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WATER QUALITY STANDARDS

FOR THE

WATERS OF THE DISTRICT OF COLUMBIA

DEPARTMENT OF ENVIRONMENTAL SERVICES
OFFICE OF ENVIRONMENTAL STANDARDS AND QUALITY ASSURANCE
BUREAU OF AIR AND WATER QUALITY
WATER HYGIENE DIVISION

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1.0 Policy, Scope and Authority

1.1 Introduction

The Water Quality Standards of the District of Columbia are comprised of four major parts; 1. Policy, Scope and Authority; 2. Classification and Standards; 3. Applicability; and 4. Appendices. Water Quality Standards were first adopted by the District of Columbia, hereinafter referred to as the District, in 1960 as a requirement of the Federal Water Pollution Control Act. The present Federal Act requires that the District review and revise where appropriate the standards at least once every three years to assure that the standards are consistent with the Federal Act and regulations promulgated under the Act. The Water Quality Standards of the District of Columbia are adopted as regulations pursuant to the Water Quality Standards Approval Act of 1977.

1.2 Policy

It is hereby declared that the public policy of the District is to conserve the waters of the District and to protect, maintain and improve the quality of the waters of the District as a resource of multiple beneficial uses. Whereas the waters of the District are a resource of the public and used beneficially for public water supplies; propagation of aquatic life, water fowl and other wildlife; recreation and aesthetic enjoyment; industrial; agricultural and other legitimate uses; it is hereby declared that pollution of the waters of the District which impairs the use of the waters by and for the public is contrary to the best interests of the

public. It is further declared that it is public policy to abate, eliminate and amelioriate pollution of the waters of the District and the downstream neighbors of the District in cooperation with the general public, interested parties, local, District, State and Federal agencies; taking into due consideration economic, social, institutional and technical problems; placing first in priority pollution which represents a hazard to the public health.

1.3 Antidegradation Policy

Waters of the District which are of such characteristics as to be a District or national resource shall be maintained or restored to the highest quality achievable above the standards by designation as an antidegradation segment. New point source discharges of wastewater treated or otherwise, are prohibited in antidegradation segments after the effective date of designation. Non-point sources, combined sewer overflows and stormwater discharges shall be controlled in conjunction with Part 1.2 to the extent feasible through implementation of best management practices and regulatory programs. Construction projects such as roads, bridges and bank stabilization in the waters of a designated segment which may lead to pollution will be considered on a case by case basis to insure that there are no long term adverse effects on the segment. All point sources existing at the time of designation of a segment which discharge into the segment will be allowed a mixing zone as specified in Part 3.5 for a period of five years from the date of designation after which period no mixing zone will be allowed in the segment.

Waters of the District designated as antidegradation segments are listed in Appendix A.

1.4 Maintenance Policy

Waters of the District which are of sufficient quality to meet the water quality standards of the beneficial uses assigned to them will be maintained at or above their present quality.

1.5 Restoration Policy

Waters of the District which are not of such quality as to meet or exceed the water quality standards of the beneficial uses assigned to them shall be restored to such a quality as to be able to support and sustain those uses.

1.6 Interrelationship of Policies

All waters of the District are considered in Part 1.2; however, only those designated are affected by Part 1.3. There are no prohibitions against discharges of wastewater nor mixing zones contained in Parts 1.4 and 1.5 as long as such discharges have received treatment according to Federal requirements and are compatabile with the policy of the part. Parts 1.4 and 1.5 in conjunction with 1.2 allow for consideration of future growth and economic development.

2.0 Beneficial Use Classes and Standards

2.1 Introduction

The waters of the District are grouped into classes so as to protect the waters from pollution for the beneficial uses designated within each class as set forth below. The classifications of the various waters of the District are given in Appendix B.

2.2 Beneficial Use Classes

2.2.1 Class A — protected for primary contact recreation.

2.2.2 Class B — protected for secondary contact recreation and aesthetic enjoyment

2.2.3 Class C — protected for aquatic life, waterfowl, shore birds and water oriented wildlife.

2.2.4 Class D — protected for use as a raw water source for public water supply

2.2.5 Class E — protected for use as a raw water source for industrial water supply

2.2.6 Class F — protected for navigational use

2.3 Water Quality Standards

2.3.1 General Narrative Standards

The waters of the District shall be free from substances attributable to point or non-point sources discharged in concentrations that settle to form objectional deposits; float as debris, scum, oil or other matter to form nuisances; produce objectionable odor, color, taste or turbidity; injure, are toxic to or produce adverse physiological or behaviorial responses in humans, plants or animals; or produce undesirable aquatic life or result in the dominance of nuisance species.

2.3.2 Numerical Standards

Numerical standards for the protection of the quality of the water necessary to sustain the beneficial use classes consist of specific criteria. The numerical standards that apply to the use classes which can be protected by the assignment of specific water quality criteria are given in Appendix C. For those waters of the District with multiple designated beneficial uses, the most stringent standards or criteria shall govern.

2.3.3 Specific Narrative Standards

2.3.3.1 Class A waters shall be free of discharges of untreated sewage, unmarked, submerged or partially submerged,

man-made structures and litter which constitute a hazard to the health of the users.

2.3.3.2 Class D waters shall be free from pollution in the form of pathogens, carcinogens, toxicants and other substances in concentrations that cannot be reduced to levels safe for distribution by the existing or presently proposed water treatment facilities which use these waters.

2.3.3.3 Class F waters shall be free of unmarked submerged or partially submerged man-made objects which pose a hazard to users of these waters.

3.0 Applicability

3.1 Introduction

The public policy of the protection of the beneficial uses of the waters of the District by the attainment or maintenance (Parts 1.2, 1.4 and 1.5) of the water quality standards will not be construed to prevent economic growth and social well-being.

3.1.1 The discharge of pollutants in quantities that prevent the attainment or maintenance of the water quality standards will be allowed only if the discharger can demonstrate through a public hearing process that one of the following conditions holds.

3.1.1.1 Technology is not available to control the quantities discharged such that the standards will be attained or maintained.

3.1.1.2 The application of technology sufficient to attain or maintain the standards would result in substantial and widespread adverse economic and social impacts.

3.2 Low Flow

The numerical standards will not apply at flows less than the average seven day low flow which occurs once in ten years.

3.3 High Flow

The numerical standards will not apply for a period of 24 hours following rainfall events with intensities equal to or greater than 0.2 inches per hour for a period of one hour or when the increase in stream flow is greater than 10 percent per hour.

3.4 Intermittent Streams

The numerical standards will not apply to intermittent streams

3.5 Mixing Zones

Mixing zones are to be established for point source discharges of pollutants which immediately threaten the present nearby aquatic

community or present or future water uses. The following shall be used in establishing mixing zones:

3.5.1 Permissable size of the zone is dependent on acceptable amount of damage and size of receiving water body;

3.5.2 Mixing zones shall be free from discharged substances that will settle to form objectionable deposits; float to form unsightly masses; or produce objectionable color, odor or turbidity;

3.5.3 Mixing zones shall protect aquatic life in shallow areas which serve as nursery areas;

3.5.4 Mixing zones shall not form barriers to migratory aquatic life;

3.5.5 As a guideline, the quality for life within a mixing zone should be such that the 96 hour LC_{50} for biota significant to the area's aquatic life community is not exceeded;

3.5.6 The positioning of mixing zones shall be done in a manner that provides the greatest protection to aquatic life and for the various uses of water;

3.5.7 Within the estuary, the maximal dimension of the mixing area shall not exceed 10% of the numerical value of the cross-sectional area of the waterway.

3.6 Laboratory Examinations

All laboratory examinations of samples collected to determine violations of these water quality standards will be performed in accordance with procedures approved by the U.S. Environmental Protection Agency.

3.7 Field Analyses

All field analyses and measurements to determine compliance with these water quality standards shall be conducted in accordance with standard procedures specified by the Water Hygiene Division of the government of the District of Columbia .

3.8 Downstream Uses

Nothing in these water quality standards shall be interpreted as alleviating any discharger from meeting more stringent standards of downstream jurisdictions.

APPENDIX A

Antidegradation Segments

The following waters of the District are hereby designated as antidegradation segments:

Rock Creek and tributaries

Battery Kemble Creek and tributaries

APPENDIX B

Classification of Waters of the District

Waters of The District	USE CLASSES Maintenance (Present)	Restoration (Future)
Potomac River and tributaries (except as listed below) from Montgomery County line to Key Bridge	B, C, D, E, F,	A, B, C, D, E, F
Battery Kemble Creek	B, C	A, B, C
Potomac River and tributaries (except as listed below) from Key Bridge to Hains Point	B, C, E, F	A, B, C, E, F
Rock Creek and tributaries	B, C	A, B, C
Tidal Basin	B, C	A, B, C
Potomac River and tributaries (except as listed below) from Hains Point to Prince George's County line	B, C, E, F	A, B, C, E, F
Washington Ship Channel	B, C, F	A, B, C, F
Oxon Run	B, C	A, B, C
Anacostia River and tributaries	B, C, E, F	A, B, C, E, F
C & O Canal	B, C	A, B, C

APPENDIX C
Numerical Standards

Constituent	Classes A	B	C	D	E
Bacteriological (No. /100 ml)					
Fecal Coliform (Maximum 30 day geometric mean for 5 samples)	200	1,000		1,000	1,000
Physical					
Dissolved oxygen (mg/l)					
Minimum Daily average (3 samples per 24 hours once per 8 hours)			5.0		
Instantaneous minimum			4.0		
Temperature (°C)					
Maximum			32.2		
Maximum change above ambient			2.8		
pH					
Greater than	6.0	6.0	6.0	6.0	6.0
and less than	8.5	8.5	8.5	8.5	8.5
Turbidity increase above ambient (NTU)	20	20	20	20	
Total dissolved gases (maximum % saturation)			110		
Hydrogen sulfide (maximum (ug/l))			0.002		
Chemical (Maximum mg/l)					
Arsenic, dissolved				0.05	
Barium, dissolved				1.0	
Cadmium, dissolved			0.004	0.01	
Chromium, dissolved			0.1	0.05	
Copper, dissolved			0.04	1.0	
Cyanide			0.005		
Iron, dissolved			1.0		
Lead, dissolved			0.05		
Mercury, total			0.005	0.002	
Phenol			0.1	0.3	
Selenium, dissolved			0.04	0.01	
Zinc, dissolved			0.05	5.0	
NH_3, un-ionized (as N)			0.02		
Chlorine, Total Residual			0.01		
Other Contaminants					

APPENDIX B

Classification of Waters of the District

Waters of The District	USE CLASSES Maintenance (Present)	Restoration (Future)
Potomac River and tributaries (except as listed below) from Montgomery County line to Key Bridge	B, C, D, E, F,	A, B, D, E, F
Battery Kemble Creek	B, C	A, B, C
Potomac River and tributaries (except as listed below) from Key Bridge to Hains Point	B, C, D, E, F	A, B, C, D, E, F
Rock Creek and tributaries	B, C	A, B, C
Tidal Basin	B, C	A, B, C
Potomac River and tributaries (except as listed below) from Hains Point to Prince George's County line	B, C, D, E, F	A, B, C, D, E, F
Washington Ship Channel	B, C, F	A, B, C, F
Oxon Run	B, C	A, B, C
Anacostia River and tributaries	B, C, E, F	A, B, C, E, F
C & O Canal	B, C	A, B, C

APPENDIX C
Numerical Standards

Constituent	Classes A	B	C	D	E
Bacteriological (No. /100 ml)					
Fecal Coliform (Maximum 30 day geometric mean for 5 samples)	200	2,000		2,000	2,000
Physical					
Dissolved oxygen (mg/l)					
Minimum Daily average (3 samples per 24 hours)			5.0		
Instantaneous minimum			4.0		
Temperature (°C)					
Maximum			32.2		
Maximum change			2.8		
pH					
Greater than	6.0	6.0	6.0	6.0	6.0
and less than	8.5	8.5	8.5	8.5	8.5
Turbidity increase (NTU)	20	20	20	20	
Total dissolved gases (maximum % saturation)			110		
Hydrogen sulfide (maximum (ug/l))			0.002		
Chemical (Maximum mg/l)					
Arsenic, dissolved				0.05	
Barium, dissolved				1.0	
Cadmium, dissolved			0.004	0.01	
Chromium, dissolved			0.1	0.05	
Copper, dissolved			0.04	1.0	
Cyanide			0.005		
Iron, dissolved			1.0		
Lead, dissolved			0.05		
Mercury, total			0.005	0.002	
Phenol			0.1	0.3	
Selenium, dissolved			0.04	0.01	
Zinc, dissolved			0.05	5.0	
NH_3, un-ionized (as N)			0.02		
Chlorine			0.01		

Other Contaminants

A guideline value for Class C waters is one percent of the 96 hour LC_{50} for affected biota.

A guideline value for Class C waters is one percent of the 96 hour LC_{50} for affected biota.

APPENDIX D
Definitions

Ambient - those conditions existing before or upstream of a source or incidence of pollution.

Criteria - The group of constituents and their associated numerical concentrations or levels which compose the numerical standards.

Intermittent Streams - A water course which has no flow for a period of seven consecutive days on a frequency of at least once a year.

LC_{50} - The concentration of a substance which is lethal to fifty percent of the test organisms within a specific time period (96 hours).

Mixing zone - An area, contiguous to a discharge, in which dilution occurs such that there is a transition between effluent limitations and water quality standards.

Non-point sources - Those types of pollution which are not attributable to discrete, quantifiable sources. These include but are not limited to storm water discharges, combined sewer overflow and over land storm runoff.

Point sources - Those types of pollution attributable to discrete, quantifiable sources.

Primary contact recreation - Those water contact sports which result in frequent whole body immersion and/or involve significant risks of ingestion.

Secondary contact recreation - Those water contact sports which seldom result in whole body immersion and/or do not involve significant risks of ingestion.

Standards - those regulations, numerical or narrative which specify a level of quality of the waters necessary to sustain the designated beneficial uses.

Waters of the District - all rivers, streams, lakes, ponds, marshes, water courses, canals, springs or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through or border upon the District of Columbia, except that those waters within closed collection or distribution systems and those bodies of water confined to and retained within the limits of private property and which do not develop into or constitute a nuisance or public health hazard shall not be considered waters of the District for the purposes of these standards.