DEVELOPMENTS IN WATER QUALITY AND LAND USE PLANNING: PROBLEMS IN THE APPLICATION OF THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972†

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The Federal Water Pollution Control Act Amendments of 1972 (FWPCA)[1] set a multi-phased programmatic framework for the elimination by 1985 of pollutant discharges into the nation's "navigable

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1. Federal Water Pollution Control Act (FWPCA) Amendments of 1972 §§ 101-518, 33 U.S.C. §§ 1251-1376 (Supp. II, 1972). Throughout the text of this Article references to the Federal Water Pollution Control Act Amendments of 1972, unless specifically described in an historical context, will be cited as FWPCA.

waters."[2] Three basic program strategies were facilitated through this legislation. First, an extensive matching grant program was instituted for the construction of municipal waste treatment facilities.[3] Secondly, the National Pollution Discharge Elimination System (NPDES)[4] was adopted for the control of pollutant discharges from all point sources of water pollution.[5] Although initially administered by the Environmental

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2. For an extensive discussion of the term "navigable waters" as used to determine the coverage of the FWPCA see Zener, *The Federal Law of Water Pollution Control,* in FEDERAL ENVIRONMENTAL LAW 682, 687-93 (1974) [hereinafter cited as Zener]. The term "navigable waters" is defined in the FWPCA as "the waters of the United States, including the territorial seas." FWPCA Amendments of 1972 § 502(7), 33 U.S.C. § 1362(7) (Supp. II, 1972). This definition has been interpreted by the United States Environmental Protection Agency (EPA) to indicate that a broad analysis of the commerce clause power over waters is appropriate. In this regard, the term "navigable waters" has been viewed as including "intrastate waters which are utilized by interstate travelers for recreational or other purposes; intrastate waters from which fish or shellfish are taken for sale in interstate commerce; and intrastate waters utilized by industries in interstate commerce." Zener, *supra,* at 691 (footnotes omitted). This broader view of federal power over the use of water distinguishes the FWPCA from prior federal water quality legislation that applied water quality standards primarily to "interstate waters." *Id.* at 688. This extensive coverage by the FWPCA has aided in the demise of the prior bifurcated administrative apparatus over water quality management between the states and the federal government.

3. The operation of the waste treatment facility grant program under the FWPCA primarily relates to §§ 201-07 of the Act. 33 U.S.C. §§ 1281-87 (Supp. II, 1972). For a general description of the operation of the program see COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE FOURTH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 172-74 (1973). *See also* C. SCHULTZE, E. FRIED, A. RIVLIN & N. TEETERS, SETTING NATIONAL PRIORITIES: THE 1973 BUDGET 379-88 (1972) [hereinafter cited as THE 1973 BUDGET]. Under the FWPCA, the federal share of money for the construction of municipal waste treatment facilities was increased between 30 to 55% to a constant 75% of the cost of construction. Other features of the treatment works construction program under the FWPCA include the establishment of provisions for user charges and industrial capital cost recovery charges for the private use of these facilities. FWPCA Amendments of 1972 § 204(b)(1), 33 U.S.C. § 1284(b)(1) (Supp. II, 1972).

4. The regulatory program for the setting of minimum effluent limitations for various categories of pollutant dischargers and the establishment of a federally supervised permit system to implement these effluent limitation standards, given considerations of technological and economic feasibility, marked a major philosophical shift in federal water quality policy away from setting administrative standards for water quality based upon the condition of the receiving waters. For an extensive discussion of this philosophical shift in federal water quality policy see Zener, *supra* note 2, at 693-709.

5. A significant controversy in the development of the regulatory and planning programs of the FWPCA is the issue of whether the Act's provisions provide

Protection Agency (EPA), the NPDES system was designed for the gradual delegation of regulatory authority to state environmental protection agencies, subject to specified statutory criteria. This system requires a federal (or state) permit for all pollution discharges from point sources covered by the FWPCA.[6] Finally, to provide a basis for development of the construction grant program and the NPDES system authorized by the FWPCA, a third strategy was established—an interrelated group of three water quality planning processes that must be adopted and implemented at the state and regional level of land use development.[7]

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for a regulatory program for the control of non-point source pollution. Under § 502(14) of the FWPCA, the term "point source" is defined as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." 33 U.S.C. § 1362(14) (Supp. II, 1972). Under both the areawide waste treatment planning program and the state-wide basin planning program of the FWPCA, there are provisions for the regulation of non-point sources of pollution, *e.g.*, pollutant dischargers from agriculturally, silviculturally, mine, and construction-related activities. There is no mention in the FWPCA, however, of the establishment of a federally supervised discharge permit program for the control of non-point sources. Despite this failure of the Act, there exist several activities that have characteristics similar to those of "point sources." The General Counsel of EPA has suggested that within an urban setting, there is an inherent ambiguity in the status of several activities that may qualify as "point sources" under the FWPCA:

> Run-off from industrial sites, or from large parking lots, will frequently be collected in a drain from which the run-off ultimately flows to navigable waters. Literally, the drain would constitute a "point source" under the statutory definition. Similarly, storm sewers collect run-off of silt, oil, and other pollutants from the streets, from which they are discharged into the navigable waters: and storm sewers are clearly "pipes" which fall within the statutory definition of "point source."

Zener, *supra* note 2, at 766. Also, a recent district court decision, Natural Resources Defense Council, Inc. (NRDC) v. Train, 396 F. Supp. 1393 (D.D.C. 1975), has held that EPA had acted against the meaning of the FWPCA, in exempting such activities as storm sewer discharges composed entirely of storm run-off uncontaminated by industrial and commercial activity, discharges from relatively small animal confinement facilities, and discharges from silvicultural activities from permit requirements of the FWPCA. *Id.* at 1402.

6. FWPCA Amendments of 1972 § 402, 33 U.S.C. § 1342 (Supp. II, 1972).

7. Of the three types of water quality planning programs instituted by EPA, note that the facility planning process for treatment works construction has been instituted as the first stage of the three step construction program under EPA regulations, and is not provided for in the FWPCA. *See* 40 C.F.R. §§ 35.917 to .917-9 (1975). In its strategy papers for 1974 and 1975, EPA has set the period 1978-83 as the period for the implementation of the areawide and state-wide planning processes under §§ 208 and 303(e), respectively, of the FWPCA. 33 U.S.C. §§ 1288, 1313(e) (Supp. II, 1972). The period

This coordination of environmental planning processes represents the first attempt by Congress to develop land use planning mechanisms for the control of pollutant discharges from a variety of point and non-point sources, *e.g.*, groundwater, residual waste, and runoff sources. Three distinct yet interrelated planning programs are contained within this third strategy of the FWPCA. Initially, a facility planning program has been designed to supply federal funding to guide the construction of municipal waste treatment facilities. In addition an areawide waste treatment planning and management process has been created for the eventual implementation of land use planning schemes for the abatement of point and non-point pollution sources. Because of its requirements for the creation of regional planning and management agencies for the control of municipal and private land use development, the latter program will represent the most controversial element of the planning effort of the FWPCA. Finally, both the facility and areawide planning programs will be guided by technical and administrative feedback from state environmental protection agencies through the statewide basin planning program of the federal legislation. The statewide basin program provides an informational planning base for the establishment and implementation of water quality standards and for the regulation of effluent discharges from all sources of water pollution.

This Article focuses on the construction grant and water quality planning processes of the FWPCA and examines the contribution these programs can make to achievement of the water quality objectives of the federal legislation. The future effectiveness of federal water quality planning legislation will also be examined through a study of the local and regional management scheme of metropolitan sewer districts in the St. Louis metropolitan area. It is the thesis of this Article that the water quality planning requirements of the FWPCA are not yet fully understood or adequately formulated. Also, the legal requirements of the water quality planning and construction grant programs do not fit well within the framework of the traditional legal institutions currently available to implement the Act's water quality objectives in metropolitan areas. If the water quality goals of the federal legislation are to be fully achieved, greater thought to the improvement of the FWPCA's water quality plan-

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1973-77 was designated as the period for the setting of the planning mechanisms of the three processes of the FWPCA and the implementation of the facilities planning process under the treatment works construction program. *See* 5 ENVIROMENT RPTR. CURRENT DEV. 1898-1901 (1975).

ning programs must be accompanied by a revision and reorganization of metropolitan legal institutions.

This Article is divided into three parts. First, the related strategies of the federal construction grant program for municipal waste treatment facilities and the NPDES permit system are discussed and evaluated. Next, the secondary effects of interceptor and treatment facility construction and the interrelationships between the water quality and land use planning processes of the FWPCA are analyzed. Finally, the local governmental institution that should serve as the most important agent for both the construction of treatment facilities and the management of the areawide waste treatment planning process in the St. Louis metropolitan region, the metropolitan sewer district, is examined to determine its potential for the translation of federal program objectives into an effective water quality improvement program at the regional level.

I. The Federal Construction Grant and Point Sources Permit System

A. The Federal Construction Grant Program for Municipal Waste Treatment Facilities

Title II of the FWPCA replaces the provisions of previous federal water quality legislation[8] and establishes a new program of federal finan-

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8. Prior to passage of the FWPCA, Congress used several formulas as the basis for the allocation of waste treatment facility construction grants. The FWPCA of 1948 allocated to the Federal Security Agency an annual expenditure of $1 million for five years for the control of industrial waste discharges. The 1948 Act limited the expenditures to research-oriented investigations under the directions of the respective state water pollution agencies. The FWPCA of 1956 allocated federal funds as follows: "(1) 50 per centum of such sums in the ratio that the population of each State bears to the population of all the States, and (2) 50 per centum of such sums in the ratio that the quotient obtained by dividing the per capita income of the United States by the per capita income of each State bears to the sum of such quotients for all the States." These funds were to provide for 40% of the cost of construction of "necessary treatment works to prevent the discharge of untreated or inadequately treated sewage or waste into any waters." S. Rep. No. 630, 93d Cong., 1st Sess. 2 (1973) [hereinafter cited as S. Rep. No. 630].

The FWPCA of 1965 provided funding in excess of $100 million for the allocation of construction grants "in the ratio that the population of each State bears to the population of all States." *Id.* at 3. Under § 8(b) of the Act, as amended in 1966, the construction grant program featured several levels of federal grants, depending on state participation. Without a state matching grant program, there

cial assistance for the construction of public waste treatment facilities. Federal matching funds are allocated to the states under a need formula,[9] and excluding federal reimbursement obligations for projects initiated prior to the FWPCA, [10] the federal grant was set at seventy-five percent of the cost of construction.[11] Under section 205 of the FWPCA, the state allocation formula was originally set as "the ratio that the estimated cost of constructing all needed publicly owned treatment works in each state bears to the estimated cost of construction of all needed publicly owned treatment works in all the states."[12] A 1973 amendment to the FWPCA[13] allocated twenty-five percent of the authorized funds for fiscal year 1975 on the basis of population, the balance to be allocated on the basis of the following needs: improvement of treatment plants to achieve secondary treatment,[14] improvement of treatment plants to achieve technological levels higher than secondary treatment,[15] and expansion of interceptor, force main, and pumping station systems.[16] Explicitly excluded as justifiable needs under the allotment formula were the rehabilitation of

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would be set a funding limitation of 30% of the project. If the state agreed to pay 30% of the estimated reasonable cost (as determined by the Secretary), the funding limitation would be raised to 40% of the project. Finally, the federal funding obligation would be 50% of construction costs, with a concomitant state obligation for 25% of the estimated reasonable costs upon proof of the establishment of enforceable water quality standards. An additional federal grant of ten percent of the project would be allocated, upon the certification of the project with a comprehensive plan on a regional or metropolitan level. *Id.* at 4-5.

9. *See* 33 U.S.C. § 1285(a) (Supp. II, 1972).

10. *See id.* § 1286(a).

11. *See id.* § 1282(a).

12. *Id.* § 1285(a).

13. *See* 1 U.S. CODE CONG. & AD. NEWS 1194-95 (1973).

14. Under § 301(b)(1)(B) of the FWPCA, all municipal treatment plants must reach effluent limitations meeting the standard of "secondary treatment" by July 1, 1977. 33 U.S.C. § 1311(b)(1)(B) (Supp. II, 1972).

15. Despite EPA claims that, in 1973, states lacked the technology to adequately define "treatment needs beyond secondary treatment" so as to estimate costs, at least 17 states were confident that cost data could be accurately collected to meet the standard. S. REP. No. 630, *supra* note 8, at 5.

16. For a discussion of the adverse land use effects of interceptor sewer construction under the § 201 construction grant program of the FWPCA see note 125 and accompanying text *infra.*

sewers to correct infiltration and inflow,[17] eligible new collection systems,[18] and connection of overflows from combined sewers.[19] The basic rationale for the change in the allocation formula was its discriminatory treatment of several southern states.[20] For example, under the population-based

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17. Despite protests from some states that accurate cost estimates for the rehabilitation of sewers were available, EPA held that estimates could not be made of the infiltration/inflow needs of municipal systems within federal guidelines by 1973. EPA also demanded that municipal applicants prove that the costs of rehabilitating treatment plants were less than the cost of construction, operation and maintenance of the segment of the facilities essential to the effective movement and treatment of the additional waste resulting from infiltration/inflow of the system. S. REP. No. 630, *supra* note 8, at 5.

18. The exclusion of considerations of needs for eligible new collection systems from the allotment formula relates to the explicit EPA policy against the funding of new collection sewer systems for the unanticipated expansion of existing communities, or for the establishment of new communities. *Id.* at 5-6. For a related provision in the FWPCA see § 211 which prohibits the use of construction grants for sewage collection systems for the previously cited purposes. 33 U.S.C. § 1291 (Supp. II, 1972).

19. EPA rationalized that by not considering combined sewer overflows it would save from $40 to $80 billion from the costs of the construction program, assuming that a reduction of 50 to 80% of the major pollutant concentrations was the targeted goal. S. REP. No. 630, *supra* note 8, at 6.

In its 1974 Water Strategy Paper, EPA reported that the legislative history of the FWPCA failed to mention whether combined sewer overflows should be subject to an effluent standard as well as a water quality standard. Unlike the "secondary treatment" standard for treatment works, EPA cited no technological standard that has been accepted as an appropriate level of treatment for combined sewer overflows. As an interim strategy, EPA presented the following proposals:

> Where overflow conditions have been studied and overflow needs are presently known, treatment of overflows can be given comparable eligibility with treatment plant construction in terms of access to Federal funding under Title II. States are thus at liberty to handle acute overflow problems on a case-by-case basis, but will not be required to provide correction of all problems by 1977. . . . Where wet weather conditions have not been studied and needs have not been assessed, the NPDES permit program will become the vehicle to produce such analysis. Permits will require municipalities to monitor overflows, and, within 1-2 years, develop a plan for their correction to meet water quality standards.

U.S. ENVIRONMENTAL PROTECTION AGENCY, WATER QUALITY STRATEGY PAPER, SECOND EDITION 46-47 (1974) [hereinafter cited as EPA 1974 STRATEGY PAPER]. As facility planning and areawide waste treatment planning processes develop, correction strategies will be formulated for the control of combined sewer flows.

20. *See* S. REP. No. 630, *supra* note 8, at 3-4. The states cited as being adversely affected by the needs formula under the original § 205(a) of the FWPCA included, among others, North Carolina, Alabama, Georgia and Texas. Particular beneficiaries under the original formula of the FWPCA were New Jersey, Michigan and Maryland. *Id.* For a description of the pre-FWPCA allotment formula see note 8 *supra.*

formula, Texas will receive $391.6 million of the $7 billion authorization for fiscal year 1975. Under the original state need formula, however, Texas' allotment would have been only $193.9 million.[21]

Funding problems have also risen under the FWPCA as originally passed because federal matching funds were available only for "complete and operable treatment works."[22] Due to the long lead time needed to plan and build treatment works, compliance with this requirement was difficult. A 1973 revision to section 203 of the FWPCA now allows states to separate individual waste treatment facilities into several funded projects; this change relieves the states of the burden of funding only a few large projects each fiscal year that could be categorized as "complete and operable treatment works."[23] This phased approach to the construction program will facilitate state planning of treatment works over several years. Patterned after the authority and procedures of the Federal-Aid Highway Act,[24] section 203 of the FWPCA allows for separate Plans, Specifications and Estimates (PS&E) for each stage of the "treatment works" construction process as defined in section 212.[25] As the Conference Committee commented, the applicant may now file a PS&E for any of the following elements of the construction process: a project to determine the feasibility of a treatment works; an engineering, architectural, legal, fiscal or economic investigation; and the actual building of a treatment works.[26]

Title II of the FWPCA includes several management requirements that must be met as a condition to the receipt of federal construction grants. This management program must include provisions for the following environmental design factors: recycling of potential sewage pollutants through the production of farm goods, forest, or water-related

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21. S. REP. No. 630, *supra* note 8, at 4.

22. *See* STAFF OF SENATE COMM. ON PUB. WORKS, 93d CONG., 1st SESS., A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 167-69 (1973) [hereinafter cited as LEGISLATIVE HISTORY].

23. *See* 1 U.S. CODE CONG. & AD. NEWS 1195 (1973).

24. 23 U.S.C. § 106 (1970).

25. Under EPA regulations for the construction grant program of the FWPCA, there are three distinct stages of construction funding: (1) facilities plan and related processes, (2) preparation of construction drawings and specifications, and (3) fabrication and building of a treatment works. *See* 40 C.F.R. § 35.920-3 (1975). Provision is also made for a form of combination stage (2) and (3) grant. *See id.* § 35.920-3(d).

26. LEGISLATIVE HISTORY, *supra* note 22, at 168.

products, or any combination thereof;[27] a general integrated program for the recycling and reclamation of wastewater;[28] ultimate disposal of sludge in an environmentally secure manner;[29] site planning development of the treatment works with open space and recreational design features;[30] and "to the extent practicable," development of the management program on an areawide basis and "control or treatment of all point and nonpoint sources of pollution, including in place or accumulated pollution sources."[31] These alternative waste management techniques are required in order to reduce the pollution load of the waste treatment systems as much as possible. Section 201(g)(2)(A) of the FWPCA also requires compliance with the technological standard of "best practicable waste treatment technology over the life of the works."[32] The grant applicant must also prove that the sewer collection systems discharging into the treatment works are not exposed to excessive infiltration.[33]

To meet the statutory requirements, a proposed treatment facility must be in compliance with both statewide basin planning and the areawide waste treatment management scheme.[34] The state water pollution control agency must also have certified the facility as entitled to priority over other treatment works in the state,[35] and the design and reserve capacity of the treatment works must have a direct relationship to the needs of the reasonable and foreseeable industrial, community and residential growth of the region.[36]

Section 204 of the FWPCA specifies the financing mechanisms that must be used to fund waste treatment plants. The applicant must show that two financing mechanisms have been instituted: user charges for the proportionate share of the operation and maintenance costs by

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27. FWPCA Amendments of 1972 § 201(d)(1), 33 U.S.C. § 1281(d)(1) (Supp. II, 1972).

28. *Id.* §§ 201(d)(3), (e), 33 U.S.C. §§ 1281(d)(3), (e).

29. *Id.* § 201(d)(4), 33 U.S.C. § 1281(d)(4).

30. *Id.* § 201(f), 33 U.S.C. § 1281(f).

31. *Id.* §§ 201(c), (g)(2)(B), 33 U.S.C. §§ 1281(c), (g)(2)(B).

32. 33 U.S.C. § 1281(g)(2)(A). Note that under § 301(b)(2)(B), the effluent limitations of the FWPCA require that by July 1, 1983, all public treatment facilities must meet the same technological standards as are required in the construction grant program. *Id.* § 1311(b)(2)(B).

33. *Id.* § 201(g)(3), 33 U.S.C. § 1281(g)(3).

34. *Id.* § 204(a)(1), 33 U.S.C. § 1284(a)(1).

35. *Id.* § 204(a)(3), 33 U.S.C. § 1284(a)(3).

36. *Id.* § 204(a)(5), 33 U.S.C. § 1284(a)(5).

each recipient (whether industrial, commercial or residential), and cost recovery for that portion of the construction costs of the treatment works allocable to the treatment of the wastes of the industrial user (as measured by the strength, volume and flow characteristics of the wastes) to the extent of the federal grant obligation. It is also required that the applicant be capable of guaranteeing adequate construction, operation and maintenance of treatment works throughout his jurisdiction.[37] To accomplish this the applicant will be allowed to retain from the charges levied against industrial users, for waste treatment use, an amount equal to the non-federal cost of the facility's construction plus a sum sufficient for future expanion and reconstruction, not to exceed fifty percent of the revenues of the treatment works.[38]

The user charge scheme and capital cost recovery plan have been criticized by municipalities, sewer districts, and other public recipients of the construction grants.[39] Given the stringent pretreatment provisions of the FWPCA,[40] the industrial user's costs of discharging into municipal

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37. *Id.* § 204(b)(1)(C), 33 U.S.C. § 1284(b)(1)(C).

38. *Id.* § 204(b)(3), 33 U.S.C. § 1284(b)(3).

39. *See Hearings on Implementation of the Federal Water Pollution Control Act Before the Subcomm. on Investigations and Review of the House Comm. on Public Works,* 93d Cong., 2d Sess. 173-230 (1974) [hereinafter cited as *House Hearings on Implementation of FWPCA*].

40. Under §§ 307(b)(1)-(4) of the FWPCA, pretreatment standards are to be developed for industries discharging directly into municipal treatment plants. Industrial dischargers are not responsible for compliance as "point sources" under the technological deadlines of Title III nor are they held to the requirements of the federally supervised permit system under Title IV. The General Counsel of EPA has described the particular obligations of industrial dischargers into municipal treatment plants:

> A discharger into a publicly owned treatment system is not required to obtain a permit under the FWPCA, although a permit may be required by municipal law. The treatment works themselves, however, must receive a permit for discharges into the water, and each such permit must provide for notice to EPA or the state, depending on which issued the permit, of any substantial change in the volume or character of pollutants introduced into the works. Where the permit of the treatment works is violated, EPA, or the state if it has a federally approved permit program, may bring an action to restrict or prohibit any new tie-ins to the treatment works.

Zener, *supra* note 2, at 685-86 (footnotes omitted). *See* FWPCA Amendments of 1972 §§ 301(b)(1)(A), (2)(A), 307(b)-(d), 402(b)(8), (9), (h), 33 U.S.C. §§ 1311(b)(1)(A), (2)(A), 1317(b)-(d), 1342(b)(8), (9), (h) (Supp. II, 1972).

New York State's Department of Environmental Conservation has been particularly critical of the pretreatment standards imposed upon industrial dischargers utilizing municipal treatment plants:

> The pre-treatment [sic] guidelines for industrial wastewater establish overly stringent levels of pretreatment prior to discharge and final treatment in a

treatment systems are higher than those of the non-industrial users. The capital cost recovery provision has also been attacked as adding to the inequitable economic burden levied against industrial users of public treatment works.[41] EPA has defended this provision by contending that industries are treated equally, and that it is not a proper function of the federal government to finance the treatment of industrial wastes by public systems.[42] Several metropolitan sewer districts have criticized the user charge provision for its failure to provide for assessment of user charges through ad valorem property taxes.[43] EPA subsequently permitted the

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municipal system. The degree of pretreatment required must recognize compatibility and treatability of the industrial waste water and domestic sewage and not merely require removal of pollutants that can effectively be removed in the municipal treatment plant. This unnecessary expense for pretreatment adversely affects the implementation of regional municipal systems.

House Hearings on Implementation of FWPCA, supra note 39, at 147.

41. For a useful discussion of the enforced "internalization" of the cost of water pollution abatement by industrial dischargers through the implementation of the technological requirements of the effluent standards and the federally supervised permit system see Zener, *supra* note 2, at 696-702. For an excellent presentation of the application of welfare economic analysis to the problem of regulating the "negative externalities" of industrial water pollution see J. SENECA & M. TAUSSIG, ENVIRONMENTAL ECONOMICS 25-89 (1974). Generally, the central problem in the regulation of industrial water pollution is that certain natural resources, *i.e.* air and water resources, have been considered common property. Hence, without the public administration of a system of effluent charges or penalties, an industrial firm would not be forced to consider the reduction of its level of effluent discharge in its cost of business administration:

> Effluent charges are essentially rents charged for the lease of rights to dispose of wastes in publicly owned environmental resources. The theoretically correct level of effluent charges is the external cost of the marginal unit of unpolluted air or water or some other environmental resource, which is the equal to the sum of the marginal valuations of the unpolluted resource to potential consumers.
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> In terms of equity criteria, effluent fees internalize external costs directly to the producers and consumers of products responsible for environmental deterioration.

Id. at 88, 244.

42. *House Hearings on Implementation of FWPCA, supra* note 39, at 43-44. Note that this defense of the capital cost recovery provision of the FWPCA was presented in response to a suggestion by the New England Water Pollution Control Association that the implementation of the capital cost recovery program be changed from March 1, 1973, to March 1, 1975.

43. For an elaborate defense of the assessment of user charges through ad valorem property taxes see the statement of the Metropolitan Sanitary District of Greater Chicago in *House Hearings on Implementation of FWPCA, supra* note 39, at 185-89. Primarily, the defense was based upon the existing efficiency of the sewer district's collection system:

addition of such a provision, but the Comptroller General ruled that since ad valorem taxes were not proportionate to the use of such facilities, they were an improper method of assessing user charges.[44]

On February 11, 1974, EPA promulgated final regulations for the construction grant program.[45] These regulations introduced a three-stage process for the funding of waste treatment facilities under the FWPCA as authorized by the recent amendment to the statute: (1) preparation of a preliminary facilities plan, (2) preparation of construction drawings and specifications, and (3) building and erection of a treatment works segment.[46] The regulations also permit a hybrid grant to cover stages (2) and (3) if no preliminary facilities plan has been approved.[47] A recent report by the Comptroller General criticized this hybrid grant as contrary to the legislative intent of the FWPCA.[48] Despite this criticism, the hybrid grant has been justified by the EPA on the basis of dollar and time savings and state antagonism to repeal of the hybrid grant program authority.[49]

Currently, 98% of the real estate taxes levied are collected. This record is primarily due to the efficiency of the county tax billing and collection system. Billing and collection is done at no cost to the District. Property lien provisions assure a high level of collection.

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The uncertainty of collection of the user charges would produce significant budget problems. A prognosis of water usage and the percent of collection of user charges would be extremely difficult. Major factorial influences, such as water costs, could result in reduced consumption and revenue. If this should occur in an extremetly "wet year" the ad valorem tax revenue may not be adequate to cover the cost of treating storm flows. This, in turn, could result in a deficit for the particular year which is not permitted by statute.

Id. at 186, 188.

44. 5 ENVIRONMENT RPTR. CURRENT DEV. 1907 (1975).

45. 39 Fed. Reg. 5252 (1974).

46. 40 C.F.R. § 35.920-3 (1975).

47. *Id.* § 35.920-3(d).

48. COMPTROLLER GENERAL, REPORT TO THE SUBCOMMITTEE ON ENVIRONMENTAL POLLUTION, COMMITTEE ON PUBLIC WORKS, UNITED STATES SENATE: IMPLEMENTATION OF FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972 IS SLOW 14-20 (1975) [hereinafter cited as REPORT ON ENVIRONMENTAL POLLUTION].

49. The justifications include: "(1) relatively high administrative costs which would be incurred if low-dollar grant awards were processed through separate project steps, (2) time savings when reconstruction of a sewage treatment works following a natural disaster is urgently required, and (3) a strong interest by some States in retaining the step 2 and 3 project grant award authority." *Id.* at 19-20.

Although a presentation of the land use implications of the section 201 construction grant program will be reserved for a later section of the Article,[50] a few comments should be made now concerning the effect of the construction grants program on industrial location decisions. The disposal costs of industrial waste is a factor influencing the choice of new industrial locations. Therefore, the construction grant program has important planning implications because of its secondary effects on these locational choices. The Council on Environmental Quality (CEQ) was concerned that the cost sharing and pretreatment requirements of the FWPCA for industries might stimulate firms to handle their wastes themselves. Industrial location would then be less influenced by the availability of public sewer systems, and new industry could be dispersed in a manner not necessarily conducive to desirable land use planning design.[51]

If the CEQ Report is incorrect in assuming that industries may decide it is cheaper to handle their industrial wastes themselves, however, then the industrial location decision will be significantly affected by the availability of public sewer systems. Section 211 of the FWPCA states that public treatment works construction grants should be directed to existing communities for the replacement of existing collection systems or the construction of new systems, and contains an explicit provision forbidding the local use of construction grant funds for public sewage collection systems that subsidize new communities and new subdivision planning and development.[52] Since section 211 limits the construction grants for public treatment works to existing communities, an industry desir-

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Based upon the rationale of expediting the § 201 construction grant program for the stimulation of the construction industry, the National Utility Contractors Association has recommended that the $5 billion recently released from impoundment be allocated immediately for construction. In its findings, the Association stated that: "Each $1 billion spent could result in the creation of nearly 40,000 jobs. . . . Expending construction grants funds could solve from 23 to 42 percent of the unemployment problems in individual States' construction industries." 5 ENVIRONMENT RPTR. CURRENT DEV. 1813 (1975). Congressman Jim C. Wright has presented legislation to expedite the § 201 construction program and thereby aid the economic condition of the utility construction industry. *Id.* at 1878.

50. *See* notes 119-27 and accompanying text *infra.*

51. COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE FIFTH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 35 (1974) [hereinafter cited as CEQ FIFTH ANNUAL REPORT].

52. 33 U.S.C. § 1291 (Supp. II, 1972). *See* LEGISLATIVE HISTORY, *supra* note 22, at 167.

ing to locate in an area where it can hook up to a federally funded public treatment works will probably find that it must locate in an existing community. The section 211 preference for existing communities may help contain rather than disperse new industrial locations. Therefore, depending on both the effect that the financing mechanisms and grant limitations of the federal act will have on public treatment works, and on the cost to industry of processing its industrial wastes, it is unclear whether the FWPCA will advance an industrial locational policy of dispersal or one of containment.

Before a formal presentation of the conceptual dynamics of the water quality and land use planning processes of the FWPCA, the second major program provided by the Act will be examined—the NPDES with its federally supervised permit system for point sources.

B. *The Federal Permit System for the Control of Effluent Discharges as a Device for the Regulation of Land Uses*

Prior to the FWPCA, the imposition of water quality standards served as a vehicle for water pollution control through federal environmental legislation.[53] Under the Federal Water Quality Act of 1965, water quality programming centered on two procedures: "(A) water quality criteria applicable to interstate waters or portions thereof within such State, and (B) a plan for the implementation and enforcement of the water quality criteria adopted."[54] The FWPCA provides two categories of water quality standards: effluent standards for the control and ultimate elimination of pollutant discharges from all point sources and water quality standards for navigable waters. There is a philosophical difference between the two standards. The water quality standards, which were in use prior to 1972, were premised on the view that using water for waste disposal was proper so long as other uses of the water were not disturbed. The theory of effluent standards, however, is that all pollution is undesirable.[55] Although a

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53. *See* Zener, *supra* note 2, at 715.

54. *Id.* (footnotes omitted).

55. EPA's General Counsel stated that, "The basic scheme of the FWPCA is to require all dischargers to meet uniform technology-based effluent standards as a minimum. However, each body of water also has water quality standards, and a discharger may be required to achieve a greater reduction in his effluent

comprehensive discussion of the effluent standards procedure or the water quality controls of the FWPCA is beyond the scope of this Article, a discussion of the central concepts and technological requirements of the effluent limitations program of the FWPCA is necessary for an understanding of the NPDES permit system and its effect on land use development. In the subsequent analysis of the section 303(e) statewide basin planning process the implementation of the water quality standards of the FWPCA will be discussed.[56]

Title III of the FWPCA imposes statutory deadlines on effluent dischargers for compliance with the various pretreatment technologies required by the Act. This schedule differentiates according to three classifications: traditional point sources, municipal waste treatment facilities, and "new sources." For traditional point sources,[57] the technological standard of "best practicable control technology currently available" must be met by July 1, 1977. Factors to be considered under this technological standard are the total cost of applying the technology compared to the effluent reduction benefits to be achieved, the age of the facilities, the process employed, the engineering aspects of applying the technology, process changes, and the non-water environmental impact (including energy requirements).[58] By July 1, 1983, these sources must achieve the technological standard of the "best available technology economically achievable . . . which will result in reasonable progress toward the national goal of eliminating the discharge of all pollutants. . . ."[59] Factors to be weighed under this higher technological standard are not within the "total cost" limits of the 1977 "best practicable" test, but include the other criteria contained in the lower standard.[60]

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than the applicable effluent standard would require if such a reduction is necessary to meet the water quality standards applicable to the body of water that receives his effluent." *Id.* at 694.

56. *See* notes 133-55 *infra.*

57. *See* FWPCA Amendments of 1972 § 301(b)(1)(A), 33 U.S.C. § 1311(b)(1)(A) (Supp. II, 1972). Note that the following "point sources" are not regulated under the technological standard of "best practicable control technology currently available" for the 1977 deadline: municipal waste treatment plants and industrial dischargers into treatment plants. For the definition of "point source" under the FWPCA see *id.* § 502(14), 33 U.S.C. § 1362(14).

58. *See id.* § 304(b)(1)(B), 33 U.S.C. § 1314(b)(1)(B).

59. *Id.* § 301(b)(2)(A), 33 U.S.C. § 1311(b)(2)(A).

60. *See id.* § 304(b)(2)(B), 33 U.S.C. § 1314(b)(2)(B).

The 1977 level for discharges from then existing municipal waste treatment facilities is also regulated by "secondary treatment" effluent limitations.[61] The manner of treatment is not described in the FWPCA. It is, however, usually referred to as a biological process that uses bacteria to rapidly decompose organic wastes resulting in an improvement of the natural purification procedure.[62] The 1983 level for existing treatment facility discharges[63] is the "best practicable waste treatment technology over the life of the works."[64] Discharges into municipal treatment facilities must also immediately comply with pretreatment standards set by EPA regulation.[65]

As required by the FWPCA, EPA has adopted regulations setting effluent limitations for "new sources."[66] At least twenty-seven industries have been specified as sources for which specific EPA regulations must be established.[67] The term "new source" was vaguely defined by the FWPCA as a "source" whose construction is commenced after the publication of the respective regulations specifying effluent limitations.[68] For "new sources," the FWPCA requires its highest technological standard: "a standard for the control of the discharge of pollutants which reflects

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61. *Id.* § 301(b)(1)(B), 33 U.S.C. § 1311(b)(1)(B).

62. IZAAK WALTON LEAGUE OF AMERICA, A CITIZEN'S GUIDE TO CLEAN WATER 84 (1973).

63. FWPCA Amendments of 1972 § 301(b)(2)(B), 33 U.S.C. § 1311 (b)(2)(B) (Supp. II, 1972).

64. *Id.* § 201(g)(2)(A), 33 U.S.C. § 1281(g)(2)(A).

65. *See id.* §§ 307(b)-(d), 33 U.S.C. §§ 1317(b)-(d). In its 1974 Water Strategy Paper, EPA has described the policy rationale for the pretreatment requirements for industrial dischargers into municipal treatment plants:

> Pretreatment standards for new and existing sources have been written to protect the operations of the treatment works into which user industries discharge, and to prevent the pass-through of pollutants which are inadequately treated. . . . A pretreating industry is asked to complement the removal characteristics of the municipal plant it uses and to which the plant is commited in its NPDES permit; as the treatment process employed in the plant varies, so will the pretreatment limitation. . . .
> . . . As a rule pretreatment standards apply only to industries which discharge in excess of 50,000 gallons per day, or which account for more than 5% of the influent to municipal works, or which discharge toxic pollutants.

EPA 1974 STRATEGY PAPER, *supra* note 19, at 27.

66. FWPCA Amendments of 1972 § 306, 33 U.S.C. § 1316 (Supp. II, 1972). *See generally* Zener, *supra* note 2, at 695-96.

67. *See* FWPCA Amendments of 1972 § 306(b)(1)(A), 33 U.S.C. § 1316 (b)(1)(A) (Supp. II, 1972).

68. *Id.* § 306(a)(2), 33 U.S.C. § 1316(a)(2).

the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants."[69] The Conference Committee distinguished the "new source" technological standard from the other effluent standards by reasoning that "pollution control alternatives are available to a new source which are not available to existing sources."[70]

In summation, the cost analysis under the effluent limitations program can be distinguished according to the three types of point sources under the FWPCA. Since the 1977 "best practicable" standard is the only one that specifically requires utilization of a cost-benefit analysis, a detailed cost-benefit analysis should not be employed with the 1983 "best available" standard and new source performance standards. For the latter two standards, cost should be considered as simply another factor used in deciding whether a certain technology must be incorporated. Thus, in the application of the 1983 and new source standards, if an industry is able to afford a certain means of water pollution control the industry may be required to institute that technology.[71]

A separate cost analysis is required under the effluent limitations program for those point source discharges that would interfere with attainment of the water quality standards imposed under the FWPCA.[72] The

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69. *Id.* § 306(a)(1), 33 U.S.C. § 1316(a)(1).

70. *See* LEGISLATIVE HISTORY, *supra* note 22, at 172. The Conference Committee also stated the policy rationale for the differing degrees of EPA involvement in specifying the technological standards for existing and new point sources:

> The Conference agreement requires establishment of a regulatory mechanism for new sources which anticipates not only that level of effluent reduction which can be achieved by the application of technology (including elimination of the discharge of pollutants), but also the achievement of levels of pollution control which are available through the use of improved production processes. This does not mean that the Administrator is to determine the kind of production processes or the technology to be used by a new source. It does mean that the Administrator is required to establish standards of performance which reflects [sic] the levels of control achievable through improved production processes, end of process technique, etc., leaving to the individual new source the responsibility to achieve that level of performance by the application of whatever techniques determined available and desirable to that individual owner or operator.

Id. at 172-73.

71. Zener, *supra* note 2, at 699-700.

72. *See* FWPCA Amendments of 1972 § 302, 33 U.S.C. § 1312 (Supp. II, 1972).

effluent limitation for these discharges must be justified at a public hearing as being validly based upon an appraisal of the economic and social costs of achieving the effluent limitation as compared to the social and economic benefits obtained from the limitation's attainment. The public hearing must also consider whether the effluent limitations can be implemented with available technology.[73]

A federal permit under the NPDES must also consider the water quality standard that is developed through a multi-phased procedure culminating in the section 303(e) statewide basin planning process.[74] Generally, the FWPCA provisions for the development of water quality standards defer to existing state programs established under the pre-FWPCA legislation.[75] Before a state begins the section 303(e) planning, however, the FWPCA requires it to perform three separate analyses. First, the state must identify the waters within its jurisdiction for which the effluent limitations (as required for point sources and municipal treatment plants under the 1977 levels) are not stringent enough to meet the particular water quality standard.[76] Secondly, it must establish the total maximum daily load of certain pollutants for these identified water segments.[77] Finally, the state is required to institute priority rankings for both "water quality" and the less seriously polluted "effluent limitation" segments.[78]

Under the NPDES program of the FWPCA, most point source dischargers into navigable waters will be required to obtain a permit.[79] The effluent limitations, water quality standards, and toxic effluent standards[80]

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73. *Id.* § 302(b)(1), 33 U.S.C. § 1312 (b)(1).

74. 33 U.S.C. § 1313 (Supp. II, 1972). *See generally* Zener, *supra* note 2, at 719-21.

75. *See* Zener, *supra* note 2, at 719.

76. FWPCA Amendments of 1972 § 303(d)(1)(A), 33 U.S.C. 1313 (d)(1)(A) (Supp. II, 1972).

77. *Id.* § 303(d)(1)(C), 33 U.S.C. § 1313(d)(1)(C).

78. *Id.* § 303(d)(1)(A), 33 U.S.C. § 1313(d)(1)(A). For a discussion of the water quality planning differences between the EPA state-wide basin planning program for "water quality" and "effluent limitation" segments see notes 137-60 and accompanying text *infra.*

79. For a decision of a lower federal court concerning the limits of EPA exemption of certain "point sources" from permit responsibility under the NPDES program see NRDC v. Train, 396 F. Supp. 1393 (D.D.C. 1975).

80. Although an analysis of the toxic effluent standard-setting program of the FWPCA is beyond the scope of this Article it should be stated that the central EPA strategy for the control of toxic pollutants is presented in § 307 of the FWPCA. 33 U.S.C. § 1317 (Supp. II, 1972).

will be used as the criteria for issuance of federal discharge permits. The General Counsel of EPA has described the NPDES program as providing a synthesis of the effluent limitation, the water quality standard, and the municipal waste treatment programmatic strategies of the FWPCA.[81] EPA views the permit as a means of applying the effluent limitations and water quality standards to a specific discharger, as well as a means of applying the timetable to which a particular discharger must comply.[82]

Essential to an undertanding of the NPDES program are the interrelated federal and state responsibilities in the administration of the permit system. Under section 401, any applicant for a federal permit must obtain a certification from the state in which the discharge originates stating that the discharge into navigable waters will comply with the effluent limitations, water quality limitations, toxic and pretreatment effluent standards, and new source regulations.[83] Section 401 provides that the states will have a potential veto over any federal permit issued that would violate state water quality standards or effluent limitations.[84] The states may also attach conditions to the certification decision for integration with the federal permit.[85] In section 402(b) the FWPCA states that the NPDES permit system may be transferred to the states, provided that the federal statutory requirements for the operation of the system are met.[86] The two means for federal intervention over the ad-

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81. Zener, *supra* note 2, at 728.

82. *Id.*

83. 33 U.S.C. § 1341(a)(1) (Supp. II, 1972). A certification by the state for the operation of a pollutant discharger will not satisfy the requirements for "new sources" under NEPA review of the FWPCA. *Id.*

84. *Id.*

85. FWPCA Amendments of 1972 § 401(d), 33 U.S.C. § 1341(d) (Supp. II, 1972). Under the certification process, the states have the power, prior to the initial operation of a discharger under the NPDES program, to initiate permit suspension hearings, coordinated by EPA, despite the existence of an approved permit. *See id.* § 401(a)(4), 33 U.S.C. § 1341(a)(4).

86. 33 U.S.C. § 1342(b) (Supp. II, 1972). These requirements include the power under state law,

> to issue permits which apply the requirements of the FWPCA; to conduct monitoring of permittees at least to the extent required by § 308 of the FWPCA; to notify the public of each permit application and provide an opportunity for public hearing; to give EPA, any affected downstream state, and the Corps of Engineers an opportunity to object to any proposed permit on appropriate grounds; and to impose certain requirements on users of publicly owned treatment works.

Zener, *supra* note 2, at 735.

ministration of these state programs are the veto of particular state permits[87] and the suspension of the state permit system[88] with the related resumption of the federal permit program. The federal government could also issue a compliance order for a discharger's violation of a state permit or bring a civil action for appropriate relief.[89]

The effluent limitations, water quality standards, and NPDES programs of the FWPCA could have profound effects upon the location of industrial land uses. Despite the higher technological standards for "new sources," the FWPCA's effluent limitation program may induce industries to abandon existing congested sites and move to undeveloped areas at the urban fringe.[90] A key economic incentive for this relocation may be the lower cost of pollution abatement technology for new industrial plant siting and land acquisition at the urban fringe.[91] The NPDES program and water quality standards developed through the section 303(e) statewide basin planning will also discourage industrial location in the seriously polluted "water quality" segments designated under the basin planning process.[92]

The CEQ reports that the process of industrial location in the urban fringe could be beneficial to land use planning if industries locate in small towns that need jobs, but harmful if urban sprawl is advanced.[93] Given the tardiness of the NPDES program in meeting its statutory deadlines under the FWPCA, however, these land use implications may be delayed.[94] In the interim, EPA has adopted modifications of the original procedures for setting technological standards for permits issued under the NPDES program. If effluent guidelines have not been instituted, industrial dischargers will be issued permits based on the "best technical

87. FWPCA Amendments of 1972 § 402(c)(1), 33 U.S.C. § 1342(c)(1) (Supp. II, 1972).

88. *Id.* § 402(c)(3), 33 U.S.C. § 1342(c)(3).

89. *Id.* § 309(a), 33 U.S.C. § 1319(a).

90. *See* CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 35.

91. *Id.*

92. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, GUIDELINES FOR PREPARATION OF WATER QUALITY MANAGEMENT PLANS 17-29 (1974) [hereinafter cited as EPA § 303(e) GUIDELINES]. *See also* F. Bosselman et al., EPA Authority Affecting Land Use 93 (1974) (prepared for EPA and on file with the *Urban Law Annual*).

93. CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 35.

94. *See* REPORT ON ENVIRONMENTAL POLLUTION, *supra* note 48, at 21-35.

judgment of feasible control technology."[95] If water quality standards are not available, "effluent guidelines with maximum daily pollutant loads are the basis for the permit."[96]

The key provision of the NPDES program as related to land use development is section 402(h), which relates to the conditions EPA may impose on the permit's issuance. This section provides that upon the violation of an EPA-imposed permit condition by a municipal waste treatment facility, a state administering an EPA-approved permit system may utilize judicial proceeding to prevent the introduction of any pollutant into the treatment works by a source that was not using the treatment plant prior to discovery of the violation.[97] If the state can prevent the hookup

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95. *Id.*

96. CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 143-44. In the report, CEQ stated that a priority processing and issuance system has been established by EPA and the states for permit applications:

> The primary goal is to concentrate on permits which have the greatest beneficial effect on water quality. The first priority, therefore, is to cover the major dischargers. Approximately 4,600 major dischargers have been identified, of which 60 percent are industrial and 40 percent are municipal. It is planned to issue permits to all these dischargers by June, 1975. In total, almost 12,500 permits were issued by EPA and the states by June, 1974. An additional 32,000 permits are planned to be issued by June, 1975. These issuances will include virtually all municipal and industrial dischargers. Those remaining will be in commercial, governmental, and agricultural areas, vessels, and privately owned treatment plants.

Id. at 143.

97. 33 U.S.C. § 1342(h) (Supp. II, 1972). The sewer moratorium technique, as applied by state, substate, regional and local governments as a form of developmental growth control, can be viewed as a useful analogy to the § 402(h) procedure under the FWPCA. A recent study of sewer moratoria as a growth control technique has listed the following circumstances as appropriate for the application of the technique as an interim control:

> 1. Insufficient capacity, or leaks, in trunk transmission lines or interceptors causing overflow of effluent on its way to treatment. . . . 2. Use of the same transmission system for both sanitary sewage and storm drainage, resulting in backups and overflows during wet weather. 3. Insufficient lines or treatment facilities, combined with local permissiveness toward septic tank development, resulting in pollution of ground water and streams. 4. Insufficient capacity in the waste treatment facilities themselves resulting in overflows and pollution of water bodies at the plant. 5. Inadequate standards of treatment resulting in constant discharge of pollutants at the final outfalls.

Rivkin, *Sewer Moratoria As A Growth Control Technique*, in 2 MANAGEMENT & CONTROL OF GROWTH: ISSUES, TECHNIQUES, PROBLEMS, TRENDS 473 (R. Scott ed. 1975) [hereinafter cited as Rivkin]. Among the forms of public actions that could be characterized as "moratoria" are a prohibition of new sewer connections, new sewer authorizations, the granting of new building permits, new subdivision development approvals, administrative zoning decisions resulting in higher densities than existing classifications, and a phased program for some or all of the above cited prohibitions. *Id.* at 474.

of any new dischargers into the treatment plant, growth in the community served by the treatment works will be limited. A new source of pollutants locating in the area would have to dispose of its own wastes. If the costs of the private disposal of the wastes are prohibitive, the new source will probably not locate in the community.

There are two empirical studies of particular significance in the evaluation of the land use impacts of sewer moratoria, *i.e.* those of the International City Management Association and of the U.S. Department of Housing and Urban Development (HUD). The former study found that 60% of the jurisdictions reporting moratoria used the technique of delaying building permits and 42% used the sewer moratorium technique. *Id.* at 477. The latter study reported the following findings:

> Altogether, the data showed 226 jurisdictions with some form of sewer moratoria. The most actions, 127, were found in south Florida . . . , Cleveland, and northern New Jersey. . . . The relatively recent imposition of moratoria (nearly 70 percent of the cases in 1972-73) is noteworthy, and the expectation is of long or indefinite duration. . . . Far from giving impetus to reconcentration in central communities, the moratoria were encouraging sprawl by sending builders to jurisdictions that were not so strict on service provision and where land was cheap. People were getting houses, but at the expense of even longer driving times and an even more inefficient pattern of urban growth—hardly what the environmentalist advocates of moratoria anticipated.

Id. at 478-79. The HUD survey also found that the majority of moratoria have been imposed by local jurisdictions and that 13 states have imposed moratoria. *Id.* at 480.

Finally, two recent studies of the success of the sewer moratorium as a growth control device in the Washington, D.C. metropolitan area have rendered a negative assessment. One study has reported the following land use effects of the moratorium:

> 1. Short-term spurts of construction followed by sudden sharp drops in activity if facilities to relieve the moratoria are not forthcoming; the result is a dangerous imbalance in housing production. 2. Hardships and inequities for small builders who are economically vulnerable. 3. Discrimination against apartments and other cost efficient higher-density housing in some areas. 4. Serious roadblocks to production of low and moderate income housing such as escalating costs of land where sites are available, and discrimination against higher densities. 5. A distinct encouragement of urban sprawl to jurisdictions not covered by the controls but within commuting distance of major employment centers. There is concomitant encouragement of septic tank development in these areas and package treatment facilities which may or may not be at non-polluting standards. 6. A stimulus to complicated bureaucratic processes and capital works delays.

Id. at 481-82. For a similar appraisal of the sewer moratorium strategy in the Washington, D.C. metropolitan area see Hirst & Hirst, *Capital Facilities Planning As A Growth Control Tool And A Case Study of Metropolitan Washington, D.C.*, in 2 MANAGEMENT & CONTROL OF GROWTH: ISSUES, TECHNIQUES, PROBLEMS, TRENDS 461 (R. Scott ed. 1975). *See also* CENTER FOR URBAN AND REGIONAL STUDIES, THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL, GROWTH MANAGEMENT THROUGH DEVELOPMENT TIMING 98-118 (1974) (prepared for the Office of State Planning, Dept. of Administration, State of North Carolina).

In its 1974 Water Strategy Paper, EPA modified section 402(h) to meet the changing problems encountered by municipal treatment works in their development of the requisite technology. EPA stated that a public treatment works should be issued a five-year permit providing for full compliance with the 1977 standards upon a showing that no major construction is required, that any construction already begun will be completed by 1977, or that the source is high on the state's priority list and any proposed construction will not interefere with the 1977/1978 standards.[98] A three-year permit shall be issued to a municipal treatment works upon a finding that regardless what the facility does, the 1977/1978 standards will not be totally achieved. This three-year permit should contain interim schedules that can be attained during the term of the permit. Finally, EPA will review on an individual basis those public treatment facilities that can not complete construction by the 1977/1978 deadline. Under the proposal of the strategy paper, such a finding would allow EPA to issue a permit with a schedule of compliance that the treatment works can meet.[99]

EPA has also developed a special planning procedure for the inclusion of urban growth-related conditions in specific municipal treatment work permits.[100] For public treatment works where overload appears imminent (where over eighty-five percent of design flow or biochemical oxygen demand loading is being exceeded and over three percent population growth is being experienced at the time of permit issuance) growth-related conditions should be included in the municipal discharge permit.[101] These growth-related conditions include certain procedures designed to monitor the rate of hookups and the capacity of the municipal facility.[102] If the plant is presently overloaded, the strategies suggested for inclusion in the discharge permit include improved operation and maintenance of the facility or restriction of the plant intake.[103]

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98. FWPCA Amendments of 1972 §§ 301(b)(1)(B), (C), 33 U.S.C. §§ 1311(b)(1)(B), (C) (Supp. II, 1972).

99. EPA 1974 STRATEGY PAPER, *supra* note 19, at 36. For a description of the 1977 technological standards for municipal treatment works under the 1972 Amendments see notes 61, 62 and accompanying text *supra.*

100. *See* Environmental Protection Agency Memorandum to Regional Administrators On Determining Conditions For Municipal Permits In High Growth Areas, in 4 ENVIRONMENT RPTR. CURRENT DEV. 1599 (1974).

101. *Id.* at 1600.

102. *Id.*

103. *Id.* In the EPA policy for treating the existing overload problem, the primary emphasis will be placed in the three alternative strategies cited rather

Section 402(h) leads to larger water planning issues that will be analyzed in the second section of this Article. In the next section, land use planning and water quality planning will be viewed in relation to multi-media environmental control management systems. Two separate environmental planning frameworks under the FWPCA will be presented as types of planning processes for the prevention and control of water pollution. One of these frameworks consists of water quality—land use planning provisions of the FWPCA—section 303(e) statewide basin planning, section 208 areawide waste treatment facility treatment planning, and section 201 facilities planning—and represents one of the most innovative schemes for multi-media environmental planning under federal legislation. The other is the FWPCA requirement for an analysis under the National Environmental Policy Act (NEPA)[104] for waste treatment facility construction and new source discharge permits under the NPDES program. Finally, an example of a type of areawide waste treatment management planning and implementation agency will be presented, specifically the Metropolitan St. Louis Sewer District. This example is presented to illustrate how agencies in St. Louis respond to water planning and pollution control problems related to the FWPCA statutory framework.

II. Problems in Water Quality and Land Use Planning: Theoretical and Statutory Development

Prior to recent developments in federal and state land use legislation,[105] the dominant paradigm of water quality management planning was the

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than in the planning and management function. The EPA memorandum suggested, however, that in the planning process capacity will be set for "modest growth within the limits of the existing overload." For a description of related problems in the EPA articulation of modest load capacity in interceptor sewer extension planning see note 125 and accompanying text *infra*.

One commentator has suggested that § 402(h) permits be developed through an analysis of the optimal kinds of residential, commercial and industrial growth that the jurisdictional boundaries of the treatment facility should encourage. *See* F. Bosselman et al., *supra* note 92, at 117-18.

104. 42 U.S.C. § 4321-47 (1970), *as amended*, 42 U.S.C.A. § 4332(2)(D) (Pamphlet No. 5, 1975).

105. *See* California Coastal Zone Conservation Commission Act, Cal. Pub. Res. Code § 27104 (West 1972); Tahoe Regional Development Compact, Cal. Gov't Code § 66801 (West 1968); Florida Environmental Land and Water Management Act of 1972, Fla. Stat. Ann. § 380.012 (1974); Site Location of Development Act, Me. Rev. Stat. Ann. tit. 38, § 481 (Supp. 1973);

"end of the pipe" treatment technology approach, emphasizing the resolution of environmental degradation through construction of waste treatment facilities. This methodology has been criticized as disregarding the land use implications of water quality planning, and as incorrectly assuming that the water treating processes alone will fully implement water quality standards. The implicit assumption of this treatment technology is that there is no substantive relationship between water quality maintenance and residential and industrial growth patterns in land use development.[106]

State Land Use and Development Plans Act of 1973, VT. STAT. ANN. tit. 10, § 6001 (Supp. 1974). Note that California, Delaware, Maine, New Jersey, Rhode Island and Washington have enacted coastal zone management legislation; Connecticut, Georgia, Maryland, Massachusetts, North Carolina and Virginia have enacted wetlands legislation; Minnesota, Michigan and Wisconsin have enacted shoreland and flood plain legislation. *See* CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 49-50.

106. ALAN M. VOORHEES & ASSOCIATES, INC., INTERRELATIONSHIPS OF LAND USE PLANNING AND CONTROL TO WATER QUALITY MANAGEMENT PLANNING viii (1973) (prepared for EPA).

> Proponents of land use planning and control strategies claim that the [structural control] technology approach has been inadequate on four counts. First, control technologies have not been able, at the current level of funding, to keep pace with the growth in waste loads. Second, control technologies are not available for all sources. For instance, sediments, nitrates and phosphates resulting from land runoff are not practically susceptible to treatment at this time. Third, even the most effective technologies seldom achieve 100 percent removal, which may be necessary to sustain environmentally sound growth in some urban/industrial centers. . . . Fourth, the exponentially increasing costs associated with higher removal rates may impose economic burdens upon governments and private firms which are beyond current financial capacity.

Id. at viii-ix.

The Voorhees study presents useful data concerning the effect of non-point pollution loads on natural, agricultural, feedlot, single-family and multi-family residential, commercial, industrial, resource extraction, recreational and construction land uses. Also, the study sets guidelines for the analysis of urban growth rates, urban growth distribution, environmentally sensitive areas and open space, critical use siting, site planning and development, agriculture and silvaculture and resource extraction.

For a recent decision of the Commonwealth Court of Pennsylvania concerning an allegedly invalid grant of an interceptor sewer system to the Central Delaware County Authority by the Pennsylvania Department of Environmental Resources, without consideration of the secondary land use effects of sewer construction, see Community College of Delaware County v. Fox, ____ Pa. Commw. ____, 342 A.2d 468 (1975). In *Fox*, the Commonwealth Court held that § 5(a) of the Pennsylvania Clean Streams Law or the Pennsylvania Sewage Facilities Act, as construed through Article I, § 27 of the Pennsylvania Constitution, the Environmental Rights Amendment, did not obligate the Department of Environmental Resources to refuse the sewer construction grant. In

In contradistinction to the structuralist paradigm, several state and local legal techniques have been developed that seek to improve water quality through state and regional land use planning devices. These include state legislation for the protection of environmentally sensitive areas, *e.g.*, wetlands, lake shorelines, and coastlines;[107] special district formation;[108] low density zoning; flood plain zoning; public acquisition of environmentally sensitive areas and open space;[109] preferential tax assessment legislation for farmland and open space;[110] and subdivision control

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reaching its holding, the court stated that the only possible environmental harm that could result from the sewer construction would be "the possible future loss of current open space to future residential and commercial development, which may be a remote consequence of the installation of the sewer lines." *Id.* at 482. Explicit in the court's reasoning is the perceived bifurcation of the traditional sources of water pollution, *i.e.* pollutant discharges from industrial point sources, and non-point source pollution through urban sprawl.

107. *See* statutes cited note 105 *supra.*

108. For a careful review of special district formation see I ADVISORY COMM'N ON INTERGOVERNMENTAL RELATIONS, REGIONAL DECISION MAKING: NEW STRATEGIES FOR SUBSTATE DISTRICTS, SUBSTATE REGIONALISM AND THE FEDERAL SYSTEM 19-47 (1973) [hereinafter cited as SUBSTATE REGIONALISM].

109. *See* CAL. GOV'T CODE §§ 6950-54, 7000 (West 1966); MASS. ANN. LAWS ch. 40 § 8C (1973); WIS. STAT. ANN. § 23.09 (1973). One commentator has summarized the various means of public acquisition of environmentally sensitive areas and open space:

> The state could purchase, condemn or acquire by gift the full fee interest in particular land. It likewise could acquire a less-than-fee interest such as a development easement or right. Less frequently, a pre-existing public interest in particular land that is inconsistent with and superior to presently asserted private rights could be asserted on the basis of historic grants, prescription and customary usage.
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> . . . .
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> The financial burden might be lessened considerably if the growth control plan made use of easements instead of fee interests. Negative easements in the nature of development rights are not only far less expensive than the full fee, but both title and possession remain with the private owner, so that the land is taxable and usable within limits of the easement. Granting an easement instead of selling the entire fee can be of significant benefit to the landowner for tax purposes.

Freilich & Ragsdale, *Timing and Sequential Controls—The Essential Basis for Effective Regional Planning: An Analysis of the New Directions for Land Use Control in the Minneapolis-St. Paul Metropolitan Region,* 58 MINN. L. REV. 1009, 1072, 1074 (1974) [hereinafter cited as Freilich & Ragsdale].

110. The technique of preferential tax assessments for open space and farmland attempts to lower the tax burden on open spaces, thereby allowing rural property owners at the urban fringe to benefit from a property tax assessment at less than the full market value of the property. By a 1974 survey, it was estimated that 33 states have instituted some form of preferential tax assessment legislation. *See* CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 64. The principal variations among the various statutory forms take the following models: (1) di-

and phased development schemes through comprehensive state regulation and local ordinances.[111] From a conceptual urban planning perspective, two principal methodologies for non-structuralist planning have also been developed to control environmental degradation. These approaches include the land capability system of Ian McHarg and the secondary impact approach that analyzes waste treatment facility construction and interceptor sewer extension policy in terms of their effects on residential density and suburban sprawl.[112] The McHarg analysis sets the theoretical

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rectives to assessors for the assessment of rural or open space land at its use-value, not at its full market value at the urban fringe (*e.g.*, Connecticut, Florida and Iowa); (2) deferred taxation schemes under which the tax saved by the holder of the preferentially assessed land is cumulatively due following the conversion of the land, with a penalty (*e.g.*, Maryland, New Jersey and Washington); (3) deferred taxation schemes with "rollback arrangements" similar to model (2), but with a limitation for participation in the program for lands that have been designated under land use classifications by state and local planning commissions (Hawaii and Oregon); (4) preferential tax assessment schemes that are based upon a contractual relationship between the landowner and the county, thereby restricting the landowner's development of the land for ten years (California); and (5) capital gains tax on land, providing for a tax on short-term profit of up to 60% on sales of real property (Vermont). *See generally* Note, *Property Taxation of Agricultural and Open Space Land,* 8 HARV. J. LEGIS. 158 (1970).

111. *See* Site Location of Development Act, ME. REV. STAT. ANN. tit. 38, § 481 (Supp. 1973); State Land Use and Development Plans Act of 1973, VT. STAT. ANN. tit. 10, § 6001 (Supp. 1974). For an evaluation of the Maine and Vermont land use planning schemes see F. BOSSELMAN & D. CALLIES, THE QUIET REVOLUTION IN LAND USE CONTROLS 54-107, 187-204 (1971).

112. The classic model for long-term phased developmental plans by local communities is the 18-year capital budget program and comprehensive plan of the town of Ramapo, New York, upheld in Golden v. Planning Bd., 30 N.Y.2d 359, 285 N.E.2d 291, 334 N.Y.S.2d 138, *appeal dismissed,* 409 U.S. 1003 (1972). The planner for the Ramapo scheme has described it as:

> Ramapo, which has an area of 89 square miles, approached the control of growth by first developing a comprehensive plan and subsequently adopting an 18 year capital budget and program which projected the staged and sequential provision of necessary municipal services to all areas within the town. The zoning ordinance was then amended to provide that all residential development must proceed in accordance with the provision of adequate municipal facilities, and would be subject to the requirement of obtaining a special permit, based upon a total of fifteen development points from five categories: (1) public sanitary sewers; (2) drainage facilities related to adequate run-off capacity at maximum development; (3) improved parks and recreational facilities; (4) improved major and secondary collector roads; and (5) fire houses within appropriate distances. . . . Reduction of assessed valuation is granted to reflect the temporary restrictions placed on the use of land. Permits are issued presently for development at such time as the capital plan indicates the facilities will be available. Development time can be accelerated by the developer's agreement to provide the necessary

framework for the integration of water quality and land use planning within a multi-media enviromental planning context. The secondary impact approach criticizes the inadequacies of the structuralist approach as represented by the section 201 construction grant program of the FWPCA.

As a framework for understanding the possible inadequacies in the section 201 construction grant program and the design function of the section 208 areawide waste treatment planning process of the FWPCA, it is necessary to examine these planning approaches. Under the McHarg land capability approach, the physical environment is analyzed prior to the adoption of land use development planning policies. As adopted by the Ohio Department of Natural Resources and EPA in their respective guidelines for areawide waste treatment planning, this planning design features a five step analytical scheme. First, the geographic area for planning is set, usually corresponding to various sub-state governmental boundaries.[113] Second, physical data is collected into a manageable form under eight classifications: climate, historical geology, physiography (shape of the land and relationship of land features), hydrology, pedology (description and location of various soil types), vegetation, wildlife, and existing land use types, location, and intensity.[114] In this second stage maps are constructed to indicate the significance of certain physical features that will influence development, *e.g.*, bedrock level, underground water recharge areas, marshes, shorelines, critical areas, and suitability

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facilities for the accumulation of the required points, and variance relief can be granted if the subdivision is consistent with the town's comprehensive planning.

Freilich & Ragsdale, *supra* note 109, at 1054-55. Several land use commentators have criticized the Ramapo plan as being invalid as an exclusionary legal technique for developmental control. *See* Bosselman, *Can the Town of Ramapo Pass a Law to Bind the Rights of the Whole World?* 1 FLA. ST. U.L. REV. 234 (1973); Franklin, *Controlling Urban Growth—But for Whom?*, 24 ZONING DIGEST 307 (1972).

113. *See* DIVISION OF PLANNING, OHIO DEP'T OF NATURAL RESOURCES, A NEW APPROACH TO LAND USE PLANNING IN OHIO 8 (1973) [hereinafter cited as OHIO LAND USE PLANNING GUIDELINES]. Note that the guidelines for § 208 areawide planning under the FWPCA have incorporated the water quality-land use planning model of the Ohio Department of Natural Resources. *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, GUIDELINES FOR AREAWIDE WASTE TREATMENT MANAGEMENT PLANNING 4-1 to -8 (1975) [hereinafter cited as EPA § 208 GUIDELINES].

114. OHIO LAND USE PLANNING GUIDELINES, *supra* note 113, 9-11.

of various soil types for development.[115] Third, the physical features of the geographical area are analyzed for their suitability for residential, industrial, agricultural, recreational and other land uses.[116] Fourth, population forecasts and economic projections are implementated as developmental constraints over a set time period. Fifth, projected land use needs are considered for residential, industrial, commercial and other land uses.[117] As an integral part of this step, a comprehensive plan will be developed, indicating general locations for future development[118] and relying on the information previously developed.

Under the secondary impact approach to non-structuralist planning, waste treatment facility construction and particularly interceptor sewer extension policy are examined for their effects on residential density and suburban sprawl. This paradigm examines waste treatment facilities as primary factors in the location and intensity of development. Several recent studies have utilized this secondary impact approach in analyzing

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115. *Id.* at 9. Note that the model of the Ohio Department of Natural Resources was greatly influenced by the analysis of Ian McHarg in classifying various sensitive environmental areas, according to recommended land uses. *See* I. McHARG, DESIGN WITH NATURE (1969). For example, McHarg sets the following land uses for specific types of sensitive environmental areas: (1) for 50-year floodplains—ports, harbors, marinas, water-treatment plants, water-related and water-using industries, agriculture, forestry, recreation, institutional open space and open space for housing; (2) for aquifers—agriculture, forestry, recreation, industries that do not produce toxic or offensive effluents; (3) for prime agricultural lands—agriculture, forestry, recreation, open space for institutions and housing at one house per 25 acres; and (4) for steep lands—forestry, recreation, housing at maximum density of one house per three acres, where wooded. *Id.* at 62.

116. The Ohio Department of Natural Resources, Division of Planning, has applied this land capability analysis to evaluate residential and industrial land development potential. The Department has set certain guidelines for residential construction, *e.g.*, that the bedrock of a proposed site should not be higher than 15 feet to allow for the placement of proposed underground utilities. OHIO LAND USE PLANNING GUIDELINES, *supra* note 113, at 12-13. Among the guidelines that the Department has set for industrial development are the following: bedrock should be between ten and 20 feet below the surface; hazardous areas such as flood-prone areas, unstable soils, and aquifer recharge areas should be avoided; natural scenic, historic, or ecologically significant land should be avoided. *Id.* at 12-14.

117. The Ohio Department of Natural Resources provided three land use classifications for projected land use needs; extensive use areas, intensive use areas, and conservation areas. Density standards in these areas vary. For example, the Department proposed a maximum of one dwelling unit per acre for extensive use areas, four dwelling units per acre for intensive use areas, and no building on conservation areas, due to natural hazards. *Id.* at 18.

118. *Id.* at 19, 21.

different regional land use developmental patterns. A study examining growth trends in a section of Philadelphia over an eighteen-year period (1945-1962) found a correlation between high density zoning and the rise in real estate values of land with available sewer facilities.[119] A journalistic examination of the influence of interceptor sewer policy on development in Fairfax County, Virginia, found that interceptor sewers affected the location of new development, the intensity of the development, and the creation of suburban sprawl of new subdivisions.[120] Based upon self-fulfiling prophecies of inflated population projections by the county sewer authorities, sewer investments created intense financial pressures for residential development. Through zoning variances and agreements with developers, intense development was created in new subdivisions. The rationale of the county authorities was that these major capital investments had to be repaid through "hook-up and service charge revenues on the service line."[121] In its 1974 annual report, CEQ stated that the secondary effects of interceptor sewer policy upon undeveloped

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119. G. MILGRAM, THE CITY EXPANDS (1967) (prepared by the Institute for Environmental Studies, Univ. of Penn. for the U.S. Dep't of Housing and Urban Dev.) Other factors considered in this study of rising real estate valuation in vacant land were time-distance to the central business district and proximity to public transportation.

120. Stansbury, *Fairfax County, Va.: An Anatomy of Suburban Growth,* 1 EQUILIBRIUM 9 (1973), *reviewed in* ENVIRONMENTAL IMPACT CENTER, INC., SECONDARY IMPACTS OF MAJOR INVESTMENTS: HIGHWAYS, MASS TRANSIT, INTERCEPTOR SEWERS: REVIEW AND ANNOTATED BIBLIOGRAPHY 2.98 (1974) (prepared for Council on Environmental Quality) [hereinafter cited as SECONDARY IMPACTS STUDY]. In the Fairfax County study, the examination of the county sewer officials' implementation of inflated population projections into extensive interceptor sewer investments was viewed within the perspective of the following statistics: "the average number of new residents gained each year has risen from 16,393 in the period 1950-1960 to 30,855 in the period 1970-72. . . . [T]he surge of new homebuyers has given the county a very high ratio of school-age children to the total population . . . . [T]he growth of Fairfax County has been lopsidedly residential. Fiscal year 1971's figures tell the story: 74% of all real estate taxes came from single-family homes, 12% came from apartments, and only 14% came from commerce and industry." *Id.* at 10. Stansbury concluded that sprawl resulted in completely undeveloped portions of the county through an excessive self-fulfilling prophecy by the county authorities for future interceptor sewer demand. The fiscal pressures on these authorities were particularly intense, given that these sewers were financed without substantial federal construction grants under the pre-FWPCA legislation.

121. SECONDARY IMPACTS STUDY, *supra* note 120, at 2.99.

land at the urban fringe was the critical element of waste treatment facility planning as related to land use planning.[122]

The significant relationship between the extension of interceptor sewers and urban sprawl patterns has been confirmed in several CEQ-commissioned reports. The waste treatment facility grant program under the FWPCA has been instrumental in forcing states and local communities to build overdesigned capacity treatment plants.[123] In addition, through the incentive of seventy-five percent federal funding, FWPCA programs have demonstrated the propensity for the cost-inefficient production of regional waste treatment systems.[124] Finally, one research study has

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122. Interceptor sewers are defined as the major lines that run from the collector sewers to the treatment plant. Because the location of a new interceptor significantly increases the number of buildable lots along its right of way, a key issue is its capacity. There is a general tendency for such lines to be oversized in order to assure the necessary capacity for future development, but the oversizing itself can contribute to the extent of development that occurs. . . .

. . . .

A related land use impact caused by large interceptor sewers is their tendency to be designed to run for long distances between existing towns before reaching the treatment plant. Such lines open up large areas of what may have been previously undeveloped land between the towns. . . .

. . . .

Another phenomenon related to the construction of large interceptors is the tendency for developers to move immediately to the end of the new line in order to take advantage of both the available sewer service and the low land costs on the far urban fringe. The result is a costly leapfrog and fill-in development pattern, which increases the difficulty of properly planning the timing and size of other public facilities and spreads the urban area out in a pattern that is wasteful of land and energy resources.

CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 37-38 (footnotes omitted). *See* URBAN SYSTEMS RESEARCH & ENGINEERING, INC., INTERCEPTOR SEWERS AND SUBURBAN SPRAWL: THE IMPACT OF CONSTRUCTION GRANTS ON RESIDENTIAL LAND USE (1974) (prepared for Council on Environmental Quality) [hereinafter cited as URBAN SYSTEMS RESEARCH STUDY].

123. CEQ FIFTH ANNUAL REPORT, *supra* note 51, at 37. *See* REAL ESTATE RESEARCH CORP., THE COSTS OF SPRAWL: DETAILED COST ANALYSIS, EXECUTIVE SUMMARY (1974) (prepared for Council on Environmental Quality; Office of Policy Dev. and Research, U.S. Dep't of Housing and Urban Dev.; and Office of Planning and Management, EPA) [hereinafter cited as REAL ESTATE RESEARCH CORP.].

124. SECONDARY IMPACTS STUDY, *supra* note 120, at 1.17. Among the specific land use effects of sewer investments found by the study are:

A potential physical effect of sewage investments is *decreased* water quality through storm water runoff in newly developed areas. Interceptor sewers servicing undeveloped or partially developed land areas subsidize developers by providing relatively low cost sewer treatment. The subsidy encourages moderately-priced housing, as opposed to higher priced housing in unsewered areas. New sewers increase the density of possible development and thus

found that waste treatment facility construction has a significantly greater effect upon the development of multi-family housing than single-family housing.[125]

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the potential economic 'rent' (and development profit) per unit of land to the owner or developer.

Id. at 1.21-.22. For a recent analysis of water and air pollution as effected by residential density see REAL ESTATE RESEARCH CORP., *supra* note 123. The study concluded that urban sprawl affects levels of water pollution:

> The type of development has no effect on the amount of sanitary sewage generated because this is a function only of population. However, it does affect the important problems of storm water pollution and sediment. The less paved area there is, the less storm water runoff there will be. . . . More clustered communities have somewhat less pavement than sprawl communities, but again the significant savings come from increasing density.
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> For both air and water pollution, it is important to note that although the higher density community generates less pollution, it does so in a smaller area, resulting in a higher amount of pollution generated per acre developed.

Id. at 4.

125. SECONDARY IMPACTS STUDY, *supra* note 120, at 1.19-.21. The most significant factor in the impact on multi-family development by sewer construction is the degree of accessibility of the area to employment centers, to vacant land and to highway construction. *Id.* at 1.21.

A recent CEQ-commissioned study of the failure of the construction grant program examined 52 EPA construction projects and found certain land use implications of interceptor sewer policy. First, interceptor sewer lines were unnecessarily designed for excess capacity and for the highest possible densities anticipated for large tracts of vacant, developable land at the urban fringe. URBAN SYSTEMS RESEARCH STUDY, *supra* note 122, at 54-58. Secondly, based upon an examination of eight case studies in EPA regions II, IV and VI, the NEPA review process failed to consider and control the suburban sprawl created through interceptor sewer extension policies funded through § 201 construction grants. *Id.* at 64-68. Lastly, the communities feel pressured to encourage intensive development as a fiscal strategy to finance their 25% share of the construction grants under the § 201 program. *Id.* at 81-85. The study recommended the following proposals for the resolution of the adverse secondary effects of EPA interceptor sewer policy: (1) the § 201 construction grants should be designed to finance only the sewer capacity needs of the present population, *id.* at 87-91; (2) the project design of interceptor sewer construction should be set at a maximum of 25 years, not at the present standard of 50 years at an ultimate population level, *id.* at 92-94; (3) actual water use statistics should be employed, *id.* at 95-96; (4) a NEPA review should be required for all interceptor sewer projects over a certain size as determined by EPA, *id.* at 99-100; (5) population forecasting should be set for a period of 20 to 25 years, not the present 40 to 50 year period, *id.* at 97-98; and (6) public participation in interceptor sewer extension policy should be promoted through publication of the costs of suburban sprawl and the benefits of phased regional growth, *id.* at 101-02.

EPA has responded to the results of the study and its proposals in an inordinately skeptical manner. The study has been criticized as "extremely biased

Generally, the failure of the section 201 construction grant program to consider the land use implications of interceptor sewer extension policies can be traced to EPA's slowness in funding and developing the specific water quality and land use planning provisions of the FWPCA. Given EPA's limited resources and dominant concern that controls for non-point sources of water pollution be developed during the period from June, 1976, to July, 1981, the development of FWPCA planning techniques will be slow to control the development of both treatment facilities and new source dischargers under the NPDES program.[126] During the pre-1976 period, the NEPA requirements of the FWPCA have been designed to provide the secondary impact controls of these EPA programs.[127]

A. *The Interrelationship Among the Water Quality and Land Use Planning Processes of the FWPCA: Section 303(e) Statewide Basin Planning, Section 208 Areawide Waste Treatment Planning, and Section 201 Facilities Planning*

The inclusion in the FWPCA of three distinctive water quality and land use planning processes presented a critical turn in federal water quality legislation. It marked the beginning of a combined policy of land capability planning and an integration of environmental planning with a view to the secondary impacts of waste treatment facility construction and industrial locational decisionmaking.[128] First, the section 303(e)

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and not representative of all EPA-financed projects across the country." 5 ENVIRONMENT RPTR. CURRENT DEV. 1603 (1975). The CEQ has recently responded, however, to the counter-arguments of EPA in its critique of the interceptor sewer planning study and has defended its position. *Id.*

126. In its 1974 Water Strategy Paper, EPA set the period from June, 1976, to July, 1981, as "Phase II" of its water quality planning period, emphasizing the development of non-point source strategies. *See* EPA 1974 STRATEGY PAPER, *supra* note 19, at 10-16.

127. For a description of the interim water quality-land use strategy of NEPA review of the construction works program and "new source" control under the NPDES program under the FWPCA see notes 187-211 *infra.*

128. Prior to enactment of the FWPCA, federal water quality management planning was conducted through a unified planning scheme administered by EPA and HUD. The statutory basis for this authority was the basic water and sewer facilities grant program under § 702(c) of the Housing and Urban Development Act of 1965, 42 U.S.C. § 3102(c) (1970), *as amended,* (Supp. III, 1973), the comprehensive planning assistance program under § 701 of the Housing Act of 1954, 40 U.S.C. § 461 (1970), *as amended,* (Supp. IV, 1974), the

state basin planning process results in plans for all navigable waters within the state. These plans must include a program of effluent limitation and maximum daily loads in accordance with the Act, a ranking of needs for construction of treatment works, and provisions for revision and implementation of the FWPCA's standards.[129] Secondly, the section 208 areawide planning process requires the establishment of areawide plans for areas with water quality control problems. Plans must include an identification of needed treatment works, an analysis of alternative systems, a schedule for the development of the required treatment facilities, and other related processes and timetables.[130] Finally, the section 201 facility planning process is designed to evaluate the cost-effectiveness and environmental suitability of specific construction projects and alternative waste management techniques.[131]

Despite the introduction of these three planning processes, the FWPCA failed to provide adequate guidance for the development of, and interrelationships among, the section 303(e) state basin planning process, the section 208 areawide planning process, and the section 201 facility planning process. Rather, the framework for the interrelationship of these planning processes has been provided by administrative guidelines and regulations.[132] In the actual implementation of the planning processes, facilities planning has been established first, followed by the development of the more comprehensive statewide and areawide planning schemes.

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construction grant program for waste treatment works under § 8 of the pre-FWPCA Water Pollution Control Act, 33 U.S.C. § 1158 (Supp. I, 1971), and the comprehensive river basin planning grant program under § 3(c) of the pre-FWPCA Water Pollution Control Act, 33 U.S.C. § 1153(c) (Supp. I, 1971). The methodology of these previous federal water quality programs has been criticized as being inordinately dominated by the structuralist approach to water quality planning. *See* HAROLD E. WISE & ASSOCIATES, INSTITUTIONAL ARRANGEMENTS FOR WATER QUALITY MANAGEMENT PLANNING 35-40 (1971) (prepared for the Office of Water Programs, EPA).

129. 33 U.S.C. §§ 1313(e)(3)(A)-(H) (Supp. II, 1972).

130. *Id.* §§ 1288(a)-(b).

131. *Id.* §§ 1281(a)-(f). *See* note 175 and accompanying text *infra.*

132. *See* 40 C.F.R. §§ 35.900-.960 (1975) (§ 201 construction grant regulations); *id.* §§ 35.1050-.1080 (§ 208 planning grant regulations); *id.* §§ 126.1-.30 (§ 208 designation regulations for areawide waste treatment management planning areas and agencies); *id.* §§ 130.1-.60 (§ 303(e) regulations for water quality management basin planning); *id.* §§ 131.100-.509 (§ 303(e) regulations for preparation of water quality management basin plans).

Because the relationship between effluent discharges and water quality is extremely complex, it is necessary for the permit issuance process to be coordinated with an overall water quality plan. The section 303(e) state basin planning process is designed to meet that need.[133] This process is only vaguely presented as including the following elements: effluent limitations and water quality standards, as developed by the EPA and state agencies, and schedules for compliance by point source dischargers;[134] the incorporation of section 209 areawide plans and water and related land resources studies for all river basins and regions in the United States;[135] an inventory and priority rating of all waste treatment facility construction; a determination of the total maximum load for pollutants;

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133. IZAAK WALTON LEAGUE OF AMERICA, A CITIZEN'S GUIDE TO CLEAN WATER 45 (1973).

134. FWPCA Amendments of 1972 § 303(e)(3)(A), 33 U.S.C. § 1313(e)(3)(A) (Supp. II, 1972).

135. *Id.* § 303(e)(3)(B), 33 U.S.C. § 1313(e)(3)(B). Under § 209 of the FWPCA, the Water Resources Council is required to prepare "Level B" plans for all the basins of the United States by January 1, 1980. 33 U.S.C. § 1289(a) (Supp. II, 1972). Basins included in areas designated for § 208 areawide waste treatment-land use planning will be given priority under § 209 planning. *Id.* Regulations promulgated under § 209 have described "Level B" plans as those "made at the Regional or River Basin level for water and related land resources where problems are of a complex, interdisciplinary nature necessitating an intermediate planning step. . . . The primary characteristic of Level B Studies is that they are largely based on judgmental planning, no new data collection, strong public involvement, and increased participation and leadership by the states." Proposed EPA Reg. § 252.13(c)(1), 40 Fed. Reg. 5486 (1975). Significant participants in the § 209 planning process will be the Corps of Engineers, Department of the Army, and River Basins Commissions. *See id.* §§ 252.14(a), (b), 40 Fed. Reg. 5486 (1975). River basin commissions have been established by Title II of the Water Resources Planning Act of 1965, 42 U.S.C. § 1962b (1970). For a critique of the river basin commission as an instrument for water quality planning see NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE 416-18 (1973):

> An independent Federal chairman and staff provide each of the river basin commissions with a focal point and an identity. The chairman is appointed by the President and cannot be a member of any Federal agency. All members of a commission except the chairman are delegates from and salaried by some other organization. Each of the Federal agencies with a substantial interest in the river basin is entitled to a member as is each of the States. Interstate and international joint commissions in the basin may also have representatives. . . . Congress placed limits upon the extent of a commission's activities. Authority was limited to planning—not regulation, construction or management—and the Act states that the authority of river basin commissions cannot be construed to limit the authority already held by States or Federal agencies.

and the development of non-point source controls over the disposal of all residual waste from waste treatment processing.[136]

Under the regulations and guidelines for section 303(e) planning, all river basins within a state are classified as either water quality or effluent limitation segments. EPA's 1974 Water Strategy Paper described the significance of this classification for basin planning. If 1977 water quality standards can be met by application of the "best practicable" technology for industries and secondary treatment for municipal plants, then the segment will be classified as an effluent limitation segment. When this technological base is insufficient for attaining the 1977 water quality standard, the segment will be categorized as a water quality limited segment. If any doubt arises as to the category in which a segment belongs, the question will be resolved in favor of the water quality limited segment classification, subject to change.[137] The basic planning elements of the section 303(e) process will vary depending upon the classification of the respective basin segments under either the "water quality" or "effluent limitation" categories.

Under the regulatory scheme for the effluent limitation segments consideration must be given to the inventory and ranking of significant dischargers,[138] the schedule of compliance for significant dischargers,[139] the assessment of municipal needs for waste treatment controls,[140]

Id. at 417. For another critical analysis of the Title II river basin commission as a form of regional water quality organization see M. DERTHICK, BETWEEN STATE AND NATION: REGIONAL ORGANIZATIONS OF THE UNITED STATES 134-56 (1974).

136. FWPCA Amendments of 1972 §§ 303(e)(3)(C), (G), (H), 33 U.S.C. §§ 1313(e)(3)(C), (G), (H) (Supp. II, 1972). For recent regulations by EPA concerning the contents of the annual state strategy and the relationship of the § 303(e) planning process to monitoring and surveillance programs and related planning processes of the FWPCA see Proposed EPA Regs. §§ 130.20-.34, 40 Fed. Reg. 29,883-86 (1975). Regulations for the scope and content of state water quality management plans under the § 303(e) program are found in Proposed EPA Regs. §§ 131.10-11, 40 Fed. Reg. 29,888-91 (1975).

137. EPA 1974 STRATEGY PAPER, *supra* note 19, at 11.

138. EPA § 303(e) GUIDELINES, *supra* note 92, at 33-34; *see* 40 C.F.R. § 131.301 (1975).

139. EPA § 303(e) GUIDELINES, *supra* note 92, at 34. The schedule of compliance for "significant dischargers" will be based upon an evaluation of those point sources that are not in compliance with technological effluent limitations standards by January 1, 1975. *See* 40 C.F.R. § 131.202 (1975).

140. EPA § 303(e) GUIDELINES, *supra* note 92, at 34; *see* 40 C.F.R. § 131.303 (1975).

residual waste controls,[141] recommendations for water quality standards revisions,[142] relationships with other planning processes including section 201, section 208, and other federal environmental management planning programs,[143] appropriate monitoring and surveillance programs,[144] and intergovernmental cooperation for water quality management.[145] Effluent limitation segment planning, like water quality segment

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141. 40 C.F.R. § 131.307 (1975). This basin planning element mandates the establishment of a process for control of the disposal of pollutants on land or in subsurface excavations, as well as for control of the disposal of pollutants resulting in the violation of water quality standards developed through § 303 policy on the federal-state level.

142. *Id.* § 131.308.

143. EPA § 303(e) GUIDELINES, *supra* note 92, at 21. In regard to the relationship of § 303(e) planning to the other two planning processes of the FWPCA, the Guidelines have commented:

> The 201/208 plans, when completed, will supersede the applicable portion of the basin plan with respect to individual waste load allocations, schedules of compliance, and facilities needs assessment. The total waste load from the 201/208 planning area must, however, be consistent with the applicable basin plan and the 201/208 plan must be consistent with State and National goals and objectives.

Id. at nn. 1 & 2. *See also* 40 C.F.R. § 131.309 (1975). Among the federal legislation explicitly mentioned by the regulations as related to the basin planning process of the FWPCA are the Coastal Zone Management Act of 1972 (CZMA), 16 U.S.C. § 1451 (Supp. II, 1972), and the Rural Development Act of 1972, 16 U.S.C. § 1004 (Supp. II, 1972). CZMA is particularly important to the implementation of the land capability approach to water quality and land use planning for the control of land development in coastal zone areas. The National Water Commission has described the program:

> Under this Act, States will develop and administer management programs for their coastal zones, subject to the approval of the National Oceanic and Atmospheric Administration. Provision also is made for the establishment of estaurine sanctuaries. Federal agencies carrying out activities that affect the coastal zone must do so in a manner consistent with the State program to the maximum extent practicable. Federal agencies issuing permits or providing assistance for activities affecting the coastal zone also must take into account the State's management program.

NATIONAL WATER COMMISSION, WATER POLICIES FOR THE FUTURE 32 (1973). *See also* Final Commerce & Foreign Trade Regs. §§ 923.1-.58, 40 Fed. Reg. 1683 (1974). Under CZMA fiscal demands upon local governments created "an understandable need to create revenues to provide governmental services demanded by a growing population, thus creating pressures for commercial, residential and other economic development." S. REP. No. 753, 92d Cong., 2d Sess. 5 (1972). A description of the Act's scheme for comprehensive state management over coastal zone development as a countervailing factor on the fiscal pressures on local governments in coastal zones is found in Power, *The Federal Role in Coastal Development,* in FEDERAL ENVIRONMENTAL LAW 792, 831-36 (1974).

144. 40 C.F.R. §§ 131.400-.405 (1975).

145. *Id* § 130.25.

analysis, can be used as an information base scheduling priorities for section 201 construction grant awards and monitoring industrial and municipal point sources.[146] Unique to effluent limitation segment analysis, however, is an attempt to formulate an antidegradation policy: "The key elements of an antidegradation policy are a baseline for water quality, a definition of degradation to be applied against that baseline, and a control strategy to insure compliance with the definition."[147] Three strategies have been presented as possible antidegradation policies: "zoning of waters which permits no discharge of any kind (point or nonpoint) in certain waters; . . . allowance of additional discharges, provided each is at least equal to the quality of the receiving waters; . . . [and] provision for growth up to an established maximum stream loading; the allowable load, in turn, may be calculated against existing high water quality, or against a percentage deterioration of water quality."[148]

Under water quality segment analysis, three additional elements must be considered together with the elements of effluent limitation segment

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146. *Id.* §§ 130.40-.44. EPA's 1974 Water Strategy Paper emphasized the output commitments of the State program as a central element of the annual presentation of the program to the EPA:

> Elements of a State program include: permitting; planning; enforcement; monitoring; municipal facilities management; NPS control [nonpoint source control]; administration; training; and public participation. . . .
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> . . . .
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> Specific quantitative target outputs are set for prescribed categories such as municipal facilities construction, permits, planning, and monitoring. Coordination of State and Regional target outputs is necessary. As an example, a Region's anticipated delegation of the permit program to a State must be reflected in the State program's target for permits to be processed. Biannual reporting and State/Regional evaluation of accomplishments is another aspect of the State program.

EPA 1974 STRATEGY PAPER, *supra* note 19, at 48. EPA has specified April 15th as the appropriate time for the initial submission of the state strategy and output, administrative needs, and discharger estimates. June 30th was set for the submittal of the state program and grant applications, and July 30th for the EPA decision whether to approve the state program. *Id.* at 50.

147. EPA § 303(e) GUIDELINES, *supra* note 92, at 33.

148. *Id.* Other provisions of the FWPCA referred to in the § 303(e) Guidelines as contributing to the anti-degradation policy of effluent limitation segment planning include the development of industrial discharger and municipal waste treatment work technology from the 1977 levels to the 1983 levels, the improvement of water quality standards, § 208 planning development and implementation on a regional basis, and the increased effectiveness of NEPA review over the § 201 construction works program and over the issuance of discharge permits to "new sources" under the NPDES program. *Id.* at 32.

analysis. These include determination of total maximum daily waste loads,[149] established or targeted load allocations and effluent limitations for individual point sources,[150] and assessment of non-point sources of pollution.[151] These planning elements should be developed for each part of the basin segment that is in violation of water quality standards. Non-point source control strategies should be formulated with attention to discovering the most cost-effective and practical strategy with the least harmful environment impact.[152] Particular concern should be given to the effects of agricultural, forest, mining and construction-related activities upon water quality within basin segments.[153] Finally, the water

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149. *Id.* at 18. There should be included in the determination of total maximum daily loads a precautionary provision to account for "any lack of knowledge concerning the relationship between effluent limitations and water quality" and for any informational uncertainty over the effect of non-point sources on water quality. 40 C.F.R. § 131.304(a)(2) (1975).

150. EPA § 303(e) GUIDELINES, *supra* note 92, at 19-26. For a definition of "point source" see note 5 *supra*. In the development of waste load allocations, the following cost-benefit analysis is mandated:

> The allocations for each industrial or municipal discharger must either result in an attainable total effluent allowance or recognize that the restriction may result in the discharger being forced to close or reduce its operation to avoid being subjected to possible enforcement actions. . . . To determine feasible limits the analysis must consider *generally* the alternative technical and economic capabilities available to each discharger.

EPA § 303(e) GUIDELINES, *supra* note 92, at 20. The waste load allocation determination will serve as the basis for administration of the NPDES program and for the priority ranking system for municipal waste treatment construction over a five-year period. *Id.* at 19-20. *See* 40 C.F.R. §§ 131.302, .305 (1975).

151. *See* EPA § 303(e) GUIDELINES, *supra* note 92, at 19. The Guidelines state, "The segment analyses should consider agricultural, silvicultural, mining related, construction activity related, salt water intrusion related and other non-point source pollution." *Id. See also* 40 C.F.R. §§ 130.23, 131.306 (1975). Many of the same non-point source activities specified for control-related studies and management by the § 303(e) regulations and guidelines are also mandated for regulatory control by the § 208 guidelines and regulations. *See* FWPCA Amendments of 1972 §§ 208(b)(2)(F)-(K), 33 U.S.C. §§ 1288(b)(2)(F)-(K) (Supp. II, 1972). For a detailed discussion of non-point source control in § 208 planning see EPA § 208 GUIDELINES, *supra* note 113, at 6-1 to -16.

152. *See* 40 C.F.R. § 131.306(c) (1975).

153. *See* note 151 *supra*. A valuable case study has been presented on the difficulty of regulating an important non-point source of water pollution, *i.e.* construction run-off:

> The amount of run-off from a construction site depends on numerous variables: the type of construction involved, the type of soil, the amount of rainfall, the topography of the site, the amount and nature of vegetation left undisturbed, the amount of earth-moving involved, and so on. . . . For any particular site, the proper mix of control measures must be established

quality segment analysis provides for "the assignment of target loads to point and, if appropriate, to non-point sources to achieve water quality loads in the most effective manner."[154] In the determination of these waste load allocations, the immediate goal is achievement of the "most practicable water quality management" over a five-year period. With the information derived from this analysis, the effluent limitation standards and federal and state discharge permits under the NPDES program will be developed. States will also use this analysis for the identification and ranking of municipal waste treatment facility needs. Considerations of technical and economic trade-offs between location alternatives for multiple point sources treated under this analysis will be included in future section 201 and section 208 planning, "with particular attention to considerations of environmental needs, cost effectivness, growth trends and available financing."[155]

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on an ad hoc basis. Whether the control measures are properly established and maintained must be checked by on-site inspection; there is no way that the construction company's performance can be checked by effluent monitoring.

In light of these facts, regulation of construction run-off would seem to require governmental approval of an erosion and sediment control plan for each construction project, followed by periodic inspection of each site. Congress undoubtedly would be unwilling to establish such a system on an exclusively federal basis; and yet if the system is run by the state and local governments, it is doubtful that federal control can be meaningfully exercised through issuance of federal standards, since meaningful general standards are apparently not attainable in this area.

Zener, *supra* note 2, at 769-70 (footnotes omitted). Among the possible control devices for construction run-off are sediment barriers, erosion control mats, vegetative strips, tree protection techniques, and erodible area protection techniques. *Id.* at 769 n.378.

154. *See* EPA § 303(e) GUIDELINES, *supra* note 92, at 19.

155. *Id.* at 21. Section 303(e) basin segment analysis for the determination of waste load allocations will allow the § 201 and § 208 planning authorities to appraise the potential waste load dynamics of individual point sources within the context of the industrial and municipal point sources in the respective basin segments and their total waste load. The § 303(e) Guidelines have set the following procedure for the implementation of information gathered through basin segment planning into the annual state program for water quality development:

Within the state, allocation of the total grant share to individual projects is determined pursuant to an established system of priorities, prepared as follows. First, the State develops, pursuant to its planning process, a municipal discharge inventory consisting of an inventory and ranking, in order of priority, of significant municipalities. The list includes all municipalities which do not meet applicable requirements of Sections 301 and 302 of the Act. Based on the inventory, the State prepares an annual project list, showing all projects for which Federal assistance will be requested from

Critical to an understanding of the hierarchical planning strategy of the FWPCA regulations and guidelines is the functioning of the section 303(e) process as the framework for future section 201 and section 208 planning. The total waste load of pollutants from the geographical area outlined in the section 208-section 201 management plans must be consistent with the applicable basin plan set by the section 303(e) process.[156] Once the basin plan for a water quality or effluent limitation segment has been approved by the state water quality regulatory agency, the governor, and the regional EPA office,[157] no construction grant under the section 201 program that violates any relevant portion of the basin plan for the segment may be approved by EPA.[158] EPA approval of permits under the NPDES system for both industrial and municipal treatment plant dischargers are governed by a similar provision.[159] The segment priority rankings under the annual statewide assessment of water quality problems determine the scheduling of development and funding for the respective basin plans, section 201 construction, and the issuance of permits under the NPDES program.[160]

In contrast with the statewide character of the section 303(e) process, the section 208 areawide planning process is primarily involved with a specific regional planning area with water quality problems characteristic of an "urban-industrial concentration" of a Standard Metropolitan Statistical Area. A major portion of the basin segments in the area must have serious water quality problems and serious groundwater pollution problems in order to qualify for designation.[161] The section 208

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current allotments. The Administrator will award grants only to those proposed projects which have received a priority certification consistent with the approved State system.

Id. at 27.

156. *Id.* at 21.

157. *See* 40 C.F.R. §§ 130.12, 131.506 (1975).

158. *See id.* § 131.507.

159. *See id.* § 131.508.

160. For the policy statement of the § 303(e) Guidelines see note 155 *supra.* The requirements for the annual state water quality strategy are contained in 40 C.F.R. §§ 130.40-.44 (1975). The statutory authority for the annual state program application to EPA is § 106 of the FWPCA. 33 U.S.C. § 1256 (Supp. II, 1972).

161. *See* 40 C.F.R. § 126.10 (1975). In recently promulgated regulations the standard, "when water quality has been or may be degraded to the extent that desired beneficial water uses are impaired or precluded and when the water quality control problem is complex," was set as a criterion for identification of regional planning areas. Proposed EPA Reg. § 126.10(b), 40 Fed. Reg. 41,650

planning process is structured into four principal stages: (1) designation of the boundaries of the planning area, (2) designation of an areawide planning agency, (3) preparation and ultimate certification of an areawide treatment management plan, and (4) designation of a waste treatment management agency.

The geographical planning area designation decision and the designation procedure for the respective areawide planning agencies follow the same pattern. After consultation with appropriate local officials and public participation, the governor will designate intrastate agencies and areas for section 208 planning.[162] In interstate section 208 area designations, the FWPCA provides for a similar procedure for decisionmaking by the respective governors concerned.[163] In intrastate area designation decisionmaking, the governor has three options: to designate, remain silent, or nondesignate specific areas. If he remains silent, a procedure is available for the "chief elected officials of general purpose local government[s]," with EPA approval, to designate the specific area.[164] An analogous provision exists for interstate decisionmaking.[165] At the end of the 120-day period following the date that recently formulated section 208 regulations become "effective," however, a governor must identify non-designated areas that will be included in "State water quality management areas." These are areas that will derive the planning and management benefits of the section 208 planning process through state agencies originally involved in the section 303(e) basin planning process.[166] Chief elected officials must decide whether to self-designate

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(1975). For a presentation of criteria for the determination of the phrase "impairment or preclusion of desired beneficial water uses" see *id.* §§ 126.10(b)(1)(i)-(ii), 40 Fed. Reg. 41,650. Factors for the determination of the concept "a complex water quality control problem" are presented in *id.* §§ 126.10(b)(2)(i)-(vi), 40 Fed Reg. 41,650.

162. *See* 40 C.F.R. § 126.12 (1975); Proposed EPA Reg. § 126.12, 40 Fed. Reg. 41,651 (1975).

163. *See* 40 C.F.R. § 126.13 (1975); Proposed EPA Reg. § 126.13, 40 Fed. Reg. 41,651-52 (1975).

164. 40 C.F.R. § 126.14 (1975); Proposed EPA Reg. § 126.14, 40 Fed. Reg. 41,652 (1975). EPA approval of the designation decision by the special procedure for local governmental authorities preempts later designation decisions by the governors of the respective states.

165. *See* 40 C.F.R. § 126.16 (1975).

166. *See* Proposed EPA Regs. §§ 126.12(c)(1), (2), 40 Fed. Reg. 41,651 (1975). The recent decision of the United States District Court for the District of Columbia, NRDC v. Train, 396 F. Supp. 1386 (1975), held that under the non-designation procedure of § 208(a)(6), states must satisfy the same planning

requirements as planning agencies designated under §§ 208(b)(2)(A)-(K) of the FWPCA, 33 U.S.C. §§ 1288(b)(2)(A)-(K):

> The Act does not eliminate such areas from planning even if a preference is given to urban-industrial problems areas. . . . In fact, subsections (b)(2)(F)-(K) of Section 208 specifically address nonpoint pollution problems in areas which might not have been selected in the primary designation process . . . . Likewise, some of the point source planning provisions under subsections (b)(2)(A)-(E) are aimed at preventing future degradation of pollution-free areas.

396 F. Supp. at 1390. The court also noted that under its decision, the 100% funding under the FWPCA for § 208 areawide planning should be released for non-designated areas, as well as for the established designated planning area. *Id.* at 1392. In regard to the financial burden of EPA under the *NRDC v. Train* decision, it is important to note that only 85 areas had been designated by June 5, 1975, leaving 95% of the national waterways subject to state § 208 planning as non-designated areas. *See id.* at 1391-92. Without such a judicial decision, EPA would not have to assume such a heavy administrative and financial burden.

In the court's final order, new § 303(e) and 208 regulations were required. On August 28, 1975, regulations for both the grant program and the areawide waste treatment management planning and agency designation processes were promulgated, as required under the final order. *See* 40 Fed. Reg. 41,644-52 (1975). On July 10, 1975, regulations for both the procedural requirements of § 303(e) planning and the preparation of state water quality management plans were presented. *See* 40 Fed. Reg. 29,882-91 (1975).

Finally, the *NRDC v. Train* decision provided for an extension of the deadline for the completion of all § 208 plans beyond the July, 1976, deadline and ordered EPA to extend the final deadlines for the submission of § 208 plans to November 1, 1978. Under the order, however, EPA was granted the discretion to set a date for "preadoption review" of § 208 plans before the November 1, 1978, final deadline. 396 F. Supp. at 1393. For an EPA statement on the purpose of § 208 planning in facilitating the 1983 technological deadlines of the FWPCA for water quality control see EPA 1974 STRATEGY PAPER, *supra* note 19, at 53.

Prior to the *NRDC v. Train* decision a controversy had developed between Senator Edmund S. Muskie and EPA Administrator Russell E. Train concerning the interpretation of the regulatory provision for substitute state planning for non-designated areas under § 208(a)(6) of the FWPCA, 33 U.S.C. § 1288(a)(6) (Supp. II, 1972). Senator Muskie, one of the major congressional framers of the FWPCA, had presented several challenges to EPA administration of the § 208 regulations. First, Muskie had questioned the restriction of § 208 planning to areas with "substantial water quality problems." Secondly, he had recommended that the regulations be amended to require § 208 planning with its unique land use control features for non-designated areas, instead of § 303(e) planning with its lesser emphasis on land use controls. Finally, the Senator had warned that § 208 planning area designations must be processed with greater speed in order to meet the July, 1976, deadline for the submission of § 208 plans. *See* 5 ENVIRONMENT RPTR. CURRENT DEV. 1381 (1975). In contrast to Senator Muskie's position on the designation issue, Train has stated that areas without "substantial water quality problems either existing or discernible within the near-term horizon" should not qualify for § 208 planning. He believes that § 208 will be directed to aiding in the achievement of the 1983 requirements of the FWPCA, and not the 1977 requirements for the first stage of NPDES permit issuance or the § 201 construction grant program. Also,

within a ninety-day period.[167]

The areawide planning agencies will be selected by the governors according to several criteria. The agency must have the legal capacity to develop water quality management planning, including comprehensive planning, land use planning, and coastal zone planning. There must be a working relationship between the agency and federal, state, interstate, substate, and local management and regulatory agencies. If the agency is presently functioning as a water quality planning agency, its prior record and present capacity for planning "with special regard to plan quality, technical, fiscal, political, and economic feasibility and environmental soundness,"[168] will be reviewed. The designation decisionmaking process previously discussed for planning areas is analogous to the desig-

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Train has cited EPA designations of the Lake Tahoe and northern Maine areas for § 208 planning as examples of § 208 designations outside of large urban concentrations. *Id.* at 1121.

167. *See* Proposed EPA Reg. § 126.12(c)(3), 40 Fed. Reg. 41,651 (1975).

168. *See* 40 C.F.R. § 126.11 (1975). The organizational structure for the planning agency characteristic of § 208 planning agencies will be analogous to that of the Federal Regional Councils of Governments (COG), created in response to the Demonstration Cities and Metropolitan Development Act of 1966, 42 U.S.C. §§ 3334 (1970), *as amended*, (Supp. III, 1973), and the Intergovernmental Cooperation Act of 1968, 42 U.S.C. § 4231 (1970). Based upon the planning requirements mandated under these federal statutes, Circular A-95 was issued by the Office of Management and Budget: "Circular A-95 implements the laws by defining both the federal programs subject to the review and comment of planning agencies, the procedures for designing state, regional and metropolitan 'clearinghouses,' and the methods for obtaining review and comment by the areawide agency or clearinghouse of applications for federal assistance." *See* Reilly, *National Land Use Policy*, in FEDERAL ENVIRONMENTAL LAW, 1414, 1441-42 (1974). The A-95 review process was specifically designed to satisfy the need for an improved communication network for the articulation of local governmental concerns in regard to regional public service or facility development projects, funded through federal programs *prior* to the initiation of construction. The COG model of regional organization for A-95 review has been described in a recent report of the Advisory Commission of Intergovernmental Affairs:

> They are generally defined as multi-functional voluntary regional associations of elected local officials or of local governments represented by their elected officials. . . . Typically, a COG has no governmental powers or operating responsibilities. Since it has no authority to compel either participation, attendance, or acquiescence in policy decisions, its existence rests explicitly on the good will of the constituent local governments. Some COG's are based on general State legislation authorizing interlocal planning, contracts, agreements; others on a specific enabling act; and still others on no formal express or implied State permissive action. COG's, then, basically embody a confederal approach to areawide coordination. . . . COG's serve as catalysts in encouraging members to act jointly to meet areawide needs or implement comprehensive or functional plans. . . . Their powers are mainly advisory, and their services or assistance to members are usually limited to 'software'

nation procedure for areawide planning agencies.[169]

Under the FWPCA, the content of the proposed areawide waste treatment management plan must include: (1) a twenty-year projection of

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functions such as planning, technical assistance, and joint purchasing. Though voluntary in nature, COG's . . . gain a quasi-compulsory quality, from State and Federal areawide planning and clearinghouse requirements, since involvement brings certain advantages in grantsmanship and nonparticipation could result in a loss of eligibility for certain grants or unfavorable clearinghouse reviews of local project applications.

SUBSTATE REGIONALISM, *supra* note 108, at 50-51. For a systematic critique of a COG as a planning mechanism for regional development see *id.* at 51-138; M. MOGULOF, GOVERNING METROPOLITAN AREAS (1971). For an example of a typical proposal statement by a COG for designation as an areawide waste treatment planning agency under § 208 see EAST-WEST GATEWAY COORDINATING COUNCIL, 1972 WATER POLLUTION CONTROL PUBLIC LAW 92-500 SECTION 208 DESIGNATION, ST. LOUIS AREA AND EAST-WEST GATEWAY COORDINATING COUNCIL, STATE OF MISSOURI (1974) (on file with the *Urban Law Annual*).

An interesting aspect of the St. Louis metropolitan area designation controversy focuses on the interstate nature of the region (Missouri and Illinois). Because of this interstate aspect, there exists a natural rivalry between the East-West Gateway Coordinating Council, whose existence and planning authority is based upon Missouri statute, and the Southwestern Illinois Regional and Metropolitan Planning Commission, the official planning agency for the Illinois counties of Madison, St. Clair, Monroe, Randolph, Washington and Bond, over § 208 designation for planning the three Illinois counties of the St. Louis Standard Metropolitan Statistical Area (SMSA), *i.e.* Madison, St. Clair and Monroe counties. For a description of their dual responsibilities and attemped coordination agreements see *id.* at app. E. The Missouri counties under the planning authority of East-West Gateway, with the above cited Illinois counties of the St. Louis SMSA, are Franklin, St. Charles, Jefferson and St. Louis, with St. Louis city included in the full planning area. In a recent policy statement, East-West Gateway limited its § 208 designation proposal to the Missouri side of the St. Louis metropolitan region.

In regard to the prior discussion of the limitation of the COG organization for implementation and management of the § 208 program, as delineated in § 208(c)(2) of the FWPCA, it is interesting to note the following apology in East-West Gateway's proposal summary:

> The Gateway Council does not possess statutory authority to implement plans or to build, own or operate public facilities. If it had implementation powers, it would still be hampered by a lack of statutorily assured revenues necessary for long-term agreements. The Council's ability to "have plans implemented" rests in the extensive and cordial relationships it has with planning and implementation agencies, its representation on the Board of Directors (mostly locally elected officials), and the wisdom of its recommendations.

EAST-WEST GATEWAY COORDINATING COUNCIL, SUMMARY OF EAST-WEST GATEWAY COORDINATING COUNCIL AREA AND AGENCY DESIGNATION INFORMATION (1975) (on file with the *Urban Law Annual*).

169. See notes 162-68 and accompanying text *supra.*

municipal and industrial treatment works construction; (2) identification of required urban storm-water runoff control systems, agencies necessary for the management of the section 208 plan, and non-point sources of pollution as related to agriculture, silviculture, mining, construction and certain forms of salt water intrusion; (3) establishment of a management plan for the implementation of the areawide planning plan with alternatives for enforcement, financing and land use control; (4) establishment of priorities and time schedules for section 201 facilities planning; (5) establishment of a regulatory plan for (a) evaluation and control of all point and non-point sources that have been identified through the planning process, (b) control of the location, modification, and construction of waste-discharging facilities, (c) satisfaction of pretreatment requirements for discharges into municipal treatment works, and (d) control of the disposal of pollutants on land and in subsurface areas; and (6) certification of the consistency of the areawide plan with other federal environmental programs, including transportation controls under the Clean Air Act of 1970 and state programs under the Coastal Zone Management Act of 1972.[170] The guidelines for section 208 planning specifically recommend that land capability planning and the secondary impact approach to the development and location for section 201

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170. *See* FWPCA Amendments of 1972 §§ 208(b)(2)(A)-(K), 33 U.S.C. §§ 1288(b)(2)(A)-(K) (Supp. II, 1972); 40 C.F.R. § 35.1064-1 (1975). Particularly important to the § 208 areawide waste treatment plan is the establishment of an identification or monitoring system and a regulatory plan for the control of non-point sources. For discussions of non-point source programs under the various planning provisions of the FWPCA see notes 151 & 153 *supra*. In the § 208 guidelines, a formal procedure for the identification and evaluation of non-point sources has been established. *See* EPA § 208 GUIDELINES, *supra* note 113, at 6-5 to -8. The guidelines also set control strategies for non-point sources. *Id.* at 6-8 to -16. For example, the guidelines set the following strategies for the control of urban storm runoff: "1. Public cooperation in reducing amounts of street litter . . . . 2. Installation of adequate waste receptacles on public streets . . . roof drainage controls . . . . 3. Reduction in the indiscriminate use of fertilizers and pest control chemicals. 4. Land drainage modifications for reducing or eliminating the runoff of polluted waste waters . . . ." *Id.* at 6-9.

Important to the multi-media environmental planning approach of the § 208 program is its relation to the other environmental control programs of the Clean Air Act of 1970 and the Coastal Zone Management Act of 1972. *See* 40 C.F.R. § 35.1063-1(c) (1975). *See generally* Mandelker & Rothschild, *The Role of Land-Use Controls in Combating Air Pollution Under the Clean Air Act of 1970*, 3 ECOLOGY L.Q. 235 (1973); Note, *EPA Regulation of "Indirect Sources:" A Skeptical View*, 12 HARV. J. LEGIS. 111 (1974); note 168 *supra*.

projects be implemented through the section 208 areawide plan.[171] When completed and approved by the EPA, the section 208 plan will serve as a direct guide for consideration of the secondary land use effects of treatment works construction by the section 201 facilities planning process and will eventually replace facilities planning as a necessary planning prerequisite for treatment works construction grants.[172]

After consultation with the areawide planning agency and upon completion of the section 208 areawide plan, the governor of each affected state must designate areawide management agencies for the section 208 planning areas.[173] Unlike the areawide planning agencies, these agencies must have authority to implement the areawide waste treatment management plan; to effectively run the treatment works; to build, directly or indirectly, new treatment facilities; to accept grants; to raise revenues; to enter into debt; to guarantee that each community pays its proportionate share of treatment costs; to refuse to handle any wastes of a community not in compliance with the section 208 areawide plan; and to receive industrial wastes.[174]

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171. EPA § 208 GUIDELINES, *supra* note 113, at 4-2 to -8.

172. 40 C.F.R. § 35.1064-1(o) (1975). On March 11, 1975, EPA issued the following memorandum regarding the relationship between § 201 and § 208 planning following the approval of a § 208 plan by EPA:

> 1. All facilities plans under way at the time of approval will be completed by the agency which received the Step 1 grant. The planning effort will continue as before approval unless the analysis in the approved 208 plan clearly justifies a change in required treatment levels or alternative approach on the basis of lower costs or major changes in environmental impacts. 2. The scope and funding of new facilities planning starts will be sufficient to supplement the data and analysis in the 208 plan to the extent necessary to provide a complete facilities plan as required by Section 35.917 of the Title II regulations. 3. New grants for 201 plans will be made to the management agencies designated in the approved 208 plan. New facilities planning will be consistent with the approved 208 plan.

5 ENVIRONMENT RPTR. CURRENT DEV. 2022 (1975).

173. FWPCA Amendments of 1972 § 208(c)(1), 33 U.S.C. § 1288(c)(1) (Supp. II, 1972).

174. *Id.* § 208(c)(2), 33 U.S.C. § 1288(c)(2). A recent study commissioned by EPA found that as of 1973, most waste treatment agencies had adequate authority as requested by paragraphs (1)-(4), (6), and (9). *See* SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS, INDIANA UNIVERSITY, PROBLEMS AND APPROACHES TO AREAWIDE WATER QUALITY MANAGEMENT 44-49, 53-55, 60-61 (1973) (prepared for the Water Planning Div., EPA) [hereinafter cited as INDIANA REPORT]. Although the report concluded that most state waste treatment management agencies have been given adequate authority to implement powers (A)-(D), (F) and (I) of § 208(c)(2) of the FWPCA, there will be several problems for the § 208 management agencies in establishing their programs.

Unlike the section 208 or section 303(e) processes, section 201 facilities planning is strictly limited to preliminary examination of the cost-effectiveness and environmental suitability of particular EPA-sponsored construction projects and alternative waste management techniques. This planning process has been described by the 1974 EPA Water Strategy Paper as consisting of first, an analysis of the collection system for determination of excessive infiltration/inflow (drainspouts and yard and

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First, the agencies have no statutory authority to institute user charges for each recipient's proportionate share of operation and maintenance costs or capital cost recovery for the portion of construction costs of the treatment works allocable to the treatment of the individual wastes of each recipient. The Indiana study has found the following legal difficulties in authorizing agencies with the power to implement user charges and capital cost recovery:

> In many states, there is no express statutory authority or mandate to assess "user charges" based on the cost of treatment or characteristics of effluent. In these states, there is only a statutory authority to charge for services or to assess reasonable charges for services. In such situations, it is reasonable to imply that this express general authority to charge includes the authority to charge categories of users for their proportionate share of treatment costs. In a few instances, the state statutes are such that such implication cannot reasonably be made. This occurs when it is provided in the state statute the specific method of charging — *e.g.,* ad valorem tax, assessment based on front-footage, etc.
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> . . . .
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> There are very few instances of express state statutory authority enabling waste treatment management agencies to implement industrial cost recovery. Most state statutory authority is directed toward amortizing capital expenditures by charging all users. This may in some instances present legal problems if industry is singled out to repay its portion of the federally funded construction costs. Since the Act does not require that non-industrial users be exempt from cost recovery, a system for total cost recovery from all users of the system would comply with the Act provided industry's share is segregated and the required portion returned to the federal government as required by Section 204(b)(3).

Id. at 51, 53.

In addition, under its authority to carry out its areawide plan and to effectively manage waste treatment works, the § 208 management agency may find difficulty in serving areas outside of its authorized territory of operation. *Id.* at 45-47. *See also* Note, *Control of the Timing and Location of Government Utility Extensions,* 26 STAN. L. REV. 945 (1974). Under its authority to construct and operate treatment works required by the areawide plan, most municipalities or sewer districts have the requisite delegated power. Under its authority to accept and utilize grants from any source, however, there may be a problem in a minority of states which have no legislation with respect to local management agencies receiving the funding without direct initial acceptance of the federal grants by a state agency. *See* INDIANA REPORT, *supra,* at 48-49. In regard to the agency's authority to incur short- and long-term indebtedness, there will emerge typical problems prevalent in the financing process for bond anticipation notes, general obligation bonds, and revenue bonds. *Id.* at 54-55. Under its authority to accept industrial wastes for treatment, the § 208 management agency must directly participate in the administration of the pretreatment standard setting process. *See* note 40 *supra.*

area drains), second, "cost-effectiveness" analysis as related to the projected total lifetime of the facility, and finally, an assessment of the secondary effects of the particular facility construction and interceptor sewer extension policy as they affect residential density and suburban sprawl.[175]

The study found that as a rule state laws do not provide the authority for management agencies to institute a system under paragraph (8) for each participating community to pay for its proportionate share of treatment costs. INDIANA REPORT, *supra*, at 55-57. Legal problems that will arise as a result of the implementation of the management agency's authority to assure that each participating community pays its proportionate share of treatment costs are first, the determination of the legal entity of a "community," and secondly, the determination of the economic variables for testing the respective "proportionate" shares of treatment cost, *i.e.* the location of the construction or industrial development to the treatment plant and the characteristics of the user's effluent. Finally, most waste treatment management agencies do not have the authority under paragraph (8) to refuse to receive wastes from any municipality that does not comply with the areawide plan. *Id.* at 57-60.

Implementation of the authority to refuse to receive any wastes from any municipality that does not comply with the areawide plan will present certain legal problems: (1) the right of the management agency to "impose fines, penalties, surcharges, or similar sanctions on the noncomplying community"; (2) the propriety of refusing additional extensions to the utility system until the individual or collective discharge violations are corrected; (3) the right of prospective users who did not contribute to the effluent violations causing the critical situation to connect to the waste treatment system; and (4) the responsibility of the management agency to relate the moratorium with land use planning needs mandated by the § 208 areawide plan, *e.g.*, the control of non-point source runoff from construction-related activities. *See id.* at 57-60. *See also* Note, *Control of the Timing and Location of Government Utility Extensions, supra.*

175. The EPA Water Strategy Paper described the various elements of the "cost-effectiveness" analysis:

> Cost-effectiveness analysis seeks the most economical way to meet the designated effluent standard, e.g., secondary treatment or more stringent water quality standards where the base level effluent standard will prove inadequate. For secondary treatment, emphasis will be placed on the evaluation of ways to combine waste systems to realize economies of scale; to reuse or market wastewater to reduce operating expenses; to reduce total waste flow (including the correction of excess infiltration) instead of increasing plant capacity; and to improve operations and maintenance instead of expanding facilities. For cost-effectiveness in meeting a water quality standard, emphasis will be placed on the evaluation of the relative costs of controls on such publicly-owned sources as treatment plants, combined sewer overflows, and storm sewers; and of the relative costs of controls on these point sources as opposed to controls on non-point sources including urban runoff.

EPA 1974 STRATEGY PAPER, *supra* note 19, at 43. *See also* EPA Memorandum on the Relationship Between § 201 and § 208 Planning, 5 ENVIRONMENT RPTR. CURRENT DEV. 1682 (1975). For the cost of effectiveness analysis guidelines see 39 Fed. Reg. 5269-70 (1974).

Under the staging process of the section 201 construction grant regulations, the EPA regional office must approve the facilities plan prior to funding for construction drawings and specifications (step two grants)[176] and construction (step three grants).[177]

The section 201 facilities planning process directly considers the adverse land use effects of sewer contruction. As a land use planning safeguard, the planning results must be consistent with the results of the section 303(e) and section 208 areawide planning processes. The planning boundaries for section 201 facilities analysis consist of geographic areas sufficient to permit unrestricted analysis of alternatives that include waste treatment methods and ultimate disposal options for sludge and treated effluent and "the entire area where cost savings, other management advantages, or environment gains may result from interconnection of individual waste treatment systems or collective management of such systems."[178] Under the regulations and guidelines, replacement or major rehabilitation of an existing sewage collection system must not result in a sewer system design capacity in excess of allowance for "a reasonable amount for future growth."[179] The regulations also provide that grants for new collection sewer systems in existence on October 18, 1972, must not be made unless it is determined that the bulk of the flow design capacity through the sewer system will be for waste waters originating from the community that existed on October 18, 1972. [180] Finally, the regulations for facilities planning require consideration of the potential relationship between the ultimately constructed facility and pertinent requirements under the Clean Air Act and other federal, state and local environmental legislation.[181]

Progress under the water quality and land use planning provisions of the FWPCA has been slow. Two recent Supreme Court decisions re-

176. *See* 40 C.F.R. § 35.905-4(b) (1975).

177. *See id.* § 35.905-4(c). Note, however, that under certain safeguards, *i.e.* that the step two and three grant projects would not be "significantly affected by the completion of the facilities plan," a facilities plan will not be required prior to the awarding of grant assistance to step two and three stages of treatment works construction. *Id.* § 35.917(d).

178. *Id.* § 35.917-2.

179. *Id.* § 35.925-13. For an analysis of the legislative history of the land use strategy of sewage collection system rehabilitation and construction not contributing to the development of new communities see LEGISLATIVE HISTORY, *supra* note 22, at 167.

180. 40 C.F.R. § 35.925-13 (1975).

181. *Id* § 35.925-14.

leasing $9 billion of the $18 billion authorized by Congress for fiscal years 1973-75 will aid in speeding the development of the facilities planning process.[182] EPA has recently projected that for fiscal year 1975, 1,462 facility planning grants will be processed and for fiscal year 1976, 2,000 facility planning grants will be allocated.[183] Delay in publication of the regulations for section 208 planning, however, has resulted in delay of the regulatory program until fiscal 1977 or later. The management program under section 208 is now viewed by EPA as a significant device for the accomplishment of the 1983 goals of the FWPCA.[184] Under the final order of a recent federal district court decision final deadlines for the submission of section 208 plans have been extended to November 1, 1978.[185] Finally, under the section 303(e) planning program, over 600

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182. *See* Train v. Campaign Clean Water, 420 U.S. 136 (1975); Train v. City of New York, 420 U.S. 35 (1975). In these decisions, the United States Supreme Court held that § 205(a) of the FWPCA requires the allotment of $9 billion for fiscal 1975 for construction grants for municipal waste treatment works, thereby satisfying the total sums authorized to be appropriated by § 207. Prior to these decisions, President Ford had released $4 billion of the impounded funds for fiscal 1976. 5 ENVIRONMENT RPTR. CURRENT DEV. 1647 (1975). The deputy assistant administrator for water program operations has estimated that with the release of the $9 billion, a significant number of jobs will be available in the construction industry, with estimates running as high as 70,000 jobs for every billion dollars spent. *Id.* at 1648. Many EPA and state administrators have stated, however, that given the enormous construction task involved, actual construction will be delayed. For example, the executive secretary of the Michigan Water Resources Commission has estimated that in Michigan, actual construction will be delayed for about 18 months. *Id.*

183. Draft Overview of the EPA's Water Quality Strategy Paper, 5 ENVIRONMENT RPTR. CURRENT DEV. 1898 (1975).

184. *Id.* at 1900. In a recent memorandum from the EPA Assistant Administrator for Water and Hazardous Materials, it was reported that $30 million of the total $150 million authorized for the § 208 grant program for fiscal 1975 was being withheld by the Office of Management and Budget. The rationale given by the agency was that greater progress in the § 208 program must be shown before the full funding will be released. The scheduling of funding for the § 208 program will become important, because prior to June 30, 1975, § 208 grant funding will be 100% federal. After June 30, 1975, only 75% of the cost of § 208 planning will be covered by EPA. 6 ENVIRONMENT RPTR. CURRENT DEV. 67 (1975). *See* FWPCA Amendments of 1972 §§ 208(f)(2), (3), 33 U.S.C., §§ 1288(f)(2), (3) (Supp. II. 1972).

185. *See* note 166 *supra*. *See* REPORT ON ENVIRONMENTAL POLLUTION, *supra* note 48, at 38 (1975).

In a mid-year review of EPA programs, the following statistics have been derived:

> As of March 25, 1975, the Agency has approved 45 designations, against a planned level of 143 for FY [fiscal year] 75. An additional 41 designations are being reviewed at various levels within the Agency, bringing the total approved or in processing to 86. Only $33.5 million of FY 74 and 75 funds

basins had been analyzed by mid-1975.[186]

Despite the obvious long-range benefits to be derived from the development of an interrelated program for the three FWPCA water quality planning processes, EPA's slothful administration of the planning programs, particularly the section 208 program, may indicate that federal supervision for future implementation of the various planning efforts by state, regional and local agencies will not be decisive. Given the slow start of the development of the section 208 program as an administrative check upon the potential failures of the facilities planning process, the application of NEPA under section 511(c)(1) of the FWPCA could prove to be a viable alternative environmental planning process to guide the secondary effects of treatment work and interceptor sewer construction.

B. *NEPA as a Control Upon the Secondary Effects of the Construction Grant Program and New Source Discharge Permits*

Section 511(c)(1) of the FWPCA provides that the provisions of the National Environmental Policy Act of 1969 (NEPA) shall apply to all section 201 construction projects and all discharge permits under the NPDES for new discharge sources of water pollution.[187] Both public agencies and private industries have attacked this requirement, for they

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totaling $150 million have been obligated to date. . . . Some 150 areawide waste treatment management agencies are expected to have been designated by the end of FY 75.

5 ENVIRONMENT RPTR. CURRENT DEV. 1977 (1975).

186. 5 ENVIRONMENT RPTR. CURRENT DEV. 1897. EPA has recently projected several future developments in § 303(e) planning:

> Approximately 50-60% of the plans that have reached an intermediate level of management information by the beginning of FY 1976. Nearly all plans will be complete with respect to water quality analyses to support the issuance of permits in water quality segments. As of February 28, 1975, waste load allocations had been completed for approximately 1700 water quality segments. Beginning in FY 1976, States are expected to initiate nonpoint source planning as a part of the State's water quality management planning.

Id.

187. 33 U.S.C. § 1371(c)(1) (Supp. II, 1972). For the diatribe of the National Utility Contractors Association against the NEPA requirements for § 201 waste treatment facility grants see 5 ENVIRONMENT RPTR. CURRENT DEV. 1813 (1975). For an illustrative discussion of a state water quality agency's critical view of the NEPA requirements under the FWPCA see *House Hearings on Implementation of FWPCA, supra* note 39, at 118-19.

fear that future NEPA overrides may serve to add to the delay of the construction grant and the NPDES programs in meeting FWPCA's statutory deadlines. Despite this critique, the NEPA review provision could provide the legal basis for the most immediate control of deleterious secondary land use effects under the construction grant and discharge permit regulation strategies of the FWPCA.

For purposes of this discussion of the relationship of NEPA to EPA decisionmaking under the FWPCA, sections 102(2)(C) and (D) of NEPA are the most significant.[188] Section 102(2)(C) requires that all federal agencies prepare "detailed statements," known as environmental impact statements (EIS's), for all "major Federal actions significantly affecting the quality of the human environment."[189] Section 102(2)(D) requires all federal agencies to plan and develop alternative management strategies for the resolution of conflicts over the optimal use of available resources.[190]

The relationship between NEPA and the FWPCA's land use implications focuses primarily upon two issues:[191] (1) whether EPA has an

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188. 42 U.S.C. §§ 4332(2)(C), (D) (1970), *as amended,* 42 U.S.C.A. § 4332(2)(D) (Pamphlet No. 5, 1975). In environmental impact statements, the following factors must be discussed:

(i) the environmental impact of the proposed action,
(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
(iii) alternatives to the proposed action,
(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Id. § 4332(2)(C).

189. *Id.* § 4332(2)(C).

190. *Id.* § 4332(2)(D) (1970), *as amended,* 42 U.S.C.A. § 4332(2)(D) (Pamphlet No. 5, 1975).

191. Note that the important issue of whether the "Baker Amendment," § 511(c)(2) of the FWPCA, eliminates NEPA as an alternative paradigm of environmental analysis to the effluent or water quality standards developed and established by EPA under the FWPCA has not been covered in the text. Section 511(c)(2) states that nothing in NEPA

shall be deemed to—
(A) authorize any Federal agency authorized to license or permit the conduct of any activity which may result in the discharge of a pollutant into the navigable waters to review any effluent limitation or other requirement established pursuant to this chapter or the adequacy of any certification under section 1341 of this title; or
(B) authorize any such agency to impose, as a condition precedent to the issuance of any license or permit, any effluent limitation other than any such limitation established pursuant to this chapter.

33 U.S.C. § 1371(c)(2) (Supp. II, 1972). EPA's General Counsel has interpreted the applicable legislative history of the FWPCA to authorize a licensing

affirmative duty under NEPA to implement comprehensive inter-media environmental planning into its administration of the FWPCA, including the two FWPCA programs specifically designated as subject to NEPA review, *i.e.* the section 201 construction grant program and the issuance of point source discharge permits for new sources under the NPDES program; and (2) whether the recent policy of the EPA to substitute "environmental assessments" for EIS's for certain types of construction projects and for new source applicants under the FWPCA is consistent with the FWPCA's legislative history.

Section 511(c)(1) of the FWPCA requires that the section 201 construction grant program and the issuance of discharge permits for new sources under the NPDES program be subject to NEPA review as a major federal action.[192] Because the phrase "major Federal actions"

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agency's review of any effluent limitation or other requirement under the FWPCA. *See* Zener, *supra* note 2, at 781-84. The Conference Committee Report similarly interpreted § 511(c)(2):

> However, it should be emphasized . . . that nothing in section 511(C)(2) should in any way be construed to discharge any Federal licensing or permitting agency, other than EPA, from its full range of NEPA obligations to make a systematic balancing analysis of the activity proposed to be licensed or permitted. For example, if, in making a NEPA analysis in connection with the proposed issuance of a license or permit to a source that is or will be in lawful compliance with an EPA effluent limitation and a State water quality standard, such an agency were to conclude that the environmental impact of the source, including impact on water quality, exceeded the benefits to be derived, section 511(c)(2) should not be construed as authorizing such an agency to ignore or fail to give full weight to any impact on water quality in making its final decision as to whether or not a license or permit should issue.

LEGISLATIVE HISTORY, *supra* note 22, at 183.

192. 33 U.S.C. § 1371(c)(1) (Supp. II, 1972). In several federal court decisions, *see, e.g.*, Environmental Defense Fund, Inc. v. EPA, 489 F.2d 1247, 1256-57 (D.C. Cir. 1973); Essex Chem. Corp. v. Ruckelshaus, 486 F.2d 427, 431 (D.C. Cir. 1973); Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375, 384-85 (D.C. Cir. 1973), *cert. denied,* 417 U.S. 921 (1974); Getty Oil Co. v. Ruckelshaus, 467 F.2d 349, 359 (3d Cir. 1972), *cert. denied,* 409 U.S. 1127 (1973), and in the Energy Supply and Environmental Cooperation Act of 1974, 15 U.S.C. § 793(c)(1) (Supp. IV, 1974), it was established that EPA is not required to prepare EIS's for its administrative activities under the Clean Air Act. Section 511(c)(1) of the FWPCA exempts EPA from NEPA requirements with the exceptions of the § 201 construction grant program and the issuance of new source discharge permits under the NPDES program. 33 U.S.C. § 1371(c)(1) (Supp. II, 1972). In May, 1974, EPA reported that by October 15, 1974, it would voluntarily initiate EIS requirements for several programs, including national ambient air quality standards, new source performance standards, and motor vehicle emission standards (excluding light duty vehicle standards), under the Clean Air Act. 39 Fed. Reg. 16,186-87 (1974). Other programs affected by the EPA statement of policy for the preparation of EIS's include (1) new product noise emission

exists only in section 102(2)(C) of NEPA, the section that mandates preparation of EIS's, there was some disagreement among the framers of the FWPCA over the scope of NEPA review of the programs.[193] The Conference Committee Report states that "*all* of the provisions of NEPA" apply to these programs, not just the procedural requirements of section 102(2)(C).[194]

Under EPA regulations for section 102(2)(C) of NEPA as relating to the section 201 construction grant program of the FWPCA, EIS's will be required for EPA approval of all section 208 areawide plans and of all section 201 facilities plans. They will also be required for EPA funding of all section 201 construction programs if no facilities plan was required or if the impact of the construction has changed significantly from the facilities plan.[195] Once it is determined that "overriding considerations of cost or impaired program effectiveness" exist and that the program segment is of a "noncontroversial" nature, there is a specific provision for variance from the NEPA procedural requirements.[196]

One application of this variance procedure would be the awarding of a design grant for a treatment works when the only environmental issue is the location of a sludge disposal site. Another application would be the awarding of a construction grant for site clearance for a large treatment works when the only environmental issue is an alternative method

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standards, railroad noise emission standards, and motor carrier noise emission standards under the Noise Control Act, 42 U.S.C. §§ 4901-18 (Supp. III, 1973); (2) designation of sites for dumping under the Marine Protection, Research and Sanctuaries Act, 33 U.S.C. §§ 1401-44 (Supp. III, 1973), *as amended,* 33 U.S.C. §§ 1401-12 (Supp. IV, 1974); and (3) pesticide disposal regulations under the Federal Insecticide, Rodenticide, and Fungicide Act, 7 U.S.C. § 135 (1970); 39 Fed. Reg. 16,187 (1974).

193. *Compare* Senator Buckley's policy statement in LEGISLATIVE HISTORY, *supra* note 22, at 194-98, *with* Senator Muskie's policy statement, *id.* at 198-200. Senator Buckley proposed that an EIS should be filed by EPA for many of the exempted programs of the FWPCA, *i.e.* the § 208 areawide management plans, the § 306 provision for the setting of new source performance standards, the establishment of the "best practicable treatment" and "best available treatment" standards for technological development of industrial and municipal waste treatment facilities, and EPA guidelines for non-point source control. *See id.* at 195. In response, Senator Muskie stated, "it was the intention of NEPA to put mission-oriented agencies, not the environmental enhancement agencies, under an environmental stricture and that the environmental enhancement or improvement agencies such as the Federal Water Pollution Control Administration and the Clean Air Act would not be subject to NEPA's provisions." *Id.* at 199.

194. *Id.* at 183.

195. 40 C.F.R. §§ 6.500-.514 (1975). *See also id.* pt. 1500.

196. *Id.* § 6.504(a)(5).

for the disposal of sludge and the location of its disposal.[197] Among the administrative actions explicitly excluded from NEPA review are the awarding of facility planning grants and the approval of section 208 plants.[198] It should also be noted that the EPA regulations differ from the statutory provision of the FWPCA by including the approval of section 208 plans under the NEPA review procedures.[199]

In addition to the five-step analysis for environmental impacts under section 102(2)(C) of NEPA, EPA regulations require certain land use impacts to be considered in an EIS for section 201 projects.[200] Among the additional considerations are the significance of the relationship between the projected construction and changes "in industrial, commercial, agricultural, or residential land use concentrations and distributions"; the effect of the construction upon environmentally sensitive areas including wetlands, wildlife habitats, prime agricultural land, and open space; the adverse effect of the construction on local ambient air quality and noise levels; and the adverse effect of the construction upon residential communities.[201] EPA regulations have also presented an alternative environmental review, *i.e.* an environmental assessment procedure that requires a less rigorous analysis of the secondary impact of the contruction on land use and population trends.[202]

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197. *Id.*

198. *See id.* § 6.504(b). Among the other administrative actions explicitly award of a step 2 or 3 grant when no significant changes in the facilities plan excluded by the EPA regulations are "[a]pproval of state priority lists; . . . [the] have occurred; . . . [the] approval of issuing an invitation for bid or awarding a construction contract, . . . [and the] actual physical commencement of building or fabrication." *Id.*

199. *Compare* 33 U.S.C. § 1371(c)(1) (Supp. III, 1973), *with* 40 C.F.R. § 6.512(f) (1975). Note that EPA's inclusion of § 208 areawide management plans into its NEPA review accords with Senator Buckley's policy statement during the Senate consideration of the conference report. *See* note 193 *supra.*

200. *See* 40 C.F.R. § 6.510 (1975).

201. *Id.* § 6.510(d). For the land use elements of the environmental impact review procedure see *id.* § 6.304.

202. *See id.* §§ 6.202, 6.512(a). Despite this lack of appropriate legislative history, EPA has suggested that this technique be implemented for environmental review of the designated programs. *See* EPA 1974 STRATEGY PAPER, *supra* note 19, at 78-79. For § 201 construction projects, EPA has suggested that the following factors be considered: "a description of the environment without the project, dealing with both water and non-water quality related aspects both in the present and in the future; an analysis of all alternatives and the reason for preferring that one chosen; and factors in the decision on siting, capacity, and degree of regionalization." *Id.* at 79. For § 208 plans, EPA has suggested

This environmental assessment alternative was not contemplated by the framers of the FWPCA as an appropriate procedural alternative to the more comprehensive environmental impact procedure as a land use control device.[203] EPA has proposed, however, that the following programs should have NEPA review through an EIS: section 201 facility plans; "groups of individually minor but similar actions whose cumulative impact is large or sets a precedent," such as municipal plants costing $20 million or more; and "municipal plants of smaller size which have major effects on public parks or historic sites, are located on wetlands or the habitat of an endangered species, induce growth affecting non-water quality aspects of the environment, or divert water from the basin with resulting adverse effects on water quality or quantity."[204]

Recently, EPA promulgated regulations for the preparation of EIS's for new source NPDES permits. These regulations apply only to the issuance of new source NPDES permits by EPA, and are not applicable to state agencies.[205] In its guidelines for the determination of whether to prepare an EIS, the following rules were suggested: (1) EIS's should first be prepared for those proposed sources with the most adverse short and long term effects as well as primary and secondary effects, an example of which would be a new source that would effect "significant changes in industrial, commercial, agricultural, or residential land use concentrations or distributions which have the potential for significant environmental effects";[206] (2) the cumulative impact of the issuance of a number of "insignificant" potential sources "during a limited time span and in the same general geographical area" should be studied;[207] and (3) the unique characteristics of the general geographical area of the proposed source should be considered, such as proximity to wetlands or open space preserves.[208] Prior to the promulgation of these regulations, however, the General Counsel of EPA had suggested that application of NEPA review for the consideration of the secondary land use impact of

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that the above cited factors be considered in addition to "an analysis of non-structural alternatives such as land use controls, non-point source controls, and institutional changes." *Id.*

203. *See* Senator Buckley's policy statement during the Senate consideration of the conference report, arguing for the inclusion of § 208 areawide management plans within NEPA review, LEGISLATIVE HISTORY, *supra* note 22, at 195.

204. *See* EPA 1974 STRATEGY PAPER, *supra* note 19, at 79.

205. *See* Proposed EPA Reg. § 6.904, 40 Fed. Reg. 47,715 (1975).

206. *See id.* §§ 6.910(a)(1), (b), 40 Fed. Reg. 47,716.

207. *See id.* § 6.910(a)(2), 40 Fed. Reg. 47,716.

208. *See id.* § 6.910(a)(3), 40 Fed. Reg. 47,716.

new industrial site discharges would seriously distort the regulatory jurisdiction of EPA under the FWPCA.[209]

In summation, EPA has planned the schedule of development of its water quality and land use planning programs in such a manner that, until 1976, the principal safeguard for the inter-media environmental planning process will be the section 201 facilities planning program in coordination with the applicable procedural and substantive provisions of NEPA review.[210] Unfortunately, based upon field research of several regional EPA offices, the NEPA review provisions of the FWPCA and accompanying EPA regulations are not being enforced for either the section 201 construction grant program or the new source discharge permit program of the FWPCA.[211]

III. Special Districts

In future applications of the water quality and land use planning provisions of the FWPCA, particularly the section 208 areawide waste treatment management programs,[212] the special district will serve an important role in supervising land use effects of treatment plant construction. Given the requirements in section 208(c)(2)(A)-(I) of the FWPCA for areawide management,[213] only political organizations with powers similar to those characteristic of special districts will be competent to exercise the requisite authority without extensive state enabling legislation.[214]

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209. *See* Zener, *supra* note 2, at 778-81. The General Counsel of EPA has argued:

> . . . NEPA will have to be applied in a more limited fashion to the issuance of new source permits. The best solution is probably to regard NEPA as a procedural device to require a more elaborate and explicit consideration by EPA than would otherwise occur of the water quality impacts of a proposed new source discharge, before the issuance of the permit. Possibly NEPA might also be extended to include an examination of the impact of the new plant on air quality, since air quality falls within EPA's general jurisdiction under the Clean Air Act.

Id. at 780.

210. *See* U.S. Environmental Protection Agency, Guidelines for Facilities Planning 50-54 (1974).

211. *See* note 125 and accompanying text *supra.*

212. For a presentation of the § 208 areawide management program see notes 173-74 and accompanying text *supra.*

213. *See* note 174 and accompanying text *supra.*

214. For a presentation of future difficulties in the drafting of state enabling legislation for § 208 management agencies see *id.*

A. *Background*

Special districts are generally considered to be distinct, limited-purpose units of local government. Because of disparities in size, function and organizational framework, they are incapable of precise definition,[215] but all special districts exhibit the same basic characteristics.[216] They are organized to perform one or more governmental services or functions,[217] are governed by a board of directors who possess administrative independence from other units of local government, have independent financial and revenue powers similar to those of other local government units,[218] and are separate corporate entities,[219] with a perpetual existence,

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215. For purposes of enumeration, the Bureau of the Census includes special districts in the category of local government that it defines as follows: "A government is an organized entity which, in addition to having governmental character, has sufficient discretion in the management of its own affairs to distinguish it as separate from the administrative structure of any other governmental unit." BUREAU OF THE CENSUS, U.S. DEP'T OF COMMERCE, GOVERNMENTAL UNITS IN 1967 (Oct., 1967). Building upon this definition, one author characterized special districts as "organized governmental entit[ies] which [are] established to perform some function or functions." Dohm, *The County and the Special Districts*, in THE COUNTY AND INTERGOVERNMENTAL RELATIONS 26 (J. Hauptmann ed. 1968) [hereinafter cited as Dohm].

216. For a discussion of the typical characteristics of special districts see in general J. BOLLENS, SPECIAL DISTRICT GOVERNMENTS IN THE UNITED STATES (1957) [hereinafter cited as BOLLENS]; M. POCK, INDEPENDENT SPECIAL DISTRICTS: A SOLUTION TO THE METROPOLITAN AREA PROBLEMS (1962) [hereinafter cited as POCK]; Comment, *The Water Control and Improvement District: Concept, Creation and Critique*, 8 HOUSTON L. REV. 712, 713 (1971).

217. Although the majority are single-purpose, special districts can also be organized on a multi-functional level. Missouri statutes, however, make no provision for the formation of such multi-purpose districts even though the functions of each separate district may overlap (*e.g.*, levee and drainage districts). By contrast, municipalities are authorized to operate a combined waterworks and sewerage system. Mo. REV. STAT. §§ 250.020-.030 (1969). *See* note 237 and accompanying text *infra*.

218. The financial powers of special districts may include ad valorem taxation, special benefit assessments, and the ability to borrow money and issue both general obligation and revenue bonds. Special districts in Missouri and elsewhere enjoy a tax-exempt status to the extent that the General Assembly is constitutionally prohibited from imposing a use or sales tax on property acquired by the special districts from their own funds. Mo. CONST. art. 3, § 39(10). In general, however, "it is not unusual for . . . the power to tax and incur debt, to be greater for special districts than for general purpose governments." Mitchell, *The Use of Special Districts in Financing and Facilitating Urban Growth*, 5 URBAN LAW. 185, 192 (1973) [hereinafter cited as Mitchell].

219. In Missouri special districts are accorded the status of political subdivisions of the state. *See* Mo. CONST. art 10, § 15.

created by state enabling legislation.[220]

The modern special district is an outgrowth of the drainage and flood control districts that were created to encourage and facilitate development of the Northwest Territory.[221] Although originally formed as a service mechanism for existing communities, special districts are once again being utilized to provide urban services to unincorporated fringe areas.[222] The reasons for the present resort to the special district form of government are varied and reflect both the historical growth and current decline of urban areas.

Special districts are utilized primarily because of the unsuitability of other units of local government for dealing with specific metropolitan problems.[223] Often the territorial jurisdiction of an existing governmental unit does not conform to the area in need of assistance. This problem of inadequate geographic size is particularly acute in the field of water management. Demands for water supply and sewage disposal are most efficiently met when planned on a watershed basis. Municipalities and counties are often ineffective in providing such services because their territory is delineated by political rather than geographic boundaries. By contrast, special districts have the necessary geographic flexibility to coordinate service area and function.[224]

Financial restrictions often dictate the creation of special districts.

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220. There are generally four types of state legislation authorizing the creation of special districts:

[1] general legislation authorizing a wide range of functional responsibilities;
[2] general legislation authorizing only one function;
[3] special legislation authorizing multi-functions; and
[4] special legislation for one function.

SUBSTATE REGIONALISM, *supra* note 108, at 22-23.

221. *See* J. Herget, Distributing the Powers of Government, A Legal and Constitutional History of the Forgotten Instrument of Government: The Special District (1974) (unpublished manuscript on file with *Urban Law Annual*).

222. *See* COMMITTEE FOR ECONOMIC DEV., MODERNIZING LOCAL GOVERNMENT 32 (1966); Mitchell, *supra* note 218, at 192-93.

223. Mitchell, *supra* note 218, at 185.

224. Another important aspect of the geographic flexibility of special districts is their ability to amend their boundaries as demands for service change. Although most cities can also annex unincorporated areas, the exercise of such power is often cumbersome and subject to intense political resistance. "[T]he general public may regard [the] geographic flexibility [of special districts] as an inherent component of the structure. The resultant effect is that special districts appear uniquely able to trade on the characteristic of geographic flexibility." SUBSTATE REGIONALISM, *supra* note 108, at 21. *See also* BOLLENS, *supra* note 216, at 6-7.

Most state constitutions impose a limitation upon the debt and taxing powers of general governments.[225] When such limits are attained, the general government is prevented from expanding or providing new services. These financial restrictions, however, do not prevent residents from forming a new unit of government and endowing it with powers to incur debts or levy taxes throughout the same approximate area. Thus special districts are created as a means of circumventing restrictive tax and debt limitations.[226] The special district can "incur revenue bond debt, secured by user charges and special assessments which are excluded from debt limitations of cities and counties."[227]

Another financial incentive fostering the creation of special districts is that the majority of the districts' revenue is generated from non-tax sources, such as service charges and sales.[228] Since they are generally single-functional and geographically flexible, most districts are financed by those who are directly benefited by the service. The financial pool of the special district usually covers a larger area, encompassing several local governments. It remains an attractive service mechanism, however, because "the financing process rarely directly affects the public at large, which does not have to pay taxes or guarantee the bonds of those authorities."[229]

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225. *See, e.g.*, Mo. CONST. art. 6, § 25.

226. This resort to special districts is, in part, the result of both legislative and voter inertia. Many state legislatures refuse or are unable to liberalize the debt limitations to more realistically conform to the financial needs of local governments. In the same respect, "creating a new special district is at times easier than winning popular approval for a tax increase by a general government for the performance of the same function." BOLLENS, *supra* note 216, at 7-8. There is also the added "psychological attraction" of the special district in "applying a specific tax to a specific function or service." Dohm, *supra* note 215, at 28.

227. REPORT OF THE GOVERNOR'S ADVISORY COUNCIL ON LOCAL GOVERNMENT LAW, MISSOURI LOCAL GOVERNMENT AT THE CROSSROADS 36 (1969) [hereinafter cited as LOCAL GOV'T AT THE CROSSROADS]. *See also* ADVISORY COMM'N ON INTERGOVERNMENTAL RELATIONS, PROFILE OF COUNTY GOVERNMENT 37 (1972) [hereinafter cited as PROFILE OF COUNTY GOV'T]; Dohm, *supra* note 215, at 27-28; Salsich, *Local Government in Missouri: The Crossroads Reached*, 32 Mo. L. REV. 73, 80 (1967).

228. *See* SUBSTATE REGIONALISM, *supra* note 108, at 21; COMMITTEE FOR ECONOMIC DEV., MODERNIZING LOCAL GOVERNMENT 132 (1966).

229. SUBSTATE REGIONALISM, *supra* note 108, at 21. Another report found that the "continued existence of restrictions upon county governments to use discretion in differentiating throughout their territory the level of service to be provided and the tax rate to be imposed," is a contributing factor to the creation of special districts. PROFILE OF COUNTY GOV'T, *supra* note 227, at 38. *See generally* BOLLENS, *supra* note 216, at 7-9.

Special districts may also be created in response to a desire for autonomy and independence by those who have an interest in the peculiar function or service of the district. This interest may be reflected by a desire among residents of the unincorporated fringe areas to share only a single service with the urban center; it may be a reaction to the perceived effectiveness of the local governing unit; or it may be manifested by a desire to keep the function "out of politics." Since the special district is independent of local government, it is often claimed that creation of the district will promote functional efficiency and operational expertise.[230] Although there are numerous other reasons and conditions that prompt the formation of special districts,[231] they are usually created in response to the insufficiency and inadequacy of the existing unit of local government to provide the needed service or function. Furthermore, due in part to the peculiarities of state enabling legislation and partly to general political inertia, it is often easier to form a new unit of government than it is to pressure the existing government into assuming a new function. For all of these reasons, the special district device is often the most efficient means of securing a service for an area with a minimal disruptive influence on the existing local government structure.[232]

These perceived organizational and functional advantages have led to a proliferation of special districts, to the point where residents of major metropolitan areas may reside under a web of six or seven levels of local government. In 1967 there were at least 21,264 non-school

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230. A key component of this claim is the ability of special districts to attract community leadership and more highly paid public servants than other units of government. Being relatively free from traditional local government personnel restrictions and the necessity to weigh competing functional interests against one another, special districts can sometimes pursue their public service responsibilities with a high degree of technical efficiency.
SUBSTATE REGIONALISM, *supra* note 108, at 21.

231. One source cites the following as the major reasons contributing to the formation of special districts in Missouri:
1) Inadequate geographic size of many existing governments.
2) The limitations of the powers of existing governments. . . .
3) The ease of initiation (with the enabling legislation devoid of suitable standards).
4) Federal grant-in-aid programs.
Dohm, *supra* note 215, at 229.

232. Mitchell, *supra* note 218, at 192. For an excellent general discussion of some of the factors leading to the use of special districts see BOLLENS, *supra* note 216, at 5-15.

special districts in the United States,[233] nearly twice as many as existed in 1952.[234] This total of non-school special districts exceeds the combined number of counties and municipalities for the same year;[235] in fact, "while the total number of governments declined almost 21% in the decade 1957-1967, the number of special districts increased by 47%."[236] Of the total number of special districts in existence in 1967, ninety-two percent were of a subcounty scope, with ninety-one percent of those districts being single-purpose in nature; of the remaining eight percent of special districts having a jurisdictional scope equal to or greater than the county level, only one percent were multi-purpose in nature.[237] Although each individual special district may be an efficient and effective service mechanism for a given area, the proliferation of these political subdivisions in an uncoordinated and uncontrolled fashion has led to overlapping and fragmented government units, thereby contributing to the overall inefficiency of local government.

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233. 1 BUREAU OF CENSUS, U.S. DEP'T OF COMMERCE, CENSUS OF GOVERNMENTS 23 (1967) [hereinafter cited as CENSUS OF GOVERNMENTS].

234. The following table indicates the rate of non-school special district proliferation in the 25 year period between 1942 and 1967:

Year	*Number*
1942	2,941
1952	12,340
1957	14,424
1962	18,323
1967	21,264

Id. at 4. *See also* PROFILE OF COUNTY GOV'T, *supra* note 227, at 37; LOCAL GOV'T AT THE CROSSROADS, *supra* note 227, at 36; A. WHITE, NON-SCHOOL, SPECIAL DISTRICTS IN THE U.S.: A SELECTED BIBLIOGRAPHY 2 (1973) (prepared for Council of Planning Librarians).

235. CENSUS OF GOVERNMENTS, *supra* note 233, at 23.

236. A. WHITE, *supra* note 234, at 2. The growth trends of governmental units during 1957-1967 is indicated by the following table:

	1957	1962	1967
Federal government	1	1	1
State governments	50	50	50
Counties	3,050	3,043	3,049
Municipalities	17,215	18,000	18,048
Townships	17,198	17,142	17,105
School districts	50,454	34,678	21,782
Special districts	14,424	18,323	21,264
Total	102,392	91,237	81,299

CENSUS OF GOVERNMENTS, *supra* note 233, at 23.

237. A. WHITE, *supra* note 234, at 3.

According to the 1967 census, Missouri was one of eleven states, each with over 700 non-school special districts, that accounted for two-thirds of the national total.[238] Non-school special districts can be formed in Missouri to fulfill fifteen separate functions, with specific enabling legislation for each function. Such statutory authorization includes districts for roads,[239] street light maintenance,[240] drainage,[241] levees,[242] water supply,[243] sewerage systems,[244] water conservancy,[245] soil and water conservation,[246] fire protection,[247] libraries,[248] nursing homes,[249] health centers,[250] hospitals,[251] housing[252] and redevelopment land clearance.[253]

B. *Special District and Wastewater Management: A Five County Study*

Within the five county study area that includes the City of St. Louis, St. Louis County, St. Charles County, Jefferson County, and Franklin County, special districts appear to be underrepresented in the areas of

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238. The eleven states are: California, 2,168; Colorado, 748; Illinois, 2,313; Kansas, 1,037; Missouri, 734; Nebraska, 952; New York, 965; Oregon, 800; Pennsylvania, 1,624; Texas, 1,001; Washington, 937. 2 CENSUS OF GOVERNMENTS, *supra* note 233, at 23. The 1967 total number of districts in Missouri represents a decrease from the 1952 total of 886. A survey conducted by the Governmental Affairs Program of the University of Missouri, however, indicates that this census figure is incorrect. A preliminary study revealed approximately 1,756 non-school special districts in Missouri in 1967. *See* Dohm, *supra* note 215, at 27.

239. MO. REV. STAT. §§ 233.010-.470 (1969), *as amended,* (Supp. 1973).

240. *Id.* §§ 235.010-.270 (1969).

241. *Id.* §§ 242.010-.244.130, 248.010-.200.

242. *Id.* §§ 245.010-.545.

243. *Id.* §§ 247.010-.670.

244. *Id.* §§ 204.250-.470, 249.010-250.250.

245. *Id.* §§ 257.010-.490.

246. *Id.* §§ 278.060-.270.

247. *Id.* §§ 321.010-.715.

248. *Id.* §§ 182.010-.460

249. *Id.* §§ 198.011-.440.

250. *Id.* §§ 205.010-.950.

251. *Id.* §§ 206.010-.160.

252. *Id.* §§ 99.010-.230.

253. *Id.* §§ 99.300-.660.

sewage disposal and water management. There are presently only two special sewer districts in existence, the Metropolitan St. Louis Sewer District (MSD) and the St. Charles Regional Sewer District (RSD); of these two, only MSD is operational.[254] The creation of sewer districts was recommended for both Jefferson and Franklin Counties, but these proposals have not as yet been implemented.[255] Municipalities, private companies, and independently owned facilities still retain responsibility for providing sewer service and treatment in many localities in the study area.[256]

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254. Although formed in November, 1972, RSD has not yet assumed any operational responsibility. A bond issue was recently defeated, and it appears that any exercise of authority by RSD will be postponed pending the completion of a report outlining the structure and powers of the sewer district. Interview with William Burns, Project Director, Ombudsman Foundation, Inc., in St. Charles, Mo., July 11, 1974.

255. *See* Harland Bartholomew & Assoc., Comprehensive Water and Sewer Plan, Summary Report, Franklin County, Missouri 82, May, 1974 [hereinafter cited as Franklin County Comprehensive Plan]; Harland Bartholomew & Assoc., Comprehensive Water and Sewer Plan, Jefferson County, Missouri 279, Oct. 1970 [hereinafter cited as Jefferson County Comprehensive Plan]. The Franklin County Comprehensive Plan was presented in January, 1974, and has not been presented for voter approval. Likewise, the Jefferson County Comprehensive Plan has not been submitted to a vote. The voters of Jefferson County dissolved their Planning and Zoning Commission in 1970, after that body attempted to institute subdivision regulations. There are efforts presently underway to reinstate the Commission and adopt some form of zoning in the predominantly rural county. Due to intense political opposition, it is doubtful that such initiatives will be approved, nor is it likely that any waste management planning will be approved in the near future. Interview with Walter L. Eschbach, Former Planning Director, Jefferson County Planning & Zoning Comm'n, in Hillsboro, Mo., June 24, 1974.

256. In approximately two-thirds of the St. Louis County area not served by MSD, sewage treatment is provided by five municipally owned facilities, nine privately owned sewer companies, and numerous independently owned systems, mainly septic tanks and lagoons. Citizens For Clean County Water, Facts About The Water Pollution Crisis Facing St. Louis County 29 (1972). In Jefferson County most sewage treatment is handled by individual systems with only five municipal systems and two private companies operating treatment facilities. Jefferson County Comprehensive Plan, *supra* note 255, at 143. In Franklin County sewer service and treatment is provided by seven municipalities, and 65 separate, individual systems. Franklin County Comprehensive Plan, *supra* note 255, at 28. In addition to RSD, sewer service in St. Charles County is provided by six municipalities, three private companies, and many individually owned systems. 1 Russell & Axon, Consulting Engineers, Comprehensive Water And Wastewater Program For St. Charles Regional Sewer District, St. Charles County, Missouri III-1 (1973) [hereinafter cited as RSD Comprehensive Plan].

Of the four general types of state enabling legislation,[257] the relevant Missouri statutes authorizing the creation of special sewer districts fall within the category of "special legislation for one function." There is no general law outlining the procedures for creating the districts on a state-wide basis, nor is there a general enumeration of the powers such a district would possess once organized. Rather, there are separate special sets of enabling legislation governing district formation and authority, depending upon the classification of the county in which the district would be located.[258] Thus different statutes control the organization of sewer districts in St. Louis County,[259] in counties of the second class,[260] in counties containing unincorporated villages or previously constructed sewers,[261] and the organization of a county-wide common sewer district.[262] A completely separate, special constitutional authorization provides the legal foundation for MSD.[263]

As previously noted, special districts in Missouri are generally single-function districts. Again, the nature of the state enabling legislation is partially responsible for this limitation. Generally, it is easier to pass legislation creating a single, rather than multi-function, district. The result is that sewer districts are created to transport and treat sewage with little or no coordination between the service and the related functions of drainage, water supply, and water conservancy.[264] Thus, even

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257. *See* note 220 *supra.*

258. All counties in Missouri are divided into four classes based on assessed valuation. The classification determines the organization and powers of the counties. The four classes are: Class 1—counties with an assessed valuation of $300 million; Class 2—counties with an assessed valuation of between $70 and $300 million; Class 3—counties with an assessed valuation of between $10 and $70 million; Class 4—counties with an assessed valuation of less than $10 million. Mo. REV. STAT. § 48.020 (1969); *see* Mo. CONST. art. 6, § 8.

259. Mo. REV. STAT. §§ 249.010-.420 (1969), *as amended,* (Supp. 1973).

260. *Id.* §§ 249.760-.810 (1969).

261. *Id.* §§ 249.430-.667 (1969), *as amended,* (Supp. 1973).

262. *Id.* §§ 204.250-.470 (1969).

263. Mo. CONST. art. 6, § 30(a)(4).

264. *See* note 217 *supra.* Since MSD has a constitutional mandate, it is not as severely restricted in operational scope as other special districts. On the theory that sewers and drains are closely related and present similar hazards to public health and welfare, MSD is authorized to operate, construct and maintain comprehensive sewage and drainage systems for both waste and storm water run-off. *See* State *ex rel.* Dalton v. MSD, 365 Mo. 1, 275 S.W.2d 225 (1955); CHARTER OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT, art. 3, §§ 3.020 (1)-(2) (1954) [hereinafter cited as MSD CHARTER].

though Missouri's special, uni-functional enabling legislation gives localities the option, rather than mandating the creation of special districts, the existence of the numerous special acts "not only encourage[s] district proliferation, but [is] often the prime cause of special district growth."[265]

The legal foundation of the three special districts that are either presently operating in, or planned for, the five county study area is derived from three different sources. The Missouri Constitution authorizes the city and county of St. Louis to "establish a metropolitan district or districts for the functional administration of services common to the area."[266] Pursuant to this constitutional authorization,[267] a board of nineteen freeholders prepared a plan for the Metropolitan St. Louis Sewer District that was ratified in 1954. This plan subsequently became MSD's charter, and all powers exercised by the district must be within the purview of the charter or prescribed by the Board of Trustees.[268]

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265. SUBSTATE REGIONALISM, *supra* note 108, at 23. *See also* Dohm, *supra* note 215, at 26. A recent report of the Governor's Advisory Council on Local Government Law noted that there is "no apparent or justifiable reason" for the special governing statutes unique to each type of district and that often "the required procedures [for organization] are inadequate, outmoded or are unduly burdensome." To eliminate the problems arising from such special legislation the Council made the following recommendation:

> The current statutes authorizing special districts should be revised to provide for a uniform framework within which all types of districts would be organized and administered. This framework would cover size of board, borrowing and taxing powers, methods of administration, . . . with only differences between types of districts as are absolutely necessary.

LOCAL GOV'T AT THE CROSSROADS, *supra* note 227, at 40.

266. MO. CONST. art. 6, § 30(a)(4). Some authorities are of the opinion that this constitutional authorization for the creation of MSD immunizes the district from statutory reform relating generally to special districts. *See* LOCAL GOV'T AT THE CROSSROADS, *supra* note 227, at 40. As some commentators indicate, however, this proposition may be debatable.

> [T]he constitutional provisions under which the district was established may be merely an alternative method of forming a district, rather than a device to form another unit of government independent of legislative control. It is very possible that the General Assembly can limit and even direct the functions of the District in the same way as it can limit and direct the functions of the City of St. Louis and St. Louis County.

Salsich & Tuchler, *Missouri Local Government: A Criticism of a Critique*, 14 ST. LOUIS U.L.J. 207, 232 n.98 (1969) [hereinafter cited as Salsich & Tuchler].

267. The procedures for creating the metropolitan district authorized by Article 6, § 30(a) are contained in MO. CONST. art. 6, § 30(b).

268. *Id.* § 30(b) provides that: "[T]he [plan] shall become the organic law of the territory therein defined, and shall take the place of and supersede all laws, charter provisions and ordinances inconsistent therewith relating to said territory." *See also* MSD CHARTER, *supra* note 264, art. 1, §§ 1.010-.020.

The proposed sewer districts for St. Charles and Franklin counties are organized in accordance with statutory provisions authorizing creation of a county-wide common sewer district.[269] As counties of the second class,[270] Franklin and St. Charles could have organized their sewer districts according to statutory provisions unique to districts in counties of that classification.[271] Such districts, however, would not embrace the entire county.[272] The enabling legislation authorizing creation of a common sewer district[273] is the only one that permits a sewer district to be organized coterminous with county boundaries.[274] Once organized, the common sewer district can invoke many of the statutory provisions relating to the formation of sewer districts in second class counties[275] and counties having unincorporated villages,[276] thereby providing unique coordination between the various special acts and local governmental units.

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269. Mo. REV. STAT. §§ 204.250-.470 (1969), *as amended,* (Supp. 1973). These statutes were originally introduced as part of a Jackson County plan to form a common sewer district in that county that would include the cities of Independence and Kansas City.

270. *See* note 258 *supra.*

271. *See* Mo. REV. STAT. §§ 249.760-.810 (1969).

272. The statute provides that "[a]ny contiguous area lying within a second class county may be incorporated as a sewer district." There is no provision for incorporation of the entire county into a single district. *Id.* § 249.763.

273. *See* note 269 *supra.*

274. Mo. REV. STAT. §§ 249.010-.420 (1969), *as amended,* (Supp. 1973), authorizes the incorporation of a sewer district in that contiguous area of St. Louis County not already served by MSD. Likewise, Mo. REV. STAT. §§ 249.430-.660 (1969), which relates to the formation of a sewer district in counties having unincorporated villages or previously constructed sewers, provides for the organization of a district in only the unincorporated areas of the county. Section 249.665 specifically excludes incorporated cities from the district unless they petition to be included. Furthermore, districts formed pursuant to the provisions of §§ 249.430-.660 are more "quasi-county" organizations than true special districts since they are governed by the county court and lack adequate independent status. *See* LOCAL GOV'T AT THE CROSSROADS, *supra* note 227, at 40.

275. Mo. REV. STAT. § 204.300(2) (Supp. 1973), provides that the sewer engineer "shall have the same powers, responsibilities and duties in regard to planning, construction and maintenance of the sewers, and treatment facilities of the district as he now has by virtue of law in regard to the sewer facilities within the county for which he is elected." As it pertains to St. Charles and Franklin counties, this provision appears to be a reference to the powers of the sewer engineer granted by the statutes dealing with the organization of districts in second class counties. *Id.* §§ 249.760-.810 (1969).

276. *Id.* § 204.331 (Supp. 1973).

Although special districts seem numerically underutilized in the St. Louis metropolitan region, they have a profound impact on the availability and quality of sewage service in the area, primarily because of the role of MSD. The effectiveness of these special districts as a means of abating water pollution and the concomitant influence on land use policy is often dependent upon the interplay of four factors that will serve as the background for further analysis. These factors are (1) the means of incorporation and organization structure of the district, (2) the financial and revenue powers possessed by the district, (3) intraterritorial service and service extension policies, and (4) the degree to which the district enters into cooperative agreements with other units of local government.

C. *Method of Incorporation and Organization Structure*

Unlike other special districts in the state, MSD stands in a rather unique position due to both its constitutional authorization and its historical development. The City of St. Louis separated from St. Louis County in 1876 and was constitutionally authorized to assume the functions of a county.[277] Increases in population in the 20th century, however, coupled with the city's inability to expand, forced St. Louis to seek methods of integrating municipal services with the county. The first such attempt was a city-county consolidation plan that was rejected by county voters, as was a later proposition for a metropolitan federation government embracing both the city and county.[278]

These failures of consolidation and federation ultimately led to utilization of a metropolitan district as a means of integration. The city went to the 1943-44 Constitutional Convention in the hopes of achieving some form of consolidation with the county, but was at the same time seeking to avoid the methods of consolidation provided for in the constitution.[279] The Convention, however, rejected such attempts on the ground that it would be improper to constitutionally "force" something on the county that the city could not accomplish through voluntary persuasion. Instead,

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277. *See* Mo. CONST. art. 9, §§ 20, 23-25; *id.* art. 6, § 31.

278. Interview with William Burns, Project Director, Ombudsman Foundation, Inc., in St. Charles, Mo. July 11, 1974.

279. Mo. CONST. art. 9, § 26. Under this provision, any plan for consolidation would have to receive a separate affirmative vote from both city and county residents. The city was hoping to formulate an alternative method of consolidation so as to avoid a county vote.

the present section, providing for the formation of a metropolitan district, was adopted as a compromise method of service integration.[280]

Prior to the creation of MSD, sewerage service and treatment, where it existed, was provided by a multiplicity of city and county sewer districts, municipalities and private companies, each serving less than an entire watershed. The lack of coordination among these various service units and the inadequacy of most existing facilities presented serious health hazards and stimulated popular support for a comprehensive sewer plan for the St. Louis area. Pursuant to the powers granted by the state constitutional home rule amendment,[281] a board of nineteen freeholders devised a plan that placed centralized and coordinated control over sewer matters within the sole authority of the proposed district.[282] MSD was incorporated in 1954, after receiving the assent of a majority of electors from the county and city, voting at separate elections,[283] and assumed operational responsibilities in 1956.

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280. *Id.* art. 6, § 30(a). For a more detailed discussion of the St. Louis metropolitan area's experience with integration see BOLLENS, *supra* note 216, at 61-67; Dempsey & Farmer, *The Position of the "City-County Offices" in a New Charter for the City of St. Louis,* 4 ST. LOUIS U.L.J. 162, 175 (1956).

Failure of the more conventional means of integration is often the major reason for the creation of metropolitan districts. As one authority notes,

> After diligent but fruitless efforts to gain approval of one or more devices, numerous metropolitan areas have turned, sometimes in desperation, to the district mechanism as a means of solving serious metropolitan problems. A metropolitan district is frequently a last resort, for which new state legislation must sometimes be sought.

BOLLENS, *supra* note 216, at 65-66.

281. MO. CONST. art. 6, §§ 30(a)-(b).

282. Geological conditions necessitated placing complete control over sewage service within a single agency. As the Board of Freeholders indicated in their study of the problem:

> The reason our sewer problems cannot be handled by City or County separately, is simply that most of the industrial, commercial, and residential property in the County is on comparatively high ground and drains downhill through the City of St. Louis. Since the sewage water runs downhill, its flow must be properly channeled and controlled by one overall authority from its source in the County through various municipalities and through the City of St. Louis to its eventual outlet in the Mississippi River.

Message from the Board of Freeholders to People of St. Louis and St. Louis County, MSD CHARTER, *supra* note 264, at i-ii.

283. MO. CONST. art. 6, § 30(b). The requirement that each political subdivision contained within the district separately approve the plan has been referred to as "inherently inept."

In St. Charles County, recent rapid urban growth and development[284] have underscored the need for comprehensive waste treatment plans and facilities. Since it desires to maintain its present pro-growth status,[285] the county court in 1971 established the St. Charles County Sewer Commission, which was "charged with the responsibility of advising the court of means to provide the needed facilities, . . . while still insuring the public of quality wastewater treatment and solutions to the developing public health problems connected with accelerated development and inadequately treated wastewater."[286] Pursuant to this authority, the Commission drafted legislation that would enable the formation of a county-wide sewer district for St. Charles County,[287] and these bills were passed by the Missouri legislature in 1972.[288]

Like the provision for ratification of MSD, the incorporation of RSD as a sewer district required an affirmative vote of all electors included within the district boundaries as defined by the commissioners.[289] Where

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> Parochial interests and dissensions may easily wreak havoc upon the most carefully drafted and beneficial district plan. If the enabling legislation stipulates that the proposal must carry in all subdivisions sought for inclusion in the district, a rejection in even the most insignificant of such subdivisions is tantamount to a rejection of the whole plan.

POCK, *supra* note 216, at 138. Pock prefers the type of enabling legislation that would require a single election in the entire area to be contained within the district on the theory that district lines are based upon the most desirable service area.

284. The county is the third fastest growing in the country with a present estimated population of 104,000. Interview with Jerry Bratz, Director, St. Charles County Planning Comm'n, in St. Charles, Mo., July 8, 1974.

285. The availability and quality of municipal services is often a critical variable in an area's growth and development potential. This functional relationship was recognized by the planners of RSD.

> Permanent residents are moving into the District at an ever increasing rate. Economic development is keeping pace with the population growth rate while residential and commercial devolpment grow with the influx of persons moving to St. Charles County. Developers desire to connect to public water and sewer facilities because persons moving to the District are from areas where public water and sewerage facilities are available and they tend to favor any new locations with these facilities. The availability of public water and sewer service increases the County's growth potential and, in turn, the County is able to provide additional services to its residents.

RSD Comprehensive Plan, *supra* note 256, at I-2 to -3.

286. *Id.* at I-2.

287. *See* note 269 *supra.*

288. Law of Apr. 20, 1972, [1971-72] Mo. Laws 831-35.

289. MO. REV. STAT. §§ 204.260-.280 (1969).

the proposed district would embrace more than one county, separate elections in each county were required.[290] Whereas an affirmative vote of a majority of the residents of both St. Louis City and County was a prerequisite for the incorporation of MSD, the fate of RSD was not as critically linked with the results of the separate elections. A proposed regional sewer district must be approved by a majority of those voting in the county that comprises the major portion of the district.[291] If the proposition fails in the other counties, then the circuit court is authorized to amend the boundaries to incorporate only the "approving" county.[292] If, however, the district fails to obtain an affirmative vote in the county with the largest area within the district, then regardless of the vote in any other county, the entire proposition fails.[293] This method of incorporation appears to be an improvement over the constitutional procedure mandated for MSD. It allows for voter participation while still protecting an organic service area from the ill effects of "minority rule."[294]

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290. *Id.* § 204.280(1) provides in part: "The circuit court shall by order direct the county court of any county partially within the proposed district to submit to the legal voters of the proposed district the question of organization and incorporation of the proposed common sewer district, . . ." This procedure was relevant to the formation of RSD because the district includes most of St. Charles County and a portion of Warren County that lies within a common watershed.

291. *Id.* § 204.280(4).

292. *Id.* § 204.280(3).

293. *Id.* § 204.280(4).

294. *See* note 283 *supra.* Even though this type of incorporation procedure may be more rationally related to the goals of providing sewage treatment on an areawide basis, it also presents several problems.

> Although parochial interests cannot wreck the entire proposal under such enabling acts, they can, by withholding their assent to inclusion, "mutilate" the district by cutting large portions out of its proposed service area, or which is worse, by physically disconnecting certain assenting portions from the main body of the district, thus destroying its contiguity.

POCK, *supra* note 216, at 138. The ramification of such "mutilation" in district boundaries is that effective voter participation is precluded. Although the affirming areas will have succeeded in forming a special district, they may end up with one that bears little resemblance to the proposal they approved. Thus only the minority vote may be reflected in the make-up of the eventual district.

It is debatable whether the circuit court would be authorized to enter a decree of incorporation for a district that had been so "mutilated" at the polls. Although the statutes do not explicitly command the incorporation of only a contiguous area into a district, they do speak of a common sewer district "encompassing the entire area," MO. REV. STAT. § 204.250 (Supp. 1973), *amending* MO. REV. STAT. § 204.250 (1969), and do require the commissioners to formulate boundaries embracing all of a "natural drainage area," *id.* § 204.260 (1969). There

RSD was ratified and incorporated in November, 1972. Although the circuit court has the statutory responsibility to enter or deny the decree of incorporation,[295] the decree is automatic. Generally, there is little formal relation between the special district and county government.[296] The county court merely calls the election and certifies the results to the circuit court. The county government has "little to decide regarding the creation of districts; districts may be created willy-nilly without any consideration of viability, or whether there might be a better approach to providing the service or function in question."[297]

The present established boundaries of MSD embrace the entire City of St. Louis and approximately one-third of the more populous areas of

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is also the implicit statutory standard that the district must be organized so as to efficiently secure the public health. It would appear that any changes in district boundaries that would defeat the public health goal or render the construction of sewer mains and other facilities economically infeasible would militate against the incorporation of the district.

The other statutory provisions for the incorporation of sewer districts are afflicted with the same defects as exist in the statutes relating to RSD and MSD. The procedure for incorporating a sewer district in class two counties presents a clear danger of sewer alteration of district boundaries. Any property owner within the proposed district can object to its incorporation and the circuit court can "amend the petition by changing the proposed boundaries in such manner as to exclude an objecting party from the proposed district." *Id.* § 249.767(1). The effects of this authorization are offset, however, by the requirement that the district must contain only a "contiguous" area, *id.* § 249.763, which has been interpreted as meaning "adjacent." Mo. Att. Gen. Op. No. 68-53, May 4, 1953. The statutory provisions for the incorporation of sewer districts in St. Louis County, Mo. REV. STAT. § 249.060 (1969), and counties with incorporated villages, *id.* § 249.480, vest the circuit and county courts, respectively, with more control over the shape of district boundaries and allows them to make only those changes that are consistent with the public health and welfare. None of the three preceding enabling acts require an election as a precondition to incorporation of the district. Residents file a petition for incorporation, and hearings are held on the petition at which time objections to the proposed district may be presented. The determinations of the circuit court as to the sufficiency of any protest is generally conclusive.

295. Mo. REV. STAT. § 204.280 (1969).

296. Interaction between district and county governments is often informal. When a district has the power of ad valorem taxation, the county court has the power to fix the tax levy. The court, however, has no independent authority since the rate of taxation is previously determined by the district, which merely certifies to the court the amount of money it will need. *See, e.g., id.* § 249.130. Also, most districts engage in informal consultations with county planning officials before undertaking construction of new sewer lines or treatment facilities.

297. Dohm, *supra* note 215, at 31.

St. Louis County. The boundaries are constituted such that planning and treatment can proceed on a watershed basis as required by the charter.[298] The boundaries of RSD are also organized to facilitate watershed planning. The district includes all of St. Charles County and that portion of Warren County that lies in a common drainage area. Unlike other statutory authorizations for special districts, the enabling legislation for RSD allows both incorporated and non-incorporated areas to be joined within one district.

Both MSD and RSD are governed by a Board of Trustees[299] who have the power to determine policies, issue rules and regulations, and employ staff members. The MSD Board of Trustees is composed of six members, three representing the city of St. Louis who are appointed by the Mayor, and three representing St. Louis County who are appointed by the County Supervisor, both groups subject to the approval of the majority of circuit judges from the city and county.[300] RSD is governed by a board of six trustees,[301] whose membership includes a judge of the St. Charles County Court and the presiding judge of the county court of Warren County. The RSD trustees are appointed by resolution of the county court and each serves a five-year term.[302]

The RSD Board of Trustees has the authority to appoint a chief engineer for the district, who is, generally, the sewer engineer for the county composing the majority of the district.[303] The sewer engineer is vested with "the same powers, responsibilities and duties in regard to planning, construction and maintenance of the sewers . . . as he now has by virtue

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298. Since watersheds are rarely coterminous with municipal boundaries, MSD operates in approximately twenty-three incorporated governmental units and in numerous unincorporated areas. MSD, A Plan For Wastewater Treatment And Sewerage Facilities For The Metropolitan St. Louis Sewer District 2, May, 1972 (prepared for East-West Gateway Coordinating Council).

299. Mo. REV. STAT. § 204.300(1) (1969); MSD CHARTER, *supra* note 264, art. 1, § 1.020.

300. MSD CHARTER, *supra* note 264, art. 5, § 5.010.

301. Most common sewer districts formed under the provisions of Mo. REV. STAT. § 204.300 (Supp. 1973), are governed by five trustees. The statute, however, provides that "in the event the district extends into any county bordering the county in which the greater portion of the district lies, the presiding judge of the adjoining county shall be an additional member of the appointed board of trustees." *Id.*

302. *Id.* The statute provides that county judges who are members of the board shall not serve longer than the expiration date of their terms.

303. *Id.* § 204.300(2).

of law in regard to the sewer facilities within the county for which he is elected."[304] Thus, through the chief engineer, the common sewer district can invoke some of the powers accorded sewer districts formed under different enabling legislation.[305]

MSD's charter authorizes the subdivision of the district into subdistricts for the purpose of "construct[ing], reconstruct[ing], or improv[ing]" sewage and drainage facilities within the area of the subdistrict.[306] The territory to be included in each subdistrict is restricted to that which is "capable of being efficiently served or drained by the . . . facilities to be constructed."[307] More than 250 subdistricts have been created by MSD to construct subtrunk and lateral sewers, the life of each subdivision being terminated upon completion of construction.

As is the case with MSD, the county court is authorized to subdivide the common sewer district, with these subdistricts becoming corporate entities upon creation.[308] Through the incorporation of subdistricts, the common sewer district is once again able to invoke and combine the powers of other sewer districts. There are two alternative methods of creating subdistricts;[309] one follows the method for the formation of sewer districts in unincorporated villages,[310] and the other creates subdistricts upon recommendation of the sewer engineer or upon petition of twenty percent of the residents of the area.[311] It appears subdistricts in RSD are being formed pursuant to this second alternative, and that their boundaries conform closely to the recommendations presented in the comprehensive plan for the area.[312] Once formed, subdistricts possess numerous

304. *Id.*

305. The present chief engineer of RSD was previously appointed pursuant to Mo. Rev. Stat. §§ 249.430-.667 (1969), and thus brought the powers contained therein to RSD. It would seem that if the sewer engineer previously exercised his authority by virtue of his election in a second class county, his powers as chief engineer of a common sewer district would be governed by Mo. Rev. Stat. §§ 249.760-.810 (1969). The extent of the interplay between these various enabling acts is not certain and is under investigation. Interview with Williams Burns, Project Director, Ombudsmen Foundation, Inc., in St. Charles, Mo., July 18, 1974.

306. MSD Charter, *supra* note 264, art. 3, § 3.020(24).

307. *Id.*

308. Mo. Rev. Stat. § 204.311 (Supp. 1973).

309. *See id.* § 204.332.

310. *Id.* § 249.450, *amending* Mo. Rev. Stat. § 249.450 (1969); *id.* § 249.460 (1969).

311. *Id.* § 204.332 (Supp. 1973).

312. Interview with William Burns, Project Director, Ombudsman Founda-

powers granted by Missouri law[313] and can also execute contracts with the common district for the collection, transportation and treatment of sewage.[314]

Both MSD and RSD enjoy the power of eminent domain[315] and the ability to enter into cooperative agreements with municipalities, private companies and individuals.[316] The differences in the powers of the two districts, however, are more notable than the similarities, and depend in large part upon the differences in the scope of each district's jurisdiction. MSD has complete and exclusive jurisdiction, control and possession of all sewer systems and facilities within its territorial limits.[317] In order to properly execute and administer this control the district is given a wide range of powers, including the ability to construct improvements or additions to district facilities, to own and dispose of both real and personal property, and to enter upon land and police streams.[318]

By contrast, RSD's jurisdiction is limited. Although the district includes St. Charles County and a portion of Warren County within its territorial limits, its control and ownership of sewers and treatment facilities within its boundaries extends only to the unincorporated areas of the counties and to those places that had no previously existing sewer system. Municipal systems and private companies that were operating in the area before the creation of RSD remain autonomous. RSD serves merely as an enforcement agency, coordinating the various systems on a watershed basis.[319]

RSD's powers reflect this split in authority. The Board of Trustees is authorized to enter into agreements regarding the manner of discharge and the composition of the sewage with those municipalities, private dis-

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tion, Inc. in St. Charles, Mo., July 18, 1974. *See generally* RSD Comprehensive Plan, *supra* note 256.

313. Mo. Rev. Stat. §§ 249.300-.600 (1969), *as amended,* (Supp. 1973).

314. *See id.* § 204.331 (Supp. 1973).

315. *Id.* § 204.340 (1969); MSD Charter, *supra* note 264, art. 3, § 3.020(6).

316. Mo. Rev. Stat. §§ 204.330-.350 (1969); MSD Charter, *supra* note 264, art. 3, §§ 3.020(7)-(10).

317. MSD Charter, *supra* note 264, art. 3, §§ 3.010-.020(1).

318. For an enumeration of the powers of MSD *see id.* art. 3, § 3.020.

319. Interview with Jerry Bratz, Planning Director, St. Charles County Planning Comm'n, in St. Charles, Mo., July 8, 1974; Interview with William Burns, Project Director, Ombudsman Foundation, Inc., in St. Charles, Mo., July 18, 1974.

tricts, and subdistricts who discharge effluents into district streams or facilities. RSD, however, does not have complete authority to enforce this agreement; rather, "each municipality, subdistrict or private district shall control the discharge of wastes into its collection sewers to the extent necessary to comply with the agreement . . . ."[320]

The organization of both districts allow for varying degrees of citizen input, with MSD taking the more conventional form. All regular meetings of the MSD Board of Trustees are open to the public[321] and all rules, ordinances and proceedings of the Board are matters of public record.[322] Although MSD is willing to observe these requirements, they have been ineffective in encouraging citizen participation. As a result, few residents have availed themselves of the opportunity to attend board meetings.[323]

There is, however, more direct citizen input in funding and amending the district charter. MSD is prohibited from incurring new debts or issuing new general obligation bonds without the assent of two-thirds of the voters of the district or subdistrict;[324] the district cannot issue revenue or special benefit assessment bonds without a four-sevenths vote of its residents.[325] Likewise, the three alternative provisions for amending the charter all require an affirmative vote of the majority of the district residents.[326]

Even though MSD was created pursuant to constitutional authorization, the nature of its enabling legislation does not insulate the district

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320. Mo. Rev. Stat. § 204.330(2) (Supp. 1973).

321. MSD Charter, *supra* note 264, art. 5, § 5.050.

322. *Id.* § 5.070.

323. A major criticism of MSD voiced by several constituents is that the district is insulated from public opinion and often politically unresponsive. Since the Board of Trustees is appointed, the electorate has no direct control over decisions and policies of the District and can participate only through the public hearing mechanism. MSD strictly follows the mandates of its charter concerning provisions for citizen input, but is unwilling to go further to insure freer and more effective public participation. Interview with Ms. Suzanne Pogell, Chairperson, Water Comm. of the League of Women Voters, in St. Louis, June 7, 1974.

324. MSD Charter, *supra* note 264, art. 7, § 7.130.

325. *Id.*

326. *Id.* art. 11, § 11.010. The three methods of amendment are: (1) following the procedure of Mo. Const. art. 6, §§ 30(a), (b), for the creation of a new district, in which majority assent by the voters in the city of St. Louis and St. Louis County is required; (2) by ordinance adopted by the Board and submitted to a majority vote of the residents; and (3) by a general election proposed by a petition signed by a number of voters equal to at least five percent of the persons voting in the last gubernatorial election.

from litigation to test the legality and extent of the district's jurisdiction.[327] In addition to instituting a civil action, a citizen or other aggrieved person can appeal decisions or orders of the Board of Trustees through a review procedure outlined in the charter.[328] This procedure, which calls for the filing of a petition and a board review of the order or decision, would seem to be largely ineffectual because it is unlikely that the board

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327. The principal court challenge to the plan for MSD came soon after the District was incorporated. In State *ex rel.* Dalton v. MSD, 365 Mo. 1, 275 S.W.2d 225 (1955), a number of aspects of the plan were attacked and sustained by the court. The major contention was that the granting to MSD of power to build lines adjacent to streams and to police streams, the inclusion of areas within the district that drain into different watersheds, and the transfer of previous systems to MSD were not necessary to the "functional administration" of services common to the area and constituted a "taking without due process of law." The court in sustaining the validity of these charter provisions defined the functional administration of services as "the administration of such services so as to make them function properly for the purposes for which they were intended, namely: preservation and protection of the public health and welfare by drainage and sewage disposal." *Id.* at 9, 275 S.W.2d at 230. Thus the court held that MSD could encompass different watersheds and handle the "common problems" of both drainage and sewage since it was necessary and proper for the preservation of the public welfare. The court also found that the provision for MSD's takeover of existing sewers was not a taking of private property and was merely a transfer from one public trustee to another. *See also* MSD v. Zykan, 495 S.W.2d 643 (Mo. 1973). In *Zykan* the enumeration of powers in Article 3 of the Charter was held not to be an exclusive grant of power. Thus MSD was not limited to seeking relief only in matters regarding pollution, but could also join with homeowners to seek the abatement of a nuisance. *In re* City of St. Louis, 363 S.W.2d 612 (Mo. 1963), sustained MSD's exclusive jurisdiction over existing sewer facilities.

Test cases are being used with increasing frequency as a means of determining the role and legality of newly formed special districts. In one early Missouri case, the constitutionality of sewer district enabling legislation was challenged on the ground that the legislation authorized the "inclusion of territory within the corporate limits of a city of any of the four constitutional classes [and thus] creates cities of more than the four constitutional classes to the extent that they diminish the power of cities within a district organized under the act." The court sustained the constitutionality of the enabling legislation, finding that the constitutional classification of cities was unaffected by the statutes. The reasoning was that since the state can lawfully delegate police power to existing agencies, it can also create new agencies to exercise that power, State *ex rel.* Gentry v. Curtis, 319 Mo. 316, 326, 4 S.W.2d 467, 469 (1928). Most planners recognize that there will be delay before a new district can assume operational responsibility because of the need to test the validity of various provisions, particularly bond issues, in court. *See* Letter from Roy W. Bergmann, Attorney, to Zurheide-Herrmann, Inc., Consulting Engineers, Feb. 14, 1972, in Zurheide-Herrmann, Inc., St. Louis County Water Pollution Control Study: Phase I—Areas Tributary to the Meramec River 198-205 (1972).

328. MSD CHARTER, *supra* note 264, art. 12, § 12.110.

will voluntarily reverse itself. Furthermore, the ease with which an aggrieved person can obtain judicial review of district decisions or orders is doubtful since special districts are held to have broad discretion that, absent a showing of fraud or arbitrariness, is conclusive on the courts.[329] Courts have held that this discretion extends to a determination of the "benefits to be derived from the project, the expediency of the project and the public necessity and wisdom of the improvements."[330]

Citizen input for RSD is provided in a more coordinated and potentially more effective manner than is MSD's, but this difference may be a function of the scope of RSD's jurisdiction. In addition to the requirement that prior to issuance all revenue bonds must receive the assent of four-sevenths of the district voters,[331] the statute provides for formation of an advisory board that shall "make such recommendations to the board of trustees as it deems advisable with regard to the construction and operation of the sewers and facilities of the district."[332] This advisory board is composed of the major or authorized representative of each incorporated municipality, subdistrict and private district included within the common sewer district. Thus, although the Board of Trustees is charged with the administration and governance of the district, the existence of the advisory board serves as both a check on the exercise of this administrative discretion and a mechanism for coordinating the operation of the independently owned service entities functioning in the district. The Board of Trustees must continually inform the advisory board of "all phases of the planning and operations of the district."[333]

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329. *See, e.g.*, Reis v. MSD, 373 S.W.2d 22 (Mo. 1963).

330. *Id.* at 28. The court in *Reis* further outlined the circumstances in which judicial intervention would be justified:

> [F]raud that will authorize the court's interference in the matter of municipal action is not that the power exercised or the ordinance passed has resulted in an individual hardship in its execution, or that in the working out of the general scheme designed by an ordinance an individual burden is imposed [tax assessments] . . . . , but only in those cases when the acts of the municipal body are so unreasonable, oppressive and subversive of the rights of the citizen in the general purpose declared . . . ."

Id. at 29. *See also* Giers Implement Corp. v. Investment Serv., Inc., 361 Mo. 504, 235 S.W.2d 355 (1950); City of Webster Groves v. Taylor, 321 Mo. 955, 13 S.W.2d 646 (1928); Lansdown v. Kierns, 303 Mo. 75, 260 S.W. 88 (1924); Heman v. Schulte, 166 Mo. 409, 66 S.W. 163 (1901), *aff'd*, 189 U.S. 507 (1903); City of Washington *ex rel.* Luth v. Stumpe, 83 S.W.2d 111 (Mo. App. 1935).

331. Mo. Rev. Stat. § 204.370 (1969).

332. *Id.* § 204.310 (Supp. 1973).

333. *Id.*

The advisory board has the responsibility both to review agreements entered into by the trustees for the preparation of plans and maps for construction[334] and to recommend to the Board of Trustees the rates to be charged by the district.[335] Through their elected officials on the advisory board, the residents of the district presumably can have an effective impact, even though indirect, on the affairs and operation of the district.

D. *Financial & Revenue Powers*

There are three general methods by which special districts finance their operations, thereby allowing classification according to the form of revenue the districts possess. Special assessment districts, designed to construct specific improvements, assess a benefit tax on "benefited land." General districts, instituted to provide continuing area services, levy a general tax on real property in the district. Finally, revenue districts, set up to supply specific services, finance their operations by selling their services.[336] In addition to these powers, special districts are eligible for federal and state grants because they qualify as publicly owned and operated entities.[337] Additional revenues can also be obtained through user charges and connection fees.

MSD possesses a broad range of financial and revenue powers. To meet the cost of acquiring, improving or constructing sewer facilities, the district can issue general obligation bonds, payable from taxes, or special benefit assessments, levied by the district. The district can also issue revenue bonds payable from revenue derived from the operation of the facilities.[338] Even though the charter forbids deficit spending,[339] financial

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334. *Id.* § 204.350 (1969).

335. *Id.* § 204.440.

336. Salsich & Tuchler, *supra* note 266, at 229.

337. *See, e.g.,* FWPCA Amendments of 1972 § 201(g)(1), 33 U.S.C. § 1281(g)(1) (Supp. II, 1972).

338. MSD CHARTER, *supra* note 264, art. 3, § 3.020(15).

339. *Id.* art. 7, § 7.120. This section allows for supplementary expenditures in excess of the budget, but only if the money to pay for such expenditures is available. Additional checks on MSD's spending power include a provision that expenditures will only be made pursuant to Board appropriations imposes personal liability upon any officer who engages in deficit spending, a provision for an independent annual audit of the District's accounts, and a requirement that the budget be balanced. *Id.* art. 7, §§ 7.030, .040, .090.

flexibility is insured by provisions that allow for the transfer of unencumbered appropriations from one account to another.[340]

The major construction projects undertaken by MSD are financed through general obligation bonds. These bonds are retired through tax levies on all "taxable, tangible property" within the district. The district sets its own rate of taxation which cannot exceed ten cents on the $100 assessed valuation.[341] Each year the Board of Trustees determines the amount of taxes needed during the next fiscal year and certifies this amount to the appropriate officials in the City of St. Louis and St. Louis County. These officials then levy and collect this and all other ad valorem taxes within their respective jurisdictions.[342]

As noted previously, special districts are often created to avoid constitutional debt limitations. The ad valorem taxing powers of special districts, however, have frequently been attacked as violating the constitutional debt limitations. The issue is usually phrased in terms of whether an indebtedness contracted through the issuance of bonds payable from ad valorem taxes constitutes an indebtedness of the special district or an addition to the outstanding bonded indebtedness of the municipalities included within the district, thereby amounting to an aggregate debt in excess of the prescribed limitation.

Missouri courts have resolved this issue in favor of the taxing powers of the special district. In *State ex rel. Webster Groves Sanitary Sewer District v. Smith*,[343] the Missouri supreme court reasoned that since special districts are not obligated to pay the debts of municipalities lying within their boundaries, the debts of the municipalities do not comprise the debts of the special districts.[344] Thus the limitations are not exceeded. Likewise, in *State ex rel. Dalton v. Metropolitan St. Louis Sewer District*[345] the court sustained the taxing and bonding powers of MSD, cursorily stating that

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340. *Id.* art. 7, § 7.110.

341. *Id.* art. 3, § 3.020(20). The present tax rate for operation and maintenance of the District is seven cents per $100 assessed valuation, which represents a one cent increase over the previous year. MSD Press Release, May 8, 1974, at 1 (copy on file with *Urban Law Annual*).

342. MSD CHARTER, *supra* note 264, art. 7, § 7.180.

343. 337 Mo. 855, 87 S.W.2d 147 (1935). *See also* State *ex rel.* Gentry v. Curtis, 319 Mo. 316, 4 S.W.2d 467 (1928); Embree v. Kansas City-Liberty Blvd. Rd. Dist., 257 Mo. 593, 166 S.W.2d 282 (1914).

344. 337 Mo. at 872, 87 S.W.2d at 154.

345. 365 Mo. 1, 275 S.W.2d 225 (1955); *see* note 264 *supra.*

these powers were essential to the operation of the district and were valid when read in conjunction with the constitutional limitation.[346]

In concluding that it was "within the constitutional grant of legislative power to provide for taxation of all tangible property for the general purposes and general obligations of the District,"[347] the *Dalton* court went on to define "taxable tangible property" to include both personal and real property.[348] MSD's procedure of using the assessments made by the city and county assessors as the basis for the district's taxing purposes was also sustained.[349] The court found, however, that the method of levying and collecting the ad valorem tax separately in the city and county[350] conflicted with the uniformity clause of the state constitution.[351] In its first year of operation, MSD levied a tax in the county equal to three cents per $100 assessed valuation, whereas the tax in the city equaled two cents per $100 assessed valuation. The court held that the ad valorem tax is a general tax of the district, not of the city and county.[352]

The use of bond issues to finance major district projects has several advantages and is largely responsible for MSD's financial stability. Utilization of bond financing does not increase the tax burden and does allow the cost of a project to be spread over a number of years.[353] Furthermore,

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346. 365 Mo. at 10, 275 S.W.2d at 231. An Indiana court phrased the test for the constitutionality of special district taxing powers in terms of the following:

> If the statute in question authorized the property owners of the taxing district legally to bind themselves in the construction and maintenance of a local public improvement (not political in nature) for the use of those who receive the special benefit thereof, and of the public, the debt contracted is the debt of the taxing district [special district] and not that of the political or governmental subdivision.

Department of Pub. Sanitation v. Solan, 229 Ind. 228, 238, 97 N.E.2d 495, 500 (1951).

347. 365 Mo. at 11, 275 S.W.2d at 232.

348. *Id.*

349. *Id.* at 12, 275 S.W.2d at 233.

350. MSD CHARTER, *supra* note 264, art. 7, § 7.180.

351. Mo. CONST. art. 10, § 3 provides: "Taxes shall be uniform upon the same class of subjects within the territorial limits of the authority levying the tax."

352. 365 Mo. at 13, 275 S.W.2d at 233. As the court noted, the uniformity clause does not apply to special benefit assessments; thus special districts are often created to avoid the impact of this constitutional restriction. *See generally* D. MANDELKER, MANAGING OUR URBAN ENVIRONMENT 344 (2d ed. 1971).

353. General obligation bonds are retired within twenty years, and revenue bonds are retired within thirty years.

because bond issues must be submitted to a vote, residents of the district can decide if they want to proceed with a proposed project. If the bond issue is passed, subdistricts are formed so that only those residents directly benefited from the project pay the costs of construction.[354] Bonds are sold only as needed, thus avoiding the situation in which taxpayers pay interest on idle bonds. Funds obtained from block bond sales that are not immediately needed are invested, giving MSD a flexible reserve fund.[355]

Non-bond issue sewer construction projects are financed through special benefit assessments. Subdistricts are formed to include only the areas benefited from an improvement. Once the work is completed, the cost is divided proportionally among all property owners within the subdistrict on the basis of the number of square feet per lot.[356] MSD issues a special benefit assessment against each owner, which the district turns over to the contractor in payment for his work. The contractor usually sells these bills to a bank in exchange for immediate cash, and the bank collects payment on the bills.[357]

Courts have consistently rejected challenges that have attacked the special benefit assessment method of financing as being in violation of

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354. *The Ten Year Story of the Metropolitan St. Louis Sewer District,* St. Louis Globe-Democrat, Feb. 28, 1965, Advertising Supp. at 6.

355. In 1962, voters approved a $95 million bond issue. Construction costs ran to $94,051,271 but only $70 million worth of bonds were sold. Money collected through a pay-as-you-go service charge made up the difference. Thus MSD still retains the right to sell $25 million in bonds to meet future financing needs. Interest earned on this bond sale was invested so that by 1972 MSD had raised a $14 million surplus to be put in reserve to protect future bond interest charges. Schaffers, *MSD Financing Saves Taxpayers Millions,* St. Louis Globe-Democrat, Dec. 3, 1970, at 11D, cols. 4-8.

356. The per square foot basis is a fair means of computing the benefits assessments in urbanized areas since it is generally true that parcels covering larger tracts of land will discharge more waste and thus be benefited more by the new facilities. This general rule, however, may not be applicable to rural or undeveloped areas where a single farm may cover several acres but discharge effluent from only a small portion of that area. In fact, this lot size assessment basis has been one of the stumbling blocks to MSD annexation of the outlying areas of St. Louis County.

357. *See* MSD CHARTER, *supra* note 264, art. 9, § 9.060. This section provides that once authorized, the assessments become a lien upon the property. The manner in which payment can be made is also outlined in this section. The property owner may pay the entire bill within 30 days after receiving it with no additional charge, or he may pay it in ten or fewer annual installments with such interest accruing on the unpaid balance as is prescribed by ordinance.

constitutional debt limitations.[358] The issues become more complex, however, when the district chooses to finance its projects through bonds payable from a special assessment tax. This method is similar to the special benefit assessments described above in that only those residents of the benefit district are taxed. Unlike the general ad valorem property tax, however, the levy of a special assessment tax often raises due process problems. This tax can be levied only when an actual benefit is conferred and the tax amount does not exceed the benefit derived from the improvement. If these two criteria are not met, the tax may be held to constitute a taking.[359]

Early Missouri case law followed this doctrine. Special assessments were not considered to be an additional tax burden, but were thought of as compensation for the enhanced value returned to the land from the local improvement.[360] Thus one case found a taking of private property for public use when the real value of the land was less than the amount assessed upon it.[361] Although this taking issue has appeared infrequently in recent Missouri decisions, the more modern cases have resisted finding a due process violation in either the procedure[362] or actual exaction of a

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358. *See* Schumate v. Heman, 181 U.S. 402 (1901); French v. Barber Asphalt Paving Co., 181 U.S. 324 (1901); State *ex rel.* Gentry v. Curtis, 319 Mo. 316, 4 S.W.2d 467 (1928); Prior v. Butler & Cooney Constr. Co., 170 Mo. 439, 71 S.W. 205 (1902); Hill v. Swingley, 159 Mo. 45, 60 S.W. 114 (1900); City of St. Joseph v. Owen, 110 Mo. 445, 19 S.W. 713 (1892); Kansas City v. Ridenour, 84 Mo. 253 (1884); City of St. Louis v. Oeters, 36 Mo. 456 (1865).

359. *See* Thibodeaus v. Comeaux, 243 La. 468, 145 So. 2d 1, *cert denied*, 372 U.S. 914 (1962), where the court held: "The exaction from the owner of private property of the cost of the public improvement in substantial excess of the special benefits accruing to him is, to the extent of such excess, a taking, under the guise of taxation, of private property for the public use without compensation." *Id.* at 492-93, 145 So. 2d at 9. *See generally* Myers Salt Co. v. Board of Comm'rs, 239 U.S. 478 (1916); Norwood v. Baker, 172 U.S. 269 (1898).

360. *See* City of St. Louis v. Allen, 53 Mo. 44 (1873); Sheehan v. Good Samaritan Hosp., 50 Mo. 155 (1872); Lockwood v. City of St. Louis, 24 Mo. 20 (1856).

361. *See* Zoeller v. Kellog, 4 Mo. App. 163 (1877), where in reaching this conclusion, the court stated: "[N]o just compensation is made, within the requirement of the Constitution, when private property is taken without any benefit to the owner; and that an assessment upon property for public improvements to an amount exceeding the value of the property is unconstitutional and void." *Id.* at 166.

362. It is sometimes asserted that a special benefit assessment is void when the landowners of the benefit district were not afforded a prior hearing regarding the creation of the subdistrict or imposition of the assessment tax. Most courts

special assessment tax,[363] deferring instead to "legislative declarations" that the benefit is in proportion to the amount assessed.[364]

In *Milton Construction & Supply Co. v. Metropolitan St. Louis Sewer District*,[365] the taking issue was raised as a challenge to MSD policies regarding connection fees. Plaintiff, a housing developer, who was operating within MSD's jurisdiction, applied to the district for a permit to construct sewer laterals within his subdivision. As a precondition to the award of the permit, MSD required a deposit of $200 for each lot for which a sewer connection was requested. In the event that the subdistrict containing the subdivision should vote for a bond issue to finance the

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find no due process violation since the landowner had an opportunity to present objections when the entire district was being organized. *See* Embree v. Kansas City Rd. Dist., 240 U.S. 242 (1916); State *ex rel.* Webster Groves Sanitary Sewer Dist. v. Smith, 342 Mo. 365, 115 S.W.2d 816 (1938).

363. The *Zoeller* case has been substantially overruled. In *Zoeller* the court based its decision largely upon a finding that assessment power was derived from the right of eminent domain, rather than from an exercise of the taxing power. Zoeller v. Kellogg, 4 Mo. App. 163, 167-68 (1877). Subsequent courts have rejected this analysis and have held instead that the power of levying special taxes is "[p]ractically unlimited by anything but the discretion of the governing body of the corporation." Allen v. Krenning, 23 Mo. App. 561, 569 (1886). *See also* Farrar v. City of St. Louis, 80 Mo. 379 (1883): Heman v. Wolff, 33 Mo. App. 200 (1888).

364. Absent a clear showing of abuse of discretion, courts are reluctant to review the propriety of special benefit assessments. "[W]hether the amount of the assessment for public improvements is confiscation of the property is not a judicial question." West v. Dyer, 217 S.W. 584, 585 (Mo. App. 1920). *See also* Prior v. Buehler & Cooney Constr. Co., 170 Mo. 439, 71 S.W. 205 (1902); Morse v. City of Westport, 136 Mo. 276, 33 S.W. 182 (1895); Myers v Wood, 173 Mo. App. 564, 158 S.W. 909 (1913).

When judicial review is refused, courts generally defer to the rule of assessments established by the legislature or governing body of the assessment district. An example of such a legislative declaration is found in State *ex rel.* Sewer Dist. v. Smith, 342 Mo. 365, 115 S.W.2d 816 (1938), where the court noted: "The legislature has . . . declared that property abutting the proposed lateral sewer will be benefited to an amount not less than the cost of the lateral sewer, and in proportion to the relative assessed valuation of the several pieces of property which abut the sewer." *Id.* at 379, 115 S.W.2d at 822. This judicial deference to legislative rules places an impossible burden on the property owner seeking to challenge an assessment. "[T]he property owner [can] never be heard to say that his property had not, in fact, been benefited, in opposition to the legislative declaration that it had, [and thus] the theory of assessment [is] one which he can never practically controvert." Allen v. Krenning, 23 Mo. App. 561, 569 (1886); Seibert v. Tiffany, 8 Mo. App. 33 (1879). *See generally* D. Mandelker, *supra* note 352, at 316-28.

365. 352 S.W.2d 685 (Mo. 1961).

construction of trunk sewers in the area, the deposit was to be returned to those persons owning lots as of the date of the election. A permit was awarded plaintiff pursuant to this agreement, and the company subsequently brought suit claiming that the return of the $200 per lot deposit to the lot owners constituted a taking of plaintiff's property without due process of law.[366]

The court, relying on MSD's constitutional mandate, dismissed the taking argument, finding the agreement to be a reasonable exercise of MSD's police power for the protection of the public health and welfare.[367] Since the deposit was made for the benefit of each lot, it was reasonable to refund any excess to the owners upon whom the tax burden would fall. Although the $200 refund would, in some circumstances, be in excess of the taxes the homeowners would have to pay for the improvement, the court refused to consider whether that constituted a taking.[368]

In addition to connection fees, MSD also issues a semi-annual service charge, which is a flat rate for all homeowners in the district. The rates charged by MSD are determined by its Board of Trustees and reflect a variety of factors, including the consumption and use of water by a given facility and the number of plumbing fixtures and people served by each facility.[369] These service rates are not regulated by the state Public Service Commission.[370] As a publicly owned sewer facility, MSD qualifies as a recipient of federal and state construction grants,[371] and thus MSD service charges are regulated to some extent by the EPA.[372]

The financial and revenue generating authority of RSD is more limited than MSD's. RSD has neither the power to levy ad valorem taxes, nor to issue general obligation bonds. The district acquires the majority of its funds through revenue bonds, payable from user and connection

366. *Id.* at 691-92.

367. *Id.* at 693.

368. *Id.* The court felt that in selling the lots before the bond issue vote, plaintiff had voluntarily forfeited the possibility of securing the refunds.

369. MSD CHARTER, *supra* note 264, art. 3, § 3.020(16).

370. Legislation has been proposed by the Mayor of Manchester, a city in St. Louis County lying outside the MSD boundaries, that would extend the jurisdiction of the Public Service Commission so as to make MSD amenable to its regulation. Such legislation appears to be a major stumbling block to MSD annexation of the area and is unlikely to pass.

371. *See, e.g.*, FWPCA Amendments of 1972 § 201(g)(1), 33 U.S.C. § 1281 (g)(1) (Supp. II, 1972).

372. *Id.* §§ 208(c)(2), (d)-(f), 33 U.S.C. §§ 1288(c)(2), (d)-(f); 40 C.F.R. §§ 35.900-60 (1975).

fees.[373] The revenue derived from these bonds can be paid into one of several accounts, separate from the accounts of the county, but there is no express statutory authorization for the transfer of surplus funds between accounts.[374]

Revenue bonds, previously authorized at an election,[375] are issued pursuant to a resolution of the Board of Trustees with the concurrence of the advisory board.[376] The bonds mature over a period of thirty-five years and can bear a maximum interest rate of six percent. The statute provides that the bonds do not constitute an indebtedness of the common sewer district, thereby forestalling any contentions that a bond issue violates the constitutional or statutory debt limitations.[377]

As noted previously, a bond issue proposed by RSD was recently defeated by the voters, temporarily stalemating the district's operations.[378] Despite this defeat, RSD is not without funds to meet previously incurred obligations. The enabling legislation provides that in the event a bond issue is rejected after plans for construction of facilities have been prepared, the Board of Trustees may assess a special tax on real property within the district to pay the "cost incurred in the proceedings incorporating the district, the preparation of the plan for the trunk sewer and treatment system, the conduct of the elections in the district and the necessary expenses of the district from the time of its incorporation until the bond election."[379] This limited circumstance is the only instance in which the district can exercise taxing authority. The imposition of the tax is optional with the Board of Trustees, but RSD has not yet utilized the option.

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373. *See* Mo. Rev. Stat. § 204.360 (1969), for a general enumeration of the financial powers of RSD.

374. *See* § 204.420.

375. *Id.* § 204.370.

376. *Id.* § 204.380(1).

377. *Id.* § 204.390.

378. This defeat has been attribued to various causes. It is generally believed that the bond issue came too early, before the lines of authority of the district were ascertained. Several incorporated areas rejected the proposition under the misapprehension that their powers would be usurped. Interview with Jerry Bratz, Planning Director, St. Charles County Planning Comm'n, in St. Charles, Mo., July 8, 1974. There was also dissatisfaction with the organized structure of the district whereby a judge of the county court also served as Chairman of RSD. Interview with William Burns, Project Director, Ombudsman Foundation, Inc., in St. Charles, Mo., July 18, 1974.

379. Mo. Rev. Stat. § 204.450 (1969).

It is unclear whether RSD has the power to impose special benefit assessments. The statutes authorizing the creation of a common sewer district[380] do not mention this power. It can be argued, however, that RSD retains this power by virtue of its subdistricts. The subdistricts of a common sewer district in Missouri are given certain statutory powers.[381]

One section empowers the county court to levy special assessments upon real estate in the district for the "maintenance, repair and administrative expense[s]" of facilities in the district.[382] It is debatable whether this authority vests in the common sewer district as an entity, or only in the subdistricts. The latter interpretation would appear to be more proper, given RSD's role as a coordinating and supervisory agent in relation to the previously established sewer systems.

RSD is authorized to set rates and collect service charges and hookup fees from its customers, thereby distributing costs among those who benefit from the system.[383] Rates are determined by the Board of Trustees upon the recommendation of the advisory board. The Board's rate-setting discretion is limited, however, to providing that charges will be sufficient to meet payments on outstanding bonds.[384] The user fee collected from municipalities and other corporate entities discharging sewage into RSD facilities is "based upon the volume of water used by the residential, commercial, and industrial establishments customers within the corporate limits of such district or municipality."[385] County and municipal officials

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380. *Id.* §§ 204.250-.470, *as amended,* (Supp. 1973).

381. *Id.* § 204.331 (Supp. 1973).

382. *Id.* § 249.640 (1969). It is further provided that the assessments are "to be levied according to the lots, tracts or parcels of real estate including improvements, as shown upon the assessment books prepared by the assessor of such county, such assessment not to exceed one-half of one percent of such assessed valuation." *Id.* This would appear to be a legislative declaration that the assessments are in conformity with the benefit received from the improvement and in accordance with the requirements of due process of law, thereby foreclosing judicial review. *See* note 364 and accompanying text *supra.*

383. Mo. Rev. Stat. § 204.400 (1969).

384. *Id.* §§ 204.400(3), .440.

385. *Id.* § 204.440. This method of setting service charges gives RSD some of the flexibility needed to conform to provisions of the FWPCA. Section 204 (b)(1)(A) of the FWPCA, 33 U.S.C. § 1284 (b)(1)(A) (Supp. II, 1972), requires each user to pay its proportional share of the costs of operation and maintenance of the treatment system. Through RSD's power to contract with municipalities, it can choose what type of sewage it will accept for treatment and assess costs upon the amount of water used. Compliance with the federal act, however, would be better assured if, in addition to water consumption and

are required to conform to RSD resolutions and ordinances.[386] Hook-up fees are assessed against the developer, who then passes this cost on to the consumer in the purchase price of a home. The revenue derived from such connection fees is put in escrow so the future homeowner does not pay twice for the conversion from a septic tank to a sewage system. RSD also qualifies for federal and state grants.[387] Since private sewer companies, which are ineligible for such public funds, are presently operating within the boundaries of RSD, it is unclear how such grants would be distributed within the common sewer district.

E. *Intraterritorial Service and Annexation Policies*

The region served by special districts usually overlaps, but is rarely coterminous with, the boundaries of general-purpose local governments.[388] Inasmuch as special districts are established to provide a particular service, they are under an implicit duty to adequately serve the area within their territorial jurisdiction[389] and are given the necessary powers to implement this duty. In addition to authority to construct and improve facilities, both MSD and RSD possess the power of eminent domain.[390] They are also authorized to establish rules and regulations pertaining to new service connections[391] and pollution abatement.[392]

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operational costs, RSD could charge its customers on the basis of the strength, character and volume of sewage treated. *See* INDIANA REPORT, *supra* note 174, app. B, State Reports, 401-09.

386. MO. REV. STAT. § 204.470 (1969)

387. *Id.* § 204.460. This section authorizes RSD to accept federal and state grants for which it qualifies.

388. In 1972 only one-fourth of the special districts served an area conterminus with other governmental units and only about two-fifths were county-wide. *See* PROFILE OF COUNTY GOV'T, *supra* note 227, at 381; SUBSTATE REGIONALISM, *supra* note 108, at 29.

389. *See, e.g.*, MO. REV. STAT § 204.320 (1969); MSD CHARTER, *supra* note 264, art. 3, § 3.020(1).

390. MO. REV. STAT. § 204.340 (1969); MSD CHARTER, supra note 264, art. 3, § 3.020(6).

391. Both MSD and RSD require developers to construct, or deposit money sufficient to cover the construction of, lateral sewers that can be connected to the system's trunk lines. *See* notes 365-72 and accompanying text *supra*.

392. The MSD Charter authorizes the Board of Trustees to enter upon land to police streams and to "prohibit the depositing, dumping, or otherwise disposing . . . of any sewage, garbage, rubbish, industrial wastes . . . which may pollute the stream . . . [or] leave unhealthful or unsightly traces . . . ." MSD CHARTER, *supra* note 264, art. 3, § 3.040. The exercise of this power was sus-

The intraterritorial powers of special sewer districts are generally defined by their enabling legislation. Their quality of service and their ability to effectuate overall pollution controls, however, are often dictated by extraterritorial factors. One of the most important external factors is the extent of development outside the district boundaries. Therefore, many special districts possess territorial annexation powers in order to keep pace with population growth trends.

As one author has noted, "those legislatures which were responsive to local demands for the formation of districts were also responsive to demands for extension of their boundaries."[393] The MSD charter provides for two methods of annexation. The first alternative, an annexation petition,[394] is usually employed when a small area desires to be included within the district boundaries. This petition must be signed by fifty-one percent of the landowners in the area to be annexed. Those landowners must, however, also own a majority of the land in the area. The petition is then filed with the Board of Trustees, who have complete discretion over whether or not the proposal should be granted.

The second method of annexation involves the petition initiation and examination phases of the first alternative, but adds the further requirement that the proposition must be approved at a local election.[395] This method is generally used when annexation is proposed for a large area. The petition must be signed by a minimum of 100 landowners, who need not own a majority of the land in the area. If the Board of Trustees grants the petition, an election is held only within the area to be annexed. A simple majority vote is needed to approve the proposition.[396]

The standards for annexation applicable to MSD are similar to those that governed MSD's original incorporation. Only areas within St. Louis County can be annexed to the district, but there is no requirement that

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tained in State *ex rel.* Dalton v. MSD, 365 Mo. 1, 275 S.W.2d 225 (1955). Likewise, the Board of Trustees of RSD together with all municipalities and private districts operating within its jurisdiction are authorized to enter into agreements concerning the manner and contents of sewage discharged into the district systems. Those agreements are then enforced by the circuit court. Mo. REV. STAT. § 204.330 (2) (1969).

393. POCK, *supra* note 216, at 163.

394. MSD CHARTER, *supra* note 264, art. 2, § 2.020.

395. *Id.*

396. MSD possesses a third means of territorial expansion through the use of its eminent domain powers. *See* note 390 and accompanying text *supra*. This power is a rather undesirable alternative as it usually entails a lengthy court suit.

the area be contiguous. Instead, the area must be one that can be "efficiently served by the sewer or drainage facilities of the District."[397] Presumably, this standard would require annexation to proceed on a watershed basis. Of course, it is not always possible to follow the watershed because there are a variety of other sewer agencies already operating in the county that have resisted incorporation by MSD.

Previous annexations by MSD have not corresponded to a general plan formulated by the district's governing body. Rather, territorial extensions have come in a piecemeal pattern usually preceded by development of the area to be annexed.[398] These St. Louis County development patterns have fostered a fragmented approach to waste treatment and a severe pollution problem in certain regions. Annexation by MSD has recently been proposed as the last resort in an attempt to abate the severe pollution problems in the County.[399]

Several problems have hampered attempts to achieve annexation of the entire County. The most pervasive factor appears to be the inability

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397. MSD CHARTER, *supra* note 264, art. 2, § 2.030.

398. This pattern is contrary to the experience of other areas, where urban development was sparked by the extension of sewer and water service. SECONDARY IMPACT STUDY, *supra* note 120, at 2.98. The general trend in St. Louis County is that an area is developed and then abandoned or deeded to MSD and later annexed. Interview with Carl Fiorito, MSD, in St. Louis, June 5, 1974. This trend poses problems from an engineering standpoint since it is more expensive and time consuming to construct lateral sewer lines where building foundations already exist. For this reason, Charles Kaiser, the General Counsel of MSD, has advocated the extension of sewer service prior to development. MSD is implementing this suggestion in a recently annexed area of St. Louis County where an entirely new town is under construction. Interview with Charles Kaiser, General Counsel, MSD, in St. Louis, June 14, 1974.

399. In 1970 the Missouri Water Pollution Board (now the Missouri Clean Water Commission) imposed a building ban on the construction of new or improved sewer facilities in an area in southwest St. Louis County. This ban was in response to the high quantity of effluent being discharged into the Meramac River, above the water intake points for most of the county. The ban was lifted in 1971 after the East-West Gateway Coordinating Council, the areawide planning agency, undertook a study of the waste problems facing the areas of St. Louis County outside's MSD's jurisdiction. This study concluded that sewage treatment must proceed in a coordinated, uniform manner and recommended annexation of the entire county by MSD. *See* St. Louis County Water Pollution Controls Study: Phase I — Areas Tributary to the Meramec River 198-205 (1972); Zurheide-Herrmann, St. Louis County Water Pollution Control Study: Phase II — Areas Tributary to The Missouri River (1973) (initial draft on file with *Urban Law Annual*). In November, 1973, MSD received a petition with over 5000 signatures requesting annexation of the entire county. The Board of Trustees has not as yet acted upon this request.

of MSD and the privately and municipally owned sewer companies presently serving the area to reach a purchase price agreement. The bulk of the latter companies' assets consist of lateral lines that were donated by the developer. MSD, as a matter of policy, has refused to include those lines in the purchase price, offering instead to pay for only those facilities that the companies actually built themselves.[400] MSD annexation is also resisted by local governments who are jealous of their autonomy and by citizens who are afraid that the boundary extensions will have a detrimental effect on the cost of services[401] and on the land use patterns in

400. MSD has considered exercising its powers of eminent domain to break up this stalemate. If annexation were approved at an election, MSD could invoke this power and allow the court to determine the fair purchase price. This procedure, however, has at least two major flaws. Once a price is determined, MSD would have to have immediate funds to compensate the owners. Thus MSD would need to resort to revenue bonds. As the General Counsel of MSD noted, this method of financing could mean that residents in the area to be annexed would have to "buy back what they already paid for." Luna, *County Sewer Talk Balk Raises Building Ban Threat,* St. Louis Globe-Democrat, Jan. 5, 1974, at 3A, cols. 4-5. There is no guarantee that the court's estimate of just compensation will not be based on the then existing fair market value of the company's system, including donated lines.

A different alternative for low cost annexation by MSD would involve the situation in which a private sewer utility's operating franchise expires or is revoked by the municipality. Refusal to extend the franchise does not entitle the private company to compensation other than the right to repossess its lines. Since it is doubtful that a private sewer company would go to the expense of tearing out underground sewer lines, revocation of the franchise would either decrease the company's bargaining position or force it to abandon the facilities, thus allowing for an inexpensive takeover by MSD. Because of the need for cooperation between the municipal government and MSD, however, it is doubtful that this method presents a feasible alternative. Interview with Ray White, Jr., former Professor of Law at St. Louis Univ., in St. Louis, June 10, 1974. *See also* State *ex rel.* City of Sikeston v. Public Service Comm'n, 336 Mo. 985, 82 S.W.2d 105 (1935).

401. Although the long-run costs for sewer service provided by MSD would be less than those assessed by private companies (MSD's present service charge is two dollars every six months, whereas Fee Fee Trunk Sewer Co., the largest private company in the area, charges $21.00 every six months), annexation by MSD could mean a substantial initial investment for several homeowners. As previously noted, MSD makes special assessments and easement charges on a square foot basis that could impose a financial hardship on owners of large tracts of undeveloped land. Annexation could also involve the situation in which property owners would pay three times for the same sewer facilities. The first charge would be assessed when they purchase their home (the cost of which includes the developer's expenses in constructing lateral lines), the second by means of connection fees for hookups to a privately owned or municipally run system, and lastly an assessment embodied in the cost of MSD takeover in either improvements or retirement of bonds.

their community.[402]

Unlike the MSD charter, there is no express statutory authorization for annexation by RSD. Such extraterritorial powers would appear to be contrary to the district's established purpose of bringing sewage treatment under the auspices of a single, county-wide district.[403] Since RSD already encompasses all the watersheds in St. Charles County, any territorial additions would neither further coordinate nor facilitate pollution abatement within the County. The lack of annexation powers, however, would not prevent RSD from joining and participating in regional waste treatment plans as provided by the FWPCA.[404]

Since the availability of certain utilities, such as waste treatment, often has a direct impact on the rate and type of development in an area, and since the annexation powers and policies of special districts often dictate this availability, the Missouri Governor's Advisory Council on Local Government Law has recommended the formation of a new administrative agency to oversee boundary changes of special districts.[405] The autonomous board would make the initial determination of whether a district should be created or dissolved. Boundary changes would be approved upon consideration of the following factors: present and projected population, topography and land use, assessed valuation, need for coordinated

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402. Many communities fear that the extension of service would atract new residential and industrial growth and force high-density development to meet increased costs. In a statement before the Missouri Clean Water Commission, the Mayor of Sunset Hills, a community in St. Louis County, emphasized that MSD annexation would destroy the "rural-type atmosphere of the community." He further stated that annexation would not be beneficial to the area. "The standard sewer system consisting of trunk lines, interceptors, collectors, and individual service lines is neither applicable for the existing development in Sunset Hills nor for the future development the city anticipates. The proposed plan, Phase I, relates to small lots one-half acre or less in size, to relative flat land and to more dense population." Statement by Joseph Redel, Mayor, Sunset Hills, Mo., before the Missouri Clean Water Comm'n, Aug., 1973, on file with *Urban Law Annual. See also* Salvia, *Plans for $28.8 Million Sewage System Challenged at Hearing*, St. Louis Globe-Democrat, July 19, 1973, at 1W, cols. 1-4, 5W, col. 1.

403. Territorial expansion of RSD may also be precluded since it can be argued that the district's boundaries are statutorily linked to those of the county. *See* Mo. Rev. Stat. § 204.250 (1969). *See generally* Pock, supra note 216, at 161.

404. FWPCA Amendments of 1972 § 208, 33 U.S.C. § 1288 (Supp. II, 1972).

405. Local Gov't at the Crossroads, *supra* note 227, at 38.

service, and the effect of the change on adjacent areas.[406] As the Council noted, "creation of such a board should permit increased coordination of all units of local government and allow for more area-wide planning."[407] Such an organized approach to annexation would reduce fragmentation, thereby promoting efficiency of the utility service.

F. *Cooperative Agreements*

Under Missouri law, all political subdivisions of the state can contract with each other for the provision of common services.[408] The purpose of such authorization is to "enable municipalities and political subdivisions to effect economies and facilitate the performance of their related public functions although actual consolidation of the governmental agencies is not feasible."[409] These cooperative agreements may range from pacts for joint cooperation to legally enforceable contracts.[410] No voter approval is required to effectuate such agreements;[411] rather, the powers are exercised through municipal ordinance or by a resolution of the special district's governing board.[412] Once in effect, the agreements control over

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406. *Id.* at 39.

407. *Id.* at 38.

408. Mo. CONST. art. 6, § 16 provides:

> Any municipality or political subdivision of this state may contract and cooperate with other municipalities or political subdivisions, or with the United States, for the planning, development, construction, acquisition or operation of any public improvement of facility, or for a common service, in the manner provided by law.

See also Mo. REV. STAT. §§ 70.210-.325, 90.010, 99.080(6), 99.230 (1969).

409. School Dist. of Kansas City v. Kansas City, 382 S.W.2d 688, 692 (Mo. 1964). *See also* St. Louis Housing Authority v. City of St. Louis, 361 Mo. 1170, 239 S.W.2d 289 (1951).

410. A joint agreement is one that provides for the joint exercise of powers and is used when "all cooperating units actively participate in carrying out the activity by membership on a commission or board created to deal with a common problem." A service contract, on the other hand, authorizes the furnishing of a service by one political unit to another on a contractual basis. *See* Comment, *Interlocal Cooperation: The Missouri Approach,* 33 Mo. L. REV. 442, 445 (1968).

411. Mo. CONST. art. 6, § 14, providing for joint participation by counties in common enterprises, requires voter approval of any such agreements. Some authorities cite this requirement as diluting the efficacy of this provision. *See* Freilich, Robards & Wilson, *Home Rule for the Urban County: Observations on the New Jackson County Constitutional Charter,* 39 U.M.K.C.L. REV. 297, 304 (1971).

412. *See* Mo. REV. STAT. § 70.230 (1969).

charter provisions.[413]

Although cooperative agreements do allow political subdivisions to effectuate economies of scale and do provide a measure of coordination in the furnishing of common services, it is doubtful that such agreements can be a viable solution to regional problems. The absence of a requirement for voter approval may facilitate the formation of joint agreements or service contracts, but it also isolates the service entity from the final consumer. Even though contract provisions may provide a degree of flexibility, the users of the system still cannot exercise effective control over rates or the nature and quality of the service.[414]

A more serious problem that detracts from the utility of cooperative agreements as a regional solution is the statutory requirement that the participants in a cooperative activity must have equal powers.[415] This problem is compounded by the traditional narrow construction given the exercise of corporate powers; "a municipality or political subdivision has only those powers expressly or impliedly granted by law and any doubt should be resolved against the existence of the power."[416] When an agreement requires a contracting unit to possess certain powers, the absence of these powers would breach the agreement. But, "it is doubtful that a court would require a cooperating or contracting unit to perform its obligations specifically and enact the appropriate ordinance or amend its charter according to the terms of the agreement."[417]

It is clear that these statutory limitations would prohibit the formation of a contract when one of the parties does not have the power to provide the service on its own. Thus there could be no agreement between coun-

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413. The constitutional and statutory authority enabling cities and subdivisions to enter cooperative agreements is a "specific grant or recognition of authority which in case of conflict would be controlling over the provisions of the . . . [c]ity charter." School Dist. of Kansas City v. Kansas City, 382 S.W.2d 688, 696 (Mo. 1964). *See also* Carson v. Oxenhandler, 334 S.W.2d 394 (Mo. App. 1960).

414. *See* S. GRAVA, URBAN PLANNING ASPECTS OF WATER POLLUTION CONTROL 97 (1969).

415. Mo. REV. STAT. § 70.220 (1969), provides in pertinent part: "[T]he subject and purposes of any such contract or cooperative action made and entered into by such municipality or political subdivision shall be within the scope of the powers of such municipality or political subdivision."

416. Comment, *Interlocal Cooperation, supra* note 410, at 448.

417. Salsich & Tuchler, *supra* note 266, at 235.

ties and municipalities for fire protection since counties are not authorized to provide that service.[418] It is not as clear whether the participating governmental units must also possess exactly the same power. When this question arose in relation to the power of MSD and the city of St. Louis, the Missouri supreme court resolved the issue in favor of the exercise of the contracting power. Even though MSD's charter requires all sewers within its jurisdiction to be transferred to the sole use and control of the sewer district,[419] the court concluded that the provision did not prevent the "city of St. Louis from cooperation with the Metropolitan St. Louis Sewer District . . . nor [did] these facts prevent the city from entering into a contract [with MSD]."[420]

MSD's charter authorizes the district to enter into contracts with municipalities, districts or private corporations, whether within or without the boundaries of MSD, to "connect with and use the facilities of the district" at rates agreed upon by the parties.[421] Due in part to the failure of annexation attempts and the threat of a new building ban, plans are now underway for MSD to exercise this contract power and provide interceptor and treatment services to several municipalities in western St. Louis County.[422] This contract would allow municipalities, not wishing to have their sewer systems annexed by MSD, "to operate their own systems, keep their employees, and retire their own bonds while at the same time, forcing interlocal cooperation."[423] A cooperative agreement of

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418. *See* Dohm, *supra* note 215, at 34-35.

419. MSD CHARTER, *supra* note 264, art. 3, § 3.010.

420. *In re* City of St. Louis, 363 S.W.2d 612, 616 (Mo. 1963).

421. MSD CHARTER, *supra* note 264, art. 3, § 3.020(8). MSD has the authority to enter into contracts with industrial and commercial establishments inside and outside of district boundaries for the treatment of sewage. The charges to these establishments must be sufficient to meet the District's costs of operating and maintaining the facility serving the establishment, and the rates can include payment of principal and interest charges. *Id.* art. 3, § 3.020 (9).

422. The majority of MSD's extraterritorial service extensions are accomplished through service contracts. In general, these contracts are made on a subdivision rather than a regional level. At the present time, MSD has such a contractual agreement with the City of Bridgeton. MSD is also constructing a new secondary treatment facility that will serve both Bridgeton and the recently developed Earth City.

423. Interview with Charles Kaiser, General Counsel, MSD, in St. Louis, July 14, 1974.

this type has been endorsed by the St. Louis County Council[424] and appears to be the only means of satisfying the municipal governments, while at the same time solving the pollution problems of the area.[425]

RSD itself is organized along the lines of a joint agreement.[426] The district was created on a county-wide level to deal with the common problems of waste management. All cooperating units, including the county government, municipalities, and private sewer companies, participate in the venture through the Board of Trustees and advisory board. Since the district already encompasses the entire county, there is no express statutory authorization for extraterritorial service extension through contracts to outlying areas. Rather, the power to contract for service is vested in the subdistricts, who can enter into agreements with RSD for the "collection, transportation and treatment of sewage."[427]

G. *The Viability of the Special District*

When viewed in isolation, the special district mechanism can be a viable and efficient means of providing services to the metropolitan area. When integrated with other units of local government, however, special districts often create as many problems as they solve. The major criticism is that the proliferation of special districts leads to fragmentation and overlapping of authority and function and contributes to a general weakening of the local government structure.

> Districts pile on districts, two, three or more at a time, handling supposedly the same matters in overlapping areas and conflicting, not only with each other, but also with more orthodox units of gov-

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424. St. Louis County, Mo., City Council Res. No. 2219, Feb. 28, 1974 (on file with *Urban Law Annual*).

425. Such a contract would only be a partial solution to the waste treatment problems facing the St. Louis County region. In a recent statement, the MSD Board of Trustees proposed the service contract but limited its applicability to those areas exclusive of the territory served by the private companies. Thus the areas presently served by the private companies as well as the unincorporated areas of the County would still need to be annexed before their sewer needs could be adequately served by MSD. MSD Board of Trustees, Policy Statement, Feb. 13, 1974 (on file with *Urban Law Annual*).

426. *See* note 410 *supra.*

427. Mo. Rev. Stat. § 204.331 (1969). The details of this contractual relationship are not yet ascertained since RSD has not constructed its own trunk sewers or treatment plants. At the present time, the municipalities within St. Charles County still bear the major responsibility for providing sewerage service and treatment.

> ernment occupying the same unit of space. . . . [S]pecial districts are set up for specific, single purposes, minimizing both the threat posed by special districts to local officials, and the effectiveness of the special district approach to area needs.[428]

The concomitant effect of this fragmentation of services, which could be provided more efficiently on a larger scale, is an uncoordinated approach to development of an area.[429] From a waste treatment perspective, the result is "numerous small systems offering inadequate treatment, duplicating facilities, and discharging effluent through a multitude of points."[430]

Special district proliferation can also diminish the financial stability and political support of local governments. Depletion of the tax base and costly duplication seem inevitable when several levels of government function in the same taxing area. Special districts are usually not involved in electoral politics and are often immune from the political interests of the constituents they serve. Moreover, the general public seldom has adequate information about the operation of special districts, thereby impeding efforts to reform and revitalize local government.[431] New legislation

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428. Salsich & Tuchler, *supra* note 266, at 230. *See also* LOCAL GOV'T AT THE CROSSROADS, *supra* note 227, at 37-38.

429. Special district proliferation can have an adverse impact on land use planning.

> The physical development of a given county may be adversely affected by creation of many special districts. . . . If there is no foresight used in the creation of such districts, and the [utility] system is not geared for proper expansion, it may lead to serious problems. Water and sewage services will attract residents to outlying areas of counties, which may result in system over-loading. This may mean that parallel mains will have to be constructed at substantial cost. . . . Furthermore, if county planning is contemplated or in process, the planning commission and staff will have difficulty keeping abreast of special district activities.

Dohm, *supra* note 215, at 31. *See also* SECONDARY IMPACT STUDY, *supra* note 120, at 2.98.

430. S. GRAVA, *supra* note 414, at 93.

431. For a discussion of the general political unresponsiveness of special districts see PROFILE OF COUNTY GOV'T, *supra* note 227, at 63; Dohm, *supra* note 215, at 30; Salsich & Tuchler, *supra* note 266, at 231. Despite criticism of its lack of accountability, MSD is a more visible service entity than the private sewer companies. A recent public opinion survey of residents of St. Louis County found that "nearly 90% of the respondents living under Metropolitan St. Louis Sewer District jurisdiction correctly identified MSD as providing their service," whereas 25% of the residents served by private companies did not know who provided their sewage treatment. Fleishmann-Hillard Opinion Research, An Attitude Survey Of St. Louis County Residents On Public vs. Private Sewer Service 11 (1972).

has been drafted in Missouri that seeks to curb special district proliferation and solve the problems already existing.[432]

From the perspective of waste management alone, special districts appear to be the cure for rather than the cause of the problem. The water pollution crisis in the study area has resulted from the numerous small systems, each discharging effluent in an uncoordinated manner. Where special districts have been formed, this pattern has been reversed.[433] To be effective, waste controls must be implemented on a watershed if not regional basis, and because of their geographic flexibility, special districts have emerged as the only local unit capable of meeting these needs.

CONCLUSION

In the task force report *The Use of Land,*[434] public utility decisions were found to play a significant role as land use planning tools, frequently as stimulants for low-density residential uses.[435] In recent judicial decisions concerning the propriety of local land use schemes restricting the location and timing of high-density residential development,[436]

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432. *See* PROFILE OF COUNTY GOV'T, *supra* note 227, at 64-66; Salsich, *Local Government in Missouri, The Crossroads Reached,* 32 Mo. L. REV. 73, 80-83 (1967).

433. Comprehensive studies of the waste treatment problems in Jefferson, Franklin, St. Charles and St. Louis Counties have all advocated the formation of special districts or annexation by special districts as the most viable and effective means of abating pollution. *See* Franklin County Comprehensive Plan, *supra* note 255; Jefferson County Comprehensive Plan, *supra* note 255; RSD Comprehensive Plan, *supra* note 256.

434. THE ROCKEFELLER BROTHERS FUND, THE USE OF LAND: A CITIZENS' POLICY GUIDE TO URBAN GROWTH 125-26 (1973).

435. For a discussion of the land use effects of local sewer policy see notes 105-27 and accompanying text *supra.*

436. *See* Construction Industry Ass'n v. City of Petaluma, 522 F.2d 897 (9th Cir. 1975), *rev'g* 375 F. Supp. 574 (N.D. Cal. 1974); Golden v. Planning Bd., 30 N.Y.2d 359, 285 N.E.2d 291, 334 N.Y.S.2d 138, *appeal dismissed,* 409 U.S. 1003 (1972). In *Petaluma,* the Ninth Circuit held that the effect of the Petaluma plan (fixing an annual housing growth rate at not more than 500 dwelling units for housing units that are part of projects involving five units or more) had a rational relationship to a legitimate state interest, *i.e.* preservation of the city's "small town character" and avoidance of uncontrolled and rapid growth without adequate municipal facilities. For a discussion of the planning dynamics of the Petaluma scheme see Gruen, *The Economics of Petaluma: Unconstitutional Regional Socio-Economic Impacts,* in 2 MANAGEMENT &

phased growth plans were justified by technical evidence of inadequacies in municipal capacity for the provision of sewer service for multi-unit residential development. Another judicial trend has justified large-lot acreage requirements for residential development, based on the rationale of inadequate municipal capacity for the sewer needs created by rapid urban growth.[437] Several federal and state decisions have, however, strictly scrutinized local environmental rationales for growth management and fiscal administration through restrictive land use controls and have declared them invalid for not considering the regional housing impact[438] or the racially discriminatory effects[439] of municipal sewer extension policy.[440]

In the St. Louis metropolitan area, MSD should serve a significant role in guiding the location, timing and density of residential development through its treatment works construction program.[441] For the period of May 6, 1971, through October 11, 1974, MSD received approximately $8.7 million in federal grants from EPA and HUD for twenty projects for the construction of sanitary, interceptor and storm sewers.[442] As seen in this Article's discussion of the profound land use consequences of

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CONTROL OF GROWTH: ISSUES, TECHNIQUES, PROBLEMS, TRENDS 173 (R. Scott ed. 1975). For an analysis of the Ramapo plan see note 112 *supra.*

437. *See* Ybarra v. Town of Los Altos Hills, 503 F.2d 250 (9th Cir. 1974); Steel Hill Dev., Inc. v. Town of Sanbornton, 469 F.2d 956 (1st Cir. 1972); County Comm'rs v. Miles, 246 Md. 355, 228 A.2d 450 (1967); Salamar Builders Corp. v. Tuttle, 29 N.Y.2d 221, 275 N.E.2d 585, 325 N.Y.S.2d 933 (1971).

438. *See* Southern Burlington County NAACP v. Township of Mt. Laurel, 67 N.J. 151, 336 A.2d 713 (1975); Girsh Appeal, 537 Pa. 237, 263 A.2d 395 (1970); Concord Township Appeal, 439 Pa. 466, 268 A.2d 765 (1970); National Land & Inv. Co. v. Easttown Township Bd. of Adjustment, 419 Pa. 504, 215 A.2d 597 (1965).

439. United Farmworkers of Florida Housing Project, Inc. v. City of Delray Beach, 493 F.2d 799 (5th Cir. 1974); Hawkins v. Town of Shaw, 461 F.2d 1171 (5th Cir. 1972); Kennedy Park Homes Ass'n v. City of Lackawanna, 436 F.2d 108 (2d Cir. 1970), *cert. denied,* 401 U.S. 1010 (1971).

440. For a general presentation of legal issues concerning local sewer extension policy see Note, *Control of the Timing and Location of Government Utility Extensions, supra* note 174.

441. For a discussion of the land use effects of the § 201 construction grant program see notes 50-52, 119-27 and accompanying text *supra.*

442. *See* letter from the Administrative Assistant to the General Counsel, MSD, to Michael B. Phillips, Aug. 15, 1975, on file with *Urban Law Annual.*

interceptor sewer construction,[443] MSD's decisions will directly affect the degree of urban sprawl for metropolitan St. Louis.

Despite its present role as treatment plant planner and developer under the section 201 construction grant program, MSD may eventually be placed in the awkward position of regulating land use by implementing regional environmental strategies under the section 208(c)(2) management program.[444] This paradoxical shift in administrative roles will place special districts such as MSD directly into the planning dilemma of encouraging growth or channelling development through constraints set by environmental land use controls.

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443. Recent judicial decisions have upheld the validity of various forms of local land use controls through sewer policies. *See* Smoke Rise, Inc. v. Washington Suburban Sanitary Comm'n, 400 F. Supp. 1369 (D. Md. 1975); City of Dunedin v. Contractors & Builders Ass'n, 312 So. 2d 763 (Fla. Dist. Ct. App. 1975).

444. *See* notes 173-74 and accompanying text *supra*. The General Counsel for MSD has expressed confidence that under the present charter powers, MSD has the requisite powers listed in § 208(c)(2)(A)-(I) of the FWPCA for the role as § 208 management agency for the St. Louis metropolitan region. The only possible deficiency in its charter authority would relate to problems in satisfying the general requirements of § 208(c)(2)(E) of the FWPCA, *i.e.* "to raise revenues, including the assessment of waste treatment charges." Interview with General Counsel, MSD, in St. Louis, Aug. 12, 1975.

ADDENDUM

On November 21, 1975, EPA promulgated regulations delineating the hierarchical planning structure between the state planning agency (designated by the governor for § 303(e) and § 208 planning functions) and the respective areawide waste treatment planning agencies (designated by the governor for § 208 planning functions). *See* Final EPA Regs. §§ 130.1-.44, 40 Fed Reg. 55,337-43 (1975); *id.* §§ 131.1-.23, 40 Fed. Reg. 55,344-49. For a delineation of the strong EPA policy of antidegradation of existing instream water uses see *id.* § 130.17(e), 40 Fed. Reg. 55,341.

In another recently promulgated regulation, EPA has set a formula for the allocation of federal grants to both state and designated § 208 areawide planning agencies, based upon both population and land area factors. *See id.* § 35.204(a), 40 Fed. Reg. 55,322. This federal grant regulation also reaffirms the strong state management role over the § 208 areawide planning agencies. *See id.* §§ 35.208-2(b), .230, 40 Fed. Reg. 55,323, 55,325.