

# **ORGANIZATIONAL STRUCTURES AND MAPS FOR BASE CASE MODELS**

- **Existing DC-WASA  
(Model #1)**
- **Basic Regional Authority  
(Model #2)**
- **Blue Plains-Only Regional Authority  
(Models #3A & #3B)**
- **Expanded Regional Authority  
(Models #4A, #4B, #4C, & #4D)**

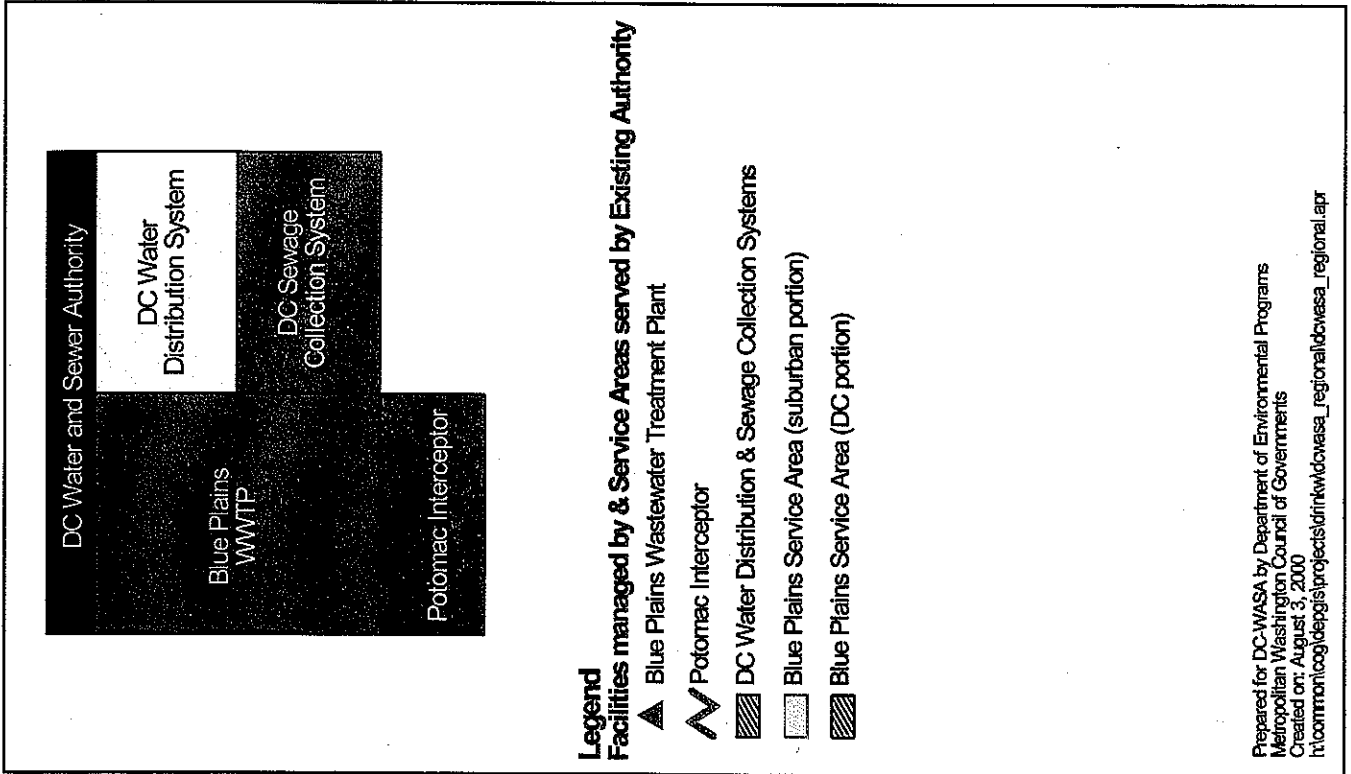
**Existing DC Water and Sewer Authority - Model #1**

**DC Water and Sewer Authority Board**

DC Water  
Distribution System

Blue Plains  
WAWFP

# DC-WASA Regionalization Study Existing DC Water and Sewer Authority - Model #1



Prepared for DC-WASA by Department of Environmental Programs  
 Metropolitan Washington Council of Governments  
 Created on: August 3, 2000  
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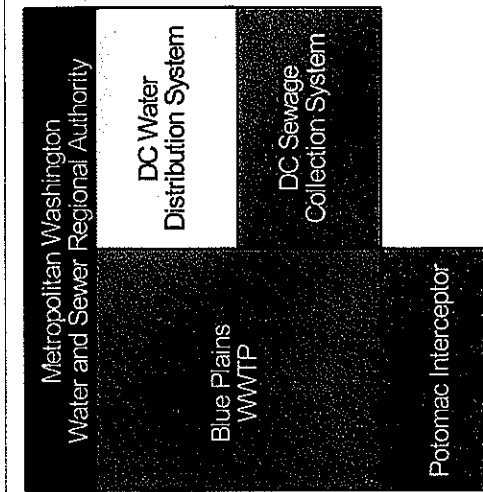
**Basic Regional Authority - Model #2**

**Washington Water & Sewer  
Regional Authority Board**

Water Programs  
WWTP

DC Water  
Distribution System

# DC-WASA Regionalization Study Basic Regional Authority - Model #2



## Legend

Facilities managed by & Service Areas served by New Regional Authority

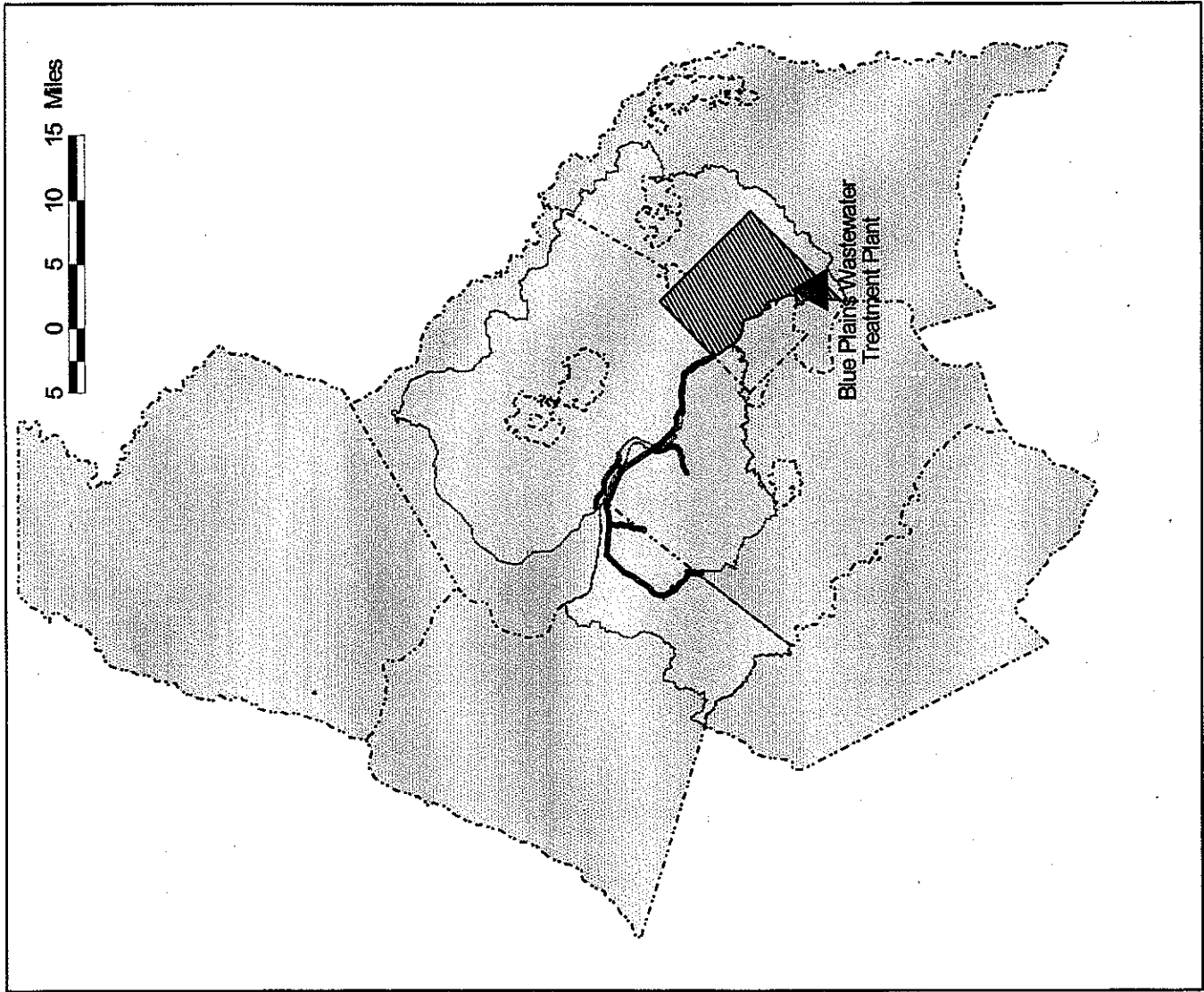
▲ Blue Plains Wastewater Treatment Plant

∩ Potomac Interceptor

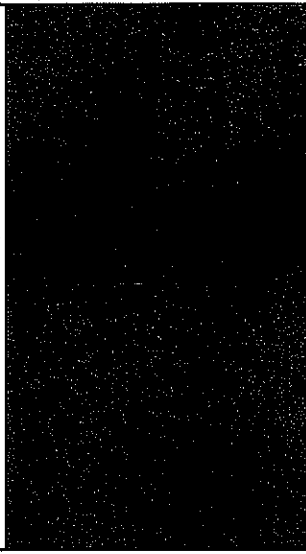
▨ DC Water Distribution & Sewage Collection Systems

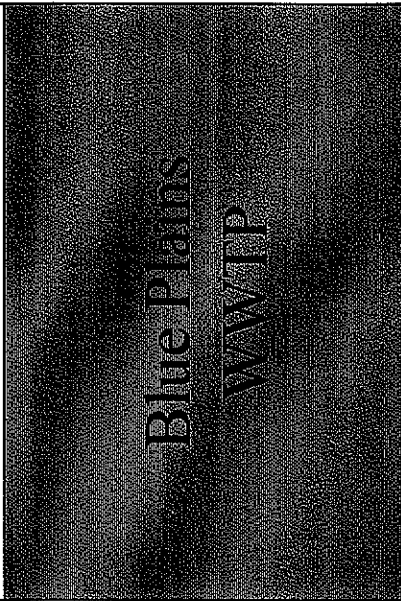
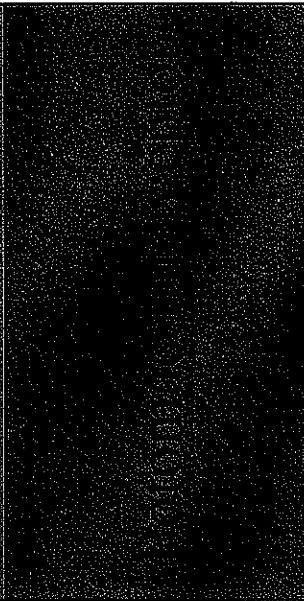
□ Blue Plains Service Area (suburban portion)

▩ Blue Plains Service Area (DC portion)

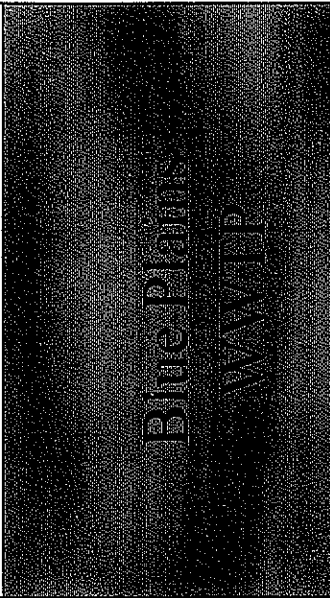


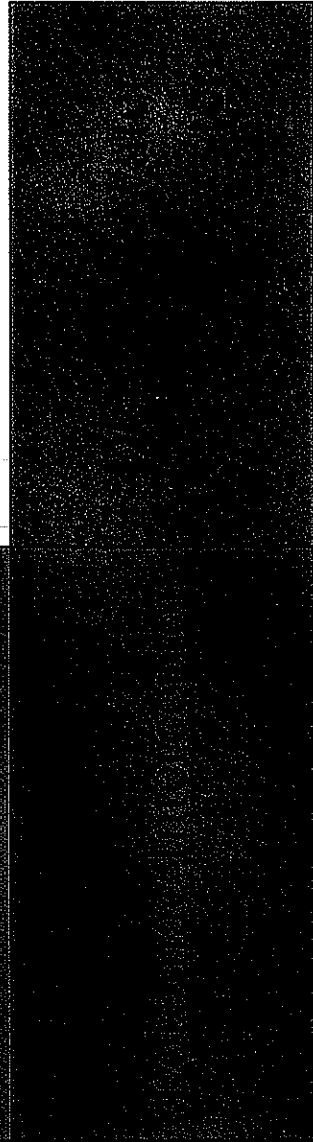
**Blue Plains-Only Regional Authority - Model #3A**

<p>DC Governmental Unit</p>	<p>DC Water Distribution System</p>	
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<p>Blue Plains Regional Authority Board</p>		
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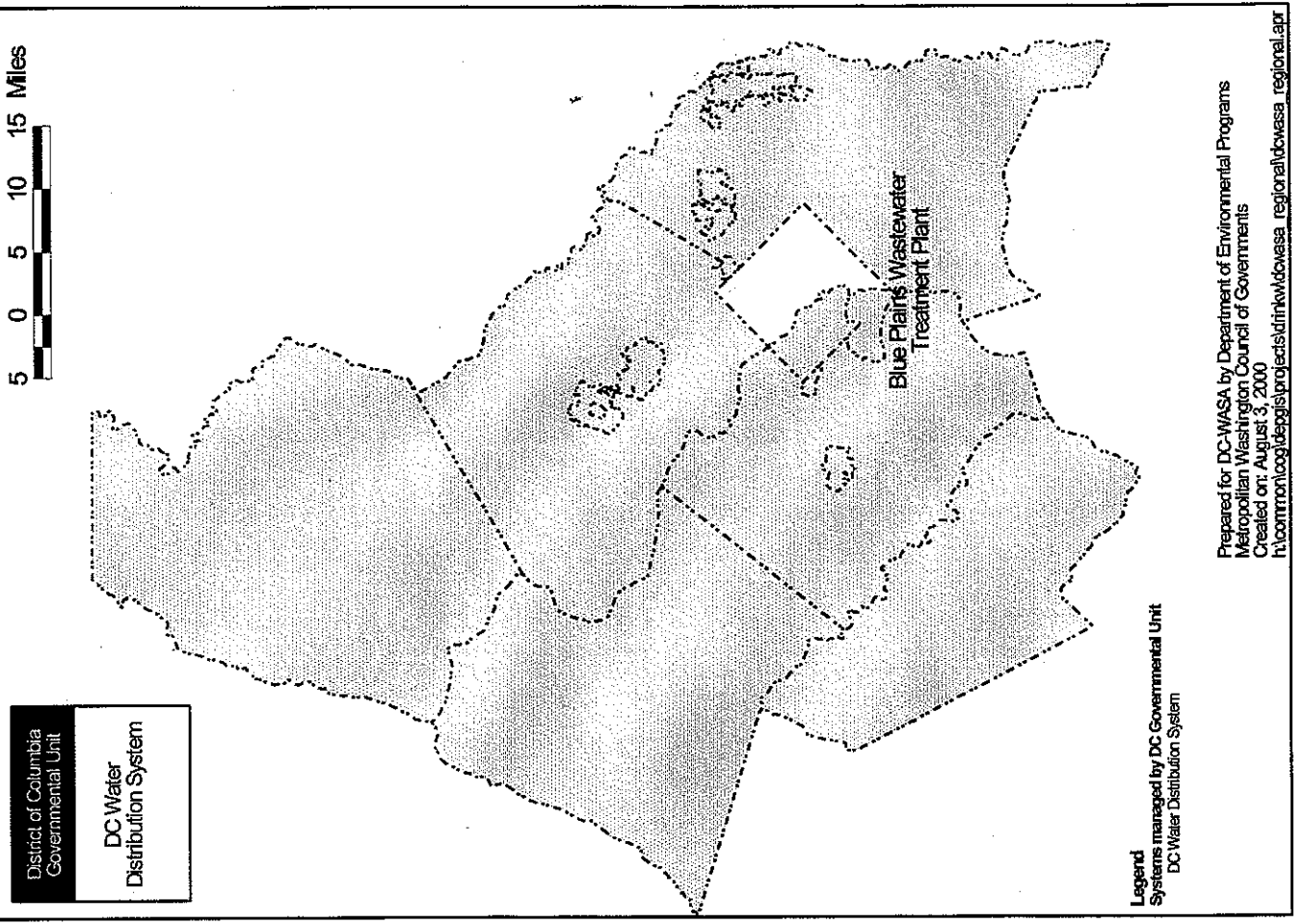
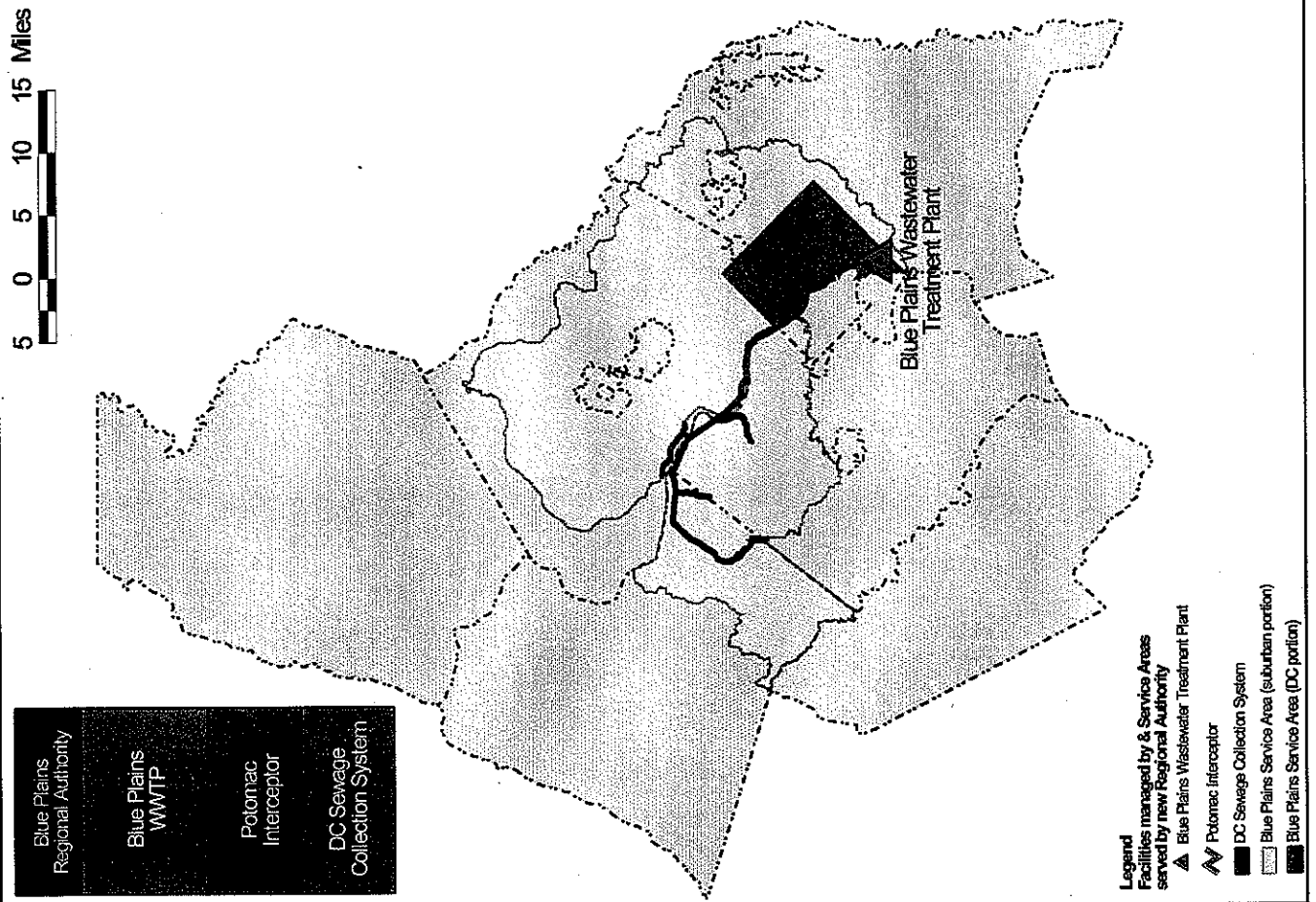
**Blue Plains-Only Regional Authority - Model #3B**

<p>Blue Plains Regional Authority Board</p>	
<p>DC Governmental Unit</p>	<p>DC Water Distribution System</p>



# DC-WASA Regionalization Study

## Blue Plains-Only Regional Authority - Model #3B



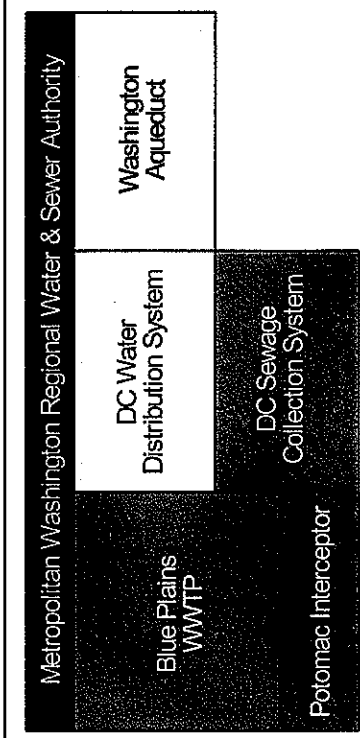
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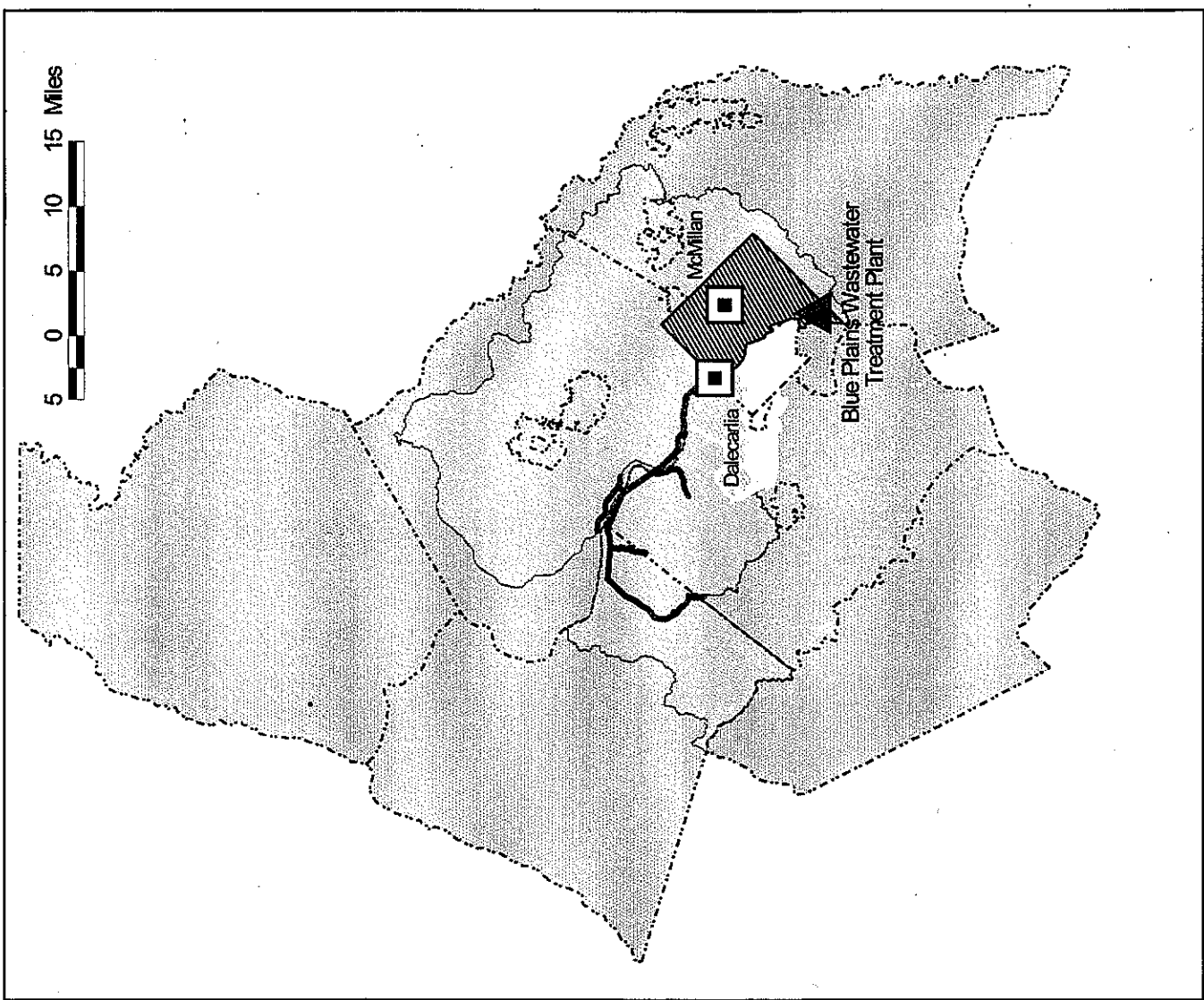
**Expanded Regional Authority - Model #4A**

<b>Metropolitan Washington Water &amp; Sewer Regional Authority Board</b>	
<b>Blue Plains WWTP</b>	<b>DC Water Distribution System</b>
	<b>Washington Aqueduct</b>

# DC-WASA Regionalization Study Expanded Regional Authority - Model #4A



- Legend**  
**Facilities managed by & Service Areas served by new Regional Authority**
- ▲ Blue Plains Wastewater Treatment Plant
  - ▲ Potomac Interceptor
  - WAD Facilities
  - DC Water Distribution & Sewage Collection Systems
  - Blue Plains Service Area (suburban portion)
  - Blue Plains Service Area (DC portion)
  - WAD Service Area (suburban portion)
  - WAD Service Area (DC portion)
  - WAD Service Area (suburban portion)

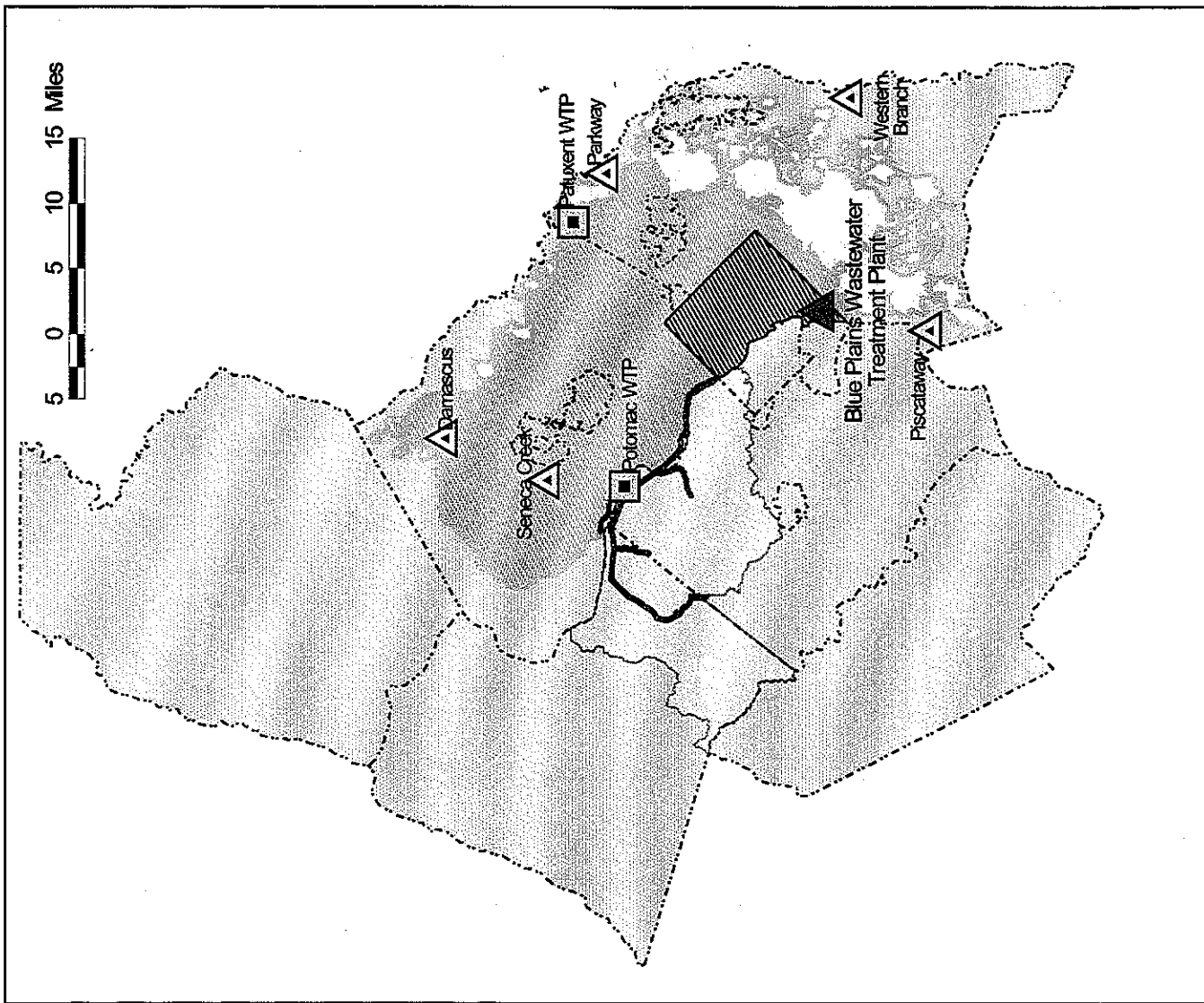
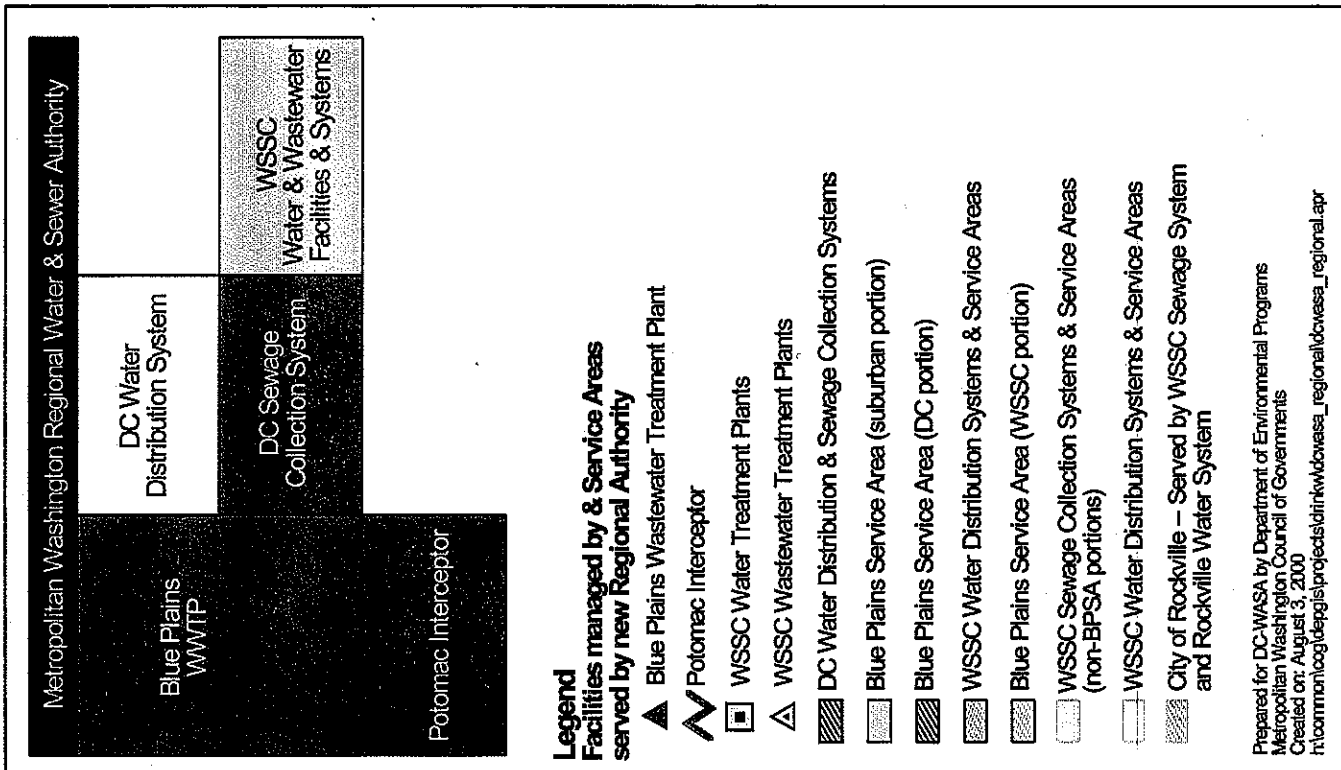


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**Expanded Regional Authority - Model #4B**

<b>Metropolitan Washington Water &amp; Sewer Regional Authority Board</b>		
	<b>DC Water Distribution System</b>	<b>WSSC WTPs &amp; Water Distribution System</b>
		<b>WSSC WWTPs &amp; Wastewater Collection System</b>

# DC-WASA Regionalization Study Expanded Regional Authority - Model #4B



Prepared for DC-WASA by Department of Environmental Programs  
 Metropolitan Washington Council of Governments  
 Created on: August 3, 2000  
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**Expanded Regional Authority - Model #4C**

<p><b>Metropolitan Washington Water &amp; Sewer Regional Authority Board</b></p>			
<p>DC Water Distribution System</p>	<p>Washington Aqueduct</p>	<p>WSSC WTPs &amp; Water Distribution System</p>	<p>Other Major WTPs in Region</p>
<p>DC Water Distribution System</p>	<p>Washington Aqueduct</p>	<p>WSSC WWTPs &amp; Wastewater Collection System</p>	<p>Other Major WWTPs in Region</p>

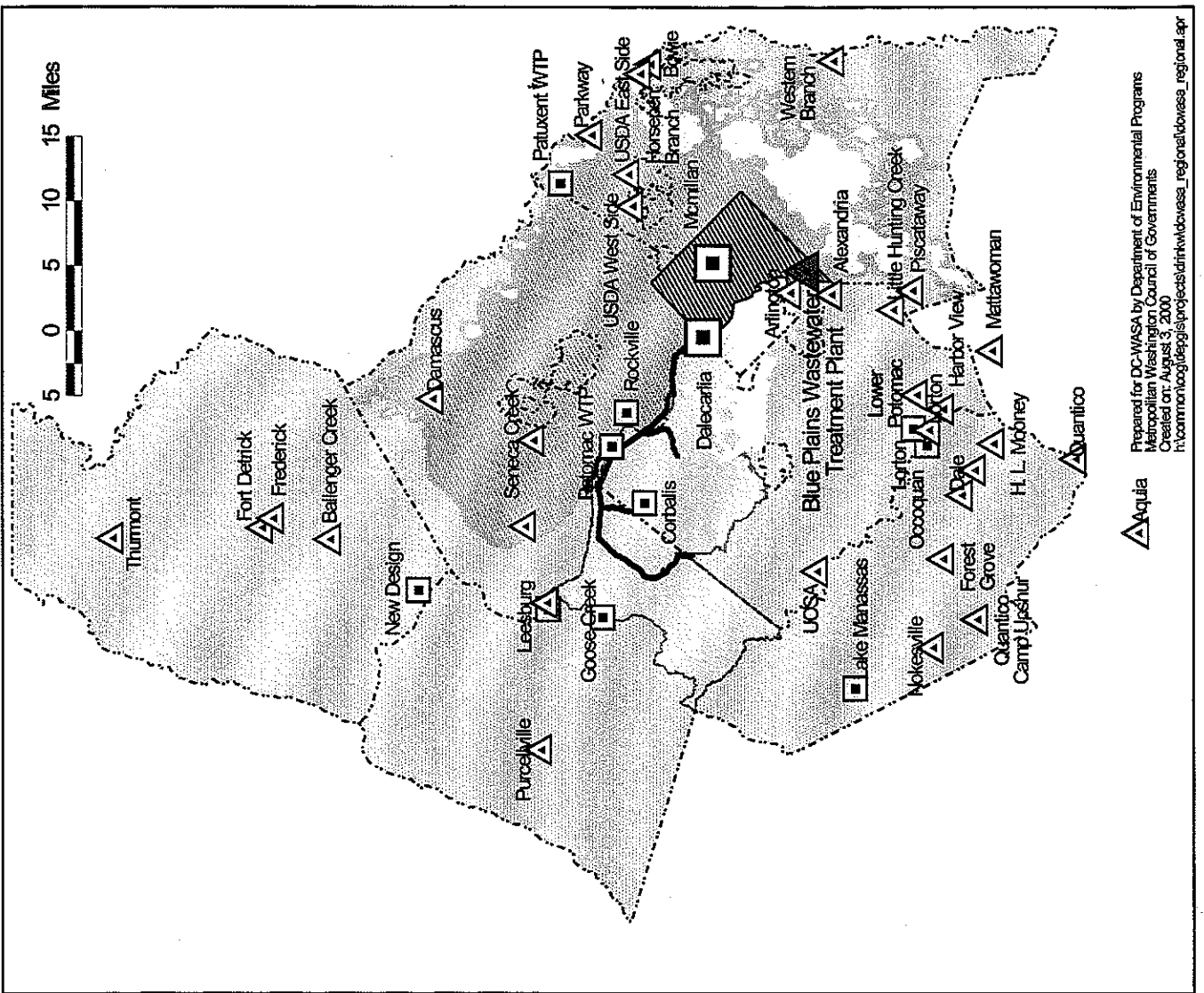
# DC-WASA Regionalization Study Expanded Regional Authority - Model #4C

Metropolitan Washington Regional Water & Sewer Authority	DC Water Distribution System	Washington Aqueduct
Blue Plains WWTP	DC Sewage Collection System	WSSC Water & Wastewater Facilities & Systems
Potomac Interceptor	Other Major Water Treatment Plants	Other Major Wastewater Treatment Plants

**Legend**  
**Facilities managed by & Service Areas served by new Regional Authority**

- ▲ Blue Plains Wastewater Treatment Plant
- ▲ Potomac Interceptor
- WSSC & Other Major Water Treatment Plants
- ▲ WSSC & Other Major Wastewater Treatment Plants
- ▨ DC Water Distribution & Sewage Collection Systems
- ▨ Blue Plains Service Area (suburban portion)
- ▨ Blue Plains Service Area (suburban portion)
- ▨ Blue Plains Service Area (DC portion)
- ▨ WAD Service Area (suburban portion)
- ▨ WAD Service Area (suburban portion)
- ▨ WAD Service Area (DC portion)
- ▨ WSSC Water Distribution Systems & Service Areas
- ▨ Blue Plains Service Area (WSSC portion)
- ▨ WSSC Sewage Collection Systems & Service Areas (non-BPSA portions)
- ▨ WSSC Water Distribution Systems & Service Areas
- ▨ City of Rockville – Served by WSSC Sewage System and Rockville Water System

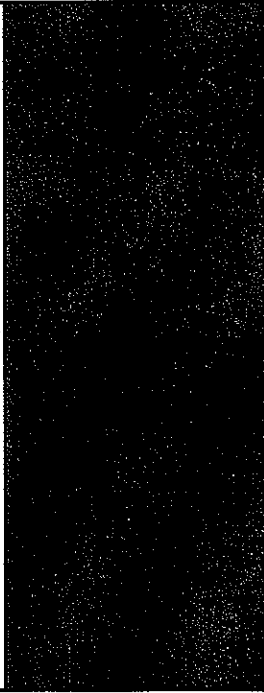
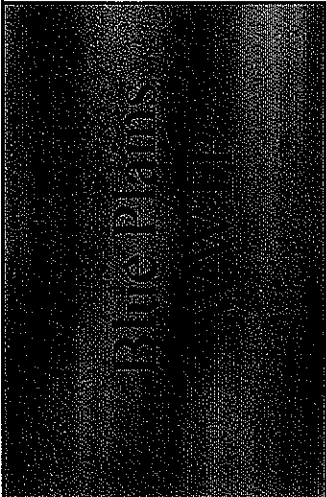
*[For visual simplicity, service areas for other regional WWTP & WTPs are not shown]*



▲ Aquia

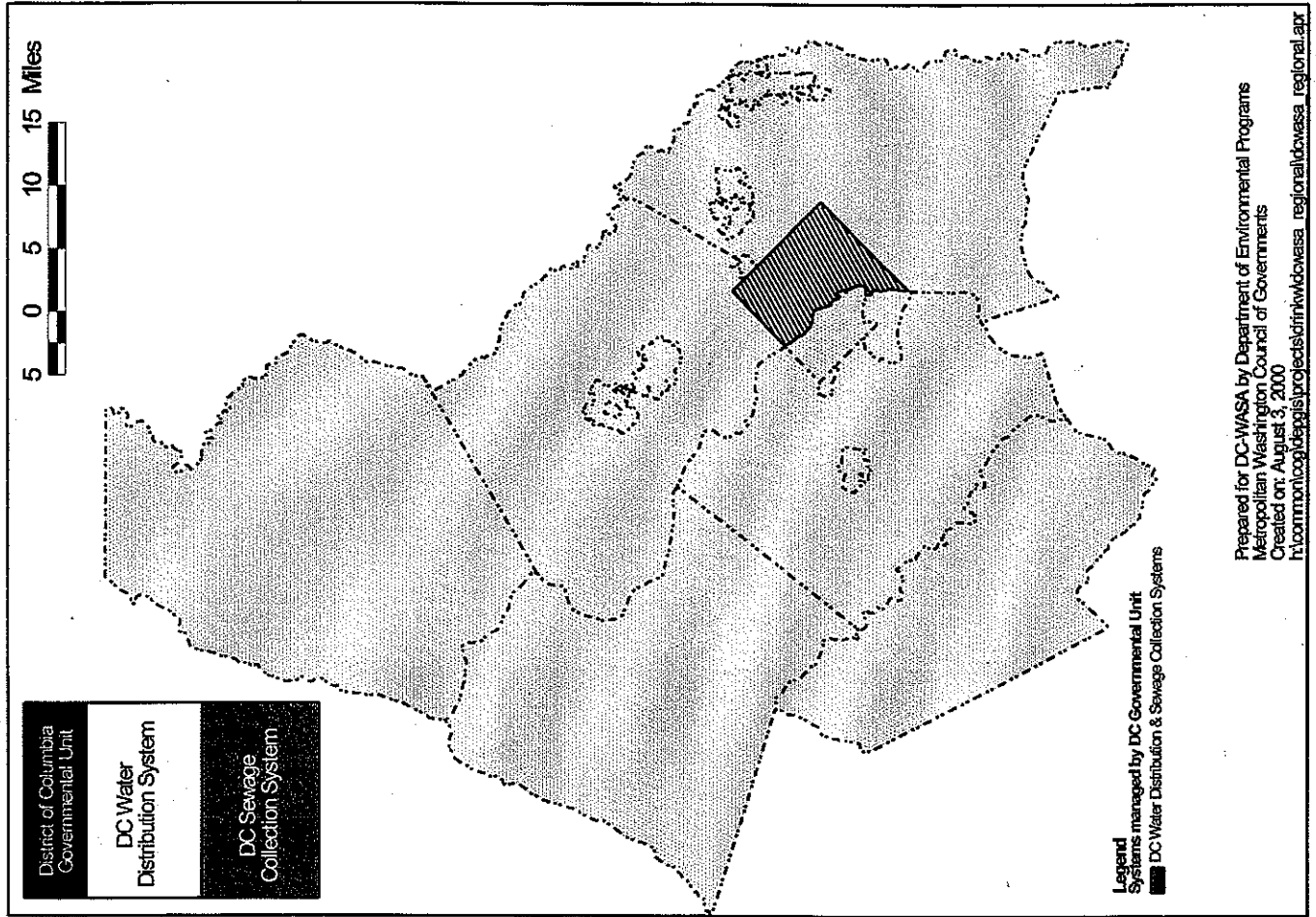
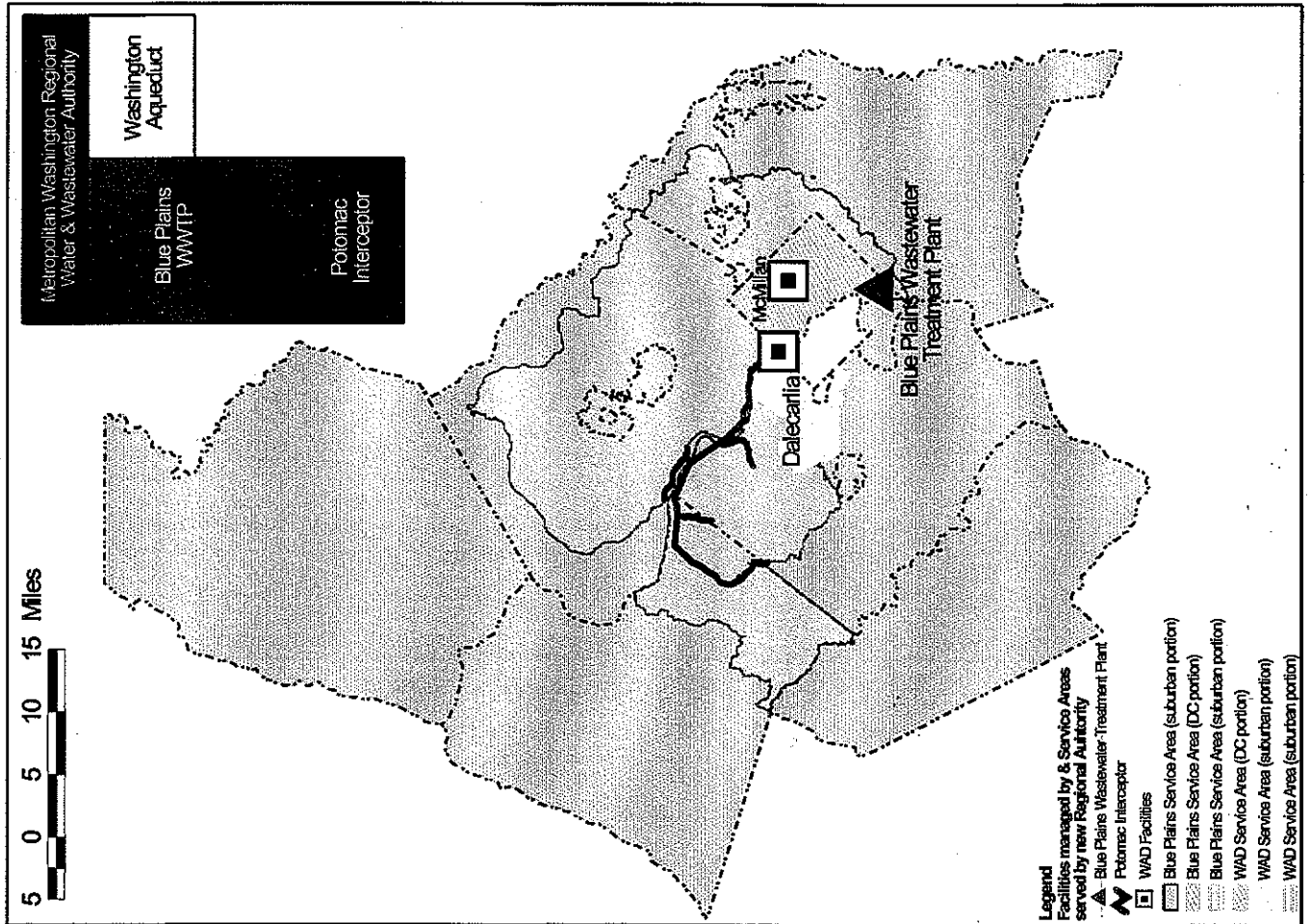
Prepared for DC-WASA by Department of Environmental Programs  
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**Expanded Regional Authority - Model #4D**

<p><b>Metropolitan Washington Water &amp; Wastewater Regional Authority</b></p>	<p><b>Washington Aqueduct</b></p>	<p><b>District of Columbia Governmental Unit</b></p>	<p><b>DC Water Distribution System</b></p>	
	<p><b>Potomac Interceptor</b></p>			



# DC-WASA Regionalization Study Expanded Regional Authority - Model #4D



Prepared for DC-WASA by Department of Environmental Programs  
Metropolitan Washington Council of Governments  
Created on: August 3, 2000  
[http://compton.cop.kcgps/projects/drinkw/dowasa\\_regional/dowasa\\_regional.apr](http://compton.cop.kcgps/projects/drinkw/dowasa_regional/dowasa_regional.apr)



Table 8

<b>REGIONAL MODELS</b>		
<b>Common &amp; Model Specific Features</b>		
<i>Base Case Models:</i>		
#1 DC-WASA Existing (BP & PI, and DC water & sewer systems)		
#2 Basic Regional Model (BP & PI, and DC water & sewer systems)		
#3A Blue Plains-Only Regional Model (BP & PI)		
#3B Blue Plains-Only Regional Model (BP & PI, and DC sewer system)		
#4A Expanded Regional Model (BP & PI, and DC water & sewer systems, and WAD)		
#4B Expanded Regional Model (BP & PI, and DC water & sewer systems, and WSSC)		
#4C Expanded Regional Model (BP & PI, and DC water & sewer systems, and WAD, and WSSC, and Other Water & Wastewater Facilities)		
#4D Expanded Regional Model (BP & PI, and WAD)		
CATEGORY	COMMON	MODEL SPECIFIC
<b>Legal:</b>		
- Enabling Legislation	Established by an interstate compact	No model specific issues
- Contracts/Agreements	Blue Plains IMA & other obligations (PI) would continue	Adds WAD commitments (#4A/C/D) Adds WSSC & other commitments (#4B/C)
- Administrative Procedures	New procedures (procurement and personnel) would be created; separate from local, District, or other state laws	WAD procedures would change from current federal requirements (#4A/C/D)
- Permit Authorization	Blue Plains effluent – EPA regulatory control w/ DC-DOH certification would continue  PI operation – EPA regulatory control w/ DC-DOH certification would continue	(#4A/C/D) WAD withdrawal – none; but pending Supreme Court decision re: VA or MD authority could change situation WAD residuals discharge – MD regulatory control  (#4B/C) WSSC's & Other Regional Facilities' withdrawals & discharges – Adds MD & VA regulatory control
<b>Governance:</b>		
- Participation	Impacted parties' support would be required (Blue Plains & PI Users)	Addition of WAD and Other Facilities adds additional affected parties & commitments (#4A/B/C/D)
- Representation	Specifics would be as negotiated; could vary from current arrangements	Addition of WAD and Other Facilities potentially adds other affected/interested parties (#4A/B/C/D)
- Approvals/Reviews	Budget & rate setting, reviews, bonding authority, etc. – would all be defined in compact	Addition of WAD, WSSC, and Other Facilities – must address changes from current procedures (#4A/B/C/D)
- Identity	Would no longer be a District of Columbia authority	Addition of WAD, WSSC, and/or Other Facilities – would expand/refine role/scope of new authority (#4A/B/C/D)

Common & Model Specific Features – Table 8  
Appendix C – December 2000

CATEGORY	COMMON	MODEL SPECIFIC
<p><b>Technical:</b> - Areas of Expertise</p>	<p>Maintenance and operation of wastewater facilities (BP) &amp; trunk sewer (PI) capabilities would still be required</p>	<p>Elimination of all or portions of DC Water &amp; Sewer systems from new authority would reduce scope of some technical system support needs for the authority; but staffing and other technical support needs for the DC governmental unit that assumes those responsibilities would need to be evaluated (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WSSC would add additional water &amp; sewer system, and drinking water facility maintenance and operation technical demands (#4B/C)</p> <hr/> <p>Addition of WAD would add drinking water facility maintenance and operation technical demands (#4A/C/D)</p>
<p>- Services Provided</p>	<p>It is assumed that any new authority would continue to provide Blue Plains WWTP &amp; PI transmission services</p>	<p>Elimination of all or portions of DC Water &amp; Sewer systems would transfer the system maintenance demands to a District govt. entity (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WAD, WSSC and/or Other Facilities would expand scope of services for providing drinking water and wastewater capacity to a much broader service area (#4A/B/C/D)</p>
<p>- Future Capacity</p>	<p>Planning and potential commitments for Blue Plains &amp; PI capacity needs would continue to be negotiated between the parties; transfer to a regional authority could affect how and where future capacity needs are addressed between the parties</p>	<p>Addition of WAD would expand discussion to address future drinking water needs (#4A/C/D)</p> <hr/> <p>Addition of WSSC and/or Other Facilities would expand discussion to address future drinking water &amp; wastewater capacity needs for a much broader service area (#4B/C)</p>
<p>- Regulations, etc.</p>	<p>Existing federal, District, and state regulations would continue to apply to the operation and maintenance of the Blue Plains and PI facilities</p>	<p>Addition of WAD would add drinking water regulatory and public health requirements (#4A/C/D)</p> <hr/> <p>Addition of WSSC and/or Other Facilities would add federal/state drinking water and wastewater regulatory requirements (#4B/C)</p>
<p>- Coordination Activities</p>	<p>Blue Plains &amp; PI technical issues would still require coordination with the facilities' host jurisdiction and affected parties, the District and suburbs respectively, would still be required for Blue Plains WWTP and PI activities</p>	<p>Elimination of all or portions of DC Water &amp; Sewer systems would reduce or eliminate some aspects of coordination with the District (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WAD would require coordination with additional VA jurisdictions (#4A/C/D)</p> <hr/> <p>Addition of Other Facilities would require coordination with an increased number of jurisdictions, in VA &amp; MD, and affect a much broader service area (#4B/C)</p>

Common & Model Specific Features – Table 8  
Appendix C – December 2000

CATEGORY	COMMON	MODEL SPECIFIC
- Permitting	Wastewater treatment permit would still be required; including the need to address PI collection system, on-site facility stormwater, and combined sewer operation (CSO) system requirements in the permit	<p>Elimination of all or portions of DC Water &amp; Sewer systems would shift drinking water distribution and/or sewer collection permit requirements to a DC govt. unit (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WAD, and/or WSSC and Other Facilities would require additional drinking water and wastewater facility permits as required; including all associated system permit requirements (#4A/B/C/D)</p>
- New Requirements & Regulations	Additional Clean Water Act requirements (TMDLs, nutrient criteria, sewer system etc.) would continue to impact Blue Plains and need to be addressed; increased efforts in non-regulatory programs such as Chesapeake Bay Program will also place increased demands on the facility; a Regional Authority could potentially offer increased negotiating strength in dealing with these issues	<p>Elimination of all or portions of DC Water &amp; Sewer systems would reduce or eliminate those regulatory requirements associated with the maintenance of drinking water distribution and/or sewer collection systems (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WAD, and/or WSSC and Other Facilities would result in additional drinking water and wastewater facility requirements; including all associated system requirements (#4A/B/C/D)</p>
- Technical Work Force	<p>Assumption is that Blue Plains &amp; PI portion of current workforce would be transferred to new authority</p> <p>Transfer impacts, reallocation of staff resources, and potential duplication or gaps in resource needs would all need to be evaluated</p>	<p>Elimination of all or portions of DC Water &amp; Sewer systems assumes that transfer of water distribution and/or sewer collection staff to Other District Entity, and other shared staff would need to be evaluated (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WAD assumes that current federal workforce would be transferred to the new authority (#4A/B/C/D)</p> <hr/> <p>Addition of WSSC and/or Other Facilities assumes that some transfer of existing personnel would need to be transferred to the new authority to address both facility and/or system needs (#4B/C)</p>
<b>Financial:</b>		
- Assets (Land/Facilities)	Must determine if Blue Plains land is transferred cost-free or with compensation and who funds would be transferred to; transfer of Blue Plains and PI facilities could be via a sale or lease to the new authority; all transfers must also address any federal or state grant repayment requirements	<p>Addition of WAD assumes that land and facilities are transferred cost-free to the new facility (based on evaluation done to support existing Congressional legislation) (#4A/C/D)</p> <hr/> <p>Addition of WSSC and/or Other Facilities must be evaluated to determine whether transfers would be cost-free or require some method of compensation to any or all the affected parties (#4B/C)</p>

Common & Model Specific Features – Table 8  
Appendix C – December 2000

CATEGORY	COMMON	MODEL SPECIFIC
- Debt (Existing/Future)	Transfer of current debts for Blue Plains & PI to a new authority would have to be addressed, as well as any impact due to debt transfers and/or repayment premiums	<p>Elimination of all or portions of DC Water &amp; Sewer systems would reduce the new authority's debt by the amount of those system bonds (#3A/B &amp; #4D)</p> <hr/> <p>Addition of WAD would not require direct bond debt transfer because jurisdictions currently fund capital needs via pay-as-you-go funding (#4A/C/D)</p> <hr/> <p>Addition of WSSC and/or Other Facilities would have to address bond debt issues associated with each specific facility and/or system being transferred (#4B/C)</p>
- Compensation to Local Governments	Some form of compensation to District government would probably be required as it is the host jurisdiction for Blue Plains	<p>Elimination of all or part of DC Water &amp; Sewer systems could result in reduced compensation to District government (#3A/B, &amp; #4D)</p> <hr/> <p>Addition of WAD, WSSC and/or Other Facilities could result in assessment of similar compensation requirements (#4A/B/C/D)</p>
- Budget Independence	Interstate compact requirements would define ability of new authority to establish own budget approval authority	None; although negotiation of the compact language itself would need to address the budget needs/concerns of the affected parties
- Rate Setting	Interstate compact requirements would define ability of new authority to establish own rate setting authority	None; although negotiation of the compact language itself would need to address the rate setting needs/concerns of all the affected parties
- Capital Program Needs	<p>Long-term Blue Plains and PI capital needs have been quantified and planned for; most other facility and system needs have also been quantified and planned for within their respective jurisdictions/agencies</p> <p>Continued access to District of Columbia Clean Water Act funds would need to be assessed</p>	Addition of WAD facilities would require a complete assessment of potential capital program needs as well as bond/funding requirements as current system operates under a pay-as-you-go funding arrangement
- Rate Impacts	Assessment of debt transfers on current and future rates would need to be evaluated and quantified for all affected parties	Elimination of all or part of DC Water & Sewer systems; and/or addition of WAD, WSSC and/or Other Facilities would also need to deal with the specific effects of adding or removing debt requirements for each facility or system's future capital needs (#3A/B & #4A/B/C/D)
- Bonding Authority	Interstate compact would establish bonding authority for new regional authority to meet all of its service obligations (expanded and/or modified)	No model specific issues
- Regulations	Interstate compact would enable the new authority to establish its own financial procedures that would be separate from local, District, or other state laws and regulations	Addition of WAD facilities would change financial requirements from current federal requirements to those of the new authority (#4A/C/D)

**Table 9  
Financial & Business Statistics for Various Agencies<sup>1</sup>**

AGENCY	TOTAL ASSET VALUE <sup>a</sup> (in Billions)	EXPENSE CATEGORY	ANNUAL <sup>1</sup> FINANCIAL FIGURES (in Millions)					NOTES
			YEAR 00	YEAR 01	YEAR 02	YEAR 03	YEAR 04	
DC-WASA <sup>2</sup> District of Columbia Water & Sewer Authority (existing model) [staff positions - 1309 - in FY 2001]	\$1.500 <sup>b</sup>	Total Operating Expenses (includes debt service)	\$219.859	\$226.145	\$239.255	\$254.294	\$264.591	Cost figures include all water, wastewater, biosolids, CSO, and stormwater costs.  WAD Capital figures are projected disbursements for annual share of WAD capital project commitments (e.g., note Year 01 estimates); Operating Expenses also reflect increased debt service for capital program.
		WAD Operating Expenses (DC-WASA share)	\$ 18.365 to \$ 19.400 (approximate range)					
		Total Capital Disbursements	\$113.722	\$176.627	\$216.653	\$229.595	\$195.406	
		WAD Capital Disbursements (DC-WASA share)	\$ 8.348	\$ 30.755	\$ 7.395	\$ 4.446	\$ 7.068	
WAD <sup>3</sup> Washington Aqueduct [staff positions - 199]	\$ 0.163 <sup>c</sup>	Total Water Operating Expenses	\$ 24.559	\$ 25.395 to \$ 26.399 (approximate range)				Projected Total Capital Commitments beyond FY 04 include approximately \$129 million for 3 potential major projects over the next 10 years.
		Total Capital Commitments <sup>d</sup>	\$ 6.300	\$ 4.850	\$ 7.900	\$ 5.850	\$ 4.3 - 9.3	
		Total Water & Sewer Operating Expenses (includes debt service)	\$372.700	\$376.342	\$381.531	\$383.684	\$377.839	
		Blue Plains Operating Expenses (WSSC share)	\$ 42.200	\$ 39.758	\$ 31.000	\$ 32.550	\$ 34.178	
WSSC <sup>4</sup> Washington Suburban Sanitary Commission [staff positions - 1500]	\$3.500 <sup>e</sup>	Total Capital Budget <sup>f</sup>	\$140.790	\$148.264	\$156.136	\$198.211	\$173.934	Cost figures include all water, wastewater and biosolids costs. Budget based on no rate increase over next five-year period, and assumes full implementation of CAP Plus initiatives to reduce costs.
		Blue Plains Capital Budget (WSSC share)	\$ 35.240	\$ 36.240	\$ 56.081	\$ 97.214	\$ 79.013	

<sup>1</sup> Data in this table represents basic and very general financial data retrieved from existing budget documents; it is intended only to provide an order-of-magnitude perspective to the projected annual operating & capital expenses of these major agencies; note that fiscal years also vary between the agencies; <sup>a</sup> Total Asset Value (or Book Value) is defined as Net Utility Plant (the historical cost of assets) less cumulative depreciation expenses.  
<sup>2</sup> DC-WASA figures derived from Revised FY 2001 & Proposed FY 2002 Operating & Capital Budgets & M.Cowan, DC-WASA; <sup>b</sup> Asset data provided by P.Bender DC-WASA.  
<sup>3</sup> WAD figures derived from Wholesale Customer Board Annual Meeting briefing package (10/14/00) & M.Cowan, DC-WASA; <sup>c</sup> Asset data provided by K. Stowe, WAD/COE (11/14/00); <sup>d</sup> WAD capital budget based on commitment/obligations basis; while DC-WASA's share of WAD capital budget figures are based on projected capital disbursements instead.  
<sup>4</sup> WSSC figures derived from Proposed Fiscal Plan for Fiscal Years 2001-2005 & M. Brackett, WSSC; <sup>e</sup> Asset data from Task Force on Privatization of WSSC (October 1999) [Section 3.3.4]; <sup>f</sup> for comparison purposes, WSSC's Capital Budget figures represent WSSC Capital Improvement Program (CIP) figures plus other bond-funded capital budget figures.