

INTERIM OUTPUT EVALUATION HANDBOOK  
FOR  
SECTION 208 AREAWIDE WASTE TREATMENT MANAGEMENT PLANNING



Environmental Protection Agency  
Washington, D. C. 20460  
June 1975



## 2. EXISTING AND PROJECTED AREA CHARACTERISTICS

### A. Population

Determination of projected populations under the 208 planning process is the first step in guiding the development of 201 facilities plans for municipal wastewater treatment facilities. In general, population projections are related to employment projections, which stem from projections of local industrial and commercial activity. Projections of economic and employment figures are not specifically required as interim outputs. However, in most cases, economic and employment data must be analyzed when population projections are made or reviewed.

The interim output population growth projections are a basis for estimating future waste loads and flows (see Section 4); population projections are also a major input to service area delineations (see Section 3). Such projections should be consistent with those used for local and regional planning, air quality maintenance, water supply, transportation, solid waste management, and public investment. The projections must also reflect growth constraints imposed on the area by air quality management plans or other objectives or policies.

Population and employment projections should be consistent with existing and projected land-use patterns in the 208 area. All projections should cover the next 20 years in 5-year increments.

The State planning agency should provide the 208 agencies with statewide population projections and coordinate disaggregation of these projections for 208 areas. The State may use the OBERS Series-E projections\* or some other projections of employment and population. Generally, the Series-E statewide projection is a good ceiling, since it considers population changes both from changes in fertility and from migration. If the State uses a different projection, it should inform the 208 agency of its assumptions; for example, the net birth rate and migration figures it used. Series-E projections are available for 173 national economic areas; the 20 water resources regions and 205 sub-areas of the Water Resources Council; the States; and 253 SMSA's.

\* U.S. Water Resources Council. 1972 OBERS Projections; Economic Activity in the U.S.; Based On Series E Population, vol. I-VII. Washington, D.C. 1974. GPO, stock no. vol. I, 5245-0013, \$3.05; vol. II, 524500014, \$2.50; vol. III, 5245-00015, \$3.10; vol. IV, 5245-00016, \$1.90; vol. V, 5245-00017, \$2.75; vol. VI, 5245-00018, \$2.50; vol. VII, 5245-00019, \$2.75.

Whenever possible, the 208 agency should use employment or population projections already in use by other local agencies. Ideally, all local planners--air quality, transportation, solid waste, water supply, and so on--would work from the same set of projections, which also would have a strong correlation to disaggregated statewide projections.

In some cases, the 208 agency may disagree with population projections provided by the State or in use by other local planning agencies. In some States, the State may take a very active role in coordinating projections to be used by 208 agencies, thus minimizing disagreements. But in other States, the agencies may have flexibility in selecting the projections. When the 208 agency has some flexibility in this area, it should select projections which have the support of its advisory committees and local political units; which are reasonable and can be defended on technical grounds; and which, to the extent feasible, are compatible with other projections used or prepared locally.

Finally, the 208 agencies should use caution in extrapolating historical employment and population trends to make population projections. Since many parts of the country are experiencing abrupt changes in population growth and distribution, historical trends may not be useful for projecting future needs. Recent economic and social factors, for example, the rapidly declining birth rate and the high unemployment rate, should be considered in projections of local activity.

#### Minimum Reporting Requirements

As a minimum, the 208 agency's interim outputs report should include the following information with respect to population forecasts:

- 1) a precise, recent estimate of the existing population in the 208 area; and, if the projections are based on a different starting year and population, a comparison of this recent estimate to the projected 1975 population for the area
- 2) an explanation of the methodology used to arrive at population projections for the next 20 years, including a discussion of how the projections consider State and local projections
- 3) a table showing the estimated population in the 208 area for the next 20 years in five-year increments.

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### POPULATION AND EMPLOYMENT PROJECTIONS

#### Introduction

The following is a summary of a technical report on employment and population forecasts for the 208 areawide management planning area.\* The principal results and statistical tables are shown below.

The forecasts are the same as those projections already in use by several other local planning units including the COG.\*\* The projections are slightly lower than the OBERS Series-E projections adjusted for the 208 area boundary.

The employment and population forecasts have been prepared in conjunction with the Land Use Study summarized elsewhere in this report. These projections reflect both private and public investments, incentives, and constraints. They are not inevitable since alternative public policies and other factors could change the rate of population growth over the coming years.

#### Methodology

The 208 agency first obtained employment and population estimates and projections for the relevant counties and SMSA from the State. The State uses the OBERS Series-E projections for the State, counties, and SMSA's. With the assistance of the Department of Environmental Conservation,

\* 208 agency, Draft Technical Report on Employment and Population Forecasts, date

\*\* NOTE: In the examples presented in this handbook, the 208 staff must be distinguished from the COG. References to COG indicate previous or on-going activities performed by COG independently of the 208 effort. For these examples, the 208 planning group could either be a unit of the COG or an independent agency.

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these figures were adjusted to the boundaries of the 208 area.

Next, the agency obtained the COG's economic, employment, and population forecasts. The COG has done extensive forecasting for several years, and is responsible for air quality and transportation planning. The COG builds its population forecasts by forecasting economic and commercial activity in the area, taking into account the national and local economy, then making a projection of the number of employees who will live in the COG area in the future. A ratio of the employed work force to the total population is then used to forecast total population in the COG jurisdictions. For 1980, this ratio is based on recent data for the COG area. Ratios in later years have been adjusted so that they approach OBERS Series-E projected ratios for this SMSA.

The COG's forecast was slightly lower than the disaggregated Series-E figures, but the 208 agency decided to use the COG forecast since it included more detailed consideration of local factors.

The 208 agency then considered population projections for the non-COG county (Green County) included in the 208 area. Green County had made some population forecasts, which the 208 agency found to be much higher than Series-E. Although the County said the projections were realistic based on anticipated suburban construction there, the 208 agency, after consulting the technical advisory committee, agreed that Green County was not likely to experience such rapid growth due to its distance from employment centers, the stabilizing employment rate in the 208 area, and the severe drop in housing construction which has occurred in the last three years. Therefore, the 208 agency used State disaggregated Series-E projections for Green County.

Concurrently, the agency correlated the employment and population projections with the land-use projections which appear elsewhere in this report. The land-use projections are compatible, and are the same ones in use by the COG.

With respect to employment, the findings of the 208 agency are:

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- The job base will grow from 191,500 in 1974 to 242,600 in 1985 and to 302,700 in the year 2000. The forecast implies that the area will continue to outperform the nation in terms of expected employment growth.
- The future rate of employment growth will, however, be slower than the area experienced during the 1960's, but about equal to that experienced in the early 1970's.
- Nonmanufacturing employment will grow faster than manufacturing employment. As a result, the manufacturing sector's share of total employment will decline from 28 percent in 1974 to 27 percent in 1985 and 26 percent in the year 2000.
- Within the manufacturing sectors, slower growth is expected in the government, trade, and construction industries in response to slower population and employment growth in other sectors of the economy.

The tables below summarize past and future area population and employment:

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SUMMARY OF PAST AND PROJECTED COUNTY  
EMPLOYMENT AND POPULATION

Actual/Estimated	Employment			Population
	<u>Manufacturing</u>	<u>Nonmanufacturing</u>	<u>Total</u>	
1960	46,900	85,700	132,600	307,450
1970	54,400	123,300	177,700	385,850
1974	54,000	137,500	191,500	395,300
<u>Projected</u>				
1985	66,700	175,900	242,600	493,200
2000	79,800	222,900	302,700	610,200
<u>Average Annual Growth</u>				
1960-1970	750	3,760	4,510	7,840
1970-1974	-100	3,550	3,450	2,350
1974-1985	1,150	3,490	4,640	8,900
1985-2000	870	3,130	4,000	7,800

AVERAGE ANNUAL EMPLOYMENT GROWTH  
DURABLE GOODS INDUSTRIES, 1960-2000

	Employees Added Yearly			
	<u>1960-1970</u>	<u>1970-1974</u>	<u>1974-1985</u>	<u>1985-2000</u>
Primary Metals	20	50	55	60
Fabricated Metals	20	-25	75	95
Machinery	-	25	80	120
Transportation	180	-575	355	40
Other Durables	-20	175	55	45
Total Durable Goods	200	-350	620	360

AVERAGE ANNUAL EMPLOYMENT GROWTH  
NONDURABLE GOODS INDUSTRIES, 1960-2000

	<u>1960-1970</u>	<u>1970-1974</u>	<u>1974-1985</u>	<u>1985-2000</u>
<u>Nondurable Goods</u>				
Food Products	-40	-50	35	80
Textiles	-90	-75	-	-
Apparel	-	-	-	-
Printing/Publishing	20	50	45	40
Chemicals	680	350	350	280
Rubber/Plastics	-	25	65	80
Leather	-50	-100	-	-
Other Nondurable	30	50	35	30
Total Nondurable Goods	550	250	530	510



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### AVERAGE ANNUAL EMPLOYMENT GROWTH, NONMANUFACTURING INDUSTRIES, 1960-2000

<u>Industry</u>	<u>Employees Added Yearly</u>			
	<u>1960-1970</u>	<u>1970-1974</u>	<u>1974-1985</u>	<u>1985-2000</u>
Contract Construction	310	375	355	255
Transportation, Commu- nication & Utilities	40	125	120	105
Trade	1,220	1,000	980	925
Finance, Insurance & Real Estate	280	425	480	460
Services	830	1,175	1,175	1,070
Government	1,000	425	300	200
Other <u>1/</u>	<u>80</u>	<u>25</u>	<u>80</u>	<u>115</u>
Total Nonmanufacturing	3,760	3,550	3,490	3,130

1/ Includes agriculture, mining, self-employed and domestics.

### AREA POPULATION PROJECTIONS, 1974-2000

	<u>Resident Job Holders (000)</u>	<u>Employment Population Rate</u>	<u>Estimated Population (000)</u>
1974	167.8	42.4%	395,300 <u>1/</u>
1980	194.4	43.3%	448,900
1985	217.0	44.0%	493,200
1990	238.0	44.5%	534,800
1995	257.8	45.0%	572,900
2000	274.6	45.0%	610,200

1/ U.S. Department of Commerce and State Planning Office, provisional estimates, March 1975.

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## COMPARISON OF POPULATION PROJECTIONS, 1974-2000

	<u>State Planning Office</u>	<u>208 Agency</u>
1974 (actual)	395,300	305,300
1975	424,200	1/
1980	467,800	448,900
1985	503,600	493,200
1990	543,600	534,800
1995	594,100	572,900
2000	649,800	610,200

### Average Annual Change

<u>Actual</u>	<u>State</u>
1950-1960	8,860
1960-1970	7,840
1970-1974	2,350

<u>Projected</u>	<u>State</u>	<u>208 Agency</u>
1974-1980	12,080	7,480
1980-1985	7,160	8,860
1984-1990	9,000	8,320
1990-1995	10,100	7,620
1995-2000	11,140	7,460

1/

No projection rendered.

## 2. EXISTING AND PROJECTED AREA CHARACTERISTICS

### B. Land Use

#### Background

Since water quality is one of a series of economic, social, and environmental objectives which local governments consider when making land use decisions, the 208 planning agency must be aware of on-going land use planning and implementation efforts. The 208 planning agency must work closely with agencies responsible for land use planning and implementation programs to ensure that plans are compatible and that the implementation of land use plans and programs does not have an adverse impact on carrying out the 208 plan.

The primary intent of the land use interim output is to insure that the 208 agency has started to assess and incorporate related local and regional land use planning efforts early on in their 208 process. A detailed consideration of land use is important for two reasons: (1) land use plans can serve as bases from which point and non-point source controls can be developed and evaluated; and (2) possible changes in future development patterns and controls can be explored as a means of reducing investment in point and non-point source control.

Throughout the process of incorporating land use considerations into the 208 plan, primary reliance should be placed on utilizing existing land use plans, projections, and controls, although it will be necessary in some cases to identify necessary revisions responsive to water quality objectives. Since it is unlikely that the 208 planning agency will have the authority to enact or implement changes in land use plans or controls, it is essential that the planning agency work closely with those government agencies possessing legal authority for land use planning and control.

It is also possible that some jurisdictions within the 208 area will not have land use plans, projections, and/or controls. In this case, the 208 agency should work with the appropriate jurisdictions to gather enough information about the area so that current and future development patterns, densities, and policies can be identified.

## Interim Outputs

An initial step for incorporating land use considerations into the 208 planning process should be the assembly and evaluation of a land use inventory and projection. Special emphasis should be given to those geographic areas within the 208 region affecting or affected by water quality. The land use projection must be consistent with the population and employment projections presented in Section 2.A. As discussed above, projections should be based on existing local and regional land use plans to the extent practicable, although existing land use plans may have to be revised for consistency throughout the 208 area.

The inventory and projection should be divided into five-year increments and include industrial, commercial, residential (by dwelling unit density), agricultural, silvicultural, recreational and other land uses from which pollution may be generated. The projections do not have to be as detailed for the fifteenth and twentieth year of the planning period. This initial projection should be used in the initial development of point and non-point source subplans. During refinement of these subplans, appropriate revisions related to water quality management could be recommended which would alter these initial land use projections.

Land use scales and levels-of-detail incorporated in the 208 process can vary depending on the type of geographic area and wasteloads, the origin of the wasteloads, and the available local and regional land use plans. However, it is strongly recommended that consistent scales and classification systems be used if the 208 Agency has to assemble several local land use plans or develop a land use projection for a portion of the 208 area to complement an existing plan. Whatever scales and levels of detail are finally selected, they should be sufficient so that the location, volume, and nature of wastewater flows can be adequately identified to locate, size, and time treatment and major interceptor systems. Any specific land use and development regulations which affect assumptions made for wastewater and land use impact data should be documented. In addition, the origin of the wastewater sources, their location and geographic distribution should be of a level of detail which accurately relates the origin of flows to projected land uses.

In addition to the land uses affecting wastewater flows, an inventory and/or projection of other factors may be necessary depending on specific conditions and problems in the 208 area. Those factors which may be of importance in 208 areas are listed below.

- Topography and soil conditions of the 208 area;
- Bodies of water and related lands that would be beneficially or adversely affected by a change in water quality;
- Water supply, treatment, and distribution systems;
- Existing waste treatment and collection systems; including interim facilities and major urban storm drainage facilities;
- Solid waste disposal sites;
- Areas presently served by septic tanks and the suitability of other undeveloped areas for septic tanks at specified densities;
- Environmentally sensitive areas:
  - Aquifers and aquifer recharge areas
  - Marshland and wetlands
  - Flood plains
  - Forests and woodlands
  - Erodable and/or poorly drained soils
  - Steep slopes
  - Shorelands

It is important that land use plans be compatible with flood hazards and any local or State programs for flood-plain management. Lack of such compatible land use and control measures could jeopardize a community's eligibility for participation in the National Flood Insurance Program and the Flood Disaster Protection Act of 1973. Further, such non-participation could preclude Federal assistance for publicly owned waste treatment works after July 1, 1975.

Land use planning aspects of the 208 program must be coordinated with applicable HUD Comprehensive Planning Assistance Programs (701). It is important that available 701 plan(s), in particular their land use elements, and the 208 plan be consistent. Moreover, in preparing these plans, the planning agencies must not duplicate effort. Therefore, it is necessary that the planning agencies in those areas where both 208 and 701 plans are being prepared identify in their work plans how they will integrate 208 and 701 planning. The 208-701 relationship is discussed more completely in the EPA program guidance memorandum on "Integrating 208 Planning and 701 Comprehensive Planning (AM-9) and the Inter-agency Agreement between HUD and EPA; these documents are attached in Appendix C.

#### Minimum Reporting Requirements

EPA is not requesting that a complete set of detailed land use maps be presented. Rather, the 208 Agency should concisely summarize the land use planning activities occurring in the area relevant to the 208 process and the Agency's progress in assembling and evaluating these activities. As a starting point, a list of land use plans, policies, reports, etc., reviewed by the 208 Agency should be presented. It is not necessary in the interim output report to comment on each item reviewed; only those land use plans/activities to be incorporated in the 208 process need to be discussed. The report should clearly indicate and briefly describe which land use inventory and projection has been used by the 208 Agency to develop the service area and waste load projection interim outputs; i.e., the existing regional land use plan, a compilation of local plans, an existing plan modified in certain areas by the 208 staff, etc. The 208 Agency should also indicate how and why this projection was selected.

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### Land Use Plans, Policies, Reports Reviewed by the 208 Agency

#### Alpha County

1. Comprehensive Plan for Alpha County, 1967, Alpha County Planning Commission
2. Revised Master Plan for the Lee District: Amendment to Comprehensive Plan, 1971, Alpha County
3. "Interim Growth Policies," adopted May 17, 1973, Alpha County Board of Supervisors
4. Industrial Land Needs Survey, 1974, Alpha County Planning Commission

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#### Green County

1. Green County Land Use Plan, 1973, Green County Office of Comprehensive Planning

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#### Council of Governments

1. Regional Land Use Policy Plan, 1969, COG.
2. "Area Growth Policy Studies", 1974, ABC Consultants for COG

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## EXAMPLE

### Status of Land Use Activities

#### Introduction

In order to incorporate water quality considerations into the land use plans and controls of our area, the 208 staff has been reviewing and evaluating available land use plans. A reconnaissance survey of county planning offices and the regional COG was completed at the beginning of the 208 program to determine the status and content of these land use planning efforts. 208 Technical Advisory Committees on land use, critical environmental areas, and economic growth have been organized and now meet on a bi-monthly schedule. Based on the reconnaissance survey, TAC reviews, input from the 208 Policy Board and local governments, and public participation, the 208 Agency has decided to use the ongoing COG regional planning efforts as the major land use input into the 208 process. COG land use planning was selected as their efforts have been concerned with integrating local planning into a regional plan. While disagreeing on some details, the local governments basically support the plans and projections of COG. Finally, COG's plans and projections are generally of sufficient detail to be useful in 208 Planning.

For these interim outputs, the 208 staff has assembled the land use projections developed by the COG for the purposes of determining the service area and waste load implications of the COG's land use plan. The 208 staff has worked with the COG to update certain information and to expand the geographic coverage of the COG's plan to include Green County (this non-COG county is in the 208 area.) While assembling these land use projections, the 208 staff has been concerned with understanding and evaluating the critical assumptions (growth rates, residential densities, sensitive environmental areas, etc.), implicit in the COG's land use projections. More detailed evaluation of the non-point source implications of these land use projections is proceeding at this time.

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### COG Land Use Activities Reviewed by 208 Staff

The COG has developed a land use planning system incorporating the following features:

1. Inventory of natural and physical resources.

Existing land use data from localities has been categorized in six broad groupings: forests, agriculture, low-density residential, other urban, and "special" (lakes, shopping centers, highway interchanges, etc.) The land use data was recorded by 64-hectare grid cells (approximately 160 acres) using the state Planning and Land Use grid system developed by the Office of State Planning.

2. Residential Allocation Model.\*

A computer model has been designed to allocate residential growth once the location of employment centers has been determined. Environmentally sensitive areas, areas with soils unsuited to urban development, and other "undevelopable" areas can be withheld from the allocation process. The model is relatively simple to operate, and inputs can be obtained from census data and other data which are relatively easy to obtain. The input data from census publications has been assembled. In addition, data on employment by workplace has been obtained for the urban areas.

3. Economic Data

In 1971, the Council of Governments produced a report entitled Economic Indicators. In part, the report was a compilation of statistics showing historic trends in personal income, retail sales, manufacturing payroll, farm production,

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NOTE ON EXAMPLE: This is merely an illustration of a land use planning technique employed by this example COG. It is not required that 208 agencies develop such a residential allocation computer model. In the absence of local or regional land use planning, simplifying assumptions and manual procedures could be used to project densities and spatial locations based on population and economic projections.

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and other economic indicators. Since the report was published before the 1970 decennial census data was available, and since many of the data sets presented in the report are important indicators of trends in the economic mix of the area, the COG staff has updated selected indicators.

### 4. Area growth policies study

The Institute of Policy Sciences and Public Affairs of the University, under its contract with the Council of Governments, has produced several working memoranda. These memoranda deal with a variety of subjects related to growth policies and water quality. Examples are: the effect of land use on water quality in an urban environment, constitutional issues raised by growth regulations; new approaches to land development controls, economic considerations in developing urban growth policies, and a compendium of State laws and local ordinances related to development.

Based on the planning system outlined above, the COG has been updating their original regional land use plan completed in 1969. The 1969 regional land use plan was basically a trend projection based on mid-1960's data and local land use plans. In order to test the effects of various possible regional growth policies, the COG staff initially developed several different alternatives:

- continuation of recent (1970-74) trends
- "Compact" development alternative
- "New Centers" development alternative
- "Corridor" development alternative

These alternatives received an initial screening based on fiscal impacts, capital improvement requirements, social acceptability, general environmental impacts, and political feasibility. The results of the initial review were discussed with the COG Board and local governments. COG then

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adopted a series of policy statements which support a revised land use plan with the following basic features:

- Accommodate the recent COG employment and population projections
- Continue recent trends in "in-filling" vacant lands in the core area
- Concentrate remaining growth around several "new centers" (some new towns, some centering on existing small communities)
- Protect environmentally sensitive areas.

Based on these COG policy statements, the COG staff developed a revised regional land use plan which is now being reviewed by the various local governments. This revised plan is basically a combination of the recent trends, "compact" and "new centers" alternatives; this plan has resulted in some modifications to the 1969 plan. At this point in the review process, local comments are fundamentally favorable with only minor revisions expected to the COG staff proposal.

### 208 Agency Land Use Activities

The 208 staff has reviewed the ongoing COG land use planning placing primary emphasis on clarifying certain information in the COG land use plan in order to use this information as the initial basis for our water quality management analyses. At this stage, we have been concentrating on developing the waste loading and service area implications of the COG plan. Our summary comments on the COG plan follow:\*

- Population and employment projections. As discussed in the previous section, the 208 staff projections are based on COG projections. Since the COG projections were used in revising the regional land use plan, no conflict should result.

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Our complete analysis of these land use issues are contained in: 208 Technical Memorandum No. 3: Land Use Analysis for the 208 Area. October, 1975.

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- Employment ratios and population densities. These figures were derived from recent COG studies and local input. The 208 reviews of this data did not indicate any inconsistencies. We are using these factors in our waste load projections and service area delineations.
- Level of aggregation/detail of the plan. The residential land use information displayed in the COG plan is of sufficient detail to be used in service area delineation and waste load projections. As the industrial and commercial land use information was too generalized, the 208 staff has worked with COG to determine more specifically the type and location of business activities in order to generate waste loads. We have also begun to link projected agricultural and open space/parkland land uses to related soil and topographic conditions in the Willow Run drainage shed for non-point source analysis. Willow Lake is experiencing eutrophication problems which are believed to result from non-point sources.
- Geographic Coverage. Green County, which is in the 208 area, is not included in the COG land use plan. The 208 staff worked with the county planning department in revising their land use plan to assure consistency in scale, notation, and data bases between the Green County and regional land use plans. The 208 staff has assembled the regional and Green County plans into a composite land use plan for the 208 area at a scale of 1" = 2000'. This was the scale of the existing regional plan. It was particularly easy to assemble the Green County projections at this scale using U.S.G.S. topographic maps for Green County as the base maps. These maps are too large for inclusion in this report but are available for review at the 208 offices. A

## EXAMPLE

small scale summary "sketch" map is attached to this report for general reference.

- Critical Environmental Areas. As discussed above, the COG allocation model is designed to exclude critical areas from the land use projection procedure. We have reviewed the criteria for exclusion and find them generally acceptable; these criteria concentrate on wetlands, floodplains, and steep slopes. The 208 staff is developing some revisions to these criteria concerning stream valleys which are intended to lessen the water quality impacts of non-point runoff. These revisions will be recommended when the final 208 plan is presented.

Finally, we restate that we have used existing regional and local (Green County) land use planning as an initial basis for our development of service area delineations and waste load projections. We emphasize that these land use plans are being used for interim outputs. The structural, fiscal, and environmental (including non-point sources) impacts of these existing plans will continue to be defined more precisely and compared with impacts that would result from other land use patterns and controls. Based on this analysis, we will make final recommendations on possible modifications to land uses and controls as they affect water quality.

### 3. SERVICE AREA DELINEATION

An interim output resulting from the population, economic, and land use projections discussed in Section 2, is the delineation of proposed service areas for municipal waste treatment facilities. This corresponds to the first step in 201 facilities planning. The specific relationship of areawide and facilities planning in designated areas is explained in Program Guidance Memorandum AM-1; see Appendix A. In general, a treatment service area includes the sewer-ed areas tributary to an integrated waste treatment system plus those additional portions of watersheds likely to be connected over the planning period.

The delineations should outline, on at least a preliminary basis, geographic areas sufficient to permit cost-effectiveness analyses of alternatives, including waste treatment methods and ultimate disposal options for sludge and treated effluents. Also, each of the areas should be of sufficient size to consider cost savings, management advantages, or environmental gains resulting from regionalization. Given these concepts, service areas for waste treatment systems and ultimate sludge disposal or utilization are not necessarily the same. For example, sludge from two (or more) separate treatment service areas could be land-filled or used as a soil-conditioner at a common site; in this case, the sludge disposal service area would include the separate treatment service areas.

In smaller SMSAs (less than 100,000) or those with few political entities or public bodies having jurisdiction over sewer disposal, the service areas should encompass either the entire SMSA or the core city plus contiguous urban places.

In larger urban areas, single facilities plan coverage of the entire area may be unattainable or inappropriate for institutional, geographic, or other reasons. Where several separate facilities planning efforts are necessary in a 208 area, the service areas should still encompass contiguous waste treatment systems when these conditions occur: 1) such systems may require major new or expanded treatment plants, sludge disposal or effluent disposal facilities; and, 2) system interconnection or joint facilities would be feasible alternatives.

Recognizing the considerations discussed above, service area boundaries for non urban areas should encompass the entire community including those areas subject to future urban development. Where cost savings or other advantages might result from waste treatment system interconnection joint effluent or sludge disposal facilities, or collective management for two or more nearby communities, the service area should encompass the community group. If a community is isolated sufficiently to preclude regionalization, the service area should be confined to that community.

For 208 Agency use, the delineated service areas should be outlined on maps to the same scale as those used in the projected population and land-use presentation in previous section. It is important to note that these service areas are interim outputs and subject to change with the continued analysis of the 208 area.

#### Minimum Reporting Requirements

In addition to describing the service areas selected (a small-scale map would be helpful), the 208 Agency should summarize the analysis and rationale which supports their various delineations. The relationship of this analyses and delineations to ongoing or proposed 201 facilities planning in the 208 area should also be presented including any recommendations concerning facilities planning. This discussion would describe any coordination that has occurred between the 208 effort and 201 facilities planning on service areas and related issues.

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### Delineation of Service Areas

The 208 staff has completed a preliminary study to determine the potential service areas within the 208 area. Since there is ongoing facilities planning in the Red Valley area, the 208 study reviewed this work for consistency with the interim 208 outputs on land use and population projections. At this time, there is no other 201 facilities planning in the 208 area.

At present in the 208 area, there are three existing treatment facility service areas: Willow Run, Monroe, and Red Valley. These service areas basically conform to the three major drainage basins in the 208 area. Based on waste load projections and waste load allocation review, all three facilities will be required to upgrade their treatment levels with respect to BOD and ammonia removal. The 208 staff has concentrated on defining service areas that will permit a realistic cost-effectiveness analysis of upgrading and expansion alternatives for municipal treatment and sludge disposal.

The projected population, economic development and land use (see previous interim outputs) established the basic growth patterns for the area. Analysis of these patterns by the 208 staff indicated moderate future expansion of both the Willow Run and Monroe treatment facilities on the basis of projected waste loads. Analysis of projections for Red Valley indicated a much smaller growth in domestic waste loads which would require only a moderate expansion and upgrading of this facility; the projections being used in the Red Valley 201 planning effort are consistent with the 208 interim outputs and analysis.

The 208 staff has investigated the possibility of regionalization by interconnecting separate service areas into a combined service area in order to achieve economies of scale. Interconnections between all drainage basins are technically feasible. Given their relative proximity and local topography, connecting the Willow Run and Monroe treatment plants by a gravity-flow interceptor is both technically and economically attractive. Given the topography and distances involved, connecting the Red Valley service area with either of the other two areas is technically feasible but economically unattractive. These conclusions are based on a preliminary cost-effectiveness analysis; selected summary results are presented below. (This initial C/E analysis was based on existing preliminary engineering studies performed by consultants for the local sewer districts and data from the Red Valley



## EXAMPLE

201 planning effort. The 208 staff updated and standardized the basic cost data and utilized C/E methodologies presented in various EPA facilities planning regulations and guidelines).

As the equivalent annual cost figures indicate, it is economically preferable to interconnect the Monroe and Willow Run Facilities. The Willow Run plant would be upgraded and expanded to accommodate future growth in both sheds while the Monroe facility would continue to serve its existing population at an upgraded treatment level.

Another alternative that was investigated was the interconnection of all three service areas. However, the projected capital and operating costs of interceptors, force mains, and pumping stations between Red Valley and the other service areas resulted in much higher equivalent annual costs than the two alternatives presented above.

Regionalization of the Willow Run and Monroe facilities has been proposed previously in a consultant's study and found acceptable to the affected Municipalities. In fact, such a project was mentioned in the designation proposal as a major reason for the 208 study. Public hearings have been held on this proposal.

The conclusion of this study is that interconnecting the Willow Run and Monroe service areas is technically and economically feasible. Also, based on our waste load allocation review, such an upgraded regional plant would be consistent with our revised allocations. Therefore, the 208 staff recommends that these two sheds be combined into one service area for the purposes of detailed cost-effectiveness analysis of municipal treatment alternatives for this area in the ongoing 208 study. This alternative was recommended to the 208 technical advisory committee with the proviso that further studies of land use projections and assumptions and more detailed cost estimates and cost-effectiveness analyses will be made in the course of the 208 Planning Study. For example, the exact treatment processes to be used (i.e., BPWTT) still need to be more completely evaluated. Also, as the initial C/E analysis indicates, the actual cost differences are relatively small; thus, the final decision on an expanded regional plant versus expanding the two existing facilities may depend on other factors such as environmental and social impacts, operation, and public acceptability. The 208 staff further recommends that the Red Valley shed continue to be evaluated as a separate service area under the existing 201 planning. Given the natural

continued ...

## PREFACE

This is the fourth in a series of handbooks designed to provide local planning agencies with additional assistance in the Section 208 Areawide Waste Treatment Management planning and implementation program. Designation, Work Plan and Cost Analysis handbooks have already been published. Plan Evaluation and Plan Implementation handbooks will be published in the near future.

These handbooks are designed as a supplement to the 208 Regulations, Guidelines, and Policy Statements published as program guidance (AM memoranda) by the Water Planning Division. The handbooks repeat or reference the regulations, guidelines and policies; and provide realistic examples of typical local agency responses.

The interim outputs discussed in this handbook and their relationship to facilities planning are covered by EPA program guidance memoranda (AM 1 and 2) which are included in Appendices A and B. Because of its direct relationship to the land use interim outputs, the EPA program guidance memorandum on integrating 208 and HUD 701 planning (AM-9) is included as Appendix C. Other EPA reference documents for the 208 areawide management program include:

- 40 CFR, Part 126 Areawide Waste Treatment Management Planning Areas and Responsible Planning Agencies
- 40 CFR, Part 35, Subpart F -- Interim Grant Regulations for Areawide Waste Treatment Management Planning Agencies (May 1974)
- Draft Guidelines for Areawide Waste Treatment Management Planning (May 1974)
- Area and Agency Designation Handbook for Section 208 Areawide Waste Treatment Management Planning (January 1975)
- Work Plan Handbook for Section 208 Areawide Waste Treatment Management Planning (February 1975)

- Cost Analysis Handbook for Section 208  
Areawide Waste Treatment Management  
Planning for Federal Assistance Appli-  
cations (May 1975)
- Draft Guidance for Facilities Planning  
(October 1974)
- Guidelines for Preparation of Water  
Quality Management Plans (September 1974)

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## APPENDICES

- A. Areawide Planning Interim Outputs for Use in Facilities Planning (March 21, 1975) -- AM-2
- B. Relationship of Areawide and Facilities Planning in Designated Areas (March 21, 1975) -- AM-1
- C. Integrating 208 Planning and 701 Comprehensive Planning (May 2, 1975) -- AM-9

NOTE

This document is not a replacement to the Act, the Regulations, the Guidelines or the EPA Policy Statements published by the Water Planning Division. It is a supplement to these documents, showing typical examples of local responses to the 208 program. Any clarifications and specific conditions applicable to a local area should be discussed with the EPA Regional 208 Coordinator

## 1. INTRODUCTION

This handbook deals with interim outputs expected within the first 9 months of the two-year 208 Areawide Waste Treatment Management Planning program. It is the intent of EPA to seek a specific set of minimum interim outputs, many of which will guide municipal waste treatment facilities planning. These interim outputs related specifically to municipal waste treatment facility planning are:

- Service area delineation for municipal wastewater treatment systems throughout the designated area.
- Existing and projected population and land use for the twenty year planning period.
- Projected waste loads and flows generated for each service area corresponding to the existing and projected population and land use.
- Revision (if any) of the waste load allocations.

The publication of these required interim outputs does not preclude a local planning agency from changing the substance of these outputs at a later point in the planning process as a result of more detailed analyses. However, the interim outputs should be well thought out in order to get on with the 208 program, especially the guidance of and coordination with Section 201 (Step 1) facilities plans.

In addition to the specific interim outputs dealing with municipal treatment facilities and wasteloads and allocations, several other outputs are listed at the end of this section. These are discussed in a general list and depend on the conditions and problems of the local area as well as on the prior data collection and analyses available to the local planning agency (e.g., state basin plans). The development of other interim outputs by the 208 Agency is encouraged where appropriate.

The national aim of the 208 program is to promote the implementation of areawide waste treatment management. Through Section 208 of the Federal Water Pollution Control

Act Amendments of 1972, local areas are provided a unique opportunity to plan and manage a comprehensive pollution control program for municipal and industrial wastewater, storm and combined sewer runoff, non-point source pollutants, and land use as it relates to water quality. Through a locally controlled planning agency, an area can select a cost-effective and institutionally feasible plan directed to meet the 1983 goals for "swimmable and fishable" waters, where attainable. The function of the 208 planning process is to refine this goal for the specific conditions of the 208 area. The plans should focus on an integrated approach for identifying and controlling the most serious water pollution problems initially and, over time, resolving the remaining problems, where feasible. Particular emphasis should be placed upon non-structural approaches to pollution control (fiscal policy, land management, best management practices, institutional arrangements) rather than traditional structural measures normally requiring large investments.

Although it has a national aim, the 208 program must be administered through EPA Regional Offices to accommodate the wide variations in problems, alternative solutions and institutional settings. Therefore, it is difficult to provide uniform national standards for the evaluation of local 208 program outputs, including interim outputs. This handbook is not to be construed as a uniform standard. It is merely an explanation, with examples, of the types of interim outputs to be developed in the first 9 months of the two-year planning effort.

The initial 208 areawide waste treatment management planning process is only two years in length. At the end of two years, elements of the plan must be implemented while continuing planning takes place. The exceedingly short time for planning and initiating the implementation requires close coordination and review between the local planning agency, the State and EPA. One element of this review is in the form of an interim output evaluation based primarily on those outputs which directly affect municipal waste treatment facilities. The guidance for these outputs, along with examples of what they might look like, are discussed in Sections 2 through 5 of this handbook.

A list of suggested and required 208 planning outputs that could have resulted from the successful completion of the first nine months might include:

### Required Interim Outputs

- Population and economic projections
- Land-use projections
- Delineation of service areas
- Waste load and flow projections
- Revisions (if any) of waste load allocations (Wherever feasible, these revisions should be conducted jointly with the State as part of its ongoing revisions to Water Quality Standards.)

### Suggested Interim Outputs (illustrative examples)

- Identification of alternative land-use controls
- Relationships between land-use and water quality
- Identification of all major non-point sources problems
- Identification of management and regulatory alternatives
- Inventory and selection of wastewater flow reduction techniques.
- Identification of alternative financial arrangements for plan implementation

In addition to required and suggested interim outputs, other activities will have been completed or will be well enough along to be reviewed by EPA. For example, such on-going activities would include:

- Establishment and operation of various advisory committees
- Public participation



The review of these activities will take place through regular milestone reports and other forms of coordination between the local planning agency, the State, and the EPA Regional Office.

Section 6 of this handbook illustrates an example of progress that has been made in achieving public involvement in the planning process. This is not a required interim output as specified in the EPA policy memorandum; however, it is sufficiently important early in the planning process to highlight in this handbook.

# EXAMPLE

## Alternative 1: Upgraded Treatment in the Three Existing, Separate Service Areas

Service Area	Current Flows in Service Area (MGD)	Projected 1995 Flows in Service Area*	Value of Existing Plant	Capital Cost for Expanded, Upgraded Plant (\$, millions)	Incremental Capital Cost
Willow Run	23.1	32.1	11.2	20.5	9.3
Monroe	9.5	17.1	6.0	13.2	7.2
Red Valley	7.0	8.5	4.8	7.9	3.1
Totals	39.6	57.7	22.0	41.6	19.6

### Average Annual O&M Cost for Upgraded Plant (over planning period)

\$	700,000
	390,000
	250,000
	<u>\$1,340,000</u>

Equivalent Annual Incremental Capital Cost:**	\$1,850,100
Average Annual O&M Costs:	<u>1,340,000</u>
Equivalent Annual Cost:	<u>\$3,190,100</u>

\* See Section on Waste Load Projections  
 \*\* 7% interest, 20 year planning period

continued...

# EXAMPLE

## Alternative 2:

Regional Plant for Willow Run and New Growth in Monroe  
Upgrade and Expand Existing Red Valley Plant  
Upgrade Existing Monroe Plant at 9.5 MGD

Service Area	Current Flows in Service Area	Projected 1995 Flows Treated in Service Area (MGD)	Value of Existing Plant	Capital Cost for Expanded, Upgraded Plant (\$, millions)	Incremental Capital Cost (Treatment) (\$, millions)	Capital Cost (Interceptor)
Willow Run	23.1	39.7	11.2	23.0	11.8	2.1
Monroe	9.5	9.5	6.0	8.5	2.5	
Red Valley	7.0	8.5	4.8	7.9	3.1	
Totals	39.6	57.7	22.0	39.4	17.4	2.1

## Average Annual O&M Cost for Upgraded Plant (over planning period)

\$	770,000
	280,000
	250,000
	<u>\$1,300,000</u>

Equivalent Annual Incremental Capital Cost (treatment):*	\$1,642,400
Equivalent Annual Capital Cost (interceptor)**	157,500
Average Annual O&M Costs	1,300,000
Equivalent Annual Cost:	<u>\$3,099,900</u>

- \* 7% interest, 20 year planning period
- \*\* 7% interest, 40 year planning period

## EXAMPLE

characteristics and projected development patterns in the Red Valley service area, a major issue still to be resolved concerns the feasibility of land treatment for this shed's municipal wastes. The 208 staff has discussed this issue with the consultant for the 201 facilities planning effort; this alternative will be investigated in detail in the 201 plan. Finally, for the purposes of sludge management and disposal the entire 208 area will be considered a service area particularly with respect to the selection of ultimate disposal sites. This site selection process is being coordinated with the Red Valley 201 planning effort through the 208 technical advisory committee structure.

The recommended service areas are delineated on the previously referenced land use maps on file at the 208 staff offices; a small scale summary map is appended to this report for reference.

#### 4. WASTE LOAD PROJECTIONS

Waste load projections are made to assess the nature and quantity of flows and pollutants generated from projected future activities in the various service areas. This information is required to assist in the delineation of service areas and the design of municipal treatment systems.

A thorough understanding of the existing conditions will aid the projections. The waste flows, constituent concentrations, and types of treatment for the major municipal facilities should be considered as they might affect the projections. Existing receiving water simulation models may be useful in confirming data for present waste loadings. It is possible that model verification problems could be caused by inaccurate waste load information.

From the existing conditions, waste loadings can be projected based on population, economic, and land use projections and on waste load generation factors for units of population, density, or activity. The waste load projections must be related to the population, economic, and land use projection interim outputs for the 208 area.

Overflows and waste loads during storm periods should be considered for drainage areas tributary to combined sewer systems. This would permit forecasting overflow and waste load increases resulting from future changes in the nature of the drainage area. Also, the effects of selected flow and waste reduction measures, including sewer system rehabilitation to correct infiltration/inflow, and sewer maintenance/management programs, should be reflected in the flow forecasts to permit subsequent calculation of potential waste treatment system cost savings.

The estimated changes in flow and waste loads from industries to be served by the municipal system must reflect application of pretreatment requirements for existing and new industries, plus any expected industrial-process changes affecting wastewater. Industrial wastewater flow forecasts should include both industries currently connected to the municipal system and industries that can be reasonably expected to join the municipal system in the future.

Projections should be made at five year increments for future residential, commercial, and industrial activities. In addition to wastewater projections, projections of sludge quantities and qualities that may be expected to be produced in each service area should be considered. The primary emphasis for this interim output is to provide the necessary information for facilities planning, particularly, service area delineation and cost-effectiveness analysis. However, if available, new information concerning projections of non-point sources and major separate industrial facilities should be included if relevant to the waste load allocation review interim output.

#### Minimum Reporting Requirements

Wasteload projections at five year increments for residential, commercial, and industrial activities for each service area should be presented in a summary table, along with a brief description of the projection methodology.

Any significant features or impacts of the projections should be noted including anticipated sludge disposal problems. The relationship of the projections to ongoing or proposed 201 facilities planning in the 208 area should be discussed including any coordination that has occurred between 208 and 201 and any recommendations concerning facilities planning.

## Waste Load Projections

The 208 Agency has developed a set of waste load projections in five-year increments from 1975 through 1995. These projections are based on the population, economic, and land use forecasts presented earlier in this report. Basically, appropriate conversion factors which translated residential densities, and commercial and industrial land uses into waste loads were applied. Population and economic growth rates were also used as the necessary timing factors. In the case of Red Valley, waste load projections were coordinated with the ongoing 201 facilities planning effort as discussed below. More complete documentation is available in a technical report\* which describes the analysis of present waste loads and projection techniques. Assumptions are given as well as the specific conversion factors used for calculating residential, commercial, and industrial loadings.

## Significant Points

Estimates of the sludge production from all three facilities emphasize the need for a regional approach to sludge management. Existing landfill sites for both the Willow Run and Monroe facilities will only be able to accept the projected digested sludge from these facilities for another 4-5 years.

Our review of current performance characteristics of the Monroe plant shows widely varying performance caused largely by industrial discharges of toxic substances in a batch mode. Our analysis indicates that the application of industrial pretreatment requirements will alleviate this problem.

\*

208 Agency "Working Paper #5 - Waste Load Projections"  
February, 1976.

## EXAMPLE

A portion of the Red Valley service area contains a deteriorating combined sewer system. In addition, documented infiltration problems in this area make flow projections difficult and in need of more detailed analysis. In addition, because of the number of options under review by the ongoing 201 facilities planning study to deal with the combined sewer problem, it is difficult to project the future characteristics of flows in this service area. The State prohibits any new hookups to the combined portion of the system. Based on our discussions with the 201 consultants, we have selected the flow projections summarized in the above table. These projections are for average dry weather flow and assume the correction of existing infiltration problems along a few key lines. These flows were selected primarily for the purposes of preliminary cost-effectiveness evaluation of regionalization schemes discussed earlier. As the service area analysis indicated that it was not economical to connect the Red Valley Plant with the other area facilities for dry weather flows, we concluded that such inter-connection for wet weather flows was even less feasible. The detailed analysis of future flows and alternatives for solving the combined sewer problem will be accomplished under the ongoing 201 planning.

Rapid new development around Long Lake has been studied in terms of potential phosphorus and sediment loadings to the reservoir. We are attempting to construct a yearly material balance around the reservoir. Eutrophication is a serious concern and measures which could decrease future loadings or minimize the effect of future development are being investigated further. For instance, proposed zoning changes could result in a significant increase in the quantity of storm runoff. Our preliminary recommendation is that zoning changes be made contingent on effective control measures which reduce erosion during new construction and preserve runoff characteristics.

continued ...



# EXAMPLE

## PROJECTED FLOWS TO MUNICIPAL FACILITIES GENERATED WITHIN SERVICE AREAS

(MGD -- Average)

### WILLOW RUN PLANT

	<u>1974</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Residential	19.7	22.0	23.4	25.2	26.7
Commercial	3.4	4.0	4.3	4.8	5.4
Industrial	--	--	--	--	--
Total	<u>23.1</u>	<u>26.0</u>	<u>27.7</u>	<u>30.0</u>	<u>32.1</u>

### MONROE PLANT

	<u>1974</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Residential	7.5	8.5	9.3	10.8	11.2
Commercial	.5	.7	1.0	1.4	1.6
Industrial	<u>1.5</u>	<u>2.8</u>	<u>3.2</u>	<u>3.8</u>	<u>4.3</u>
Total	<u>9.5</u>	<u>12.0</u>	<u>13.5</u>	<u>16.0</u>	<u>17.1</u>

### RED VALLEY PLANT (Dry Weather Flows)

	<u>1974</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Residential	6.0	6.2	6.5	6.8	6.9
Commercial	.4	.5	.6	.6	.7
Industrial	<u>.6</u>	<u>.7</u>	<u>.8</u>	<u>.8</u>	<u>.9</u>
Total	<u>7.0</u>	<u>7.4</u>	<u>7.9</u>	<u>8.2</u>	<u>8.5</u>

## 5. WASTE LOAD ALLOCATION REVIEW

Areawide waste treatment management planning stems from the broader basin planning conducted by state governments under Section 303(e) of the Act. A major element of 303(e) planning which guides 208 planning is the classification of stream segments and the subsequent allocation of waste loads. The two types of segment classifications are:

"Water Quality Segements" (WQ) --- segements where it is known that water quality does not meet applicable water quality standards and which is not expected to meet water quality standards even after the application of the effluent limitations required by Section 301(b)(1)(A) and 301(b)(1)(B) of the Act.

"Effluent Limitation Segments" (EL) --- segments where water quality is meeting and will continue to meet applicable water quality standards or where there is adequate demonstration that water quality will meet applicable water quality standards after the application of the effluent limitations required by Section 301(b)(1)(A) and 301(b)(1)(B) of the Act.

The segment classifications are based on water quality data, water quality standards, inventory of discharges, and existing and projected population, economic and land use characteristics. These types of information may be included in an analysis relating source loads to water quality. If, after applying point source treatment to existing and projected sources as stringent as the effluent limitations required by Section 301(b)(1) of the Act, the segment still does not meet water quality standards, then the segment is classified as water quality limited. Otherwise, it is classified as effluent limited.

The existing waste load allocations or segment classifications may need to be changed in some instances. Much of the initial emphasis of the 303(e) basin planning was on point sources. Under Section 208, the more detailed analysis of projected future activity and closer look at non-point sources may change some of the original classifications and allocations.

The basin plan should include a total maximum daily load for each pollutant that may be discharged to a segment and still allow the water quality standards to be met. Each individual discharge should be assigned an effluent limitation which appears on the permit for that point source. The type of analysis required to determine the effluent limitations depends on the complexity of the water quality problem, the number of discharges, implications of the results in terms of potential investment, and the type of receiving water. The 208 planning specifically deals with urban-industrial areas which have complex water quality problems and thus a review of the analyses is desirable.

The initial basin planning effort dealt primarily with point sources and problems likely to occur during low flow-high temperature periods. The 208 planning should additionally account for possible complications from non-point sources and high flow periods. All analyses should be carefully tailored to the time and space scales of the water quality problem. Waste load allocations must be reasonable in the sense that the specified limitations can be complied with by the use of available technology. Safety factors may be included based on the assumptions of the analysis and the risks associated with a water quality standards violation.

#### Minimum Reporting Requirements

The minimum requirement for the interim outputs is a review of the completed 303(e) basin plans within the 208 area. Some of the examples which follow go beyond this minimum. The planning agencies are encouraged to use this report as a means of documenting all progress with water quality analysis and source controls.

## EXAMPLE

### Adjustment to Waste Load Allocations

Review of the basin plans relevant to the 208 area has been completed. Close coordination has been maintained with the State throughout this effort. Adjustments to the waste load allocations were made in the two water quality limited segments. The State has approved these changes and is making efforts to alter the affected permits. One effluent limited stream segment was analyzed by the 208 Agency to determine if it had been correctly classified. In addition, our progress with non-point source and storm water problems is reported. The following is a summary of progress to date:

Modifications to the Flat Rock segment analysis were deemed necessary because of a refinement in waste load projections and the anticipated regionalization. The population, industrial and commercial growth anticipated in the Willow Run and Monroe service areas required a reevaluation of the original analysis. Consideration has been given to the water quality aspects during consideration of the proposed regionalization. The existing State model was used to relate point sources to resulting water quality. The model was calibrated and then verified with two sets of independent data. The seven day duration and ten year recurrence summer low flow was chosen as the design condition. For the 1980 projections, effluent limitations which correspond to secondary treatment for municipalities and best practicable treatment (BPT) for industries were used. The simulated receiving water response indicated a standards violation for dissolved oxygen. Different treatments for municipalities and industries were then considered. Based upon economic and fairness criteria, the most reasonable solution is to assume that industries should discharge at the BPT levels while municipalities go beyond the minimum secondary requirement and institute ammonia removal.

continued ...

## EXAMPLE

### FLAT ROCK SEGMENT Regionalized Willow Run - Monroe Service Area

SOURCE	1980 Flow (MGD)	BOD (lbs/day)	AMMONIA (lbs/day)
MUN. - Willow Run	28.5	3,550	473
IND. - Fall River, Inc.	7	--	1,743
IND. - Smith Processing	5	<u>1,250</u>	<u>622</u>
TOTAL MAX. DAILY LOAD		4,800	2,838

D.O. STANDARD - 5 p.p.m.

These limitations will allow a reasonable assurance that the dissolved oxygen standard will be satisfied based on the 1980 projections. Standards for other constituents in the segment will not be violated and the legislated minimum effluent limitations will be applied. Near 1980 the industrial sources will be implementing best available levels of treatment. The resulting decrease in waste input to the segment will compensate for the additional municipal discharges projected through 1995 and our analysis indicates that all water quality standards should be met through that date.

The waste load allocations for the Big Sioux River, which include the Red Valley facility, have been recalculated as a result of recent monitoring information. Data from previous surveys indicate some high instream concentrations which could not be explained by the point source information which was available. The state stream model was used and the loading necessary to complete the material balance was added to the simulation as a distributed source. The loading was suspect as there was no reasonable physical explanation which could account for the implied non-point sources during periods of low flow. The allocations were held up due to a lack of credibility. Recent data indicate that inaccurate point source information was the cause of the problem. The simulation model is now considered

continued ...

## EXAMPLE

to be sufficiently calibrated and verified to produce defensible allocations. The secondary treatment and BPT limitations were input to the simulation of a summer low flow design condition. Violations in the stream standards for ammonia, free cyanide and phenol resulted. Based on the 1980 projected flows, the dissolved oxygen standard will be satisfied. Alternative effluent limitations were tested as inputs. The most reasonable allocations consist of additional ammonia and BOD removal for Red Valley and allocations above BPT, but less than BAT, for the industries.

### BIG SIOUX SEGMENT

Red Valley Service Area - 1980 Projections

#### STREAM STANDARDS

AMMONIA	1.5 ppm
FREE CYANIDE	10 ppb
PHENOL	1 ppb

SOURCE	BOD	NH <sub>3</sub>	FREE CN	PHENOL
IND. - Iron Works	---	434	7	1
IND. - West Foundary	---	472	8	1
IND. - Newcome, Inc.	1,500	300	--	---
MUN. - Red Valley	<u>1,000</u>	<u>130</u>	<u>--</u>	<u>---</u>
TOTAL MAX. DAILY LOAD IN LBS/DAY	2,500	1,336	15	2

Additional assimilative capacity will be provided as the industrial sources apply best available treatment by 1982. Model simulations show that sufficient capacity will exist to absorb the projected dry weather loadings from Red Valley through 1995.

continued ...

## EXAMPLE

Depressed oxygen conditions were recently discovered in Rock Creek during winter periods due to ice cover. An analysis was performed to determine whether the segment is indeed effluent limited. The state stream model was calibrated on the segment. A low flow period was chosen as a design condition from the historical winter flow records. Application of the industrial BPT treatment levels will allow all water quality standards to be met. The segment was thus correctly classified as effluent limited.

The overflows from portions of the Red Valley Combined Sewer were a major reason for this 208 area's designation. High coliform counts preclude a recreational classification of the receiving waters. The effect of proposed zoning changes in the watershed has been investigated in detail by a consultant. An existing model was applied to the area with historical rainfall records to study the overland runoff and routing through the sewer system. The effect of proposed zoning changes on runoff coefficients and the frequency of overflows have been studied. Work is continuing on identifying feasible methods to keep the quantity of runoff small. There is an ongoing investigation to locate illegal inflows into the sewer. Several treatment, maintenance and storage options are being considered along with sewer separation. The segment which receives the untreated overflows is water quality limited and our goal is to eliminate all such overflows. This goal will be considered in light of a thorough cost-effective analysis.

Due to a potential eutrophication problem in Long Lake, its classification has been changed to water quality limited. The lake is in the headwater region and is a major water supply. At this time the problem is not serious but an observed accelerated trend toward nutrient enrichment and potential future development has caused us to study the situation as part of the continuing planning process. Efforts have begun to construct a yearly phosphorus budget around the lake.

## EXAMPLE

Preliminary indications are that septic fields and agricultural runoff are the primary contributors. Efforts are being made to determine management practices which could effectively control the yearly phosphorus loads without requiring structural capital intensive solutions. Contact has been made with the Soil Conservation Service. Contracts have been awarded to determine the legal requirements and technical effect of possible ordinances. The desirability of limiting growth with possible zoning or fiscal policies is under consideration. There are studies underway to determine feasible methods to control erosion during new construction and methods to maintain the natural runoff characteristics after development. The effect of the maintenance of natural foliage along stream banks is also under consideration. We expect this work will lead to firm proposals in the future.



Although not specifically called out as an interim output, public participation must be an essential ingredient from the very start of the 208 planning process. At the nine month point in the planning process, public participation should be a well established activity.

The Regulations, Guidelines, Designation, and Work Plan Handbooks have each discussed specific public participation requirements. The following is a review of public involvement in the 208 planning process along with an example of a typical public participation program.

Why should there be a public involvement program in 208 planning?

- It is a legal requirement of both the Water Pollution Control Act Amendments of 1972 and the National Environmental Policy Act.
- 208 planning is essentially a new kind of water quality planning. It will not be readily understood by all parties.
- Many jurisdictions are likely to have implementing authority in 208 areas. Their elected officials and their constituencies will need both to be in accord with the recommendations and to be assured that the results will be beneficial to them before implementing action can be taken.
- Some interest groups, of all persuasions (from environmental and neighborhood associations to developers, labor unions, and manufacturers) may well demand the right to participate if it is not freely given. Groups presenting such demands will have an excellent chance of being granted this request, either through EPA or the courts.

What are the objectives of public involvement in 208 planning?

- To help the residents, private interests, and government officials in the 208 area understand: what 208 planning is, how the 208 planning process works, what the present water quality situation is and how it came to be as it is, and what are the proposed alternatives for meeting water quality goals.

- To help the 208 planning agency: understand the goals, objectives, and priorities of the area's residents, businesses, and government officials; understand the water quality and related problems more fully and clearly; and put together a set of alternatives that will meet the water quality goals and be in accord with the abilities and desires of area residents, businesses, and governmental bodies.
- To obtain agreement among interested and affected parties on a desirable course of action and to get the elements of the plan adopted by the implementing agencies and jurisdictions.

▲ What is the relationship between public involvement in the 208 planning process and the formal decision-making process?

- There is a distinction between reaching agreement on the nature of the situation and the best ways to deal with it, on the one hand, and actually making the implementing decisions, on the other hand. Elected officials have been given the latter responsibility. Public involvement may make a substantial contribution to the former.
- As a practical matter, if public involvement has been done well, the implementing decisions would likely be in accord with the sense of agreement reached in the public involvement activities.
- By exposure to and discussion of information prepared by 208 planners, the public can understand the work being done by the planners and the present water quality situation.
- Members of the public can bring up, expose, and promote issues, questions, information, and alternatives they feel are needed to produce a satisfactory 208 plan.
- Segments of the public can show the 208 planners how they are presently affected by water quality conditions and how they would be affected by proposed alternatives. This enables the planner to more adequately deal with issues of effectiveness, efficiency, and equity simultaneously during the planning process, before formally presenting alternatives to elected officials who have implementing responsibilities and must ultimately make the final decisions.

While the 208 plan is concerned with water quality, the final plan may affect other community goals. It is therefore important to establish an understanding of community goals and plans, especially with respect to housing, economic development, transportation, education, recreation, other environmental goals, etc. Public participation in the planning process is an effective way of defining the relationships among community goals.

There is no cookbook, containing step-by-step recipes that guarantee useful public involvement in the 208 program. However, the following is an example of a public participation program in a major urban area.

## EXAMPLE

### Public Participation

The following informations and actions have been developed by the 208 Planning Agency to insure public involvement in the areawide waste treatment management planning.

#### 1. Correspondence List (Partial)

Dennis, James E. 468 Mountain Way Morton 30318	645-9278 829-4695 (Architect, Representative of Vista Hills Neighborhood Association)
Harris, Rufus Commerce Building, Suite 900 Woodville 30303	564-3257 (Executive Director, Monroe Manu- facturers Association)
Hayes, Ronald 480 Forest Dr., NE Marietta 31428	281-6419 826-3421 (Chairman, Cobb County Homebuilders Association)
Johnson, Ralph City Hall Conyers	284-1100 (Mayor, Conyers)
Jones, Lydia 1648 Lake Drive, NW Woodville 30305	324-5981 (Environmental Quality Chairman, League of Women Voters)
Landers, Donald Commerce Bldg., Suite 800 Woodville 30303	564-3246 (Metro Chamber of Commerce)
Lewis, Michael R.R.1 Douglasville 30215	294-6511 (Government Affairs Chairman, Douglas County Farm Bureau)
Marshall, Kenneth 1620 Old Orchard Pl. Lithonia 30621	280-1126 (President, Area Audubon Society)
Matson Carl Electrical Bldg., Rm. 318 Woodville 30303	343-6219 (Executive Director, Area Labor Council)

## EXAMPLE

### 2. Newsletter

A 4-page (11" x 17" folded once) monthly newsletter is mailed on the 3rd Thursday of each month. Circulation: 3800 (175 outside region).

First Issue: July 1975

Contents: Calendar of meetings  
Theme Article - First six discussed water quality conditions and status of improvements in the six sub-basins. Next three outlined alternatives being considered.  
Contract awards to consultants for studies  
Public involvement report  
Agency personnel writeups (biographies)  
Letters to editor  
Progress reports

Edited by public involvement specialist with the 208 Agency.

### 3. Planning Brochure

A planning brochure is being used to facilitate communication with the public. It is expected that 6-8 editions will be prepared during the 2-year study period. The first was issued during the second week of the study. It discussed the nature of 208 planning, the schedule to be followed during the planning period, the existing water quality situation, facilities and construction schedules, water quality goals, and the studies which are to be done. The last page was a self-identification tear-off sheet with Business Reply imprint. Space was included for comments. The 8-page brochure was multilithed. All diagrams except the study area map were drawn and lettered freehand. (This policy is being followed in all editions of the brochure). Subsequent editions revise obsolete information from earlier editions and add new material as it becomes available. Text and supporting data were kept as brief as possible without loss of understanding. Each edition is reviewed by at least 3 people who have had no previous involvement in the 208 study prior to publication.

continued...

**4. Briefings, Forums, and Other Public Meetings**

- All local government agencies invited to monthly briefing, Tuesday at 1 p.m. in project office.
- Quarterly briefing for local governments in adjoining region, Oliver Trail Planning and Development Commission office.
- 13 additional briefings held in first 6 months on request of interested groups. 9 held in project office, 4 in other location.
- Quarterly public forum and Open House held at rotating location in each quadrant of study area. Evening meetings, generally Tuesday.
- Workshops held on a) existing conditions and programmed improvements, b) land disposal of wastewater and sludge, c) non-point sources, and d) management alternatives (scheduled for February, 1976).
- Major field trip to view existing conditions, October 1975. (Self-guided tour itinerary and tape cassette guide available to persons or groups wanting to retrace that tour.)
- Issue Panels

Ad hoc issue definition panels were formed for each subbasin and held an average of 3 meetings to formulate issues. The first meeting was an orientation session. At the second meeting, tentative issue lists were developed. In the third (and in two cases fourth) meeting, wording was revised, some issues were added or deleted, and a brief discussion on why the issue was included was prepared. The panels were then disbanded.

Example of issue: Septic tank policy

In two of the study area subbasins, there are many septic tanks. Most of these are in old communities, though a few new sub-divisions are installing septic tanks on large lots (2 acres and up). Some of the older communities have never had any noticeable problems with septic tanks whereas in the lower part of each subbasin, rock is near the surface, the lots are small, and septic tank problems frequently occur. These two issue panels felt the septic tank problems had to be corrected. They also felt, however, that if a policy of complete sewerage of all communities was to be adopted for both old and new areas, it should show very strong benefits compared

## EXAMPLE

with costs and some way of reducing hardship on owners of existing, well-functioning tanks.

The issue panels had from 8 to 22 members, selected on a basis of known interest in or knowledge of the area. Each set of issue panel findings was published in a newsletter and reactions were solicited. About 30 letters or phone calls were received. Two more issues were added from this correspondence.

### 5. Media Relations

- 208 agency has following data on media:
  - a. Address and phone number of all daily and weekly newspapers. Names of news and feature editors on file. News and feature deadlines. Territorial coverage.
  - b. Address and phone number of all radio and TV stations. News analyst, special events editor, program director. (names) Format, audience size and characteristics, territory.
- Monthly background briefings are held for all media plus special news conferences as needed.
- Reporters are invited on all field trips.
- Feature story, September 13, 1975, on 208 study in Woodville Journal.
- Project director appeared on radio talk show, August 14, 1975, 5-6 P.M.
- Reporter for Neighbor papers has been present at all Advisory Committee meetings. Usually get brief writeup in papers.
- Minutes of all Policy Board meetings sent to reporters on request.
- ETV station has scheduled panel discussion on 208 study, with studio audience and TV audience, with WATS line feed-back, on their TV Town Hall program February 10, 1976.

continued...

6. Documentation

- All reports emanating from study groups are considered project records and placed in depository. Each is assigned a sequential number by the 208 agency. Report with number ATL208-7-18-75-4 is the 4th report assigned a number on July 18, 1975.
- Within two days after each public involvement activity, the public involvement specialist either:
  - a. Receives written summary from person or persons in charge of and present at the activity, or
  - b. Interviews the person in charge and obtains information to write summary of the pertinent information.

Not all these reports are placed in depository but are open records at 208 agency office and will be placed in depository upon request.

- Minutes of all advisory committee meetings are prepared by secretary of committee and adopted at next meeting. Draft minutes are mailed to all committee members before next meeting. Minutes are placed in depositories after approval.
- Photographic records. Copies of slides and prints on field trips are catalogued and kept at 208 agency office. About 60% of all photographs taken are included in this file. The remainder are either poorly composed or exposed, or duplicate photos already on file. These materials have been useful in preparing slide presentations and exhibits.

7. List of Depositories (Partial)-

Woodville Public Library (coin operated copier, telephone)  
Forsyth St.  
Woodville

Price Gilbert Library (coin operated copier, telephone)  
Williams Institute of Technology

North Gwinnett Regional Library (coin operated copier)  
Snellville

Morton County Jr. College Library (copier, operated by  
college personnel, telephone)  
Jonesboro

continued...



8. Miscellaneous Features

- Six months after beginning the 208 study, an ombudsperson was appointed. This action was taken in response to a request from the Citizens Advisory Committee. The ombudsperson, Mary Wilson, is former president of the League of Women Voters. She serves without pay, but receives reimbursement for expenses. She investigates any complaint forwarded to her, reports on the disposition of the case, and seeks to resolve the problem. Five such complaints have been received in the first four months since the position was established. Three concerned access to information. One of the depositories had an early policy against removing documents from library so that copies could be made on a copying machine in an adjacent building. This policy was revised. In the other two cases, information thought to be available did not exist. Two complaints concerned membership on the Advisory Committee. All were resolved to the satisfaction of both the complainant and the 208 agency.
- The 208 agency has provided speakers for meetings of area organizations.
- All planners received training in rapid graphic presentation in order to communicate more effectively in workshop settings.
- The public involvement specialist attended a 2-week short course in public involvement. Shortly thereafter, all project staff participated in a one-day seminar on public involvement led by one of the faculty members of the short course.
- The 208 agency subscribes to a clipping service for all area newspapers.
- Agency has established an incoming WATS telephone line covering a territory about twice as large as the designated 208 area. The phone number is carried in the newsletter and all other project brochures and news releases. During working hours, an incoming query is referred to the public involvement specialist or the deputy study manager. If answer cannot be given, the call is returned within 48 hours. If incoming call is a comment, it is recorded, typed up, and passed on to appropriate member of planning team. During non-working hours, a telephone answering device is used to record name, telephone number, and nature of query. Call is returned the next day.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Areawide Planning Interim Outputs  
for Use in Facilities Planning

DATE: MAR 21 1975

FROM: *Walter S. Jursky*  
for Director, Water Planning Division (WH-454)

TO: All Regional Administrators

ATTN: Water Division Directors

PROGRAM GUIDANCE MEMORANDUM: AM-2

PURPOSE

This memorandum sets forth policy and procedures concerning the use of interim outputs to guide facilities planning after award of a 208 grant. These requirements are to be implemented immediately and are expected to be made a part of the final 208 grant regulations, scheduled for promulgation in early FY 76.

BACKGROUND

Specific interim outputs need to be emphasized in the 208 planning process to ensure that activities and decisions on the part of an areawide agency are directed at timely inputs to other planning, construction and regulatory programs. The areawide planning agency, therefore, is expected to provide for the completion of interim outputs in its work plans. These outputs will provide information to guide facilities planning in accordance with EPA policy or relationships between facilities planning and areawide planning, as set forth in Program Guidance Memorandum AM-1 (and in the construction grants guidance series as PG-47). The interim outputs will also serve as the basis for comments by the 208 planning agency on any 201 facilities plan developed or any application for step 1 grants within the designated area as required in § 35.1064-1(o) of 40 CFR Part 35, Subpart F (areawide grant regulations) and § 35.917-7 of 40 CFR Part 35, Subpart E (construction grant regulations).

The following interim outputs, to be completed within nine (9) months following grant award, are necessary to promote the desired areawide consistency and compatibility in subsequent facilities planning:

- \* Service area delineation for municipal wastewater treatment systems throughout the designated area
- \* Existing population and land use and projected population and land use for the twenty (20) year planning period

- \* Projected waste loads and flows generated for each service area corresponding to the existing and projected population and land use
- \* Revision (if any) of the waste load allocations

Interim outputs need to be emphasized in the planning process to insure that activities and decisions on the part of an areawide agency are directed at timely inputs to other planning and construction programs. The areawide planning agency will need to place high priority and sufficient effort on providing these and other needed interim outputs according to the schedule included in the approved work plan.

#### POLICY

The interim outputs, as specified herein, along with other appropriate planning outputs, shall be specifically identified and scheduled in the areawide planning agencies' work plans. Scheduled completion dates are to be identified as specific milestones. In cases where such work plans have been approved previously without these interim outputs, the work plans shall be amended to include them.

The interim outputs shall be completed within the nine (9) months as specified, unless the EPA Regional Administrator grants time extensions upon the recommendation of the 208 planning agency and the State. Upon completion of the interim outputs, the 208 planning agency shall submit them to the State for review and approval and transmittal to the EPA Regional Administrator for concurrence as fulfilling partial requirements of 208 planning.

In some instances, further areawide planning may reveal that the interim outputs should be modified. Such modifications and associated justifications should be promptly brought to the attention of the State and affected facilities planning agencies. (This should occur in the normal process of having close and continuing coordination between States, areawide and facilities planning agencies). The State shall determine the feasibility and practicality of incorporating these modifications in the facilities planning and obtaining concurrence of the Regional Administrator.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Relationship of Areawide and Facilities Planning in Designated Areas DATE: MAR 21 1975

FROM: *for* *Walter S. Gossyft* Director, Water Planning Division (WH-454)

TO: All Regional Administrators

ATTN: Water Program Directors

PROGRAM GUIDANCE MEMORANDUM: AM-1

PURPOSE

This memorandum transmits a policy statement issued March 11, 1975 by the Assistant Administrator for Water and Hazardous Materials on the subject of the relationship between facilities and areawide planning (copy attached). The procedures and policy expressed in the attached memo are to be implemented immediately in all areawide planning activities. Thus, any previous statements of the relationship between the facilities and areawide made in the Water Quality Strategy Paper, Draft Guidelines for Areawide Waste Treatment Management, Executive Summary of the 208 Program and previous guidance memoranda, are hereby superseded. These policies and procedures are expected to be incorporated into the final 208 grant regulations scheduled for promulgation in early FY'76.

BACKGROUND

The interim 208 grant regulations specify elements of facilities planning that are allowable under areawide planning (section 35.1062 of 40 CFR) as well as the required content of areawide plans. Because of the need to expedite ongoing and new facilities planning in designated 208 areas prior to areawide plan approval, compliance with the attached memo is required.

POLICY

The Regional Offices shall assure that policy stated on the relationship between the facilities and areawide policy program is implemented in all areawide planning.

Attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 11 1975

Program Guidance #47

SUBJECT: Relationship Between 201 and 208 Planning

FROM: James L. Agee, Assistant Administrator  
for Water and Hazardous Materials (WH-556)

TO: Regional Administrators  
Regions I - X

This policy statement describes the relationship between 201 facilities planning and 208 area-wide planning. The purpose is to assure that 201 plans are completed expeditiously during the period when an initial 208 plan is being prepared and approved, while at the same time the content of 201 plans is coordinated with the 208 planning process as provided herein. Any statement in previously provided guidance or policy memos which are contrary to the policy in this memorandum are hereby superseded.

201 Facilities Planning

Facilities planning consists of the plans and studies prerequisite to the award of grant assistance for detailed design and construction of publicly-owned treatment works. In the absence of a completed and approved 208 plan, the facilities plan must encompass the following features:

1. Description of the planning area.
2. Selection of service areas.
3. Selection of overall treatment systems, including location, capacity and configuration of all facilities, treatment levels, and preliminary identification of type of treatment and method of disposal of residual wastes.
4. Analysis supporting the selections in 2 and 3 based on identification, evaluation and cost-effective comparison of alternatives.
5. Preliminary designs and studies related to the selected wastewater treatment systems, including sewer evaluation surveys, detailed surface and subsurface investigations of sites for proposed facilities, preliminary designs and detailed cost-effectiveness studies of individual proposed facilities, an environmental assessment, and other requirements set forth in Section 35.917-1 of the Title II regulations.

## 208 Areawide Planning

Areawide planning sets forth a comprehensive management program for collection and treatment of wastes and controlling pollution from all point and non-point sources. Control measures for abating these sources utilize a combination of traditional structural measures together with land-use or land management practices and regulatory programs. These measures are implemented by areawide management agency or agencies. An initial areawide plan is developed over a prescribed planning period and, thereafter, updated and approved annually.

The portion of the 208 plan devoted to future construction of publicly-owned treatment works should select and describe planning and service areas and treatment systems, and provide supporting analysis for the selection. The 208 planning requirements, therefore, overlap with the 201 planning requirements described in points 1-4 in the previous section.

### Area Coverage

An areawide plan covers a large area with complex water quality problems, generally an entire metropolitan area. A facilities plan focuses on a complete system or systems of municipal treatment works extending over a geographic area large enough to consider adequately the cost-effectiveness of alternatives. An areawide planning area generally includes more than one facilities planning area, depending on hydrologic and geographic conditions.

### Coordination and Funding

The agency's policy on relationships between 201 and 208 planning in the same area during the period before final approval of a 208 plan is as follows:

1. New 201 facilities plans will be started and carried out as provided in the State priority list.
2. The scope and funding of 201 facilities planning will be sufficient to collect data and conduct all analyses necessary for expeditious completion of the 201 plan.
3. Facilities and areawide planning will be coordinated closely to avoid unnecessary fragmentation and duplication, potential conflicts and excessive planning costs. Data and analytical work will be shared, but completion of 201 plans should not be dependent on the 208 planning process.
4. Facilities plans that are completed and approved will continue through the Step 2 and 3 stages after timely review and comment by the 208 planning agency.

### Interim 208 Outputs

Headquarters is issuing a separate policy statement to require interim outputs during the 208 planning process. These interim 208 outputs would include definition of planning and service areas and treatment levels to guide facilities planning.

After interim outputs are developed and approved by the state and EPA for a 208 planning area, the relationship between 201 and 208 planning in that area will be the same as that described under the section on "coordination and funding" above except that:

1. New facilities planning will be consistent with the approved interim outputs of the 208 plan.
2. The scope and funding of new 201 planning should not extend to developing a justification for the interim outputs. This justification already will be available from the 208 planning process.

### Approved 208 Plan

The following will be the policy after the areawide plan has been completed and approved, and the agency or agencies identified to construct, operate and maintain the municipal wastewater treatment facilities required by the plan:

1. All facilities plans underway 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.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SUBJECT: Integrating 208 Planning and 701  
Comprehensive Planning

DATE: MAY 2 1975

FROM: Director, *Mark P. ...* Water Planning Division (WH-454)

TO: All Regional Administrators

ATTN: Water Division Directors

PROGRAM GUIDANCE MEMORANDUM: AM-9

PURPOSE

This memorandum sets forth policy and procedures concerning the coordination of 208 planning and 701 comprehensive planning funded by the Department of Housing and Urban Development. The policies and procedures are established to ensure that designated planning agencies indicate in their work plans how land use-related activities under both the 701 and 208 programs will be integrated. This guidance is to be implemented immediately and applies to those designated 208 agencies seeking grant award after the effective date of the interagency agreement discussed below.

BACKGROUND

The 1974 amendments to the Housing Act of 1954 require that the HUD Comprehensive Planning Assistance Program (701) include a land use element as a basis for continued eligibility for 701 funds after August 22, 1977. Areawide waste treatment management plans will include an analysis of the impact that land use has on water quality. They will also include land use and land management controls to the extent that such controls are needed to manage both point and nonpoint sources of pollution. There will, therefore, be a considerable overlap of planning activities in those areas in which a 701 land use element and a 208 plan are being prepared.

In December 1974 a draft interagency agreement relating 208 and 701 planning was prepared and distributed for review and comment. Based on the comments received from the regions, headquarters, and public interest groups, the agreement was redrafted. A copy of the agreement as it was redrafted and subsequently signed is attached to this memorandum.

As established in the agreement, the land use element which is to be prepared under the 701 program is to provide a basic land use plan, including land use, population, and economic inventories and projections. The 208 planning agencies are to analyze land use plans and projections to determine modifications necessary to manage point and nonpoint sources of pollution.



It is important that the 701 plan, in particular its land use element, and the 208 plan be consistent. Moreover, in preparing these plans, the planning agencies must not duplicate effort. Therefore, it is necessary that the planning agencies in those areas where both 208 and 701 plans are being prepared identify in their work plans how they will integrate 208 and 701 planning.

Below is a list of land use-related tasks which 208 agencies might undertake. The specific tasks will vary among 208 areas depending upon the nature of the water quality problems and existing studies. Accompanying each task is an indication of the primary funding responsibility (EPA or HUD) for that task:

- |  |     |
|--|-----|
| 1. Establish land use categorization system                                    | HUD |
| 2. Prepare population, economic, and land use inventories                      | HUD |
| 3. Analyze land capability for water quality purposes                          | EPA |
| 4. Prepare population, economic, and land use projections and plans            | HUD |
| 5. Determine and display wasteloads based on projections and plans             | EPA |
| 6. Analyze land use controls for water quality impact                          | EPA |
| 7. Refine land use plans and controls as necessary for water quality purposes. | EPA |

For many of the tasks, funding support can be provided by both agencies. For example, HUD support can be provided for task 7 since refinements to land use plans and controls must consider a broad spectrum of community goals and objectives. Where a greater level of detail is necessary to develop the 208 plan, EPA can support the completion of tasks 2 and 4. In such cases, inventories, projections, and plans can be prepared at the level of detail necessary for 208 plan development and aggregated to support the preparation of the 701 land use element. Funding for specific tasks, of course, must be negotiated on an individual basis with each planning agency.

Further guidance will be provided in the future to carry out all provisions of the interagency agreement. The guidance will include: (1) performance criteria to determine consistency between 208 and 701 plans; (2) procedures for coordinating existing 208 and 701 planning; (3) review and comment procedures for the final plans; and (4) procedures for integrating 208 and 701 planning at the state level. This initial guidance on work plan development has been provided prior to the remaining guidance because of the need to incorporate the provisions of this statement into the numerous grant applications to be submitted during the remainder of FY 75.

POLICY

The Regional Offices shall assure that 208 planning agencies demonstrate explicitly in their work plans how they will integrate the preparation of 701 land use elements with the development of the 208 plan. Funding responsibilities for specific land use-related tasks shall be based on this guidance memorandum. In the event that it becomes necessary to consult the HUD regional or area office to assure that the planning agencies have successfully integrated their activities, the appropriate HUD regional representative should be contacted (see attached list).

## Attachments

INTERAGENCY AGREEMENT  
BETWEEN  
THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT  
AND  
THE ENVIRONMENTAL PROTECTION AGENCY

I. PURPOSE

This Interagency Agreement has been developed in recognition of the need to: (1) rationalize the planning assistance activities of the two signatory agencies in accordance with the Administration's objectives; (2) encourage interagency coordination of planning activities within and among the state, regional, and local levels of government; (3) secure agreement on coordination of implementation programs which affect the planning programs identified below; and (4) ensure that land use planning undertaken for water quality purposes is developed within the broader framework of comprehensive planning.

II. PROGRAMS INVOLVED

The following programs are involved:

Comprehensive Planning Assistance (701) Program of the  
Housing Act of 1954, as amended  
Areawide Waste Treatment Management Planning Assistance  
Program (208) of the Federal Water Pollution Control Act  
Amendments of 1972

### III. PROVISIONS

1. To the extent that resources are available, the HUD 701 land use element shall provide basic land use planning including: (1) long and short term policies with regard to where growth should and should not take place; (2) the type, intensity and timing of growth; (3) studies, criteria, standards, and implementing procedures necessary for effectively guiding and controlling major decisions as to where growth shall and shall not take place.

To the extent that resources are available, land use evaluation under Section 208 shall be directed to: (1) determining the most efficient design of treatment systems consistent with the basic land use plan; and (2) analyzing land use-water quality relationships to determine what modifications should be made to the basic land use plan for the purpose of controlling or managing point and nonpoint sources of pollution.

2. Pursuant to provision (1) above:

A. Performance criteria will be developed relating and ensuring consistency between the HUD land use element and the land use-related provisions of the 208 plan. The performance criteria will include the land use outputs required for both programs.

B. Directives will be issued to the HUD and EPA regional and HUD area offices which will provide guidance with respect to land use-related planning and evaluation activities that may

be supported by each agency and the allowable funding levels for such activities. The specific amount for the land use planning and evaluation activities of each individual grant will be based on the allowable land use costs under each planning program and on work program(s) developed by the planning agency(s).

3. In those geographic areas where both a 701 land use element and a 208 areawide waste treatment management plan will be developed, planning agencies will demonstrate in their work programs how activities under both the 701 and 208 programs will be coordinated so as to ensure that : (1) there is no duplication of effort; (2) completed plans will be consistent; and (3) the objectives of both programs will be achieved.
4. Promptly upon submission for approval by a grantee of an areawide or comprehensive plan, each signatory agency will make available to the other a copy of the submitted plan (or of the land use element or provisions thereof) for review and written comment pursuant to this agreement. Written comments, if any, will be submitted within 45 days. No plan will be approved unless such opportunity for review is granted to the other agency.
5. Each signatory agency will take action including issuance of guidelines to assure that coordinated land use planning requirements will also be effected, to the extent possible, for planning

which is already underway.

6. In designated 208 areas, EPA will encourage, wherever possible, the designation or substantive involvement of qualified areawide comprehensive planning agencies in the 208 areawide waste treatment management planning program.
7. All HUD and EPA assisted agencies will be actively encouraged to use common data bases, analytic techniques, and consistent criteria in their planning activities wherever appropriate.
8. Wherever the appropriate HUD and EPA field staff agree that, as a result of planning assisted or required by one or more other Federal agencies, an impediment to implementation of the HUD 701 land use element and the land use-related provisions of the 208 plan exists or is likely to exist, the respective offices will invite representatives of interested federal, state, and areawide planning agencies to review the situation and whenever possible to formulate recommendations for removing the impediment.
9. Directives, guidelines, and performance criteria issued pursuant to this agreement will have joint concurrence of both signatory agencies prior to issuance and will be developed in accordance with Executive Orders and regulations governing both programs.
10. Joint reports on the progress of the above provisions will be prepared 6 months and 12 months from the date of signature.

**BY:**

Environmental Protection Agency

Administrator of EPA

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

REGION	REGIONAL ADMINISTRATOR	ARA FOR CPD	PLANNING AND MANAGEMENT OFFICE
I - Boston	Howard G. Thompson (617) 223-4066	Frank Delvechio (617) 223-4327	Sheldon Gilbert (617) 223-4329
II - New York	S. William Green (212) 264-8068	William Davis (212) 264-4138	Constantine Vlatos (212) 264-8221
III - Philadelphia	Theodore R. Robb (215) 597-2560	Frank Healey (215) 597-2548	Arthur Foley (215) 597-2495
IV - Atlanta	E. Lamar Seals (404) 526-3521	John T. Edmunds (404) 526-5468	James P. Bitting (404) 526-3521
V - Chicago	George J. Vavoulis (312) 353-5680	Richard A. Kaiser (312) 353-1680	John W. Peters (312) 353-
VI - Dallas	Richard L. Morgan (214) 749-7401	Travis Wm. Miller (214) 749-7481	David Baker (214) 749-7481
VII - Kansas City	Elmer E. Smith (816) 374-2661	Emil Huber (816) 374-5146	Ellsworth Dorosky (816) 374-5146
VIII - Denver	Robert C. Rosenheim (303) 837-4881	Robert J. Matuschek (303) 837-4018	Emmett Haywood (303) 837-3207
IX - San Francisco	Robert H. Baida (415) 556-4752	Elizabeth Tapscott (415) 556-5720	Alan Goldfarb (415) 556-5724
X - Seattle	James L. Young (206) 442-5415	Robert C. Scalia (206) 442-4534	Robert D. Gilliland (206) 442-4534

CPD/OPMA  
3/24/75