MEMORANDUM

TO: New Jersey Joint Legislative Commission on Drainage and Stream Clearance

FROM: Anthony M. Lunetta

DATE: January 31, 1954

SUBJECT: Drainage Laws in the United States - A Preliminary Report

A complete study of how and through what means drainage and stream clearance are accomplished in all the states would require considerable time. Because of the time element, this report must necessarily be brief. While these laws give some indication of the methods available in each state, they do not indicate whether or not the problems have been satisfactorily resolved. Reports from committees in various states where investigations of the problem have been made are helpful in determining the suitability of the existing procedures. Even these reports, however, are sometimes of little value because the scope of the studies are not sufficiently broad to permit an evaluation of the relationship of drainage and stream clearance to not only other problems connected with water resources but also of these water resources to the economic status of the states.

The District Method

Without attempting, at this time, to cover the entire field of drainage and stream clearance legislation, this memorandum limits itself to a review of the district method of handling the problem and a few brief comments on the findings of other committees on water resources. Included in the list of districts which are directly or indirectly involved with water resources throughout the country are such titles as: conservancy, conservation and reclamation, drainage, flood control, irrigation, levee improvement, navigation, sanitary, sanitation, soil conservation, tax ditch, underground water conservation, water conservancy, water control, water control and improvement, water control and preservation, and

watershed. The salient features of these district enabling acts are as follows:

1. Formation of district initiated by petition of landowners.
2. Practicability, feasibility and size of district subject to approval by state and/or county agencies, and/or the courts.
3. Public hearings and referendums held on proposed district.
4. Voting power of landowner proportional to assessed valuation of his property.
5. District is a governmental subdivision and public body corporate and politic, with power to condemn property, borrow money and incur indebtedness, and levy and collect taxes.
6. Judicial procedure followed in establishing districts.
7. Decisions of the board can be appealed in the courts with or without a jury.
8. Governing board of district chosen by landowners and/or appointed by state or county officials. In some states some state officials are mandatory members of the board.
9. Powers and duties defined, usually with restrictions.
10. Cost of improvements assessed against property owners on basis of benefits derived.
11. Plans may or may not be subject to approval by any state or county agency.
12. Provisions for dissolving the district.

Drainage Laws of Delaware

The drainage laws, revised in 1951, of the State of Delaware provide for the establishment of tax ditches. These organizations have sweeping powers to enable them to do drainage and flood control work. Mr. E. H. Talbert, State Drainage Engineer, amplified on the operations of these tax ditches by saying, in a letter, "... since in Delaware we are fortunate to have a reasonably large amount of equipment purchased by the State, available for use on drainage and flood control projects, we have very good facilities for processing the work for these organizations after they become established."

Mississippi Drainage Law

In Mississippi, whose first drainage law was enacted in 1886, a study undertaken during the late 1930's found, in addition to other things, that:

> "Many of the drainage districts have been organized in comparatively small areas, based more on community needs and interest than on watershed requirements. No systematic procedure has been followed. Some districts have good agricultural drainage while inadequate outlets of other drainage ditches cause flooding of lower lying areas. Big ditches flow into little ditches which empty into unimproved, badly congested, winding streams or sluggish bayous. These adverse situations exist in many lowland areas causing damage, creating confusion, and resulting in hard feelings that perflex and discourage the landowners. This disorder is due to poor planning and piecemeal methods of so-called "cheap drainage". Few districts have employed competent engineering personnel and many have no engineering personnel and many have no engineering plans of any kind. The capacity of the ditches was inadequate and as a result the land was not drained." (Summary Report of Organized Drainage Districts in Mississippi, April, 1941).

Texas Report

A report of the Texas Legislative Council, entitled, "Inventory of Water Problems and Agencies in Texas", November 1952, ably brings into focus the value and danger of water resources. The first paragraph of the Introduction is as follows:

> "Water has been termed the 'key' natural resource. It sustains life, makes possible agricultural, commercial and industrial activity, is a source of energy, serves as a medium of transportation, and provides opportunities for recreation. On the other hand, water has detrimental attributes: it erodes soil, destroys life and property through floods, impairs the utility of land when drainage is inadequate, and menaces health when it is polluted or when it serves as a breeding place for disease-carrying insects. The over-all water problem is that of obtaining the desired benefits from water resources and of minimizing the hazards associated with water. This problem confronts individuals and groups, is a local problem and a general problem; is a matter of concern to many levels of government."

In Texas, some districts have been created by the Legislature while the formation of other districts have been initiated by citizens through enabling acts providing for the creation of districts. "Lack of uniformity is also evident in the extent of control which state agencies may exercise over operations of conservation districts. Members of the Board of Water Engineers state that, in

general, conservation districts are reluctant to acknowledge that the board has supervisory authority over them."

In addition to examining the relationship of the various governmental agencies and districts to water resources and to each other, the Texas report also viewed the water problems in terms of:

1. The hydrologic cycle.
2. The geography of the state.
3. Tasks to be performed--development, allocation, and control.
4. Legislative policy.

The final report of the Texas Water Code Committee, January 22, 1951, contains many recommendations for the revision of water laws in that state. "In addition, it is the belief of this committee that unless these (water) power projects are sponsored by the State, and the local political subdivision be thereby enabled to finance their own needed improvements, the Federal Government will occupy the field and local self-government will be seriously impaired."

The Advisory Council on the Virginia Economy concluded, in part, in their report on the "Water Resources of Virginia", April, 1952, that:

> "With the supply of water resources so adequate (similar to New Jersey), why should Virginians be concerned with conserving and developing these water resources? The answer lies primarily in the enormous increase in the demand for water which has developed over the years, accelerating sharply during the past ten years and giving every indication of increasing further in the years ahead. This increase in demand for water has been experienced in almost all of its uses. During the decade of the forties, the population of Virginia cities, on the average, increased by 33 per cent and the counties adjacent to the cities by some 46 per cent. This increase in population, together with an approximate 20 per cent increase in the per capita consumption of water, resulted in an enormous increase in the municipal demand for water. Concomitant with this was a substantial increase in the industrial demand for water, industry using many times more water than the municipalities. During the period 1939-1947, manufacturing in Virginia--as measured by the average number of production workers employed--increased by approximately 45 per cent. Much of this growth was in industries making heavy use of water. Virginians are also making increasing use of water in agriculture. This is not only due to an increase in agricultural production--the production of agricultural commodities rose by approximately 25 per cent from 1920 to 1950--but also to the greater use of water made with the more modern agricultural techniques."

Virginia Water Resources Board

Two of the twenty recommendations of the Advisory Council on the Virginia Economy are:

1. For the purpose of insuring adequate, comprehensive, and continuing conservation, utilization, and development of water resources of the state, it is recommended that a Water Resources Council be appointed to function under the direction of the head of an existing agency of the state government. This council should include representatives from each of the following agencies:

    Department of Agriculture
    Department of Conservation and Development
    State Corporation Commission
    Commission of Fisheries
    Commission of Game and Inland Fisheries
    Department of Health
    Department of Highways
    State Ports Authority
    Soil Conservation Committee
    State Water Control Board.

    This council should formulate recommendations on state water resources policies for review and comment by the several agencies represented, and should forward council reports thereon to the Governor. Further duties and responsibilities with respect to the active prosecution of water resources policies should be assigned to this council as firm policy is decided upon. It is further recommended that this council be fully utilized to stimulate interest among the public for the conservation and development of water resources, to assist in the selection of state representatives on interstate and federally created commissions regarding water resources matters, to coordinate general matters affecting water resources among the several agencies, and to initiate long-range plans for the development of water resources.

2. It is recommended that, in the near future, all Virginia laws affecting water resources be reviewed by a special committee to determine what, if any, changes or additions should be made and that similar reviews be made at least once each twenty years.

Other States Conducting Research in Water Resources

In addition to the above states where the water resources policy has been recently restudied, the States of Arkansas, Iowa, Kansas, Michigan, and Rhode Island are currently studying the problem. The excerpts given above cannot be considered as a general cross-sectional opinion of the problem but serve only to indicate some of the recent thinking on the subject.