Excerpt from the project Environmental Assessment describing the purpose and need of the project

I. Proposed Project

Lackawanna County, under funding from the Lackawanna Watershed 2000 Program, proposes to improve water quality in Aylesworth Creek and Aylesworth Creek Lake by replacing a malfunctioning mine water treatment system. The project is located on the West Branch of Aylesworth Creek, approximately 2,700 feet upstream of the Aylesworth Dam in Archbald Borough, Lackawanna County, Pennsylvania. All work will be conducted on federal lands controlled by the U.S. Army Corps of Engineers as part of their Aylesworth Dam flood protection operations.

Water quality monitoring by the Corps and the Pennsylvania Department of Environmental Protection (PADEP) Bureau of Abandoned Mine Reclamation (BAMR) indicates that water in the West Branch of Aylesworth Creek is impacted by Acid Mine Drainage (AMD). The average pH of the mining impacted waters is 4.7; well below the PADEP water quality standards for either cold or warm water fisheries. An acid mine drainage treatment system is needed along the West Branch to improve the water quality in downstream Aylesworth Lake, a community recreational resource used for fishing, swimming, and boating that is managed by Jermyn and Archbald Boroughs, as partners in the Aylesworth Creek Reservoir Park Authority.

The project will replace a malfunctioning revolving drum/limestone douser acid mine drainage treatment system constructed in 1983. Disadvantages of the existing system are that it does not function during freezing temperature, requires manual reloading of the limestone, and is frequently out of service awaiting repair to vandalism damage.

The project will construct a limestone drainage system consisting approximately 25,000 cubic feet of buried limestone. The replacement system will utilize the existing intake structure/piping, will fill the existing douser structures and construct a new underground drainfield. The system will require no maintenance for 20 years, and the buried nature of the system is not subject to vandalism.

II. Purpose and Need

The *purpose* of the proposed project is to replace an existing AMD treatment system along the Aylesworth Creek located approximately 2,700 feet upstream of the US Army Corps of Engineers Aylesworth Dam. The Pennsylvania Department of Environmental Resources, a predecessor agency to today's Pennsylvania Department of Environmental Protection (PADEP), installed the existing treatment) in 1983 when it was determined

that water quality in the lake impounded behind the Corps dam was too acidic for aquatic habitat.

The proposed project is *needed* because monitoring shows that AMD seeping from abandoned anthracite mines continues to enter the West Branch of Aylesworth Creek and the existing treatment system installed in 1983 does not function reliably.

Both the US Army Corps of Engineers and PADEP routinely monitor the water quality of the Aylesworth Creek. The result of 10 years of Corps' monitoring is summarized below in Table 1. The Corps routinely samples three locations: along the West Branch of Aylesworth Creek upstream and downstream of the existing treatment system, and at the inflow of the lake downstream of the confluence of the east and west branches.

Table 1 - Aylesworth Creek Water Monitoring Results

US Army Corps of Engineers Data - 1991 to 2000		
Location	**pH**	
	Average	Std. Deviation.
Upstream of Existing Treatment System	4.69	0.35
Downstream of Existing Treatment System	6.54	0.91
At Lake Inflow	5.63	0.49

Pennsylvania Code Tile 25, Chapter 93 designates Cold Water Fishery (CWF) as the water use for Aylesworth Creek. The pH water quality criteria for CWF is 6.0 to 9.0. The statistics in Table 1 indicate that water in Aylesworth Creek upstream of the existing treatment system does meet the pH water quality standard and that the treatment system raises the pH immediately downstream of the treatment system. The statistics further indicate that the treatment system cannot raise the pH in the west branch to sufficiently to buffer the East Branch as well, so that the influent to the lake is still below water quality standards.

One reason the average value of the water in the lake does not meet water quality criteria is that the existing treatment system does not function reliably. There are three reasons for the existing system's reliability problems:

1. Given the system's remote location, it has been repeated damaged by vandalism. At present only three of the seven revolving drums are functioning. The others being

damaged by vandals.

2. Each drum must be manually filled with limestone. Although the PADEP Bureau of Abandoned Mine Reclamation provides the limestone at no cost to the Park Authority, the Park Authority sometimes finds it difficult to find volunteers or paid staff willing and able to carry out to this labor intensive chore.

3. During winter months, ice build up on the drums can result in water bypassing the drums. In most winters, the ice build up on the drums is so severe that the drums are not refilled during the December to March timeframe.

The Park Authority *needs* a new AMD system that is less susceptible to vandalism, requires less maintenance, and can operate throughout the year.

Aylesworth Creek Acid Mine Drainage Remediation Project

Lackawanna County, under funding from the Lackawanna Watershed 2000 Program, proposes to improve water quality in Aylesworth Creek and Aylesworth Lake by replacing a malfunctioning mine water treatment system.

An acid mine drainage treatment system is needed along the West Branch to improve the water quality in downstream Aylesworth Lake, a community recreational resource used for fishing, swimming, and boating that is managed by Jermyn and Archbald Boroughs, as partners in the Aylesworth Creek Reservoir Park Authority.

The project is located on the West Branch of Aylesworth Creek, approximately 2,700 feet upstream of the Aylesworth Dam in Archbald Borough, Lackawanna County, Pennsylvania. The project will be conducted on lands leased by the Aylesworth Creek Reservoir Park Authority, from the U.S. Army Corps of Engineers. The Corps operates maintains the Aylesworth Dam flood protection project.

Water quality monitoring by the Corps and the Pennsylvania Department of Environmental Protection (PADEP) Bureau of Abandoned Mine Reclamation (BAMR) indicates that water in the West Branch of Aylesworth Creek is impacted

by Acid Mine Drainage (AMD). The average pH of the mining impacted waters is 4.7; well below the PADEP water quality standards for either cold or warm water fisheries.

The project will replace a malfunctioning revolving drum/limestone douser acid mine drainage treatment system constructed in 1983. Disadvantages of the existing system are that it does not function during freezing temperature, requires manual reloading of the limestone, and is frequently out of service awaiting repair to vandalism damage.

The project will construct a limestone drainage system consisting approximately 25,000 cubic feet of buried limestone. The replacement system will utilize the existing intake structure/piping, will fill the existing douser structures and construct a new underground drainfield. The system will require no maintenance for 20 years, and the buried nature of the system is not subject to vandalism.