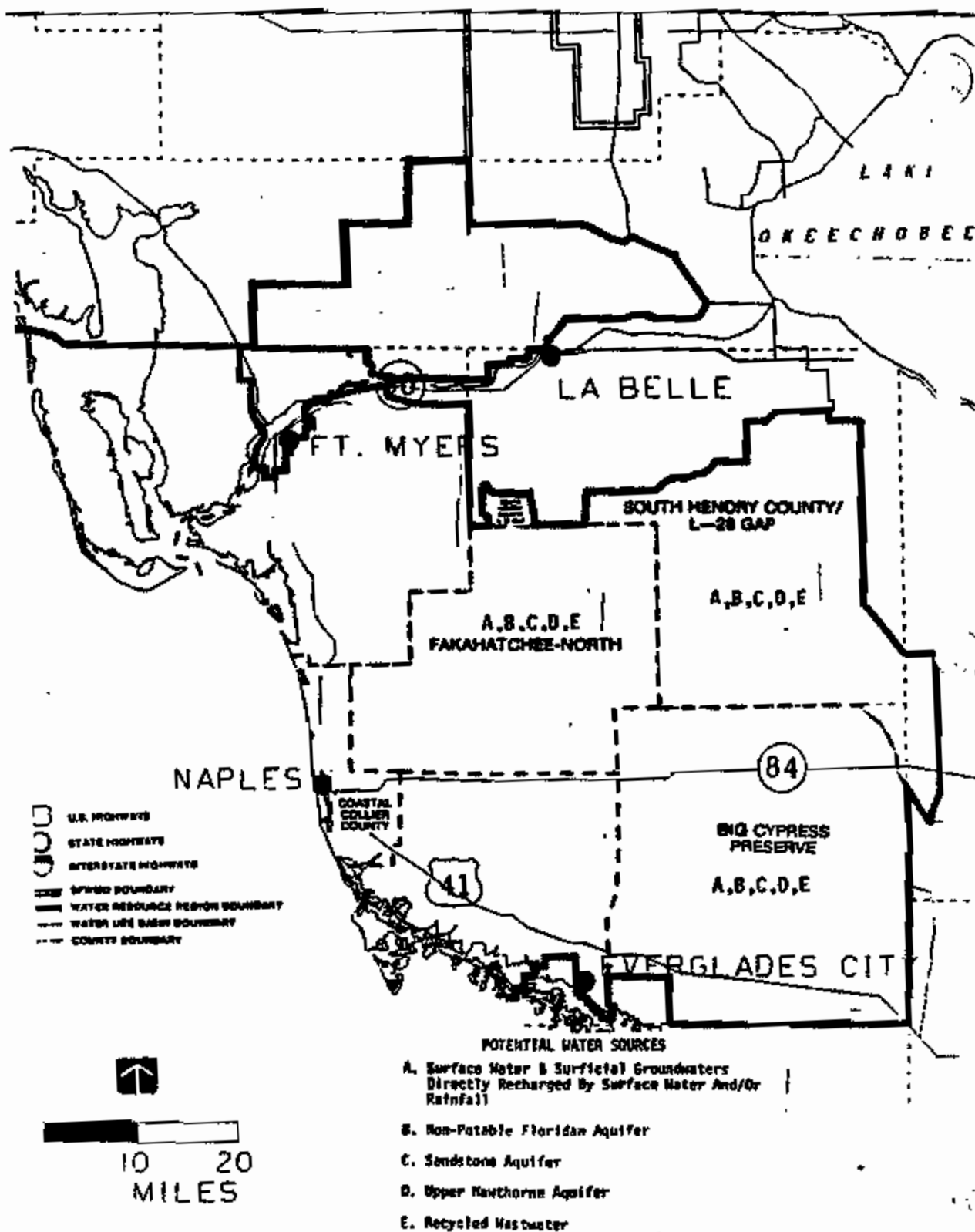
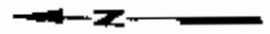
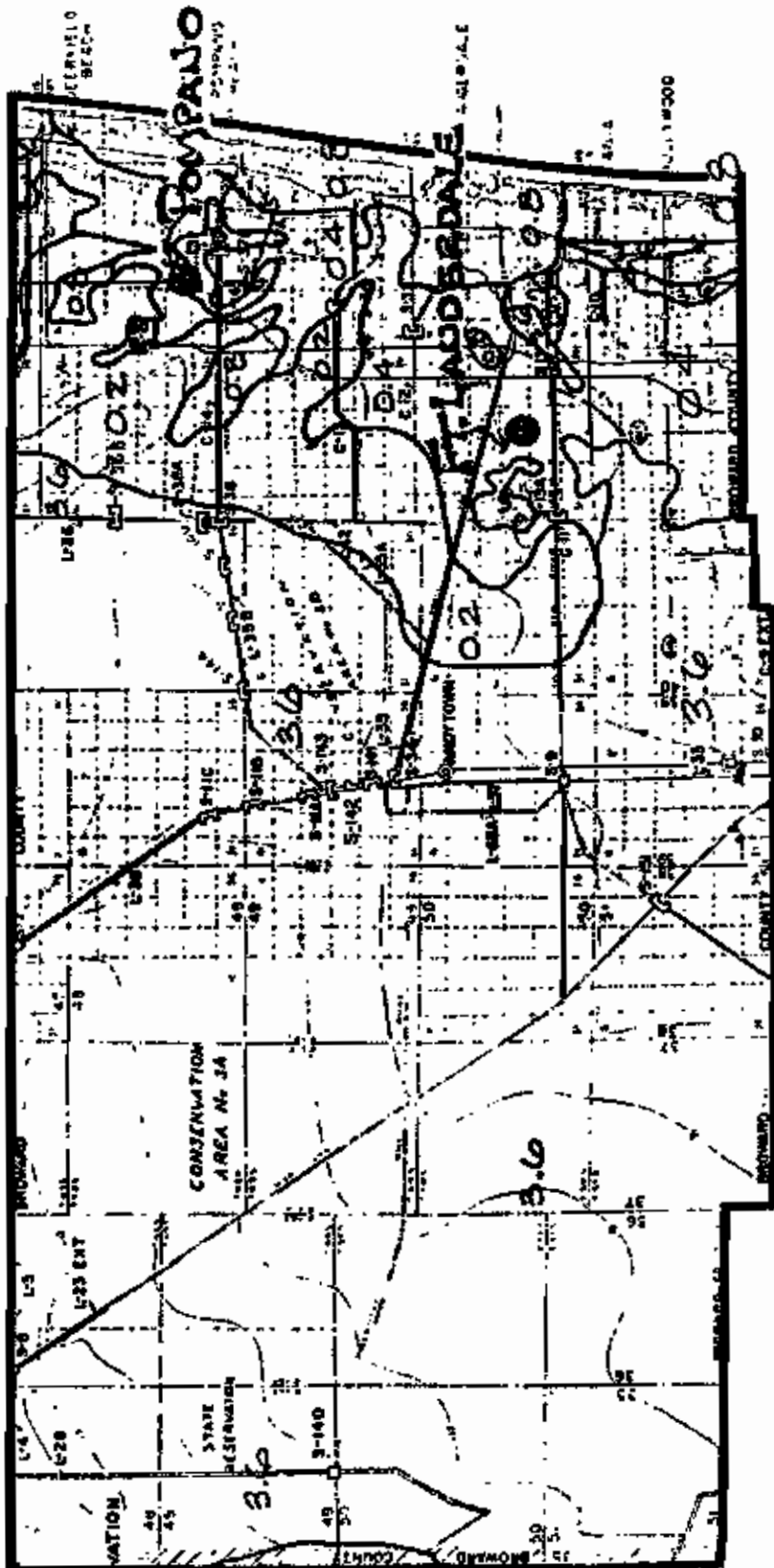


Figure 2-

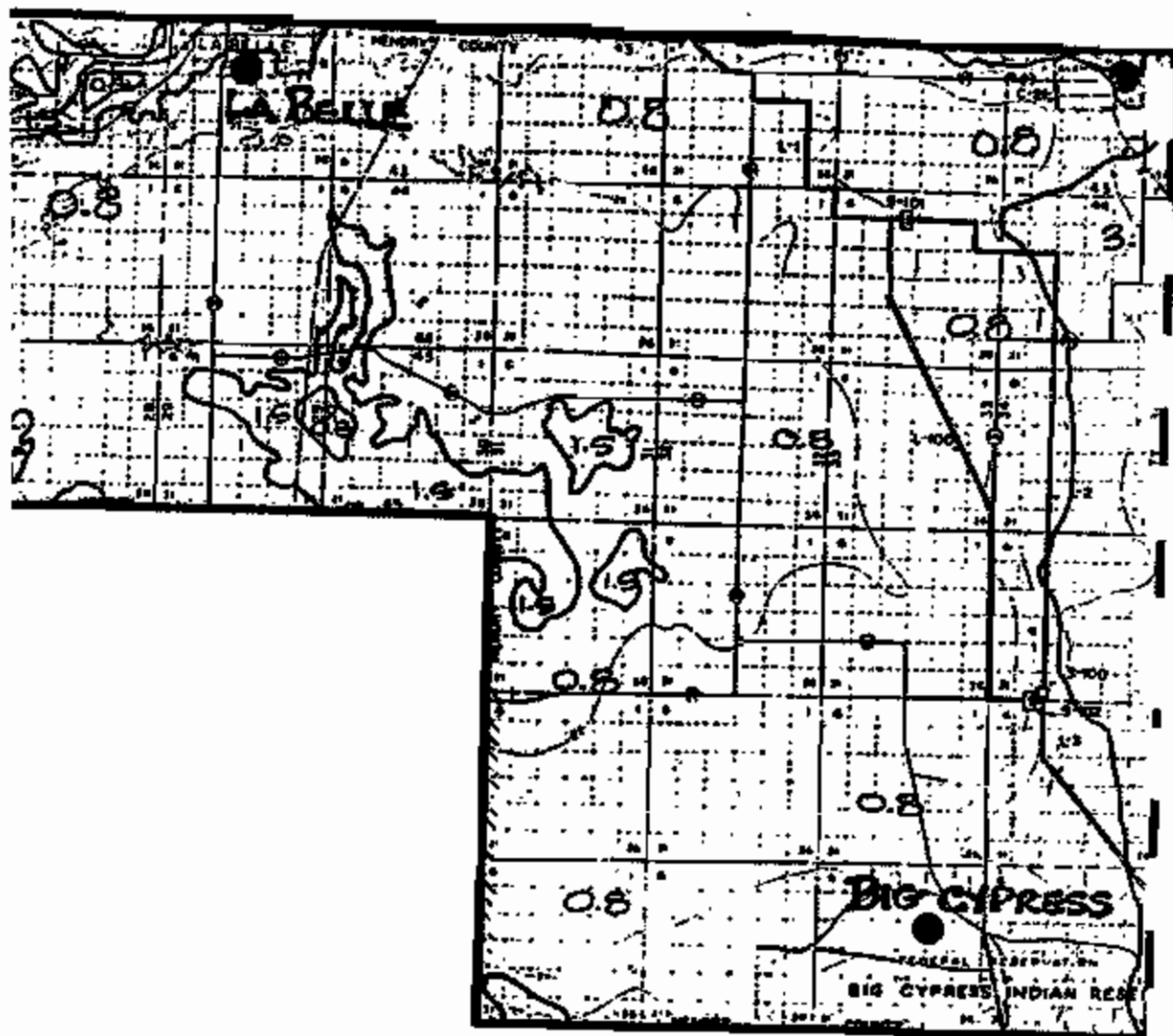
LOWER WEST COAST REGION



SOIL TYPES

BROWARD COUNTY

Figure 3-1



HENDRY COUNTY

SOIL TYPES

Figure 3-2

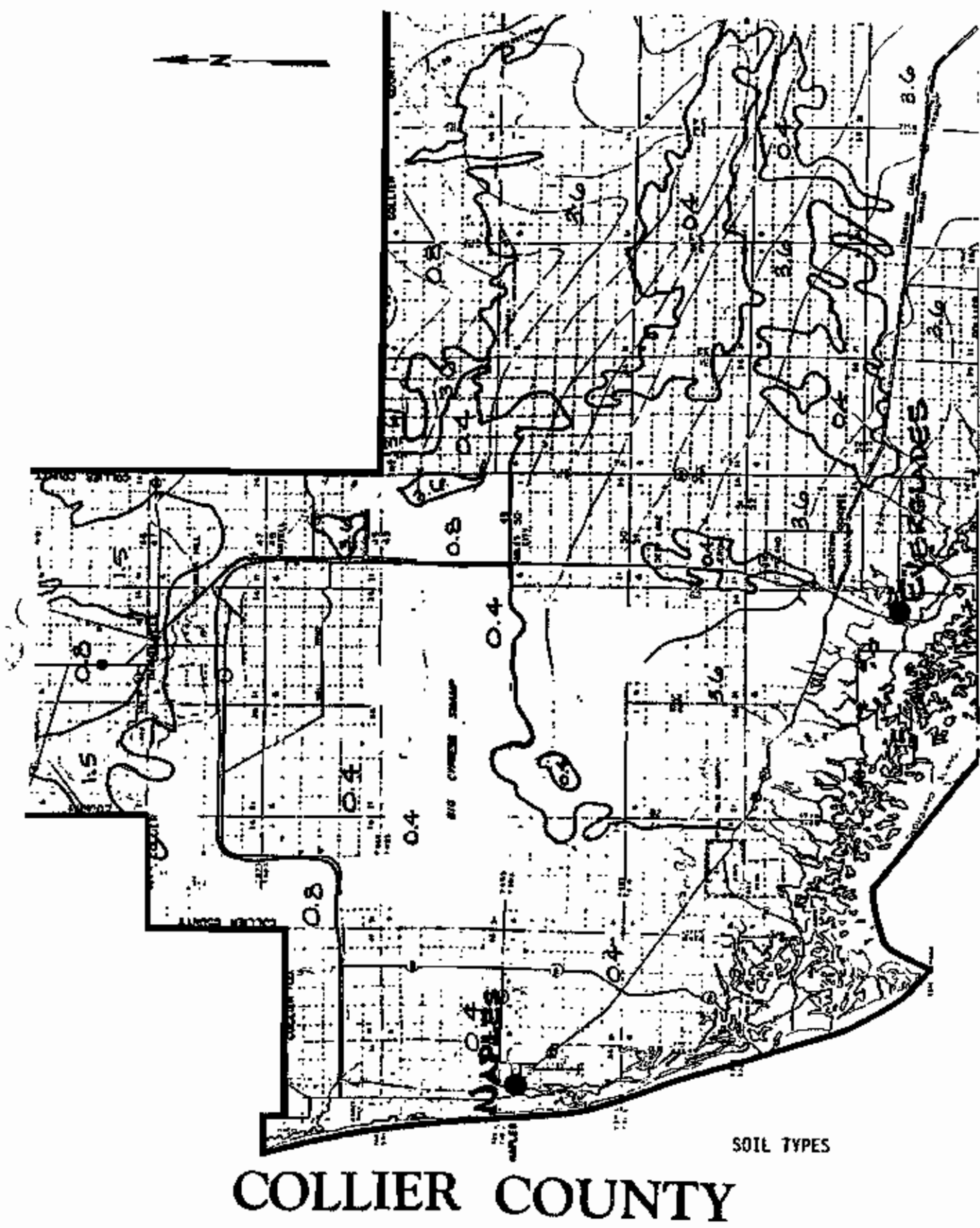
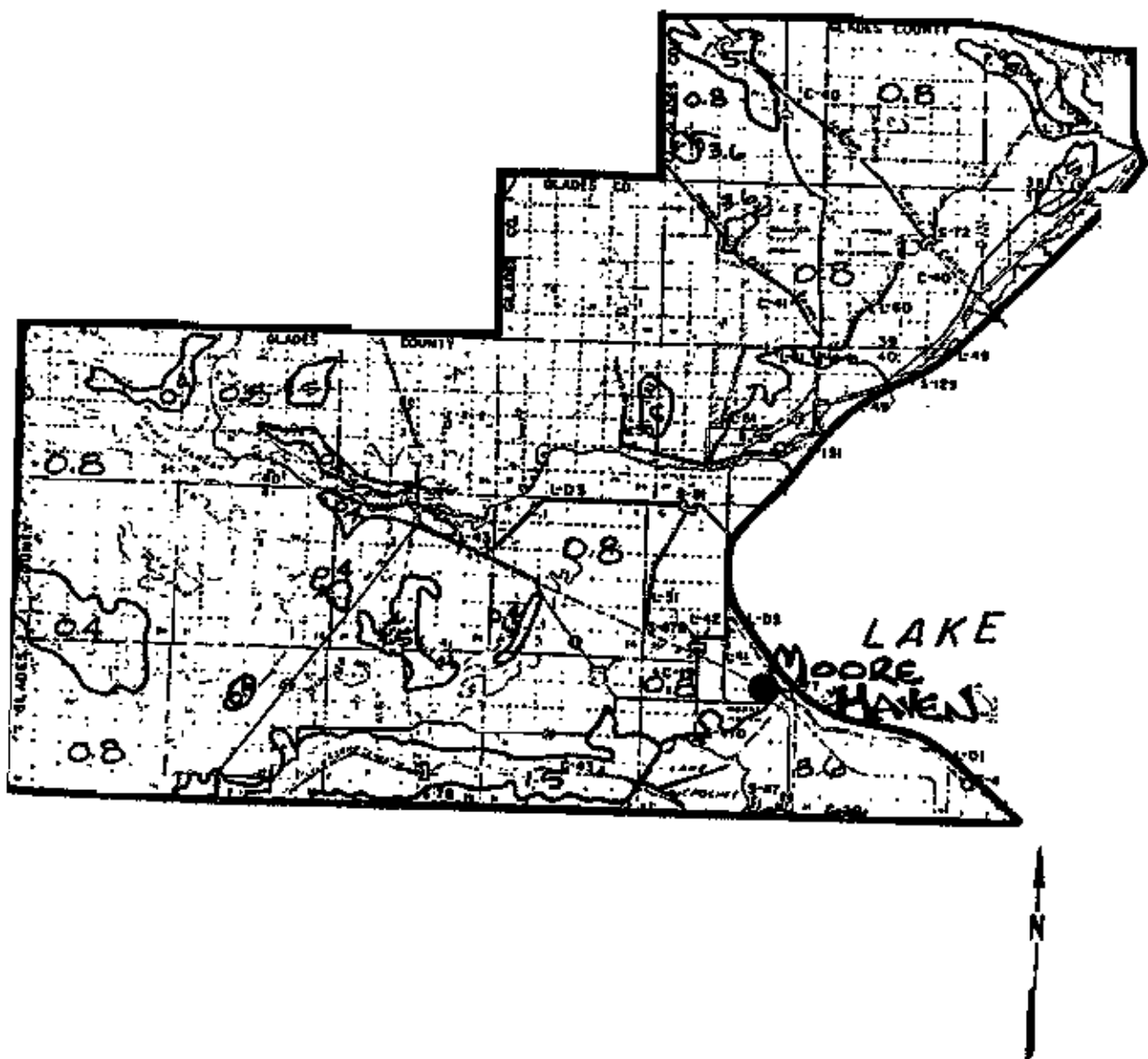


Figure 3-3



GLADES COUNTY

SOIL TYPES

Figure 3-4

URBAN RETENTION/DETENTION

Note: Storage Required Is In Addition To Normal Street & Lot Swales Which Have Already Been Accounted For In Preparation Of Curve.
(See 4.3.2.2(b))

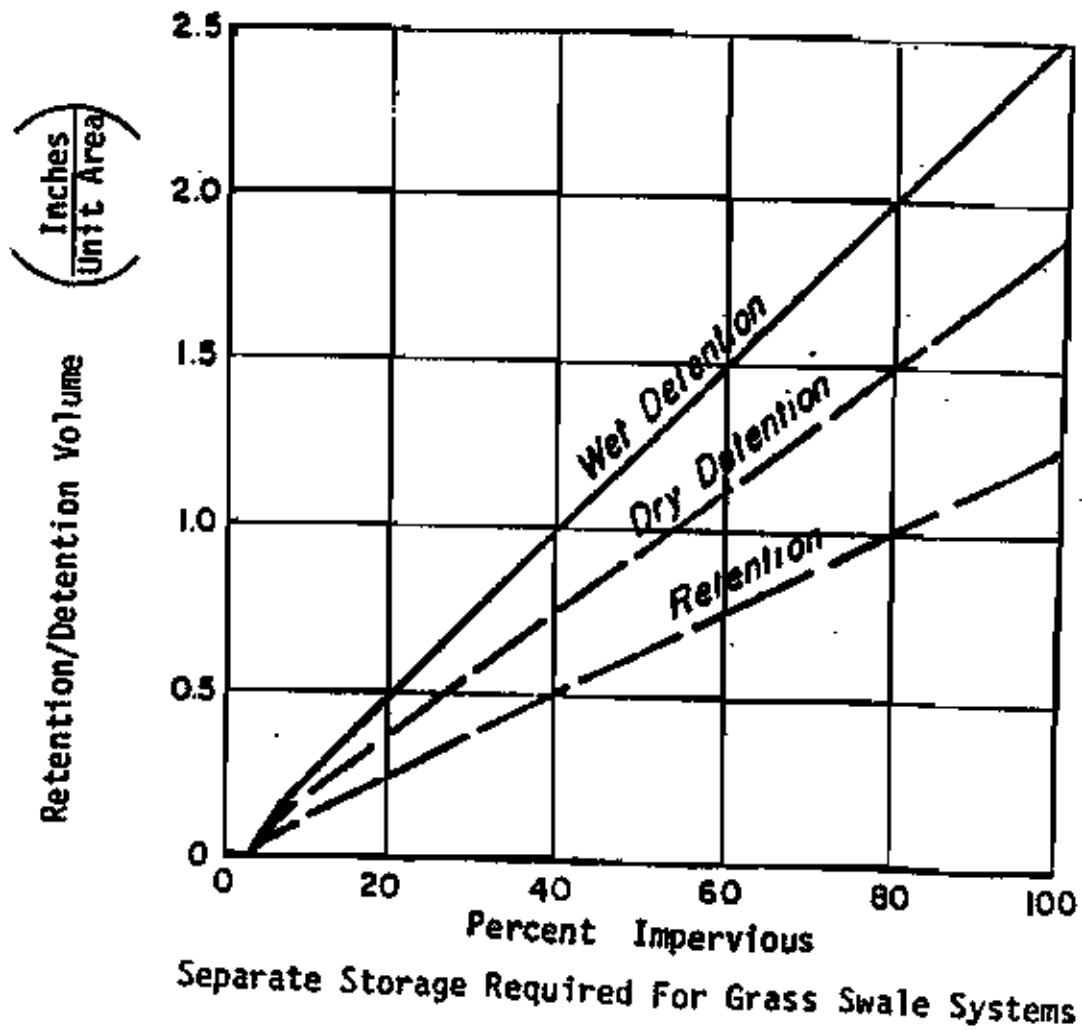


Figure 4-1

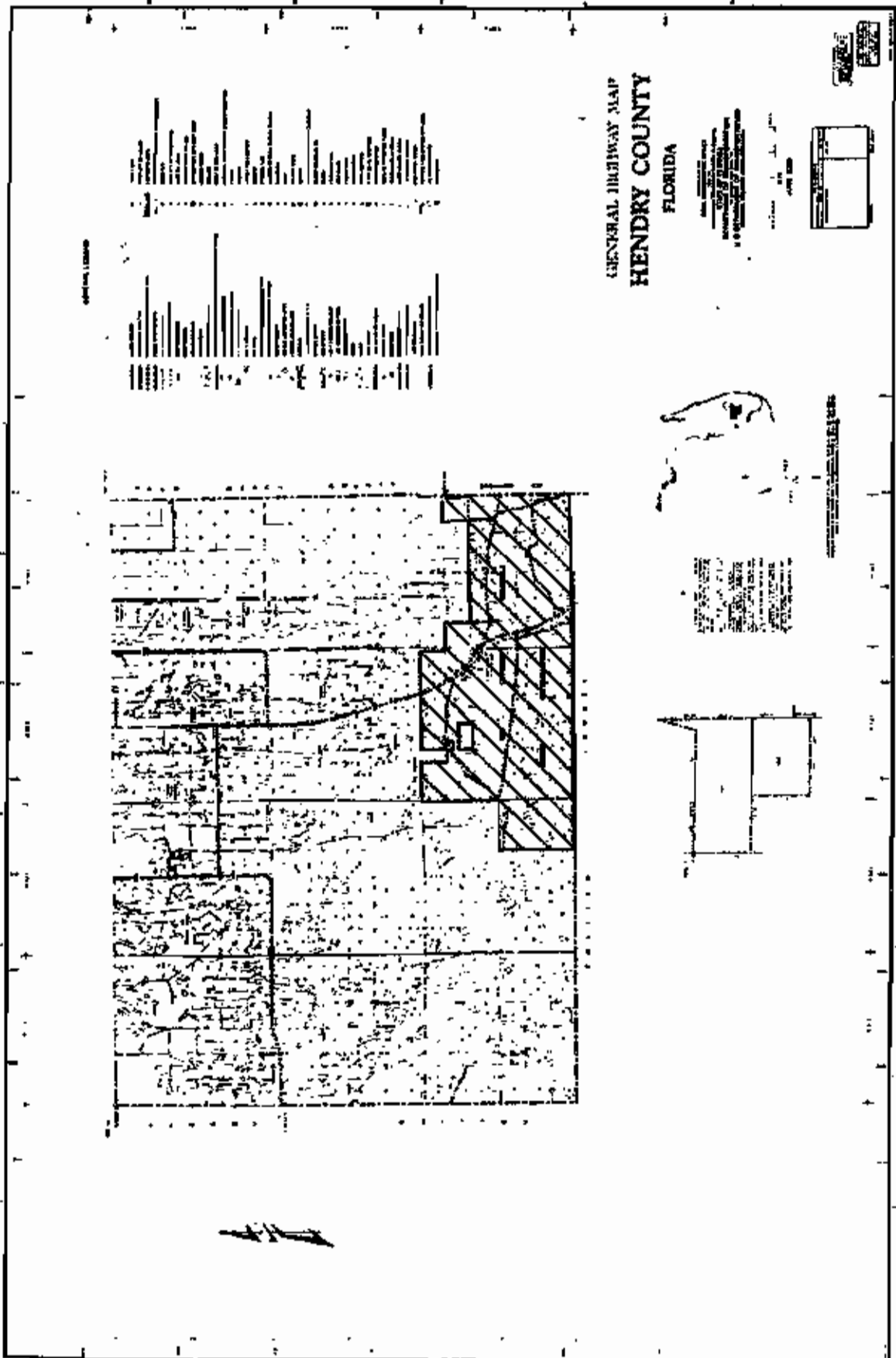
APPENDIX II

TO

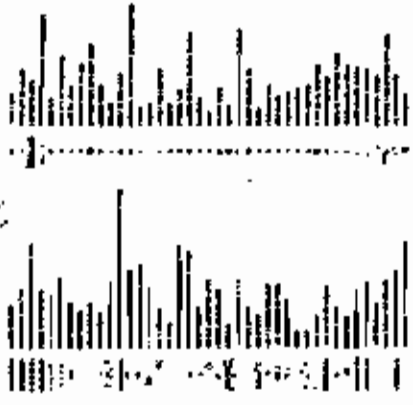
CRITERIA MANUAL

FOR SEMINOLE

WATER RIGHTS COMPACT



GENERAL LEGEND



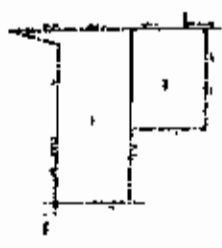
GENERAL HIGHWAY MAP
HENDRY COUNTY
FLORIDA

DATE: 1972
BY: [illegible]
FOR: [illegible]

SCALE: 1" = 1 MILE



GENERAL LEGEND

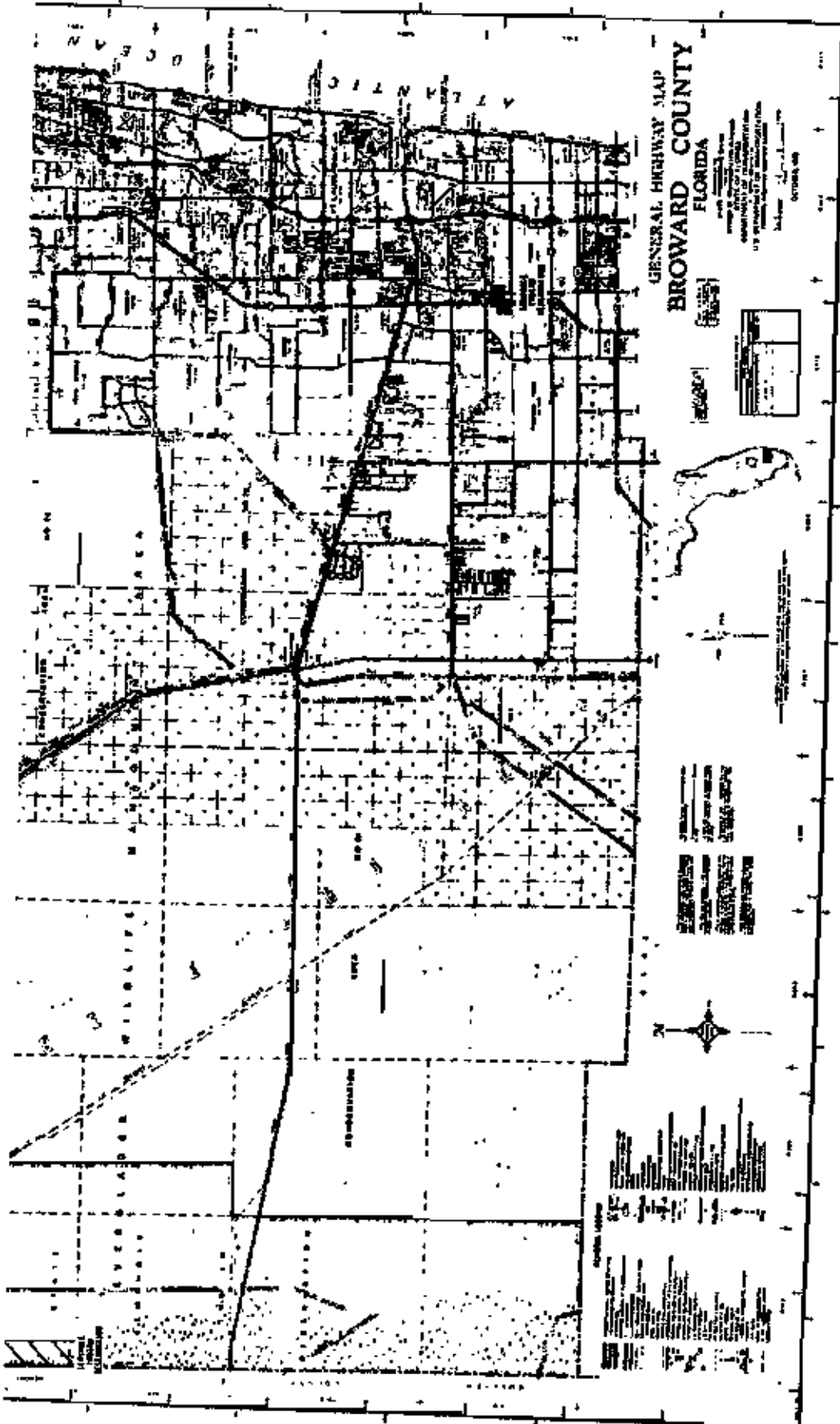


GENERAL LEGEND

DATE: 1972
BY: [illegible]
FOR: [illegible]

GENERAL HIGHWAY MAP
BROWARD COUNTY
FLORIDA

Scale: 1" = 10 Miles
October 1958



Legend

- Interstate Highway
- State Highway
- County Road
- Other Road

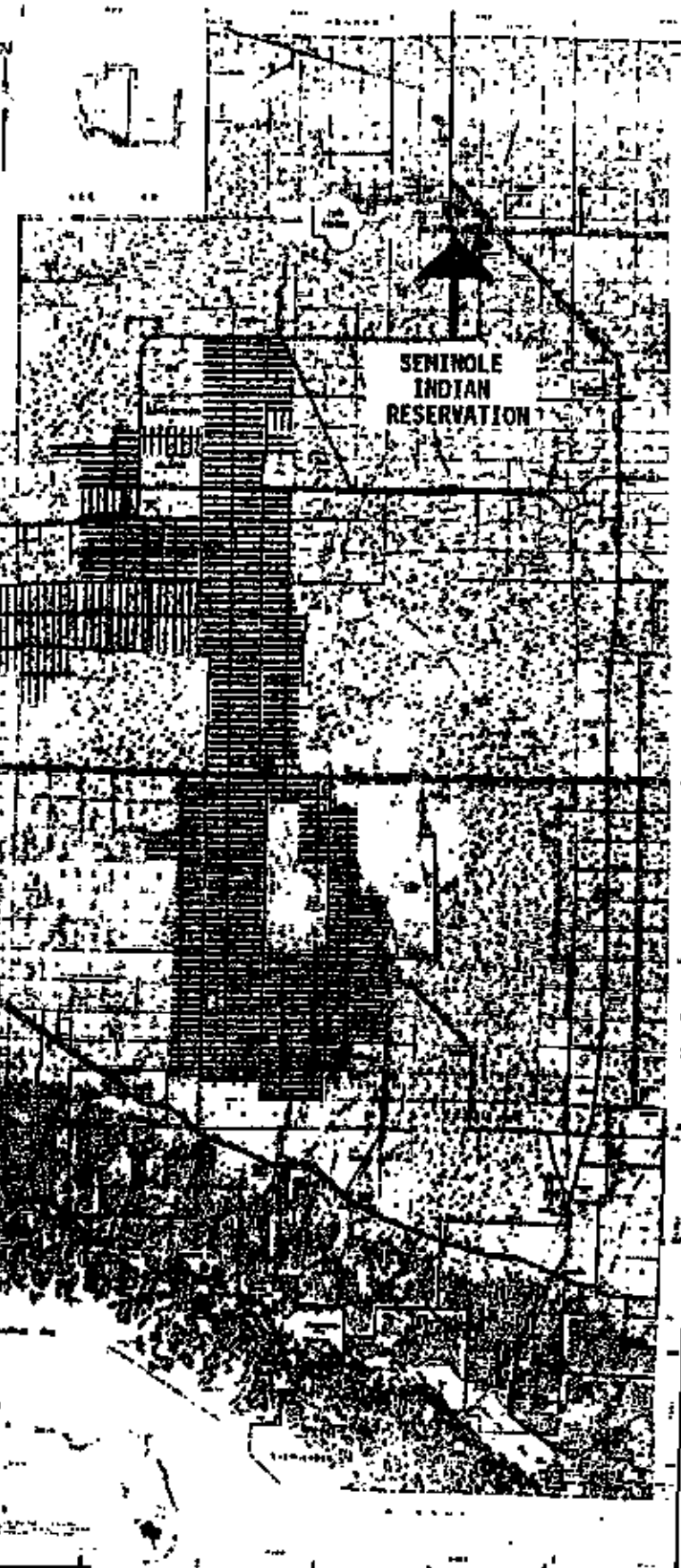
Legend

- Water
- Swamp
- Marsh
- Other



Legend	Legend
Legend	Legend
Legend	Legend

GENERAL SYMBOLS	
[Symbol]	State Boundary
[Symbol]	County Boundary
[Symbol]	Section Boundary
[Symbol]	Water
[Symbol]	Highway
[Symbol]	Railroad
[Symbol]	Power Line
[Symbol]	Telephone Line
[Symbol]	Post Office
[Symbol]	City
[Symbol]	Village
[Symbol]	Unincorporated Community
[Symbol]	Indian Reservation
[Symbol]	Indian Agency
[Symbol]	Indian School
[Symbol]	Indian Cemetery
[Symbol]	Indian Burial Ground
[Symbol]	Indian Mound
[Symbol]	Indian Ruin
[Symbol]	Indian Site
[Symbol]	Indian Trail
[Symbol]	Indian Path
[Symbol]	Indian Road
[Symbol]	Indian Lane
[Symbol]	Indian Alley
[Symbol]	Indian Court
[Symbol]	Indian Street
[Symbol]	Indian Avenue
[Symbol]	Indian Boulevard
[Symbol]	Indian Drive
[Symbol]	Indian Way
[Symbol]	Indian Circle
[Symbol]	Indian Square
[Symbol]	Indian Park
[Symbol]	Indian Plaza
[Symbol]	Indian Mall
[Symbol]	Indian Promenade
[Symbol]	Indian Walk
[Symbol]	Indian Pathway
[Symbol]	Indian Lane
[Symbol]	Indian Alley
[Symbol]	Indian Court
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[Symbol]	Indian Boulevard
[Symbol]	Indian Drive
[Symbol]	Indian Way
[Symbol]	Indian Circle
[Symbol]	Indian Square
[Symbol]	Indian Park
[Symbol]	Indian Plaza
[Symbol]	Indian Mall
[Symbol]	Indian Promenade
[Symbol]	Indian Walk
[Symbol]	Indian Pathway



**GENERAL
HIGHWAY MAP
COLLIER
COUNTY
FLORIDA**

THIS MAP WAS
PREPARED BY THE
BUREAU OF HIGHWAYS
AND TRANSPORTATION
OF THE FLORIDA DEPARTMENT
OF TRANSPORTATION
IN 1954.

Scale: 1 inch = 10 miles
1:62,500