

**WATER QUALITY
IMPROVEMENT
PROGRAM**

MUNICIPALITY OF ANCHORAGE
WATER QUALITY IMPROVEMENTS CAPITAL PROGRAM
Department: HEALTH AND HUMAN SERVICES

WATER QUALITY PROGRAM GOALS

The municipal water quality program began in 1985. The voters approved the first bond measure to address water contamination and protection issues. The municipality budgeted operating funds for a small water quality staff. From the beginning, the principal goals of the Department of Health and Human Services (DHHS) have been: the protection and/or restoration of surface waters for safe recreational use and for fish and other aquatic life; and the maintenance of uncontaminated shallow groundwater to prevent the intrusion of dangerous substances into the deeper drinking water sources.

In order to attain these goals, the department has established several major objectives:

- Construction of permanent monitoring wells at strategic locations;
- Establishment of a network of surface water monitoring stations and sites for long-term use;
- Collection and development of a database to identify problems and measure trends, and as a basis for devising remedial strategies and projects for water quality programs;
- Close and continuous monitoring of how on-site wastewater disposal systems affect adjacent groundwater and nearby surface waters;
- Identification of one drainage basin each year for mitigation and restoration measures;
- Feedback to other agencies, especially Public Works, on appropriate water quality corrective measures and projects;
- Assessment of the effectiveness of structures (e.g., oil and grease separators), revegetation and other measures completed by DHHS, Public Works, Parks and Recreation, and other public and private organizations.

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GROUNDWATER AND SURFACE WATER MONITORING NETWORK AND DATABASE

During the next several years the DHHS will expand and extend systems and activities initiated in the 1986-1988 period.

Active groundwater monitoring wells number 85. In 1989 an additional 50 will be installed. The target number is approximately 230 permanent wells. Installation is done by private contractors. Several times during the year the level and quality of water in each well is measured. Samples are analyzed primarily for fecal coliform bacteria and nitrates. The department will also initiate the identification of springs and seeps as monitoring sites in 1989; the objective is 20 such groundwater sites per year.

Development of the surface water quality monitoring network will continue. The numbers of streams and lakes involved are 27 and 17 respectfully. Monitoring stations are being permanently designated on each water course and body. Data from these stations and from the wells and springs is being assembled into a comprehensive and long-term information base.

As sites are added to the network they are scheduled for continuous monitoring. Measurements are taken to compute volume periodically and during storm events. Depending on specific site and schedule, sampling parameters include most or all of the following: bacteria, metals, total dissolved solids, suspended sediment, conductivity, Ph, dissolved oxygen, nitrates, and total organic carbon.

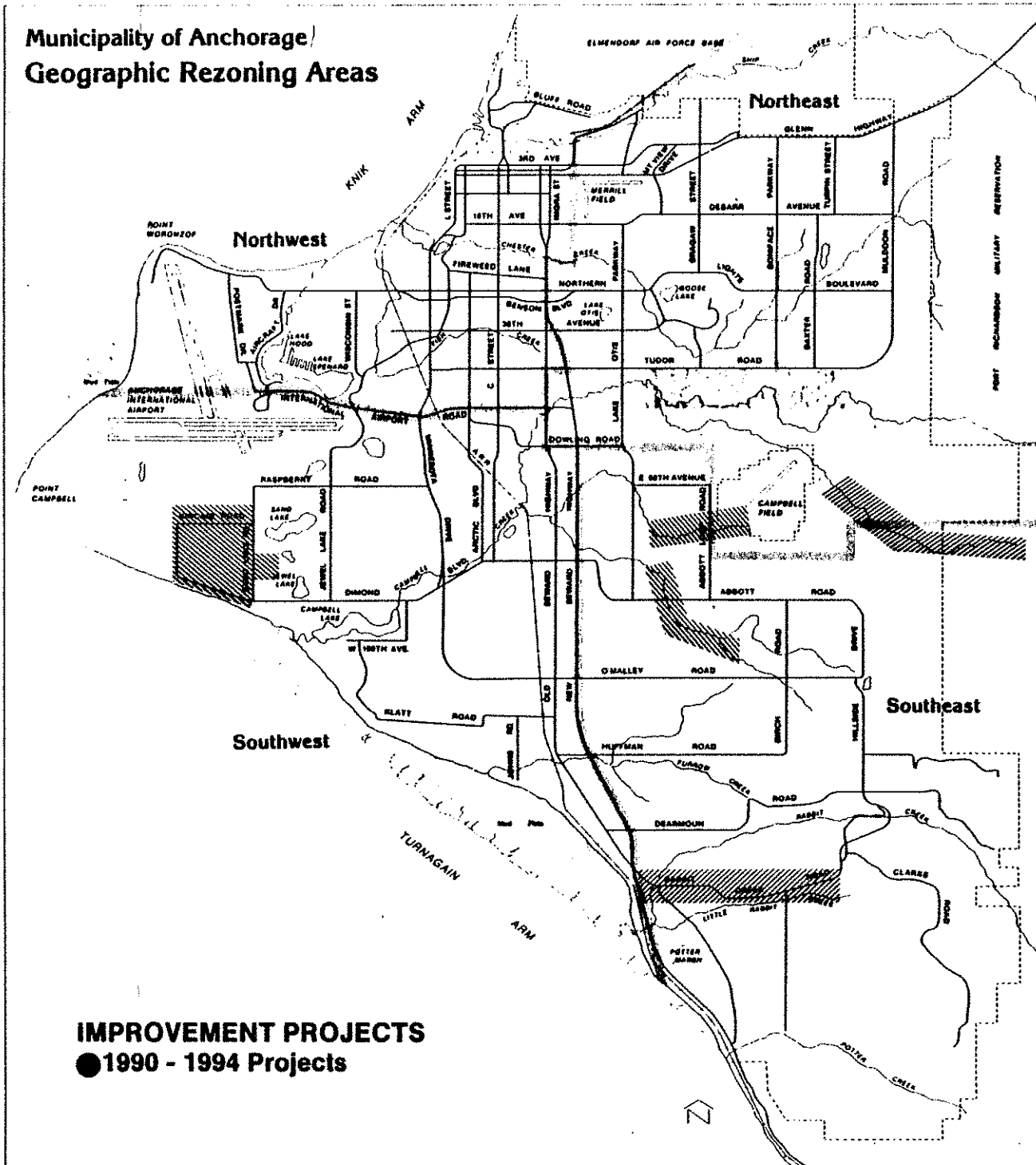
A pilot program using macroinvertebrates to assess and monitor water quality conditions was initiated in 1988. These invertebrates are very sensitive to even small changes in water quality and have proven to be a very useful tool in lower 48 streams and rivers. A goal for 1989-90 is to establish a water quality macroinvertebrate index for streams in the Municipality of Anchorage.

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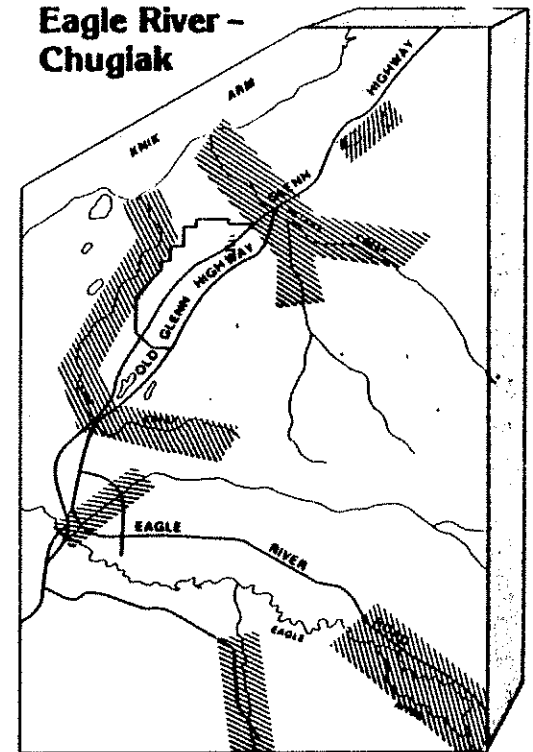
1989 - 1994 CAPITAL IMPROVEMENT PROGRAM

Department Health and Human Services	Project Category Improvement Projects				Fund Code 0401	
PROJECT TITLE AND DESCRIPTION	COSTS IN THOUSANDS OF DOLLARS				S-State	D-Other
	1989	1990	1991	1992	F-Federal	B-Bonds
Ground and Surface Water Monitoring for Data Base Establishment - Drill and install 50 permanent monitoring wells. Identify and set up 20 spring and/or seep monitoring sites. Expand the surface water monitoring network. Continue development of comprehensive water quality data base for both ground and surface water.			B-350	B-400		
TOTALS	S-0 F-0	O-0 B-750			1989 - 1994	

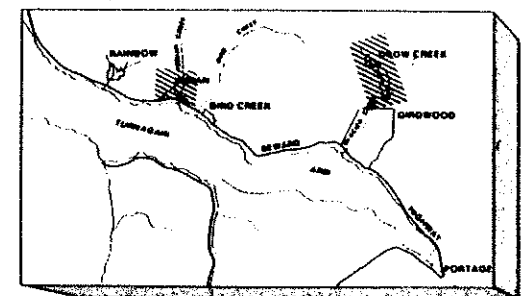
**Municipality of Anchorage
Geographic Rezoning Areas**



Eagle River - Chugiak



Turnagain Arm



MUNICIPALITY OF ANCHORAGE
WATER QUALITY IMPROVEMENTS CAPITAL PROGRAM
Department: Public Works

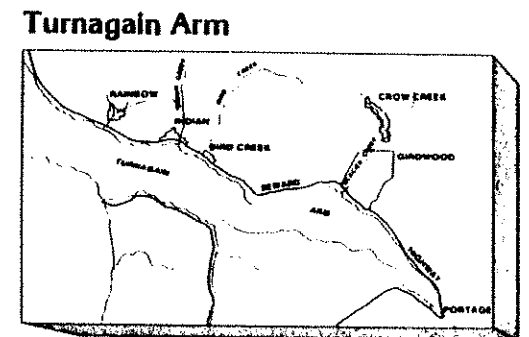
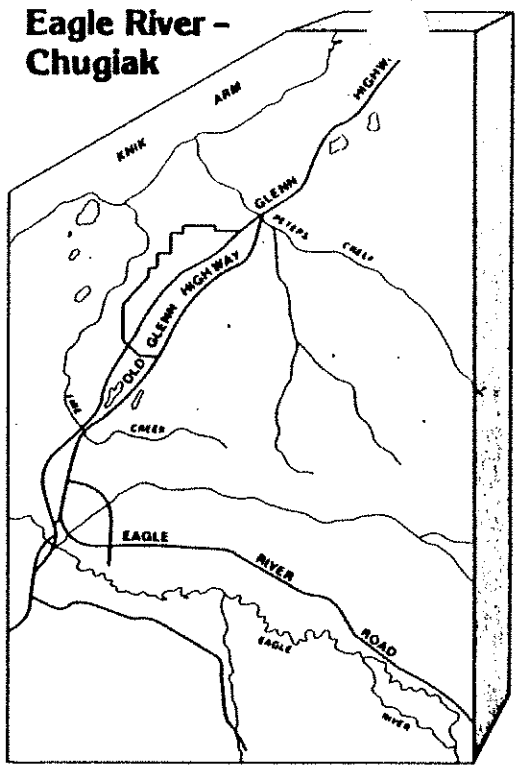
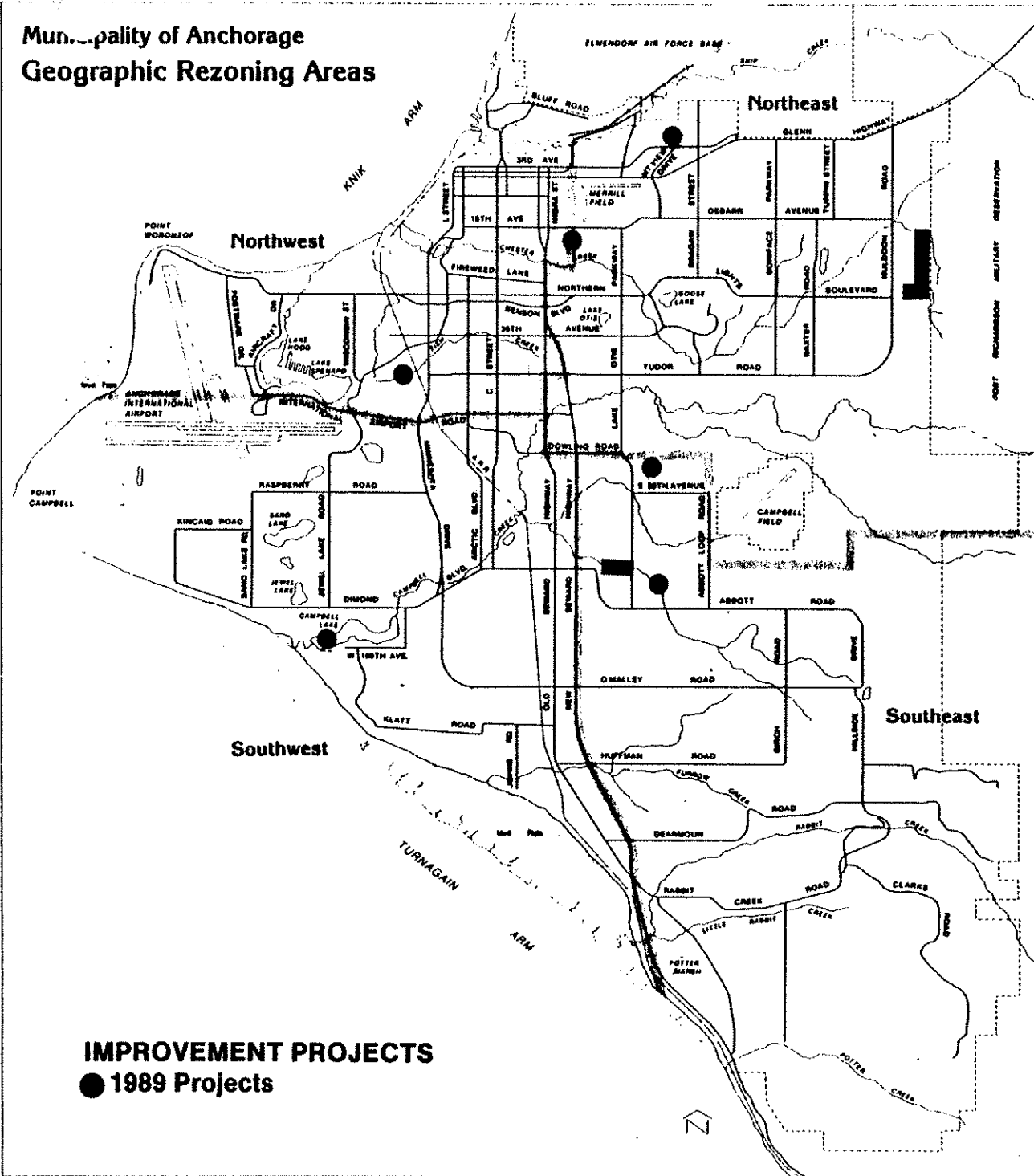
Water Quality:

The goal of the Department of Public Works is to enhance, maintain, and protect the natural environment through implementing the use of control devices for the elimination or reduction of existing pollutants, and revegetation, habitat enhancement and stabilization of banks and shore lines. Emphasis will be placed on applying the latest techniques in water quality management to assure quality standards consistent with Alaska Water Quality Standards (18AAC70).

MUNICIPALITY OF ANCHORAGE
1989 CAPITAL IMPROVEMENT BUDGET

Department Public Works	Project Category Improvement Projects				Fund Code 0401
PROJECT TITLE AND DESCRIPTION	1989 PROJECT COST <small>S-State O-Other F-Federal B-Bonds</small>	COSTS IN THOUSANDS OF DOLLARS			
		ESTIMATED START DATE	ESTIMATED COMPLETION DATE	O&M COST DEBT SERVICE	COMMUNITY COUNCIL
Miscellaneous Oil and Grease Separators - Construct Oil and Grease Separators at various locations along Chester Creek, Fish Creek, Campbell Creek, and Ship Creek.	S-500	6/89	12/89	1.5 0.0	Areawide (All)
Little Campbell Creek - Hartzell to Lake Otis - Restoration of the existing stream channel to improve water quality.	S-230	6/89	12/89	0.0 0.0	Abbott Loop
Campbell Lake Dam Flood Control Wier - Additional upstream development has created additional drainage into Campbell Lake exceeding the capacity of the existing dam and spillway.	S-375	6/89	9/90	0.0 0.0	Multiple Councils
Essex Square Sedimentation Basin - The sedimentation basin will treat storm drainage from the area east of Lake Otis and north of 64th Avenue prior to discharge into Little Campbell Creek.	S-270	6/89	12/89	4.9 0.0	Abbott Loop
Pleasant Valley/Kobuk Storm Phase I - Provides system for East Muldoon area including Pleasant Valley, Kobuk Sub-division, and West Foothills Subdivision.	S-1,000	5/89	11/89	3.5 0.0	Northeast
TOTALS	S-2,375 F-0	O-0 B-0		9.9 0.0	1989

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Geographic Rezoning Areas**



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1989 - 1994 CAPITAL IMPROVEMENT PROGRAM

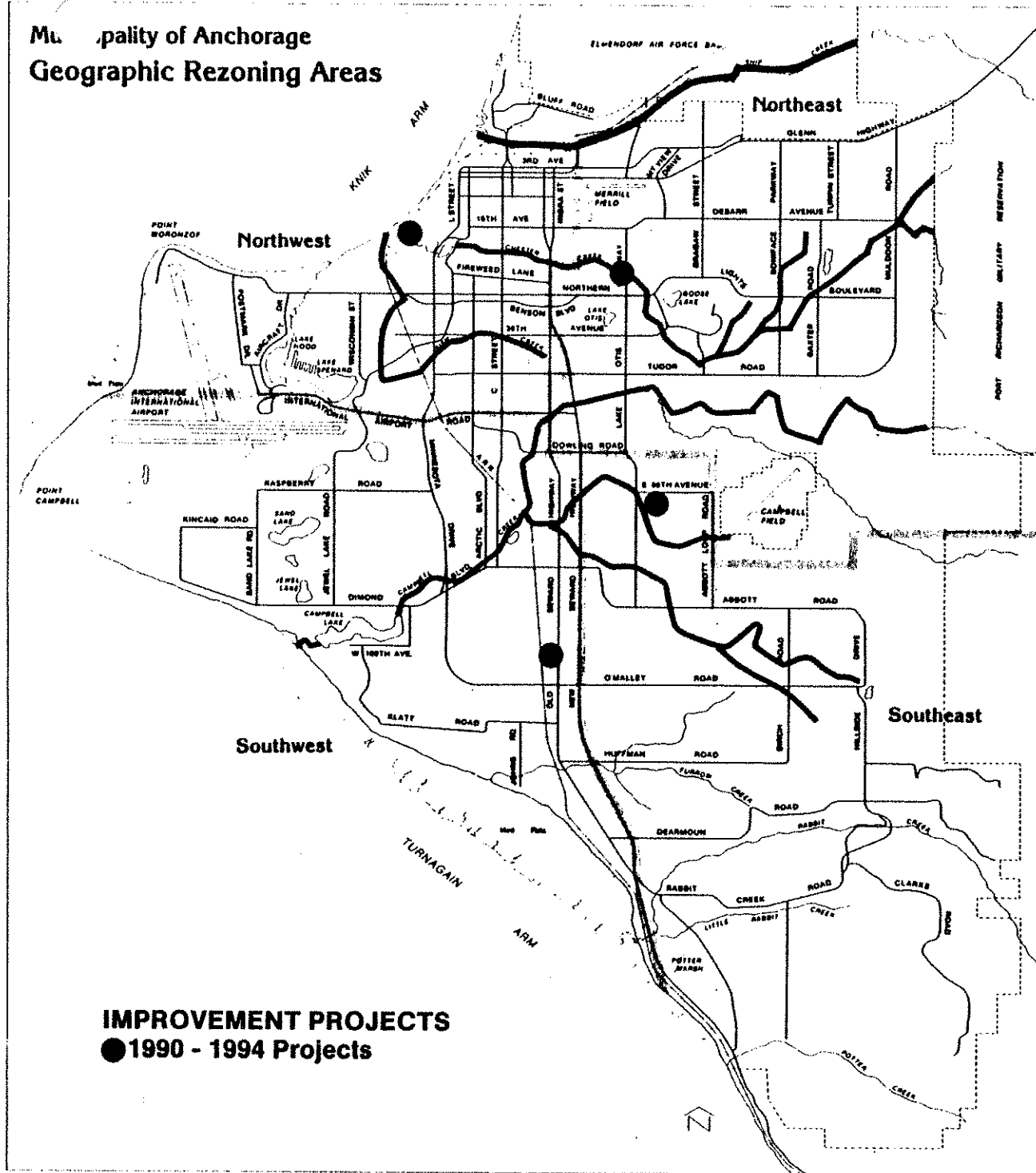
Department Public Works	Project Category Improvement Projects				Fund Code 0401	
PROJECT TITLE AND DESCRIPTION	COSTS IN THOUSANDS OF DOLLARS					S-State D-Other F-Federal B-Bonds
	1989	1990	1991	1992	1993	1994
Miscellaneous Oil and Grease Separators - Construct Oil and Grease Separators at various locations along Chester Creek, Fish Creek, Campbell Creek, and Ship Creek.	S-500					
Little Campbell Creek - Hartzell to Lake Otis - Restoration of the existing stream channel to improve water quality.	S-230					
Campbell Lake Dam Flood Control Wier - Additional upstream development has created additional drainage into Campbell Lake exceeding the capacity of the existing dam and spillway.	S-375					
Essex Square Sedimentation Basin - The sedimentation basin will treat storm drainage from the area east of Lake Otis and north of 64th Avenue prior to discharge into Little Campbell Creek.	S-270					
Pleasant Valley/Kobuk Storm Phase I - Provides system for East Muldoon area including Pleasant Valley, Kobuk Subdivision, and West Foothills Subdivision.	S-1,000					
TOTALS				1989 - 1994		

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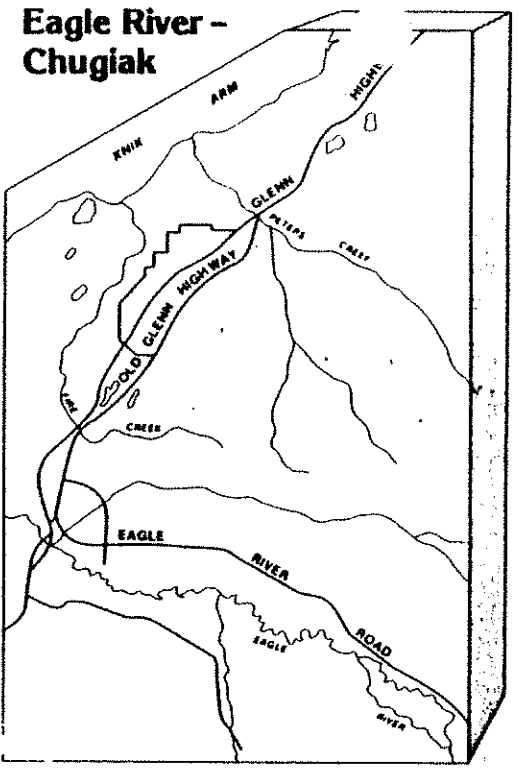
1989 - 1994 CAPITAL IMPROVEMENT PROGRAM

Department Public Works	Project Category Improvement Projects				Fund Code 0401	
PROJECT TITLE AND DESCRIPTION	COSTS IN THOUSANDS OF DOLLARS					S-State O-Other F-Federal B-Bonds
	1989	1990	1991	1992	1993	1994
Stream and Lake Rehabilitation - Projects included such elements as habitat enhancement, revegetation, and hydrologic-water quality control measures as necessary to restore healthy riparian systems, and construction of sedimentation basins, and oil and grease separators for entrapment of stream particulates.		B-3,000	B-3,000	B-3,000	B-3,000	B-3,000
TOTALS	S-2,375 F-0	O-0 B-15,000		1989 - 1994		

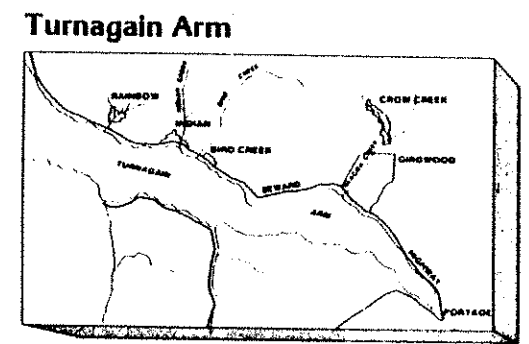
Municipality of Anchorage
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IMPROVEMENT PROJECTS
● 1990 - 1994 Projects



**VARIOUS LOCATIONS ON
CHESTER, FISH, LITTLE
CAMPBELL AND SHIP
CREEKS**



MUNICIPALITY OF ANCHORAGE
WATER QUALITY IMPROVEMENTS CAPITAL PROGRAM
Department: Parks and Recreation

Department Goal:

The goal of the Parks and Recreation Department for the 1989-1994 Capital Improvement Program is to raise and protect the water quality of local streams, thereby improving those aspects of community life and neighborhood values which depend on clean and aesthetically appealing surface water, through a program of land acquisition along those streams.

Water Quality Improvements:

Acquire land along Rabbit, Fish, Little Campbell and Chester Creeks, as well as Peters Creek, Little Rabbit Creek and Potter Creek as budget and community priorities direct, sufficient to protect local creeks, creek banks, and the immediate upland area along these creeks from human and domestic animal contamination and encroachment by structures and other "improvements" which would otherwise threaten the water quality.

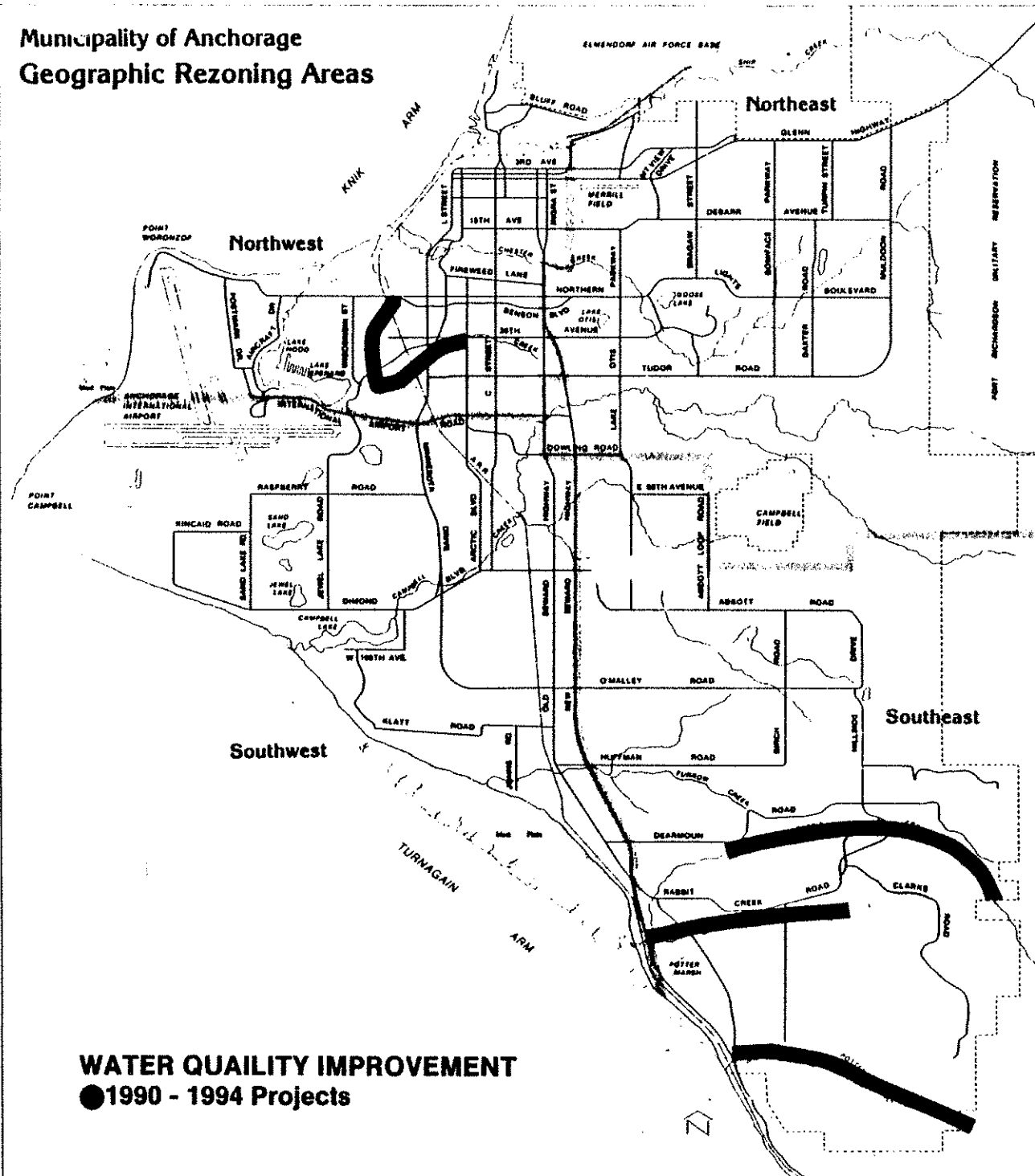
The designated wetlands which are included in the Water Quality Improvement Program should be preserved because of their valuable habitat, proximity to existing Municipal park lands, and areas of important habitat and hydrological values. These wetlands areas should be acquired over a period of six years. The areas selected for acquisition have been chosen because of documented high resource value.

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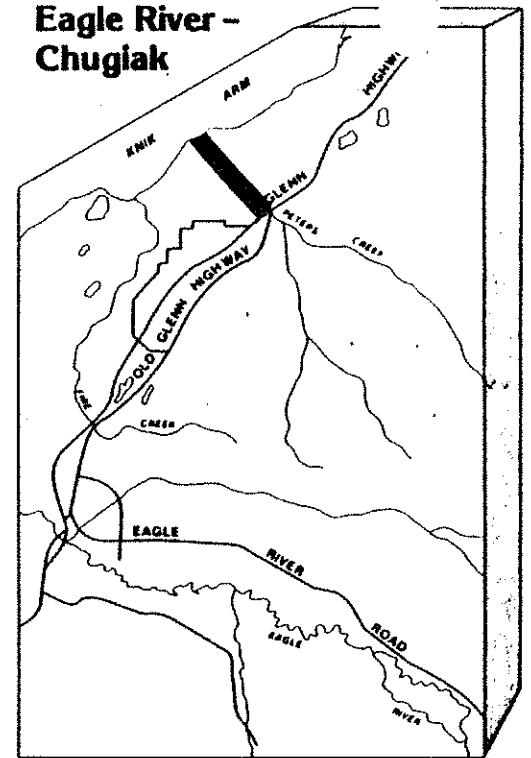
Department Parks and Recreation	Project Category Greenbelt Acquisition				Fund Code 0401		
PROJECT TITLE AND DESCRIPTION	COSTS IN THOUSANDS OF DOLLARS					S-State F-Federal	D-Other B-Bonds
	1989	1990	1991	1992	1993	1994	
Fish Creek Greenbelt Acquisition - Continued acquisition of greenbelt along Fish Creek for water quality protection zones.			B-150	B-200			
Peters Creek Greenbelt Acquisition - Acquisition of a greenbelt along Peters Creek for water quality protection zones.			B-200	B-200	B-150		B-150
Potter Creek Greenbelt Acquisition - Acquisition of greenbelt along Potter Creek for water quality protection zones.			B-150	B-150	B-200		B-200
Little Rabbit Creek Greenbelt Acquisition - Acquisition of greenbelt along Little Rabbit Creek for water quality protection zones.			B-150	B-150	B-150		B-150
Wetlands Acquisition - The water quality improvement project of continuing wetlands acquisition allows for protection from erosion problems by providing collection basins for flood water and purifying water through settling of particles and toxic substances as outlined in the Wetlands Management Plan.			B-140	B-175	B-150		B-150
Rabbit Creek Greenbelt Acquisition - Acquisition of greenbelt along Rabbit Creek for water quality protection zones.					B-150		B-200
TOTALS	S-0 F-0	0-0 B-3,315			1989 - 1994		

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● 1990 - 1994 Projects

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