

APPLICATION FOR FINANCIAL ASSISTANCE
Revised 7/93 CBO2C

IMPORTANT: Applicant should consult the "Instructions for Completion of Project Application" for assistance in the proper completion of this form.

SUBDIVISION: Village of Lockland CODE# 061 - 44366

DISTRICT NUMBER: 2 COUNTY: Hamilton DATE 09 / 25 / 98

CONTACT: Andrea Krana (Jones & Henry Engineers, Ltd.) PHONE # (419) 473-9611
(THE PROJECT CONTACT PERSON SHOULD BE THE INDIVIDUAL WHO WILL BE AVAILABLE ON A DAY-TO-DAY BASIS DURING THE APPLICATION REVIEW AND SELECTION PROCESS AND WHO CAN BEST ANSWER OR COORDINATE THE RESPONSE TO QUESTIONS)

PROJECT NAME: Water Supply and Treatment Facilities Improvements

Table with 3 columns: SUBDIVISION TYPE, FUNDING TYPE REQUESTED, PROJECT TYPE. Includes checkboxes for County, City, Township, Village, Water/Sanitary District and funding options like Grant, Loan, Loan Assistance.

TOTAL PROJECT COST: \$2,118,400 FUNDING REQUESTED: \$2,118,400

DISTRICT RECOMMENDATION

To be completed by the District Committee ONLY

GRANT: \$ LOAN ASSISTANCE: \$
LOAN: \$2,118,400.00 % 2 TERM: 20 yrs. (Attach Loan Supplement)

(Check Only)
[X] State Capital Improvement Program DISTRICT MBE SET-ASIDE
Local Transportation Improvements Program Construction \$
Small Government Program Procurement \$

FOR OPWC USE ONLY

PROJECT NUMBER: C /C APPROVED FUNDING: \$
Local Participation % Loan Interest Rate:
OPWC Participation % Loan Term: years
Project Release Date: / / Maturity Date:
OPWC Approval: Date Approved: / /

1.0 PROJECT FINANCIAL INFORMATION

1.1 PROJECT ESTIMATED COSTS:

(Round to Nearest Dollar)

a.)	Project Engineering Costs:		
1.	Preliminary Engineering	\$	<u>0.00</u>
2.	Final Design	\$	<u>0.00</u>
3.	Other Engineer Services *	\$	<u>0.00</u>
	Supervision	\$	<u>0.00</u>
	Miscellaneous	\$	<u>0.00</u>
b.)	Acquisition Expenses:		
1.	Land	\$	<u>0.00</u>
2.	Right-of-Way	\$	<u>0.00</u>
c.)	Construction Costs:	\$	<u>1,925,800.00</u>
d.)	Equipment Purchased Directly:	\$	<u>0.00</u>
e.)	Other Direct Expenses:	\$	<u>0.00</u>
f.)	Contingencies:	\$	<u>192,600.00</u>
g.)	TOTAL ESTIMATED COSTS:	\$	<u>2,118,400.00</u>

MBE	Force Account
\$	\$
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

1.2 PROJECT FINANCIAL RESOURCES:

(Round to Nearest Dollar and Percent)

a.)	Local In-Kind Contributions	\$	<u>0.00</u>	%	<u>0</u>
b.)	Local Public Revenues	\$	<u>0.00</u>		<u>0</u>
c.)	Local Private Revenues	\$	<u>0.00</u>		<u>0</u>
d.)	Other Public Revenues				
	1. ODOT PID# _____	\$	<u>0.00</u>		<u>0</u>
	2. EPA/OWDA _____	\$	<u>0.00</u>		<u>0</u>
	3. OTHER _____	\$	<u>0.00</u>		<u>0</u>

SUB TOTAL LOCAL RESOURCES: \$ 0.00 0

e.)	OPWC Funds				
1.	Grant	\$	<u>0.00</u>		<u>0</u>
2.	Loan	\$	<u>2,118,400.00</u>		<u>100</u>
3.	Loan Assistance	\$	<u>0.00</u>		<u>0</u>

SUB TOTAL OPWC RESOURCES: \$ 2,118,400.00

f.) TOTAL FINANCIAL RESOURCES: \$ 2,118,400.00 100%

*Other Engineer's Services must be outlined in detail on the required certified engineer's estimate.

1.3 AVAILABILITY OF LOCAL FUNDS: N/A

Attach a summary from the Chief Financial Officer listed in section 5.2 listing all local share funds budgeted for the project and the date they are anticipated to be available.

2.0 PROJECT INFORMATION

IMPORTANT: If project is multi-jurisdictional, information must be consolidated in this section.

2.1 PROJECT NAME: Water Supply and Treatment Facilities Improvements

2.2 BRIEF PROJECT DESCRIPTION - (Sections a through d):

a: SPECIFIC LOCATION:

- * Well field improvements are at Lockland's north well field, which is located in Sharonville, Ohio.
- * Water treatment plant improvements are at Water treatment plant site, which is located at 590 North Wayne Avenue, Lockland, Ohio 45215.

PROJECT ZIP CODE: 45215

* See attached vicinity map.
b: PROJECT COMPONENTS:

- * Well Field Improvements
- * Water Treatment Plant Improvements
- * See attached Basis of Design

c: PHYSICAL DIMENSIONS / CHARACTERISTICS:

- * See attached Basis of Design

d: DESIGN SERVICE CAPACITY:

IMPORTANT: Detail shall be included regarding current service capacity vs proposed service level. If road or bridge project, include ADT. If water or wastewater project, include both current residential rates based on monthly usage of 7,756 gallon per household.

Attach current rate ordinance.

- * Service Capacity - see attached Basis of Design
- Current treatment plant capacity: 1.0 mgd
- Current maximum daily demand: 1.4 mgd
- Project future maximum daily demand: 1.7 mgd
- Proposed treatment plant capacity: 1.7 mgd

- * See attached Rate Ordinance
- * See attached Sample Water and Wastewater Bills

2.3 USEFUL LIFE / COST ESTIMATE: Project Useful Life: 32* Years.

Attach Registered Professional Engineer's statement, with original seal and signature certifying the project's useful life indicated above and estimated cost.

- * See attached Detailed Cost Estimate

- * Weighted useful life expectancy. See attached Useful Life Expectancy Statement

3.0 REPAIR/REPLACEMENT or NEW/EXPANSION:

TOTAL PORTION OF PROJECT REPAIR/REPLACEMENT	\$994,000	50 %
State Funds Requested for Repair and Replacement	\$994,000	50 %

TOTAL PORTION OF PROJECT NEW/EXPANSION	\$985,700	50 %
State Funds Requested for New and Expansion	\$985,700	50 %

4.0 PROJECT SCHEDULE:*

	BEGIN DATE	END DATE
4.1 Engineering/Design:	<u>11 / 1 / 98</u>	<u>5 / 1 / 99</u>
4.2 Bid Advertisement:	<u>8 / 1 / 99</u>	<u>9 / 1 / 99</u>
4.3 Construction:	<u>12 / 1 / 99</u>	<u>10 / 1 / 00</u>

* Failure to meet project schedule may result in termination of agreement for approved projects. Modification of dates must be approved in writing by the Commission once the Project Agreement has been executed. Dates should assume project agreement approval/release on July 1st. of the Program Year applied for.

5.0 APPLICANT INFORMATION:

5.1 CHIEF EXECUTIVE

OFFICER	<u>Evonne Kovach</u>
TITLE	<u>Village Administrator</u>
STREET	<u>101 North Cooper Avenue</u>
CITY/ZIP	<u>Lockland, Ohio 45215</u>
PHONE	<u>(513) 761 - 1124</u>
FAX	<u>(513) 761 - 4948</u>

5.2 CHIEF FINANCIAL

OFFICER	<u>Charlene Case</u>
TITLE	<u>Finance Director</u>
STREET	<u>101 North Cooper Avenue</u>
CITY/ZIP	<u>Lockland, Ohio 45215</u>
PHONE	<u>(513) 761 - 1124</u>
FAX	<u>(513) 761 - 4948</u>

5.3 PROJECT MANAGER

TITLE	<u>Andrea Krone</u>
STREET	<u>Project Engineer</u>
	<u>2000 West Central Avenue</u>
CITY/ZIP	<u>Toledo, Ohio 43606</u>
PHONE	<u>(419) 473 - 9611</u>
FAX	<u>(419) 473 - 8924</u>

6.0 ATTACHMENTS/COMPLETENESS REVIEW:

Check each section below, confirming that all required information is included in this application.

A certified copy of the legislation by the governing body of the applicant authorizing a designated official to submit this application and execute contracts. (Attach)

A summary from the applicant's Chief Financial Officer listing all local share funds budgeted for the project and the date they are anticipated to be available. (Attach)

A registered professional engineer's estimate of projects useful life and cost estimate, as required in 164-1-14 and 164-1-16 of the Ohio Administrative Code. Estimates shall contain engineer's original seal and signature. (Attach)

A copy of the cooperation agreement(s) if this project involves more than one subdivision or district. (Attach)

Capital Improvements Report: (Required by 164 O.R.C. on standard form)

A: Attached.

B: Report/Update Filed with the Commission within the last twelve months.

Floodplain Management Permit: Required if project is in 100 year floodplain. See Instructions.

Supporting Documentation: Materials such as additional project description, photographs, economic impact (temporary and/or full time jobs likely to be created as a result of the project), and other information to assist your district committee in ranking your project.

7.0 APPLICANT CERTIFICATION:

The undersigned certifies that: (1) he/she is legally authorized to request and accept financial assistance from the Ohio Public Works Commission; (2) that to the best of his/her knowledge and belief, all representations that are part of this application are true and correct; (3) that all official documents and commitments of the applicant that are part of this application have been duly authorized by the governing body of the applicant; and, (4) should the requested financial assistance be provided, that in the execution of this project, the applicant will comply with all assurances required by Ohio Law, including those involving minority business utilization, Buy Ohio, and prevailing wages.

IMPORTANT: Applicant certifies that physical construction on the project as defined in the application has **NOT** begun, and will not begin until a Project Agreement on this project has been executed with the Ohio Public Works Commission. Action to the contrary will result in termination of the agreement and withdrawal of Ohio Public Works Commission funding of the project.

Erinne Kovach, Village Administrator
Certifying Representative (Type or Print Name and Title)

Erinne Kovach 9/15/98
Signature/Date Signed

**OHIO PUBLIC WORKS COMMISSION
LOAN SUPPLEMENT**

This supplement is required for all loan applicants.

Attach the following to the "Ohio Public Works Commission Application for Assistance"

- X Copy of Legislation authorizing current rates.
- ^ A statement from applicant's Chief Fiscal Officer certifying method of repayment.
- ^ A copy of previous year Financial Statement.

Complete the following:

NUMBER OF CUSTOMERS	Water	Sewer
Residential	1325	1325
Commercial	84	84
Industrial	24	24
Other		

SYSTEM EXPENDITURES	Water	Sewer
Operation Expenses	404,355	N/A
Debt Service Payments	-0-	Please see note(a)
Surplus	-0-	
General Fund Transfer	-0-	
Other	-0-	--

RATES	Water	Sewer
Current	Please see note(b)	Please see note (c)
Last Increase (year and amount)	3% 1996	4% 1996
Planned Increase	10% 1999	1999

RATINGS

Moody's	S&P	General Obligation	Revenues

DEBT OUTSTANDING see note(d)
(do not include new OPWC loan)

	Total Debt	Annual Payment	Last Payment Date
Other OPWC loans			
Revenue Bonds	500,000	35,000 interest	2018
GO Bonds			
Other Short-term General Obligation	700,000	735,000	1999

VILLAGE OF LOCKLAND, OHIO
WATER SUPPLY AND TREATMENT FACILITIES IMPROVEMENTS
September 25, 1998

ESTIMATED PROJECT COST*

New Well and Existing Well Rehabilitation	\$ 134,800
Existing Aerator Removal	2,300
Existing Clarifier Rehabilitation	184,800
New Clarifier and Recarbonation Basins	435,900
Filter Building Expansion	76,600
Existing Filters Rehabilitation and New Filter	428,400
Remove and Replace Backwash Basin	108,500
Chemical Systems Improvements	173,600
HVAC Improvements	49,500
Lab/Office Improvements	13,000
Electrical, Instrumentation and Control	194,000
Architectural Improvements	<u>124,400</u>
Total Construction Cost	\$ 1,925,800
Contingencies	<u>192,600</u>
TOTAL ESTIMATED COST	\$ 2,118,400

* Detailed cost estimate is attached

USEFUL LIFE EXPECTANCY AND COST ESTIMATE

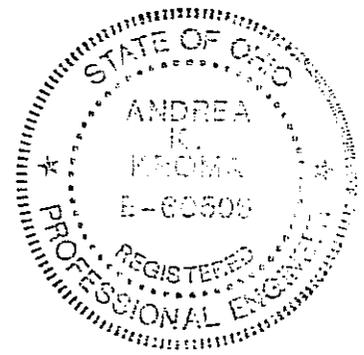
I hereby certify the useful life expectancy and estimated cost of the water supply and treatment facilities improvements to be as listed below.

<u>Description</u>	<u>Estimated Cost</u>		<u>Useful Life Expectancy</u>		
Structures	\$ 545,800	x	50 years	=	\$27,290,000
Piping	\$ 227,400	x	50 years	=	\$11,370,000
Equipment	<u>\$ 1,152,600</u>	x	20 years	=	<u>\$23,052,000</u>
Total Construction Cost	\$ 1,925,800				\$61,712,000

Weighted Average Useful Life = $\$61,712,000 / \$1,925,800 = 32.0$ years

Prepared by:

Andrea K Kroma
 Andrea K. Kroma, P.E.
 Jones & Henry Engineers, Ltd.
 September 25, 1998



VILLAGE OF LOCKLAND, OHIO
 WATER SUPPLY AND TREATMENT FACILITIES IMPROVEMENTS
 DETAILED COST ESTIMATE
 September 25, 1998

New Well & Existing Well Rehabilitation

New Well & Well House

Prefabricated Well House	\$13,200
Equipment (Casing, Screen, Fittings)	\$15,100
Drilling & Development	\$19,800
Water Quality Analysis	\$1,300
Well Pump & Pump Test	\$18,400
Piping	\$3,500
Valves	\$3,200
Electrical	\$5,500
Subtotal	<u>\$80,000</u>

Existing Well Rehabilitation

Structural	\$2,500
HVAC	\$4,000
Airlines	\$1,500
Flow Meters (each well)	\$24,000
Rehabilitate (3) Wells	\$21,000
Monitoring Well	\$1,800
Subtotal	<u>\$54,800</u>

Total Well Field \$134,800

Existing Aerator Removal

Removals	\$2,300
Total Aerator	<u>\$2,300</u>

Existing Clarifier Rehabilitation

Removals	\$9,400
Mechanism	\$117,500
Piping	\$1,800
Valves	\$1,300
Sludge Drawoff Equipment	\$8,800
Coatings	\$24,000
Electrical	\$22,000
Total Existing Clarifier Rehab	<u>\$184,800</u>

New Clarifier & Recarbonation Basins

Excavation	\$7,500
Concrete	\$104,500
Mechanism	\$123,500
Piping	\$111,800
Valves	\$13,200
Slide Gates	\$8,800
Sludge Drawoff, Sample Taps, Trench Drain	\$13,200
Meter	\$15,900
Platform	\$1,100
Coatings	\$14,400
Electrical	\$22,000
Total New Clarifier & Recarbonation Basins	<u>\$435,900</u>

Filter Building Expansion	
Removals	\$1,900
Concrete	\$38,500
Windows	\$3,600
Block Walls	\$17,000
Roof	\$15,600
Total Filter Building	<u>\$76,600</u>

Existing Filters Rehab and New Filter	
Removals	\$50,000
Filter Equipment	\$159,800
Concrete	\$7,000
Piping	\$95,900
Rate Controllers	\$59,400
Valves	\$37,600
Air Scour Blower	\$18,700
Total Filter Rehab and New Filter	<u>\$428,400</u>

Remove and Replace Backwash Basin	
Removals	\$14,000
Excavation	\$14,200
Concrete	\$80,300
Total Backwash Basin	<u>\$108,500</u>

Chemical Systems Improvements

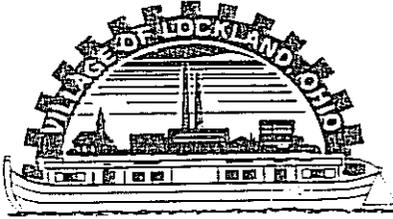
CO2 System	
Concrete	\$2,500
Equipment	\$77,000
Piping	\$5,000
Total CO2 System	<u>\$84,500</u>

Lime System	
Lime Splitter Box	\$1,900
Total Lime System	<u>\$1,900</u>

Sodium Hypochlorite Room and Feed System	
Removals	\$5,600
Concrete	\$3,700
Block Walls	\$5,500
Door	\$1,300
Roof	\$2,900
Coatings	\$1,400
Bulk Storage Tanks	\$12,100
Day Tanks and Stands	\$3,100
Pumps	\$6,200
Piping and Valves	\$8,400
Residual Analyzer	\$3,600
Total Sodium Hypochlorite System	<u>\$53,800</u>

Alum Feed System	
Bulk Storage Tank	\$15,000
Pumps	\$6,200
Days Tanks, Mixers, and Stands	\$5,900
Piping and Valves	\$3,000
Total Alum Feed System	<u>\$30,100</u>

Phosphate Feed System	
Pumps	\$2,400
Piping and Valves	\$900
Total Phosphate Feed System	<u>\$3,300</u>
Total Chemical Systems Improvements	\$173,600
HVAC Improvements	
Laboratory A/C Unit	\$5,500
Humidifiers	\$22,000
Boiler	\$22,000
Total HVAC Improvements	<u>\$49,500</u>
Laboratory Improvements*	
Removals	\$2,200
Cabinets	\$10,800
*Paint included in Architectural Improvements	
Total Laboratory Improvements	<u>\$13,000</u>
Architectural Improvements	
Third Floor Windows	\$3,300
Third Floor Double Door	\$4,200
Railing	\$600
Coatings	\$46,300
Exterior Insulated Cement Panels	\$70,000
Total Architectural Improvements	<u>\$124,400</u>
Electrical, Instrumentation, and Control	
Lighting - Filter Building Expansion	\$5,500
Receptacles - Filter Building Expansion	\$2,200
Grounding - Filter Building Expansion	\$2,200
Power Panel (MCC)	\$16,500
Lighting Panel	\$3,300
Transformer	\$3,300
Instrumentation and Control	\$82,500
PC, Printer, and Software	\$11,000
Wonderware Development	\$11,000
PLC Programming	\$22,000
Standby Power	\$34,500
Total Electrical and I&C	<u>\$194,000</u>
TOTAL ESTIMATED CONSTRUCTION COST	\$1,925,800
Contingencies	<u>\$192,600</u>
TOTAL ESTIMATED PROJECT COST	\$2,118,400



VILLAGE OF LOCKLAND

101 North Cooper Avenue
Lockland, Ohio 45215

Mayor
Jim Brown

Village Administrator
Evonne Kovach

September 15, 1998

State of Ohio
Ohio Public Works Commission

To Whom It May Concern:

The Village of Lockland will repay the Ohio Public Works Commission note with the planned increase in water rates and General Fund monies as needed.

M. Charlene Case

A handwritten signature in cursive script, appearing to read "M. Charlene Case". The signature is written in dark ink and is positioned above the printed name of the Finance Director.

Finance Director



VILLAGE OF LOCKLAND

101 North Cooper Avenue
Lockland, Ohio 45215

Mayor
Jim Brown

VILLAGE OF LOCKLAND, OHIO
RESOLUTION #98-R 3

Village Administrator
Evonne Kovach

A RESOLUTION AUTHORIZING THE VILLAGE ADMINISTRATOR TO EXECUTE AND FILE WITH THE DISTRICT PUBLIC WORKS INTEGRATING COMMITTEE A FINAL APPLICATION ON BEHALF OF THE VILLAGE OF LOCKLAND FOR AID IN PARTLY FINANCING THE COST OF CAPITAL IMPROVEMENT PROJECTS PURSUANT TO THE STATE OF OHIO CAPITAL IMPROVEMENT PROGRAM ROUND 13; TO EXECUTE CONTRACT AGREEMENTS WITH THE STATE OF OHIO; AND AUTHORIZING THE VILLAGE COUNCIL TO PERFORM ALL ACTS AND EXECUTE ALL DOCUMENTS THEY CONSIDER NECESSARY TO FULFILL THE VILLAGE OF LOCKLAND'S OBLIGATIONS UNDER SAID LOAN APPLICATION AND CORRESPONDING AGREEMENTS AND TO COMPLY WITH ALL RELEVANT LOCAL, STATE OR FEDERAL LEGAL REQUIREMENTS AND TO PROVIDE ASSURANCES AND ADDITIONAL INFORMATION AS REQUIRED BY THE OHIO PUBLIC WORKS COMMITTEE, AND DECLARING AN EMERGENCY.

- WHEREAS, The Village of Lockland is applying for aid to finance the cost of capital improvement projects Pursuant to the State of Ohio Capital Improvement Program Round 13; and
- WHEREAS, The Director of the Ohio Public Works Commission is authorized to assist in the financing of capital Improvement projects; and
- WHEREAS, The Contract for financial assistance will impose certain obligations upon the applicant.

NOW THEREFORE, BE IT RESOLVED by the Council of the Village of Lockland, State of Ohio, that:

- SECTION I the Village Administrator is authorized to execute and file an application on behalf of the Village of Lockland with the Ohio Public Works Commission to finance the cost of capital improvement projects pursuant to the State of Ohio Capital Improvement Program Round 13.
- SECTION II the Village Administrator is authorized to execute contract agreements with the State of Ohio.
- SECTION III the Village Administrator is authorized to perform all acts and execute all documents considered necessary to fulfill the Village of Lockland's obligations under said loan application and corresponding agreements and to comply with all relevant local, state or federal legal requirements and to provide assurances and additional information as required by the Ohio Public Works Commission or the Ohio Small Government Capital Improvement Commission.
- SECTION IV This Resolution shall take effect and be in force from and after the earliest period allowed by law.

ADOPTED 21st day of July 1998.

ATTESTED: Wayne Poe
Wayne Poe - Clerk

Jim Brown
Jim Brown - Mayor

VILLAGE OF LOCKLAND, OHIO
ORDINANCE #95 - 1

AN ORDINANCE INCREASING MINIMUM RATES,
AND RATES FOR WATER USED IN EXCESS OF 650
CUBIC FEET PER TWO MONTH BILLING PERIOD
FROM FEBRUARY 1, 1995, AND DECLARING AN
EMERGENCY

PROPOSED BY THE WATER COMMITTEE

WHEREAS, The Village of Lockland has not increased water rates since 1991; and

WHEREAS, The costs of operating the Village of Lockland Water System have increased substantially since the last increase in rates; and

WHEREAS, The Council of the Village of Lockland agrees that it is necessary to periodically review the income and expense involved in operating the water system in order to determine when the adjustment of rates is necessary and proper in order to maintain the system on a sound and fiscal basis while providing the most economical rates possible to the consumers.

NOW, THEREFORE, BE IT ORDAINED by the Council of the Village of

- (b) For all bimonthly consumption in excess of 650 cubic feet, the charge shall be One Dollar Sixty (\$1.60) Cents per one hundred (100) cubic feet in 1995 and One Dollar Sixty Five (\$1.65) Cents in 1996, each rate becoming effective on February 1st of the year stated.
- (c) Bills for the above charges will be mailed bimonthly, to the owners of the premises served.
- (d) The foregoing charges are minimum charges not maximum charges and the Municipality reserved the right to increase the same at any time should the revenue of the waterworks system prove insufficient to pay the operating and maintenance expenses and the debt charges of and for such system.

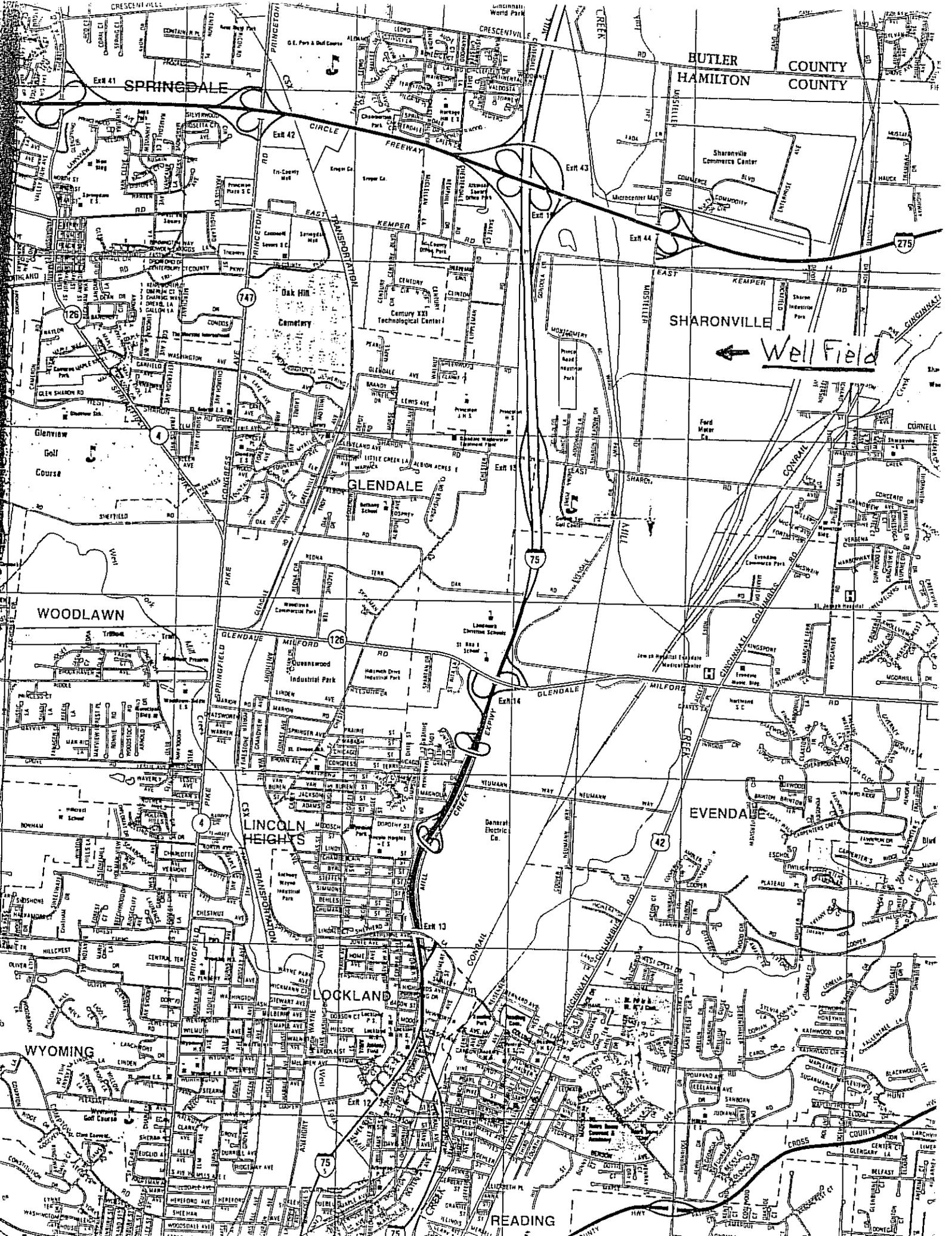
SECTION II

This ordinance is hereby declared to be an emergency measure necessary to preserve the health, safety and general welfare of the Village. The reason for said emergency is that in order to preserve the fiscal soundness of the water system it is necessary for the new rates to apply to water used on and after February 1, 1995. Therefore, this ordinance shall become effective immediately.

ADOPTED: 17th DAY OF JANUARY, 1995

ATTESTED: William S. Payler
William S. Payler - Clerk

Jim Brown
Jim Brown - Mayor



SPRINGDALE

BUTLER COUNTY
HAMILTON COUNTY
COUNTY

SHARONVILLE

Well Field

WOODLAWN

GLENDALE

LINCOLN HEIGHTS

LOCKLAND

EVENDALE

WYOMING

READING



**VILLAGE OF LOCKLAND, OHIO
WATER SUPPLY AND TREATMENT FACILITIES IMPROVEMENTS**

BASIS OF DESIGN MEMORANDUM

TO: Ohio Public Works Commission

SUBJECT: Village of Lockland, Ohio
Water Supply and Treatment Facilities Improvements

DATE: September 25, 1998

I GENERAL

Owner

Village of Lockland, Ohio
101 N. Cooper Avenue
Lockland, Ohio 45215
Contact: Ms. Evonne Kovach - Village Administrator
513/761-7420 ext. 104

Engineer

Jones & Henry Engineers, Ltd. 2000 West Central Avenue Toledo, Ohio 43606 419/473-9611 Contact: Ms. Andrea Kroma or Mr. Thomas Metcalf	801-B West 8 th Street Cincinnati, Ohio 45203 513/421-7368 Contact: Mr. Robert Wass
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Project Description

The proposed project consists of increasing the capacity of the Lockland Water Supply and Treatment Facilities to satisfy OEPA requirements and to meet the projected future maximum daily demand of 1.7 mgd; and upgrading the original 1949 treatment plant building and treatment processes.

The water supply and treatment facilities improvements generally include the following:

- Construct New Well and Rehabilitate Existing Wells
- Remove Existing Aerator
- Rehabilitate Existing Clarifier
- Construct New Clarifier and Recarbonation Basin
- Expand Filter Building
- Rehabilitate Existing Filters and Construct New Filter
- Remove and Replace Backwash Basin
- Chemical Systems Improvements
- HVAC Improvements
- Lab/Office Improvements

Electrical, Instrumentation, and Control Improvements
Architectural Improvements

II BACKGROUND DATA

Reports

- Groundwater Development; Well #8, by Reynolds Supply, Inc., 1983
- 1984 Report on Engineering Study of Water Supply, Treatment, and Distribution for Village of Lockland, Ohio, by McGill & Smith, Inc.
- Water Distribution Master Plan, June 1998, by Jones & Henry Engineers, Ltd.

History of Project

Jones & Henry Engineers was hired by the Village to perform a water treatment plant study to address concerns raised by the Ohio Environmental Protection Agency (OEPA) and to provide recommendations of needed improvements. Past OEPA sanitary surveys have identified the following deficiencies at the Lockland water treatment facilities:

Design Capacity

The Lockland water plant has a design capacity of 1.0 mgd. The present average daily flow is 0.8 mgd; the present maximum daily flow is 1.4 mgd. The OEPA has stated that, should the average monthly flow exceed 95% of the plant's assured capacity, or should the assured capacity be exceeded for three consecutive days, then the Village will be requested to refrain from allowing water line extensions until the Village of Lockland can confirm additional water treatment capabilities to meet existing and anticipated demands.

The Village is in danger of meeting this criteria in the very near future. The existing water treatment plant cannot meet present maximum daily demands; excess water currently is supplied from the Village's 3.0 million gallon reservoir.

Backwash Basin

Waste water from the filter backwashing process currently flows by gravity to an uncovered backwash basin, from which it is repumped to the head of the water treatment plant. The backwash basin is located outside, east of the water treatment plant building. It currently is in poor structural condition. Extensive cracking of the in-ground structure allows for contamination of the backwash water prior to being reintroduced to the treatment stream. The OEPA has stated that any substantial changes to the water treatment plant must include covering the backwash basin, and ensuring that the recycling of filter backwash water does not exceed ten percent of the raw water flow entering the plant.

Recarbonation

The existing recarbonation facilities do not meet current OEPA standards, which require three minutes mixing and 20 minutes total reaction time. A properly-sized recarbonation basin should be added to meet these criteria.

Filters

The existing filter rate-of-flow controllers and loss of head gauges are inoperable and should be replaced.

In addition to the OEPA's above items of concern, improvements to the original 1949 treatment plant building and treatment processes are recommended.

The proposed project as described herein was based on Jones & Henry's preliminary study of the Lockland water system, OEPA recommendations, and discussions with Village officials and consultants. The proposed project consists of increasing the capacity of the Lockland Water Treatment Plant to meet the projected future maximum daily demand of 1.7 mgd, and upgrading the original 1949 treatment plant building and treatment processes.

III RAW WATER DATA

Raw Water Source

Lockland currently obtains its raw water from its north wellfield, which is located in Sharonville, Ohio. The well field contains three functioning wells that have rated capacities of 490 gpm, 645 gpm, and 895 gpm.

Raw Water Quality

The representative water quality of the Lockland well supply follows:

<u>Component</u>	<u>Concentration (mg/l)</u>
Barium	0.276
Nitrate (as N)	Not detected
Nitrite (as N)	Not detected
Chloride	64.8
Fluoride	Not detected
Iron	5.04
Manganese	0.159
pH	7.65
Sulfate	59
Solids	546
Hardness	415
Calcium (as Ca)	119
Magnesium (as Mg)	28.5
Sodium	36.4

IV WATER TREATMENT PLANT DATA

General

The water treatment plant site is located in the northwest section of the Village, at the intersection of North Wayne Avenue and Shepherd Land. The land is owned by the Village. Figure 1 is a site plan of the existing water treatment plant.

Treatment Component Capacities

The following lists Lockland's water supply and treatment units and their capacities.

	Existing Unit Capacity	
	<u>Total Capacity (mgd)</u>	<u>OEPA Rated*** Capacity (mgd)</u>
<u>Well Supply</u>		
Well 5 (490 gpm)	0.70	
Well 6 (895 gpm)	1.29	
Well 7 (645 gpm)	<u>0.93</u>	
Total Well Capacity	2.92	1.63
<u>Aeration</u>		
(1) Aerator @ 1,400 gpm	2.02	2.02
<u>Clarification</u>		
(1) Clarifier @ 621 gpm	0.89	0.89
<u>Recarbonation</u>		
(1) Recarb Channel @ 80 gpm	0.12	0.12
<u>Filtration</u>		
(2) Filters @ 720 gpm each*	2.08	1.04
<u>High Service Pumping</u>		
(1) Pump @ 500 gpm	0.72	
(1) Pump @ 700 gpm	1.01	
(1) Pump @ 1,000 gpm	<u>1.44</u>	
Total High Service Capacity	3.17	1.73

* Filter capacity was determined based on a filtration rate of 4 gpm/sf

***OEPA rated capacity is determined with largest unit out of service

V BASIS OF DESIGN

Water Demands

Present: Average-Day 0.8 mgd
Maximum-Day 1.4 mgd

Projected: Average-Day 1.0 mgd
Maximum-Day 1.7 mgd

The present-day demand was determined based on the volume of water pumped to the distribution system from the water treatment plant. The projected water demand was based on the 1998 Water Distribution Master Plan by Jones & Henry.

The design capacity of the water treatment plant was 1.0 mgd. Based on current OEPA requirements, the plant has a present rated capacity of 0.9 mgd. The

capacity of the Lockland Water Treatment Plant should be increased to 1.7 mgd to meet the projected future needs of the community.

VI PROJECT DETAILS

Figure 2 is a site plan of the water treatment plant upon completion of the proposed improvements.

Construct New Well and Rehabilitate Existing Wells

Construct new water supply well with well pump (minimum 1.0 mgd), backup power, and well house. At each of the existing wells: improve access to the wells; install thermostat-controlled heaters; upgrade ventilation; install indoor paneling to protect insulation; install airline for water level measurements; and install flow meter. Rehabilitate each well. Construct a monitoring well. Perform aquifer test of the well field.

Remove Existing Aerator

Remove existing aerator. Modify piping and valve arrangement to provide equal flow to existing Clarifier 1 and to new Clarifier 2.

Rehabilitate Existing Clarifier 1

Remove existing clarifier mechanism. Clean and line tank interior to prevent leakage and install new clarifier mechanism. Provide automatic sludge drawoff. Clean and coat basin exterior. Rehabilitated clarifier will have 1.0 mgd capacity.

New Clarifier and Recarbonation Basins

Construct new concentric 1.0 mgd clarifier and recarbonation basins. Provide automatic sludge drawoff. Install piping to existing filter influent channel.

Filter Building Expansion

Expand existing filter building to house two additional filters, Filter 3 and Filter 4. Equip Filter 3 (under next item); provide structural shell only for Filter 4.

Rehabilitate Existing Filters and Construct New Filter 3

Remove filter piping, valves, underdrain, media, and troughs in existing Filters 1 and 2. Install new filter piping, valves, underdrain, media, troughs, and controls for existing Filters 1 and 2, and for new Filter 3. Provide rate-of-flow controllers for each filter and for backwash. Provide air scour capabilities and operator-initiated automatic backwash capabilities for each filter. Provide walkways around existing filters. Capacity of each filter will be 1.04 mgd.

Remove and Replace Backwash Basin

Remove existing backwash basin. Construct new, covered backwash basin beneath new Filters 3 and 4 and future Filters 5 and 6.

Chemical System Improvements

Alum

Replace existing 55-gallon (600 pound) storage and feed system with a bulk storage

and day tank system. Place heated bulk alum tank outdoors, adjacent to the NaOCl room; place transfer pumps inside the NaOCl room and the day tanks and metering pumps in the existing boiler room/alum feed room. Provide the following equipment:

- (1) 4,000 gallon bulk storage tank
 - (2) 55-gallon day tanks w/ stands
 - (2) Mixers
 - (3) Metering pumps (including 1 spare)
- (4,000 gallons is the smallest load available at a reasonable cost)

Lime

Due to lack of space, continue to use the existing BIF Universal feeder as a backup to the lime slaker/feeder. Provide lime splitter box to feed lime slurry equally to Clarifiers 1 and 2.

Carbon Dioxide

Replace existing cylinder carbon dioxide storage and feed system with a bulk carbon dioxide storage and feed system. Place the bulk storage tank adjacent to the alum tank on a concrete pad. Place the control panel in the existing chemical feed room. Provide piping to the new recarbonation basin.

Sodium Hypochlorite

Replace existing gaseous chlorine storage and feed system with a liquid sodium hypochlorite (NaOCl) storage and feed system. Demolish existing chlorine room and construct in its place a 12 foot by 12 foot NaOCl room with containment area and the following equipment:

- (2) 800-gallon bulk storage tanks
 - (2) 55-gallon day tanks w/stands
 - (2) Transfer pumps
 - (3) Metering pumps (including 1 spare)
 - (1) Residual analyzer
- (Each tank provides 30 days storage based on future average feed rate)
- Piping to feed point after the filters, if desired.

Phosphate

Replace existing metering pump and provide one backup pump. Provide piping for feeding phosphate after the filters, if desired.

HVAC Improvements

Install dehumidifiers in filter pipe gallery and high service pump rooms. Remove window air conditioner in the laboratory and install a rooftop unit to serve the laboratory. Install new boiler in the existing boiler room.

Lab/Office Improvements

Remove existing cabinets and sink; install new cabinets and sink.

Electrical, Instrumentation, and Control Improvements

Electrical

Replace motor control center. Provide lighting and receptacles for filter building addition. Provide standby power to operate (1) well pump, (1) clarifier mechanism,

motorized filter valves, chemical feed pumps, (1) high service pump or backwash pump, and emergency lights and heating.

Instrumentation and Control

Provide rate of flow control to allow equal flow split to clarifiers. Provide automatic flow control through filters via effluent rate of flow controllers. Provide operator-initiated automatic filter backwash with air scour capabilities. Provide automatic control of well pumps and high service pumps based on reservoir and clearwell levels. Flow pace all chemical feed. Pace NaOCl based on chlorine residual.

Architectural Improvements

Exterior

Replace third floor windows and double door. Paint front entrance steps and replace handrail. Install insulated cement panels (similar to Dryvit) over existing block walls on plant building exterior.

Interior

Paint plant building interior. Provide non-skid floor coating in high service pump room.

Treatment Component Capacities

The following lists Lockland's water supply and treatment units and their capacities upon completion of the proposed improvements.

	Proposed Unit Capacities	
	Total	OEPA Rated**
	<u>Capacity (mgd)</u>	<u>Capacity (mgd)</u>
<u>Well Supply</u>		
Well 5 (490 gpm)	0.70	
Well 6 (895 gpm)	1.29	
Well 7 (645 gpm)	0.93	
New Well (694 gpm)	<u>1.00</u>	
Total Well Capacity	3.92	2.92
<u>Clarification</u>		
(1) Rehab'd Clarifier @ 694 gpm	1.00	
(1) New Clarifier @ 694 gpm	<u>1.00</u>	
Total Clarification	2.00	2.00
<u>Recarbonation</u>		
(2) New Recarb Basins @ 1180 gpm	3.40	3.40
<u>Filtration</u>		
(2) Rehab'd Filters @ 720 gpm each*	2.08	
(1) New Filter @ 720 gpm*	<u>1.04</u>	
	3.12	2.08
<u>High Service Pumping</u>		
(1) Pump @ 500 gpm	0.72	
(1) Pump @ 700 gpm	1.01	
(1) Pump @ 1,000 gpm	<u>1.44</u>	
Total High Service Capacity	3.17	1.73

* Filter capacity was determined based on a filtration rate of 4 gpm/sf

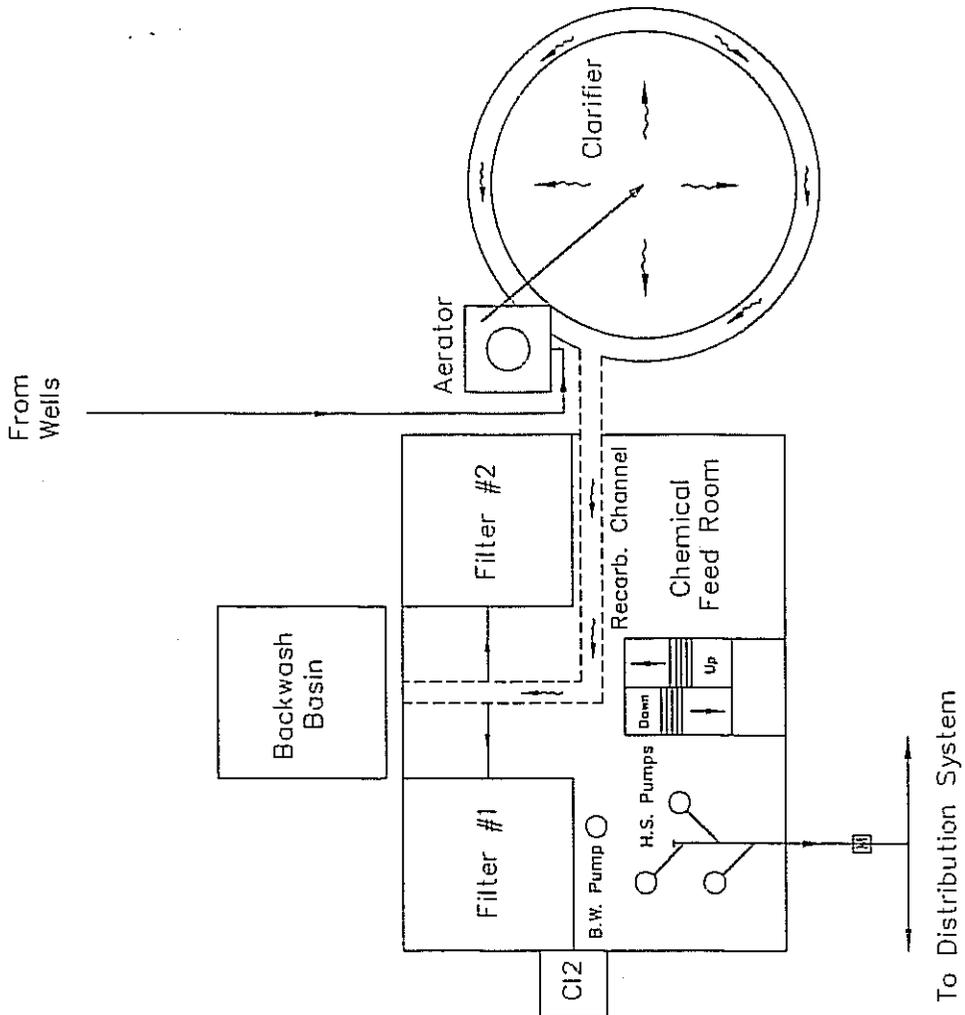
**OEPA rated capacity is determined with largest unit out of service

Respectfully submitted,

JONES & HENRY ENGINEERS, LTD.



Andrea K. Kroma, P.E.
Project Engineer



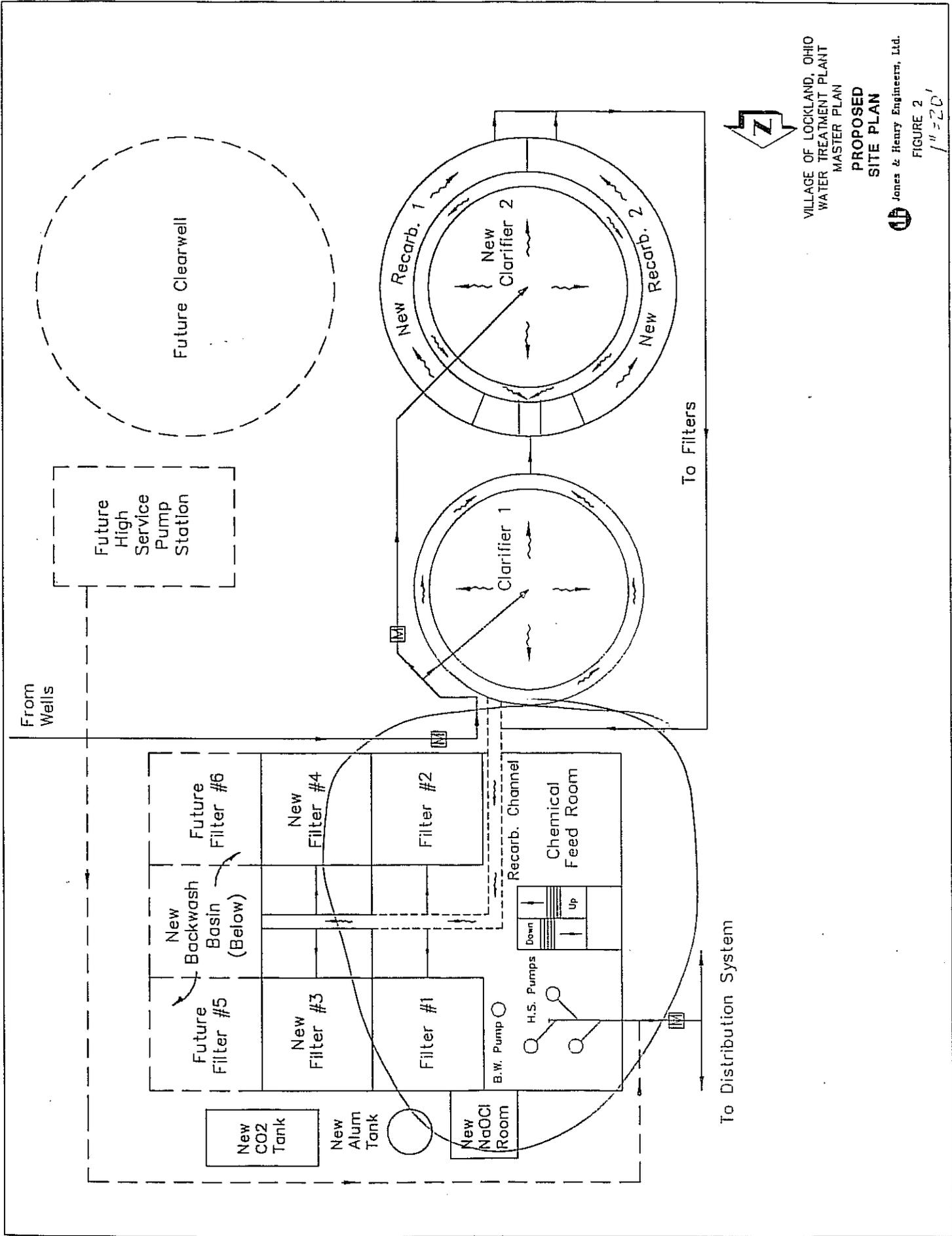
VILLAGE OF LOCKLAND, OHIO
 WATER TREATMENT PLANT
 MASTER PLAN

**EXISTING
 SITE PLAN**

Jones & Henry Engineers, Ltd.

FIGURE 1

1" = 20'



VILLAGE OF LOCKLAND, OHIO
 WATER TREATMENT PLANT
 MASTER PLAN
**PROPOSED
 SITE PLAN**

Jones & Henry Engineers, Ltd.
 FIGURE 2
 1" = 20'

VILLAGE OF LOCKLAND, OHIO
ORDINANCE #95 - 1

AN ORDINANCE INCREASING MINIMUM RATES,
AND RATES FOR WATER USED IN EXCESS OF 650
CUBIC FEET PER TWO MONTH BILLING PERIOD
FROM FEBRUARY 1, 1995, AND DECLARING AN
EMERGENCY

PROPOSED BY THE WATER COMMITTEE

WHEREAS, The Village of Lockland has not increased water rates since 1991; and

WHEREAS, The costs of operating the Village of Lockland Water System have increased substantially since the last increase in rates; and

WHEREAS, The Council of the Village of Lockland agrees that it is necessary to periodically review the income and expense involved in operating the water system in order to determine when the adjustment of rates is necessary and proper in order to maintain the system on a sound and fiscal basis while providing the most economical rates possible to the consumers.

NOW, THEREFORE, BE IT ORDAINED by the Council of the Village of Lockland, State of Ohio, that:

SECTION I That Section 1040.01 of the Codified Ordinances of Lockland, Ohio, be, and hereby is, amended to read as follows:

Section 1040.01 Rates

- (a) The following minimum rates shall be charged, bimonthly, to the owners of the premises, for supplying water to such premises within the Village of Lockland beginning with water use on and after February 1, 1995:

<u>METER SIZE</u>	<u>USAGE</u>	<u>MINIMUM BILLING</u> <u>1995</u>	<u>MINIMUM BILLING</u> <u>1996*</u>
5/8 inch	0-650 cu. ft.	\$11.15	\$11.50
3/4 inch	0-650 cu. ft.	\$14.50	\$15.00
1 inch	0-650 cu. ft.	\$17.50	\$18.05
1 1/2 inch	0-650 cu. ft.	\$22.80	\$23.50
2 inch	0-650 cu. ft.	\$30.25	\$31.15
3 inch	0-650 cu. ft.	\$47.20	\$48.65
4 inch	0-650 cu. ft.	\$65.20	\$67.15
6 inch	0-650 cu. ft.	\$100.25	\$103.25

* To begin with water use on and after February 1, 1996.

- (b) For all bimonthly consumption in excess of 650 cubic feet, the charge shall be One Dollar Sixty (\$1.60) Cents per one hundred (100) cubic feet in 1995 and One Dollar Sixty Five (\$1.65) Cents in 1996, each rate becoming effective on February 1st of the year stated.
- (c) Bills for the above charges will be mailed bimonthly, to the owners of the premises served.
- (d) The foregoing charges are minimum charges not maximum charges and the Municipality reserved the right to increase the same at any time should the revenue of the waterworks system prove insufficient to pay the operating and maintenance expenses and the debt charges of and for such system.

SECTION II This ordinance is hereby declared to be an emergency measure necessary to preserve the health, safety and general welfare of the Village. The reason for said emergency is that in order to preserve the fiscal soundness of the water system it is necessary for the new rates to apply to water used on and after February 1, 1995. Therefore, this ordinance shall become effective immediately.

ADOPTED: 17th DAY OF JANUARY, 1995

ATTESTED: William S. Payler
William S. Payler - Clerk

Jim Brown
Jim Brown - Mayor

**VILLAGE OF LOCKLAND, OHIO
WATER SUPPLY AND TREATMENT FACILITIES IMPROVEMENTS**

SAMPLE WATER AND WASTEWATER BILLS

Water: 7756 gallons/month ÷ 7.48 gallons/CF = 1037 CF/month
1037 CF/month x 2 months = 2074 CF
First 650 CF @ \$11.50
2074 CF - 650 CF = 1424 CF @ \$1.65/CCF = \$23.50
\$23.50 + \$11.50 = \$35.00 ÷ 2 months = \$17.50/month

Wastewater: 7756 gallons/month = 1037 CF/month
First 600 CF @ \$14.80
1037 CF - 600 CF = 437 CF @ \$1.60/CCF = \$6.99
\$6.99 + \$14.80 = \$21.79/month

ATTACHMENT 2

- ▶ Additional Support Information
- ▶ Photos
- ▶ 1996, 1997, and 1998 Water Plant Operation Report Summary
- ▶ 1996, 1997, and 1998 OEPA Sanitary Survey
- ▶ OEPA Drinking Water Operation Report for 1/97, 9/97, and 12/97

**VILLAGE OF LOCKLAND, OHIO
WATER SUPPLY AND TREATMENT FACILITIES IMPROVEMENTS**

ADDITIONAL SUPPORT INFORMATION

1) Condition of Infrastructure: Poor

The existing wells and water treatment plant require standard rehabilitation to maintain their integrity. The plant is functioning but is aging. Some equipment is inoperable or missing, for example the filter rate of flow controllers and loss of head gauges. The structural integrity of some basins is poor, for example the filter backwash basin and clarifier basin. The pipes in the filter pipe gallery are moderately to severely corroded. See photos.

In addition to the plant's unfavorable physical conditions, it's treatment capacity is deficient with respect to present maximum daily demands. The existing water treatment plant is 49 years old. The rated capacity of the plant is 1.0 million gallons per day (mgd); this does not satisfy the community's present maximum daily demand of 1.4 mgd. In addition to capacity needs, the Ohio Environmental Protection Agency (OEPA) has recommended operational and structural modifications (see attached 1996, 1997, and 1998 sanitary surveys). Specific deficiencies include:

Clarifier: The concrete clarifier basin shows signs of cracking and leakage (see photo). There is no backup clarifier.

Recarbonation: The recarbonation channel has insufficient carbon dioxide mixing and reaction time based on current OEPA requirements.

Filtration: The filters do not have rate of flow controllers or loss of head gauges as recommended by the OEPA. Lack of adequate recarbonation has resulted in filter sand encrustation (see attached 1996 sanitary survey). The filter backwash line is not equipped with rate of flow controller. Filter piping is corroded (see photo).

Backwash Basin: The filter backwash basin is uncovered and in poor structural condition (see photo). OEPA will require covering the basin and improving the structural integrity if any major plant modifications are made (see attached 1996 and 1997 sanitary surveys).

Alum: Alum is currently stored in and fed from 600-pound drums. The Village should consider using a bulk alum and day tank storage and feed system.

Carbon Dioxide: Carbon dioxide is stored in and fed from a gang of 12 cylinders. See photo. The Village should consider using a bulk carbon dioxide storage and feed system.

*IMPACT
ON HEALTH?*

- Chlorine: Gaseous chlorine is currently used. See photo. The Village has concerns regarding the safety of using gaseous chlorine and should consider installing a liquid sodium hypochlorite storage and feed system.
- HVAC: The original 1949 boiler should be replaced. See photo. The filter pipe gallery and high service pump rooms should be equipped with dehumidification units. The window air conditioner in the laboratory should be replaced with a rooftop unit.
- Electrical: The original 1949 motor control center and wiring should be replaced. The plant should be equipped with automatic controls.
- Architectural: The plant building is in need of cosmetic improvements inside and out.

The existing operational water supply wells are 26, 32, and 36 years old. The rated capacity of the wells is 1.63 mgd; this does not satisfy the community's projected future maximum daily demand of 1.7 mgd. Other deficiencies include inadequate well accessibility; insufficient control of temperature and ventilation; lack of airlines for evaluating well performance and condition; lack of flow measuring capability; and lack of standby power. (See photos)

3) Impact on Health, Safety, and Welfare

- Health: The proposed improvements are necessary to maintain the high quality of water now being supplied to Village water users. Direct health benefits include reducing the potential for contamination from entering the treatment flow via a presently uncovered, structurally unsound filter backwash basin (see photo and OEPA sanitary surveys).
- Safety: The proposed improvements will increase the reliability of delivering a safe water supply to Village water users. Increasing the plant capacity will increase the plant's ability to meet present and future water demands, including fire flow needs. Direct safety benefits include switching from a gaseous chlorine system to a liquid sodium hypochlorite system; this will eliminate the safety risks associated with gaseous chlorine. Switching to bulk chemical storage will reduce the length of operator exposure to the chemicals fed during the treatment process.
- Welfare: OEPA has stated (see 1997 sanitary survey) that if
“...the (water treatment plant's) average monthly flow exceeds 95% of the assured capacity, or the assured capacity is exceeded for three consecutive days, then we would request that you refrain from submitting any detail plans for new water main extensions until the Village of Lockland can confirm additional water treatment capabilities...”

To WHAT
EXTENT? →

Increasing the capacity of the water supply and treatment facilities will improve the Village's ability to promote commercial, industrial and residential development.

5) Limitations Due to Capacity

As stated in question 3, OEPA has stated (see 1997 sanitary survey) that if

“...the (water treatment plant's) average monthly flow exceeds 95% of the assured capacity, or the assured capacity is exceeded for three consecutive days, then we would request that you refrain from submitting any detail plans for new water main extensions until the Village of Lockland can confirm additional water treatment capabilities...”

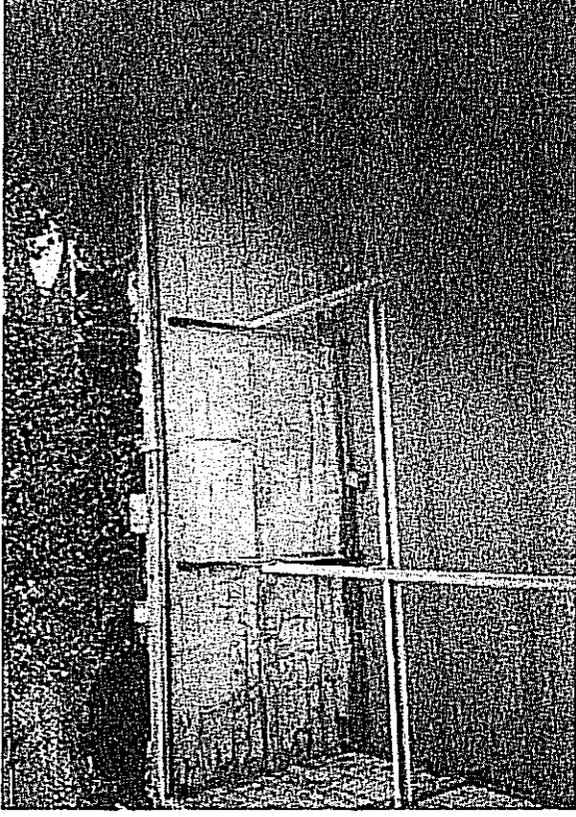
In 1997 the plant flow exceeded the plant's rated capacity for two consecutive days in the months of January and September, and for four consecutive days in December. See attached OEPA Drinking Water Operation Reports.

8) Regional Impact

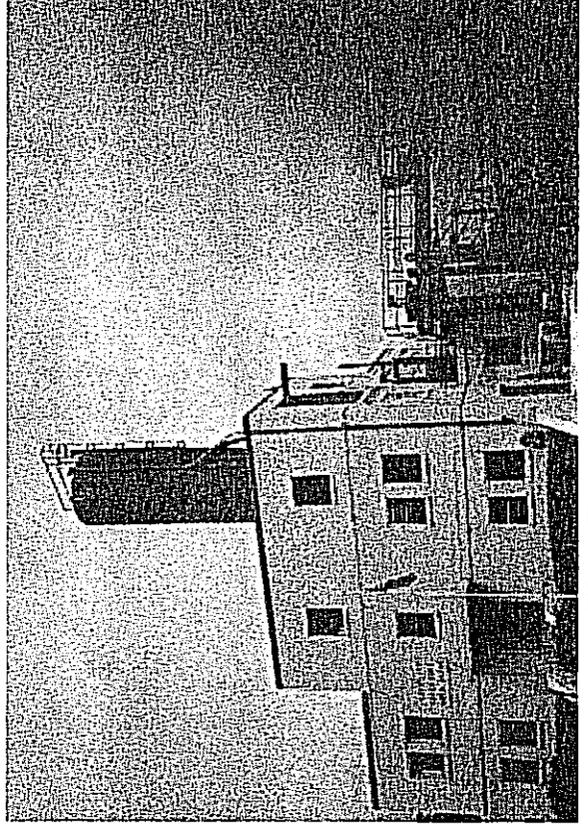
The proposed improvements would have a moderate impact on the region. The Lockland water system serves the developed areas of the Village; the entire Village would therefore benefit from the increased reliability of the water system.

9) MBE Set-Aside Offered

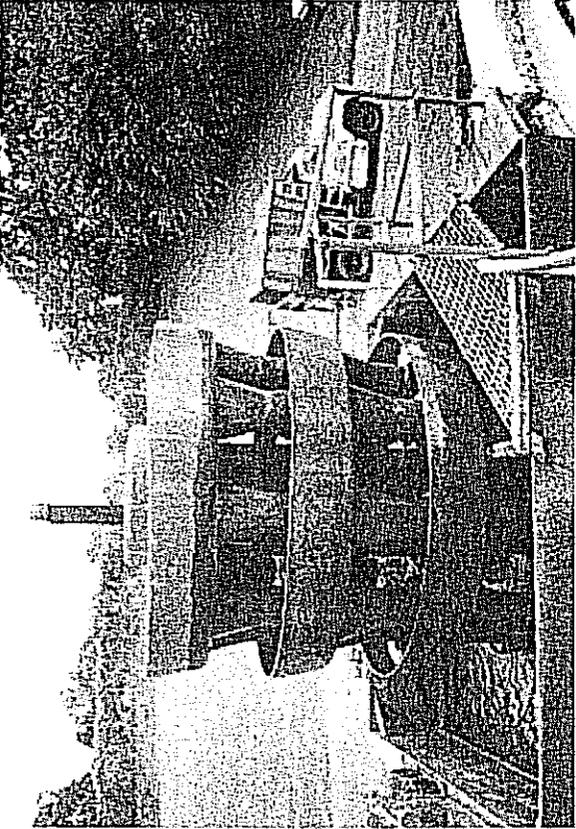
A portion of the project can be set aside as an MBE contract. The clarifier mechanisms and carbon dioxide equipment are suggested as an MBE procurement contract in the amount of \$287,600 (13.6%).



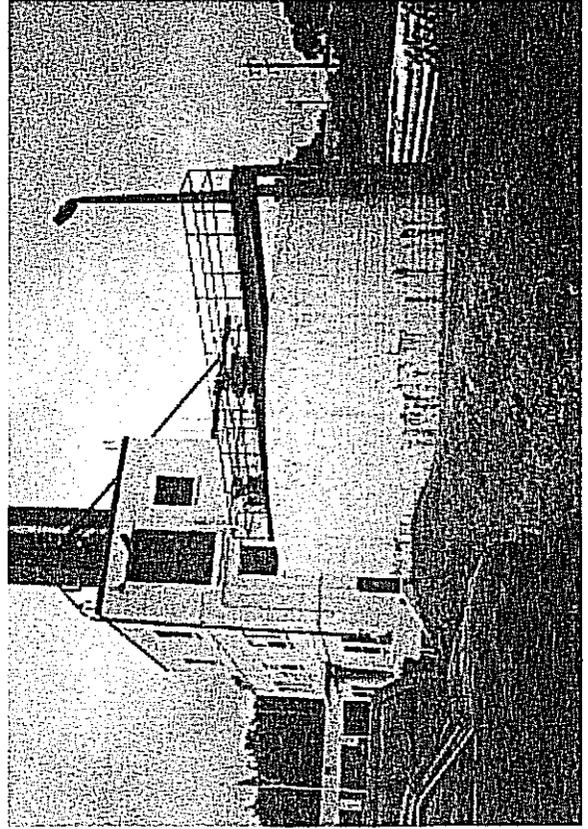
Filter Backwash Basin



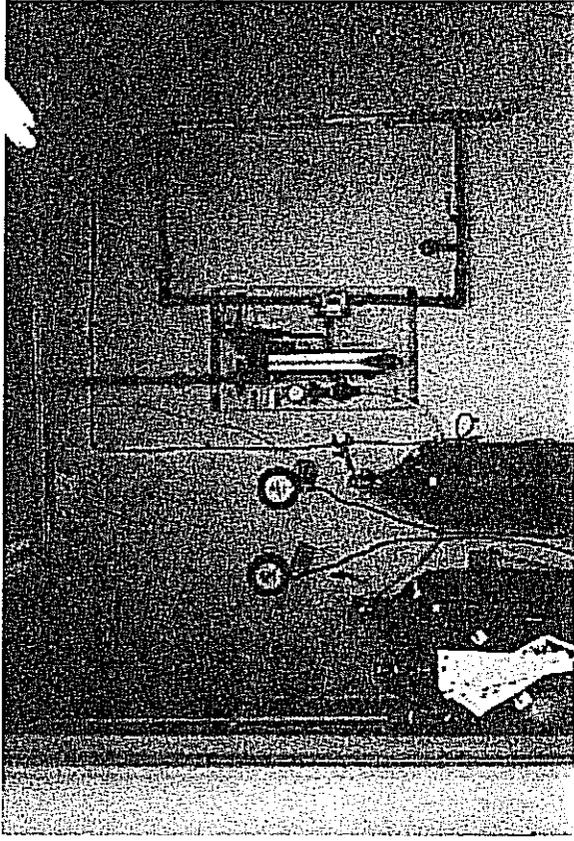
Water Treatment Plant Exterior



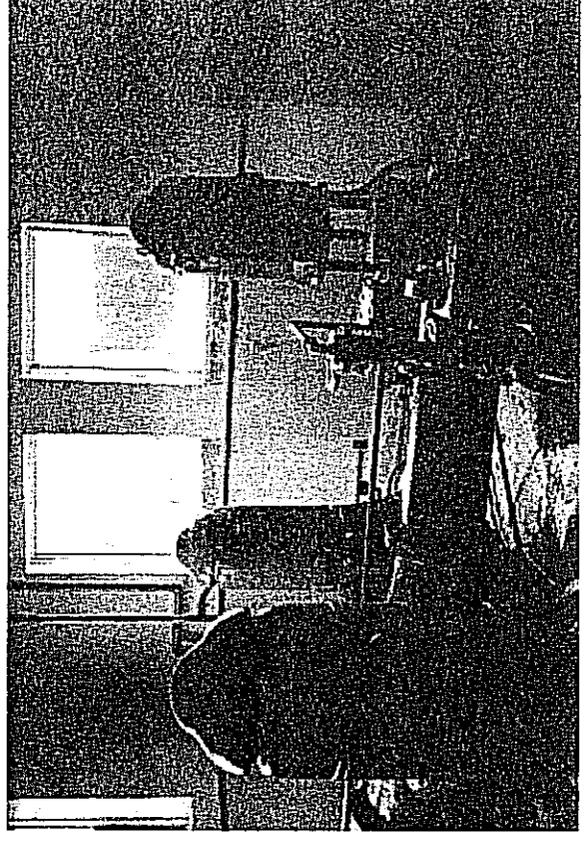
Aerator



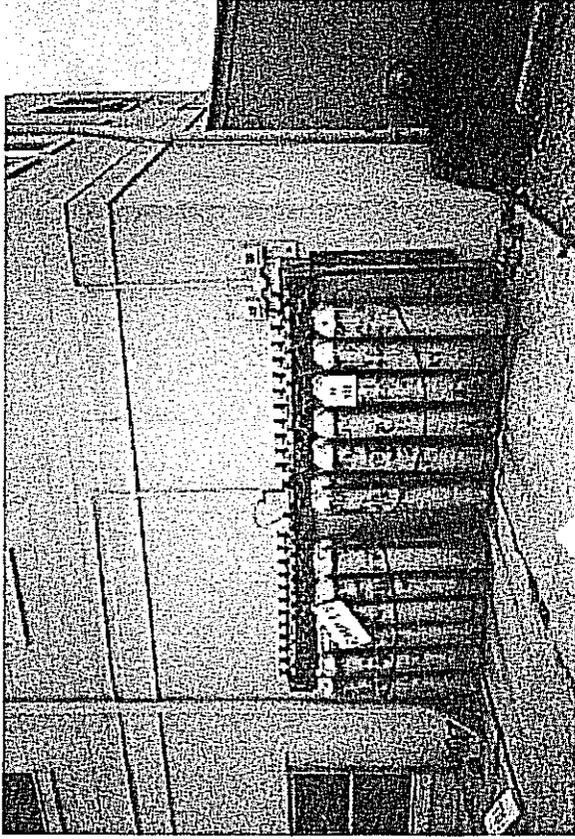
Clarifier



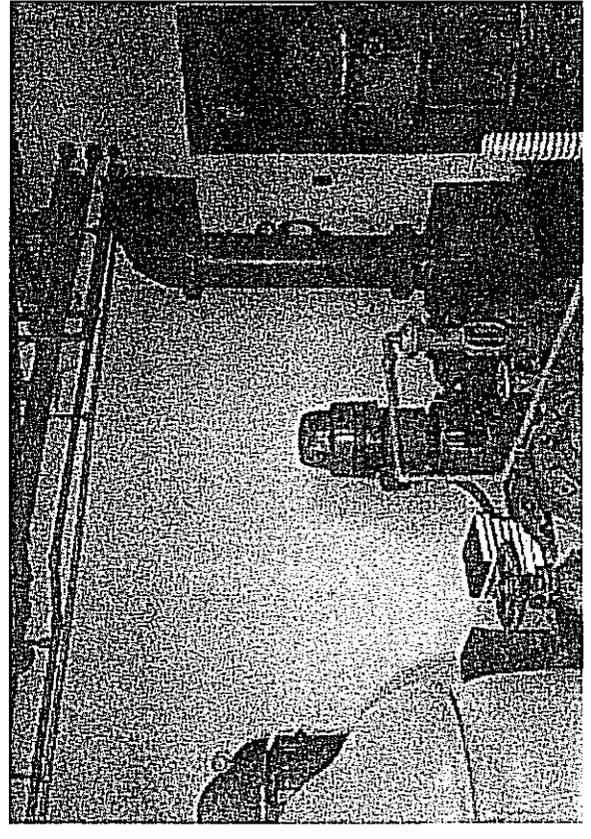
Gaseous Chlorine Room



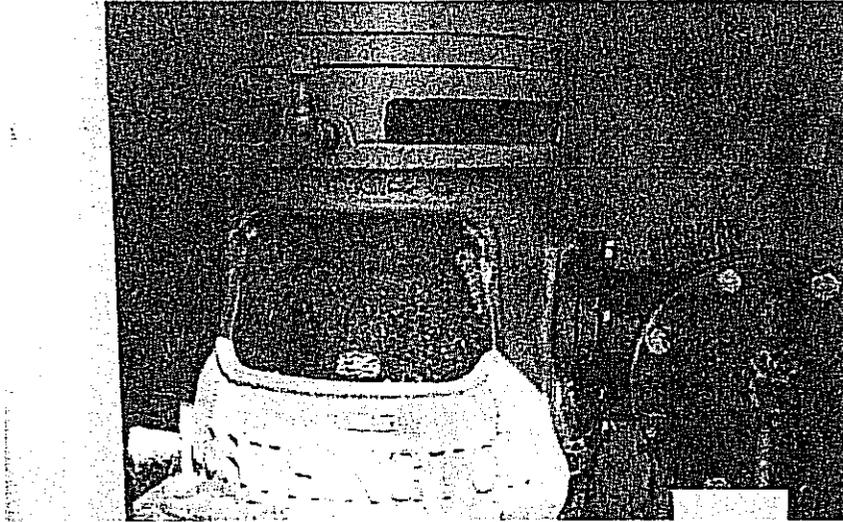
High Service Pump Room



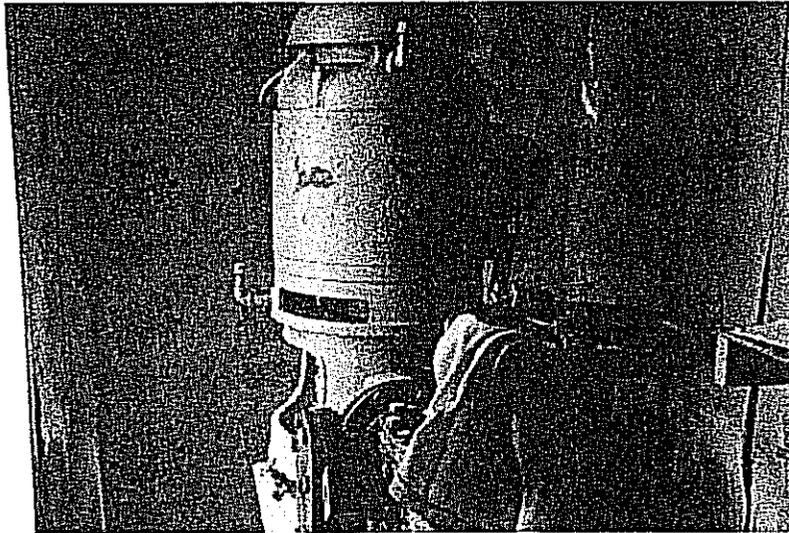
Carbon Dioxide Tanks



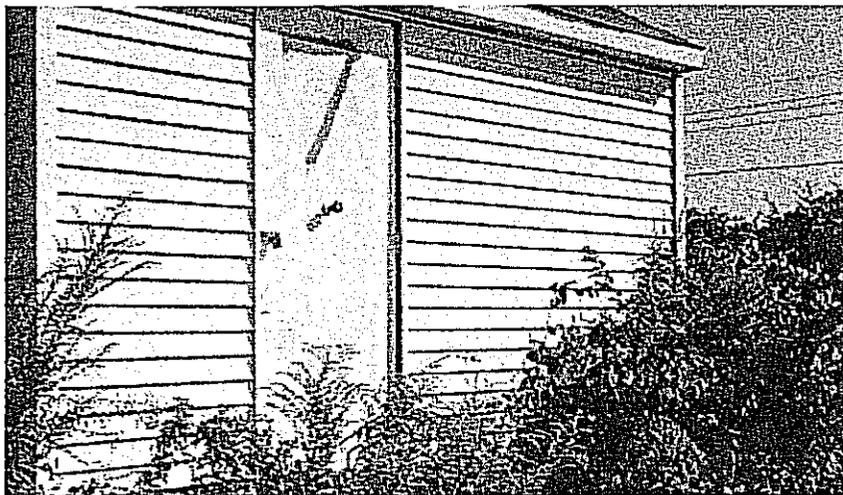
High Service Pump Room



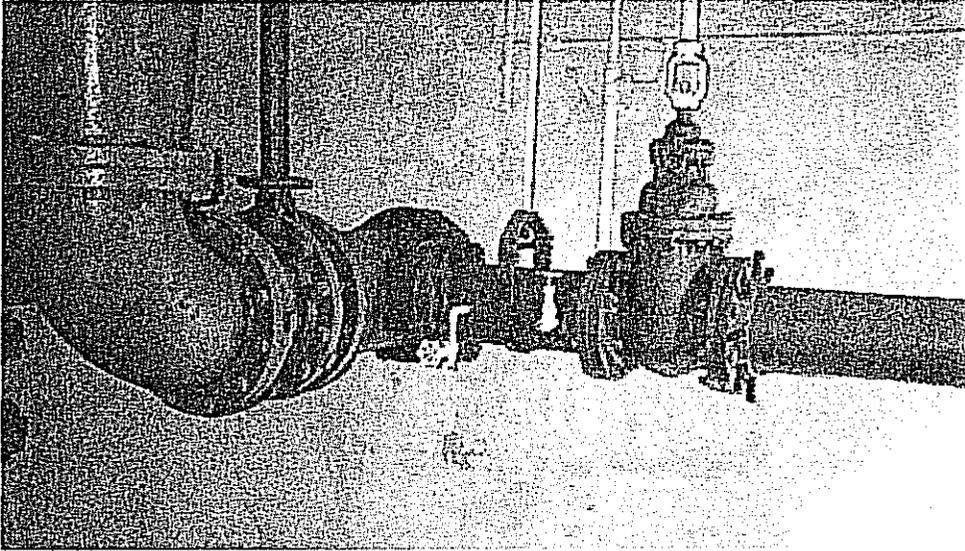
Well House Interior



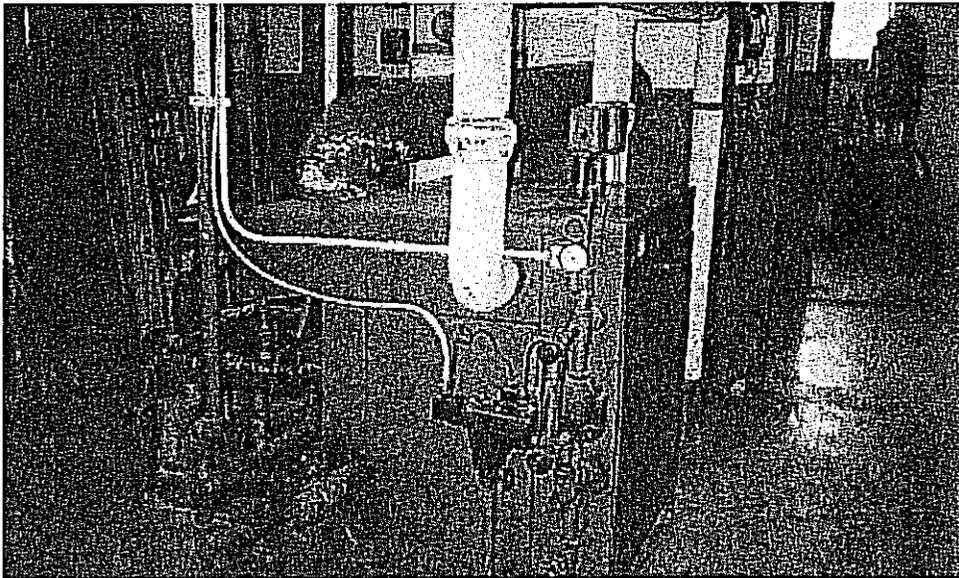
Well House Interior



Well House Exterior



Filter Pipe



Boiler

September 15, 1998

Note (a) - The Metropolitan Sewer District handles all sewer treatment for the Village of Lockland. The Village collects the sewer districts fees and remits 93% of collections to the Cincinnati Water Works.

Note (b) and (C) - See Following pages.

Note (d) - The Revenue bonds come due in total in the year 2018. There is a 7% interest payment due yearly until the bonds are redeemed. The bond repayment will be funded by revenues from the Commerce Park that they were issued to develop.

The Short Term General Obligation Note is due and payable with 5% interest in the year 1999. This will be financed by the sale of the property, which was purchased, with the proceeds of the note.

1996

WATER PLANT OPERATION REPORT - WELL WATER
VILLAGE OF LOCKLAND, OHIO

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL/AVE
WATER PUMPED - MG													
TOTAL	21.4	20.7	19	17.2	20.6	18.5	21.8	21.9	18.7	19.3	20.8	21.6	242
AVERAGE	0.823	0.83	0.732	0.718	0.763	0.741	0.781	0.811	0.748	0.716	0.799	0.801	0.772
MAXIMUM	1.024	1.012	0.874	0.986	0.993	0.911	1.066	0.944	0.983	1.002	1.016	1.102	1.066
MINIMUM	0.515	0.594	0.466	0.215	0.321	0.456	0.278	0.586	0.201	0.412	0.289	0.150	0.150
pH	7.3	7.2	7.1	7.3	7.4	7.5	7.2	7.2	7.5	7.3	7.3	7.3	7.3
TOTAL HARDNESS	396	368	404	382	381	400	388	377	374	401	379	295	387
TOTAL ALKALINITY	297	280	305	292	292	303	295	291	294	301	291	295	295
PERMANENT HARDNESS	99	88	99	90	89	97	93	86	80	100	88	92	92
CALCIUM	--	--	--	--	272	--	--	--	--	--	--	--	--
MAGNESIUM	--	--	--	--	118	--	--	--	--	--	--	--	--
WELL NO.	--	--	--	6	6	--	8	8	5	6	7	8	--
DATE	--	--	--	4/25	5/15	--	7/15	8/9	10/31	10/31	10/31	10/31	--
TOTAL HARDNESS	--	--	--	--	384	--	358	376	360	376	400	368	--
TOTAL ALKALINITY	--	--	--	--	--	--	--	--	288	292	288	292	--
PERMANENT HARDNESS	--	--	--	--	--	--	--	--	72	84	112	76	--
CALCIUM	--	--	--	240	276	--	276	256	244	240	240	248	--
MAGNESIUM	--	--	--	--	108	--	92	120	116	136	160	120	--
BACTERIOLOGICAL ^													
NO. SAMPLES	2	2	2	2	2	2	2	2	2	2	2	24	24
NO. NEGATIVE	2	2	2	2	2	2	2	2	2	2	2	24	24
NO. POSITIVE	0	0	0	0	0	0	0	0	0	0	0	0	0
^ Well supply to plant													

All analyses reported as mg/l and as calcium carbonate except pH (SU)0*

1997
 WATER PLANT OPERATION REPORT - WELL WATER
 VILLAGE OF LOCKLAND

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL / AVE.
WATER PUMPED - MG													
TOTAL	23.10	18.88	20.14	21.07	18.40	16.51	19.24	19.98	18.50	20.17	17.08	20.51	233.58
AVERAGE	0.888	0.7865	0.7461	0.8103	0.681	0.660	0.739	0.740	0.740	0.747	0.683	0.740	0.748
MAXIMUM	1.236	0.8981	0.9864	0.9763	0.971	0.969	0.938	1.007	1.014	0.975	1.008	1.019	1.236
MINIMUM	0.567	0.5309	0.1719	0.2355	0.303	0.561	0.305	0.2025	0.204	0.420	0.1915	0.235	0.1719
WELL WATER TO PLANT													
ANALYSES - mg/l													
pH (SU)	7.4	7.4	7.4	7.3	7.3	7.2	7.3						
TOTAL HARDNESS	419	393	408	381	383	377	381						
TOTAL ALKALINITY	310	302	306	296	294	290	303						
PERMANENT HARDNESS	109	91	102	85	89	87	78						
CALCIUM	--	--	--	--	--	--	--						
MAGNESIUM	--	--	--	--	--	--	--						
BACTERIOLOGICAL													
NO. SAMPLES	1	1	1	0	0	0	1						
NO. NEGATIVE	1	1	1	0	0	0	1						
NO. POSITIVE	0	0	0	0	0	0	0						
WELL WATER ANALYSES													
DATE													
WELL NO.	5	6	7	8	5	6	7	8	5	6	7	8	
mg/l													
pH - (SU)	--	--	--	--	--	--	--						
TOTAL HARDNESS	--	--	--	--	--	--	--						
TOTAL ALKALINITY	--	--	--	--	--	--	--						
PERMANENT HARDNESS	--	--	--	--	--	--	--						
CALCIUM	--	--	--	--	--	--	--						

All analyses reported as calcium carbonate except as noted

1998

WATER PLANT OPERATION REPORT - WELL WATER
VILLAGE OF LOCKLAND

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL / AVE
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-------------

WATER PUMPED - MG

TOTAL	24.11	20.73	21.54	19.17	19.01	20.82	20.64						
AVERAGE	0.861	0.864	1.021	0.639	0.731	0.801	0.765						
MAXIMUM	1.099	1.024	0.566	1.018	0.945	1.026	0.967						
MINIMUM	0.347	0.385	0.829	0.202	0.196	0.204	0.317						

WELL WATER TO PLANT
ANALYSES - mg/l

pH - (SU)	7.3	7.2	7.3	7.2	7.2	7.3	7.2						
TOTAL HARDNESS	371	418	420	376	374	379	367						
TOTAL ALKALINITY	301	299	308	292	293	295	296						
PERMANENT HARDNESS	70	119	112	84	81	84	71						

BACTERIOLOGICAL

NO. SAMPLES	2	0	0	0	0	0	0						
NO. NEGATIVE	2												
NO. POSITIVE	0												

WELL WATER ANALYSES

DATE	-	-	3/27	-	-	-	-						
WELL NO.			6										
pH			7.3										
TOTAL HARDNESS			360										
TOTAL ALKALINITY			296										
CALCIUM			86										
MAGNESIUM			66										

All analyses reported as calcium carbonate except as noted



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911
(513) 285-6357
FAX (513) 285-6249

Governor

August 6, 1996

RE: VILLAGE OF LOCKLAND
HAMILTON COUNTY
COMMUNITY WATER SUPPLY
PWS I.D. #3101212

Ms. Evonne Kovack
Village of Lockland Administrator
101 North Cooper Avenue
Lockland, Ohio 45215

Dear Ms. Kovack:

On July 17, 1996, I met with Tena Scott Montgomery and Lonnie McKinney to conduct a sanitary survey of the water supply system which serves the Village of Lockland. The purpose of the survey was to evaluate the ability of the system to provide an adequate, safe and potable drinking water that meets the requirements of the Ohio Safe Drinking Water Law, Chapter 6109 of the Ohio Revised Code, and the implementing regulations of the Ohio Administrative Code (OAC).

As a result of the survey, the following comments apply to the Village of Lockland public water system.

A. WATER SYSTEM SUMMARY

1. Population and Service Connections

Approximate population served by water system:	4,356
Number of service connections:	1,314

2. Plant Production and System Design Capacity

Average daily plant production (MGD):	0.746
Peak plant production (MGD):	1.218 (7-7-95)
Water system design capacity (MGD):	1.0

3. System Components

- a. Source: four production wells each equipped with a turbine pump.
- b. Treatment processes:
 - coagulation and lime softening (Alum and lime is added at the influent of the settling tank).
 - recarbonation (Carbon dioxide is applied at the effluent of the settling tank and prior to filtration).
 - chlorination (Chlorine is applied after the settling tank and before filtration).

- phosphate addition (Sodium hexametaphosphate is also added after softening and before filtration).
 - filtration (Two rapid sand filters each having a total filter area of 180 ft² and a filtration rate of 2.0 gpm/ft²).
 - clearwell (One clearwell with a total volume of 0.80 MG is located after the filters).
 - high service pumping (Three high service pumps each having the following capacities: 700 gpm, 550 gpm, and 1,000 gpm).
- c. Finished Water Storage: one 3.0 MG ground storage reservoir.

B. OPERATION AND MAINTENANCE

1. Finished Water Storage

As indicated by the "Drinking Water Operation Reports" for the last twelve months, the Village has an average water usage of approximately 0.746 MGD, therefore, the total storage capacity is approximately 402% of the Village's daily water use in storage. This conforms with the "Recommended Standard of Water Works" which states that the minimum storage capacity shall be at least equal to the average daily water consumption.

2. Recarbonation/Filtration

During the survey an inspection of the recarbonation and filtration processes were conducted and the following comments are offered:

- a. During the last survey it was noted that the rate of flow controllers and the loss of head gauges for both filters are not operational and must be repaired or replaced with workable controls. Ms. Montgomery indicated during the survey that as part of the capital improvements to the water treatment plant the Village is planning to install loss of head gauges and rate of flow controllers to each filter. I would encourage the Village to proceed with this project as it will better ensure for the proper operation of the filters.
- b. Ms. Montgomery noted during the survey that minor encrusting of both filters is occurring and the filter backwash is not uniform. The encrusting of the filter media may be due to unstable water quality. The water entering the filters is probably supersaturated with CaCO₃ and bonding with the filter media. In order to reduce the encrustation of the filter media, it may be necessary to increase the addition of the carbon dioxide before filtration and/or increase the detention time with the carbon dioxide and the water prior to the filters. The current recarbonation facilities do not appear to meet current standards of at least three minutes mixing and 20 minutes total reaction time.

In order to operate the water treatment process more effectively, I would encourage the Village to evaluate its current treatment processes to provide a more stable water prior to filtration. This may be accomplished by adding a recarbonation basin and/or increasing the carbon dioxide dosage.

- c. During the survey, it was observed that the filter backwash water from the filters is recycled to the head of the plant. The backwash water from both filters is collected in a concrete waste pit located directly behind the treatment plant. The water is then pumped from the pit and discharged into the aerator. The waste pit is an uncovered reservoir surrounded by a chain link fence. During the survey, it was observed that the water in the pit contained debris and appeared brown in color.

Recycling filter backwash water can upset the treatment process by introducing organic matter such as grass clippings and leaves into the reservoir which may result in an increase of total organic carbon (TOC) in the waste stream and within the treatment process. Elevated TOC levels could impact disinfection by-product formation if the solids are not settled out prior to recycle. Therefore, I would recommend that the Village make plans to cover the backwash pit. However, if any substantial modifications are made to the treatment plant, then it will be necessary to cover the backwash pit. Prior to construction, plans of any plant modifications shall be submitted for review and approval.

In addition, if the Village wishes to continue to recycle its backwash water and use the pit, then it will be necessary to ensure the following is met:

- Surface water run-off is not capable of entering backwash pit. The walls of the pit shall extend at least eight inches above the ground surface.
- Recycling of filter backwash water may be returned to the head of the plant at a combined rate of less than ten percent of the instantaneous raw water flow rate entering the plant. What is the rated capacity (gpm) of the pump located in the backwash pit?

2. Depressurization Policy

During the survey, I introduced Ms. Montgomery and Mr. McKinney of Ohio EPA's current policy regarding depressurization. Attached for your review and records is a copy of our current "Policy for Bacteriological Sampling of Water Systems That Have Been Depressurized". In the event of a depressurization of the distribution system, as a result of a water main break, pump failure, or any circumstance in which the system pressure falls below 20 psi, the Village should implement this policy and immediately call this office. I was encouraging to note that the Village has not experienced a depressurization of its distribution system, but, if it does occur Ms. Montgomery indicated that they intend to implement the policy.

3. Disinfection

A review of your Drinking Water Operation Reports indicate that adequate free and combined chlorine residuals are being maintained in the distribution system. It appears that an average 0.9 mg/l free and 1.0 mg/l combined chlorine residuals are being maintained and as a result no deficiencies are noted at this time.

4. Monthly Operation Reports

A review of your Drinking Water Operation Reports indicate that free and combined chlorine residuals are not always being recorded on a daily basis. For example, on April 7, 14, 21, 28, 29,

30, 1996 as well as on September 13 and 17, 1995, both free and combined chlorine residuals were not noted. Rule 3745-83-02 of the OAC states that each community water system shall maintain a minimum chlorine residual of at least 0.2 mg/l free chlorine or 1.0 mg/l combined chlorine measured at representative points throughout the distribution system. In order to ensure that minimum chlorine residuals are being met, it will be necessary to monitor daily for both free and combined chlorine residuals that the public water system provides water to the public. These values must be noted on the Drinking Water Operation Report (EPA form 5002).

In addition, it appears that plant production figures for Sunday are not reported on the Drinking Water Operation Report. During the survey, Ms. Montgomery noted that the water treatment plant operates for approximately one hour on Sunday, however, the reports indicate that the plant does not operate. Each day the plant produces water, the production values must be recorded on the Drinking Water Operation Report (EPA form 5002).

C. BACTERIOLOGICAL MONITORING

A review of our records indicates that bacteriological analyses of samples collected from the Village of Lockland's public water system are being performed and reported as required. Since the last sanitary survey of July 14, 1995, the water produced by your water system complies with the Ohio EPA drinking water quality standards for bacteriological contaminants. If you have any questions in regard to bacteriological monitoring please call Mary Freeman or me at (513) 285-6004.

D. WATER QUALITY MONITORING

On November 23, 1992, our Central Office forwarded to the Village of Lockland information regarding water quality sampling requirements for the 1993, 1994, and 1995 period for the following parameters:

Inorganic Chemicals	Asbestos
Nitrate	Nitrite
Synthetic Organic Chemicals	Sulfate
Volatile Organic Chemicals	Radiologicals

At the time of the survey, I reviewed the sampling requirements with Ms. Montgomery and Mr. McKinney. It appears that since the last survey, sampling has been conducted in accordance with the new requirements and results indicate compliance with Ohio EPA standards.

In addition, during the survey, I reviewed the new monitoring schedule for the 1996, 1997, and 1998 period with Ms. Montgomery and Mr. McKinney. If you have questions concerning your monitoring requirements, please contact a member of our Water Quality Unit at (614) 644-2752.

E. LEAD AND COPPER MONITORING

Water systems the size of the Village of Lockland's are required to monitor lead and copper at consumers' taps. Review of the sample results collected during the last five years show compliance with current standards. Our records indicate that your water system has achieved three consecutive reduced annual monitoring periods in which the 90th percentile for both lead and copper has resulted in values less than the action levels. Therefore, Rule 3745-81-86 of the OAC allows you to further reduce your monitoring frequency from every year to every three years. In order to remain in compliance, your next lead and copper samples, minimum 20 sites, must be collected during the June 1 through September 30 period of

1997, 1998, or 1999. If results continue to be in compliance then you will need to continue sampling for lead and copper at least every three years during the same June 1 through September 30 period. The sample results must be received in our Ohio EPA Southwest District Office no later than October 10 of each monitoring period on the appropriate completed forms (Ohio EPA forms 5105, 5106, and 5107). If you have any questions regarding lead and copper monitoring, call me at (513) 285-6118.

F. CONTINGENCY PLAN

Contingency planning was discussed at the time of the survey. The goal of an adequately designed contingency plan is to provide essential data for water systems when they face emergency situations and the users are not assured of a potable water supply. During the survey Ms. Montgomery provided me with a copy of the Village's contingency plan. After my review, the plan appeared to adequately address all pertinent questions and potential problems. Ms. Montgomery reported that the plan was revised in 1996.

G. BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL

During the survey, we discussed the need for protecting the water system from cross-connections to non-potable water systems and equipment that could pose a threat to the drinking water system. In order to protect the health of the consumers, it will be necessary to ensure that any connection the water system which could come in contact with a harmful substance is equipped with a backflow prevention device.

During the survey, Ms. Montgomery provided me with an inventory of all containment devices installed throughout the Village's service area. After my review, there appeared to be approximately 84 containment devices installed. The inventory contained such information as to the location of device, type of device installed, and dates when the device was last inspected. It was also reported by Ms. Montgomery that during May of each year the Village sends letters to the owners of backflow preventers reminding them to have their devices inspected annually by a qualified individual. Mr. McKinney also reported that reinspections of the water use practices of customers are conducted to determine if conditions have changed to require a backflow preventer.

The backflow prevention and cross-connection program is an ongoing task that I believe is managed appropriately by the Village. For more information about cross-connection and backflow prevention consult the Ohio EPA Division of Drinking and Ground Water Backflow Prevention and Cross-Connection Control manual or you may call me at (513) 285-6118.

H. WELLHEAD PROTECTION

The Safe Drinking Water Act, as amended in 1986, mandates that each state develop a wellhead protection program to protect public water supplies that use a ground water source. Accordingly, the State of Ohio developed a Wellhead Protection Program that was approved by U.S. EPA in May 1992. Under Ohio's Wellhead Protection Program, local Wellhead Protection Plans are to be developed and implemented by local drinking water purveyors. The goal of these plans is to prevent contamination of the public water supplies by managing land-use activities on or near the wellfield.

Wellhead protection is becoming more important every year. Activities surrounding the Village's wells having the potential to contaminate the ground water appear to be significant and steps should be taken to complete a wellhead protection plan. I am aware that the Village is in the process of completing its potential pollution source inventory. During the survey, Ms. Montgomery provided me with a copy of a letter from Herbert B. Eagon, Jr., Eagon and Associates, indicating a possible joint effort or consortium with the Village of Lockland and its two close neighbors the City of Wyoming and the Village of Glendale.

Ohio EPA commends your efforts to develop a WHP plan, but much remains to be done. We encourage you to continue your efforts and submit a wellhead protection plan that addresses each of the following components to the Ohio EPA for review:

- delineation of WHP area,
- potential pollution source inventory,
- assessment of the need for ground water monitoring,
- emergency and contingency plans,
- public education and out-reach,
- development of strategies to prevent ground water contamination within the WHP area.

In addition, I have included with this letter a copy the Ohio EPA Fact Sheet "The Costs and Benefits of Wellhead Protection and Financing Options" that may aid you in developing your own WHP plan. If you have any questions or require any information concerning the Wellhead Protection Program, please contact Mr. Mike Ekberg of our Ground Water Section at (513) 285-6451 or Mr. Mike Baker at (614) 644-2752.

I. PLANT CLASSIFICATION/OPERATOR CERTIFICATION

Our records indicate that the Village of Lockland water treatment plant has been designated as a Class II plant and therefore, as stated by Rule 3745-07-02 of the OAC:

Each person operating a public water system serving a population of over two hundred fifty shall place the responsibility for the technical operation and maintenance of such a water system under the responsible charge of a certified operator having a certificate of the class at least equal to that required by that water system classification.

It is my understanding that the only three individuals currently employed with the Village are Tena Scott Montgomery (III), Lonnie McKinney (II), and Dick Caudil (II). Therefore, these three individuals would be the persons at the facility responsible for the on-site supervision or technical operations and maintenance of the public water system, or any parts thereof which may affect the quality of the water produced by such works.

As a reminder, operator certificates are valid for a period of two years. All operators should renew their certificates as the expiration date approaches. For questions concerning current certification requirements, you should contact Raymond Shesky at (614) 644-2752.

J. LICENSE TO OPERATE

Our records indicate that the Village of Lockland public water system currently has 1,314 service connections, therefore, as stated by Rule 3745-84-05 of the OAC, the current fee for license renewal to operate your public water system, required under this chapter, is \$0.96 per service connection or \$1,261.44. This license is valid for one year and will expire on January 30, 1997. Before that time, our central office will be forwarding you an application for license renewal. Please inform this office of any changes in the number of service connections under the Village of Lockland water system.

K. WATER SOURCE

1. Water Source Designation

Rule 3745-81-76 of the Ohio Administrative Code requires us to evaluate your wells with regard to the potential influence by surface water. Factors considered in this evaluation include construction of the wells, proximity to potential contamination sources, and quality of the untreated water.

Currently, the Village is served by a total of four wells, #5, 6, 7, and 8. As a result of the survey and after reviewing our records the following comments are offered:

a. Well #5:

At the time of the last survey well #5 was designated as "ground water under the direct influence of surface water" due to construction deficiencies. Since this designation was made, the pit was eliminated and the well casing was extended three feet above the 100 year flood elevation. After inspecting well #5 during the survey, it appears that this well can now be redesignated as "ground water".

b. Wells #6, 7, and 8:

No deficiencies notes at this time. Wells #6, 7, and 8 will remain designated as "ground water".

2. Well Abandonment

During the last survey, I had recommended that due to the potential contamination from a nearby buried fuel tank, lack of ownership and sanitary control of the area surrounding well #4, that this well be taken out of service and properly abandoned. Since then the Village has elected to discontinue the use of well #4. The pump has been removed and the well has been physically disconnected from the water system. If the Village is not planning to use well #4 for obtaining ground water or for determining the quality, quantity, or level of ground water, such well shall either be properly abandoned or maintained in strict compliance with current Water Well Standards. I believe it is the intention of the Village to abandon this well, therefore, it will be necessary to inform this office of when this is completed. It is important that this well is properly abandoned in accordance with the "State of Ohio Technical Guidance for Sealing Unused Wells". A copy of this guidance document can be obtained by contacting Lisa Koenig of our Division of Drinking and Ground Waters at (614) 644-3127.

L. REQUIREMENTS

The following is a summary of the requirements that were determined upon the conclusion of the sanitary survey of the Village of Lockland public water system:

1. In order to ensure proper operation of the filters, it will be necessary to repair or replace the rate of flow controllers and the loss of head gauges.
2. If well #4 is not to be used for obtaining ground water or for determining the quality, quantity, or level of ground water, such well shall either be properly abandoned or maintained in strict compliance with current Water Well Standards.

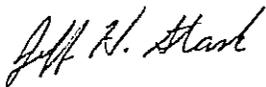
Ms. Evonne Kovack
August 7, 1996
Page 8

3. Provide the rated capacity of the pump located in the filter backwash pit.
4. Verify that the walls of the backwash pit are designed to prevent the access of surface water run-off into the pit. The walls shall be extend at least eight inches above the ground surface.
5. If any substantial changes are made to the water treatment plant, it will be necessary to cover the backwash pit. Plans of any plant modifications shall be submitted and approved prior to any construction.
6. When the water system provides water to the public, both free and combined chlorine residuals must be monitored and recorded on the Drinking Water Operation Report.
7. Plant production figures must be recorded each day the plant produces water. These values must also be noted on the Drinking Water Operation Report.

Please respond in writing by October 2, 1995, to let me know what actions the Village plans to take in regard to the above required items.

I appreciated Ms. Montgomery's and Mr. McKinney's cooperation during the sanitary survey of the Village of Lockland public water system. If you believe a misunderstanding has occurred regarding any of the items listed above, please bring them to my attention. If you have any questions or comments, feel free to write or call me at our Ohio EPA Southwest District Office at (513) 285-6118.

Sincerely,



Jeff H. Stark
Division of Drinking and Ground Waters
Public Drinking Water Unit

JHS/rlf

Enclosures

cc: Mayor Jim Brown and Council
Chris Eddy, Hamilton County General Health District
Dave Evans, Engineering and Operations, Ohio EPA, DDAGW/CO



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, OH 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6249

George V. Voinovich, Governor
Nancy P. Hollister, Lt. Governor
Donald R. Schregardus, Director

August 27, 1997

RE: VILLAGE OF LOCKLAND
HAMILTON COUNTY
COMMUNITY WATER SUPPLY
PWS I.D. #3101212

Ms. Evonne Kovack
Village of Lockland Administrator
101 North Cooper Avenue
Lockland, Ohio 45215

1997 Sanitary Survey Letter

Dear Ms. Kovack:

On August 7, 1997, Nicole Kelker and I met with Tena Scott Montgomery and Lonnie McKinney to conduct a sanitary survey of the water supply system which serves the Village of Lockland. The purpose of the survey was to evaluate the ability of the system to provide an adequate, safe and potable drinking water that meets the requirements of the Ohio Safe Drinking Water Law, Chapter 6109 of the Ohio Revised Code, and the implementing regulations of the Ohio Administrative Code (OAC).

As a result of the survey, the following comments and apply to the Village of Lockland public water system.

A. WATER SYSTEM SUMMARY

1. Population and Service Connections

Approximate population served by water system: 4,356

Number of service connections: 1,314

2. Plant Production and System Design Capacity

Average daily plant production (MGD): 0.775

Peak plant production (MGD): 1.236 (1-3-97)

Water system design capacity (MGD): 1.0

3. System Components

- a. Source: four production wells (wells #5, 6, 7 and 8).
- b. Treatment Processes: coagulation, lime softening, recarbonation, disinfection, filtration and sequestering.
- c. High Service Pumping: three high service pumps.
- d. Water Storage: one clearwell with a total capacity of 0.80 MG and one ground storage reservoir with a total capacity of 3.0 MG.

4. Emergency Interconnects

Emergency Connections: City of Cincinnati.

B. **WATER SYSTEM OPERATION**

1. Water System Design Capacity

The Lockland Water Treatment Plant has a design capacity of 1.0 MGD. According to our records, from May, 1996 through May, 1997 the plant operated above its design capacity a total of 22 times. On January 3, 1997 a peak rate at the plant reached 1.236 MGD. The average daily flow of 0.775 MGD was observed during the last year. This is approximately 78% of the Village's assured water treatment capacity. Should future monthly operation reports indicate that the average monthly flow exceeds 95% of the assured capacity, or the assured capacity is exceeded for three consecutive days, then we would request that you refrain from submitting any detail plans for new water main extensions until the Village of Lockland can confirm additional water treatment capabilities to meet existing and anticipated demands.

Water demands exceeding available treatment capacity can cause inadequately treated water to enter the distribution system. Similarly, when demands exceed the capacity of the source of supply, transmission, pumping, distribution system piping, or storage facilities, inadequate flow or pressure in the system can result. Inadequate flow or pressure affects the consumers' use of the water supply, hinders fire fighting capabilities, and creates opportunities for non-potable liquids to enter the system through cross-connections. Prolonged interruptions in water service represent a public health hazard. Therefore, in order to avoid exceeding the water treatment plant's design capacity, the

Ms. Kovack
August 27, 1997
Page 3

Village must either consider operating the water treatment plant longer hours (operating the plant on Sundays) or increase the plant's design capacity to meet current and potential increasing water needs.

I am pleased to note that the Village of Lockland has entered into a contract with Jones & Henry Engineers for the purpose of preparing a plan for upgrading Lockland's water system. Through this plan, Jones & Henry Engineers plans to evaluate not only the existing water treatment facilities to meet current and projected water needs, but the plan will also evaluate the Village's wells, distribution system and alternative treatment options. It is important for the Village to keep us informed of your progress to upgrade its water system.

2. Filter Backwash Recycle

During the survey, it was observed that the filter backwash water from the filters is recycled to the head of the plant. The backwash water from both filters is collected in a concrete waste pit located directly behind the treatment plant. The water is then pumped from the pit and discharged into the aerator. The waste pit is an uncovered reservoir surrounded by a chain link fence. During the survey, it was observed that the water in the pit contained debris and appeared brown in color.

Recycling filter backwash water can upset the treatment process by introducing organic matter such as grass clippings and leaves into the reservoir which may result in an increase of total organic carbon (TOC) in the waste stream and within the treatment process. Elevated TOC levels could impact disinfection by-product formation if the solids are not settled out prior to recycle. Therefore, as mentioned in the last survey letter, I would recommend that the Village make plans to cover the backwash pit. However, if any substantial modifications are made to the treatment plant, then it will be necessary to cover the backwash pit. Prior to construction, plans of any plant modifications shall be submitted for review and approval.

In addition, if the Village wishes to continue to recycle its backwash water and use the pit, then it will be necessary to ensure that the following is met:

- Recycling of filter backwash water may be returned to the head of the plant at a combined rate of less than ten percent of the instantaneous raw water flow rate entering the plant.

What percentage of the filter backwash water is recycled to the head of the plant?

*What is 4%
of 100?
4000
back?*

3. Finished Water Storage

As indicated by the "Drinking Water Operation Reports" for the last twelve months, the Village has an average water usage of approximately 0.775 MGD, therefore, the Village has approximately 3.9 days of treated water available in storage. This conforms with the *Recommended Standard for Water Works* which states that the minimum storage capacity shall be at least equal to the average daily water consumption.

4. Disinfection

Rule 3745-83-02 of the OAC requires that a chlorine residual of at least 0.2 mg/l of free chlorine or 1.0 mg/l of combined chlorine be maintained throughout representative points throughout the distribution system. A review of the Village's monthly operation reports appear to indicate that the above minimum free and/or combined chlorine residuals are being maintained throughout the distribution system.

An inspection of the gaseous chlorine feed facility (located at the water treatment plant) was conducted during the survey. No deficiencies were noted at this time.

C. **BACTERIOLOGICAL MONITORING**

1. Violations

The Village of Lockland public water system has incurred a monthly maximum contaminant level (MCL) violation for coliform bacteria, in violation of Rule 3745-81-14 of the OAC, since the last sanitary survey. Our records indicate that during the month of October, 1996, Lockland obtained two total coliform positive (unsafe) samples. Rule 3745-81-14 of the OAC states that a public water system which monitors with fewer than forty samples per month is in compliance with the MCL for total coliforms when no more than one sample during a month is total coliform positive. As required, the Village collected additional repeat coliform samples and issued the public notification to its consumers. Therefore, the Village has regained compliance with Rule 3745-81-14 of the OAC.

2. Monitoring

As a reminder, the Village of Lockland public water supply is required to collect and have analyzed by an Ohio EPA certified laboratory a minimum of five total coliform samples at sites which are representative of water throughout the distribution system each month. If a sample is total coliform-positive the sampling requirements are as follows: When a routine bacteriological

Ms. Kovack
August 27, 1997
Page 5

sample is total coliform-positive (unsafe), four repeat samples must be collected within twenty-four hours of being notified of the positive result. If one or more of any repeat samples is total coliform-positive, then the public water supply shall monitor with an additional set of four repeat samples until two consecutive days of total coliform-negative (safe) samples (four each day) have been obtained from the water supply. If you receive a total coliform-positive sample or if you have any questions regarding bacteriological monitoring, please call me at (937) 285-6118.

D. WATER QUALITY MONITORING

On July 29, 1996 our Central Office forwarded to the Village of Lockland information regarding water quality sampling requirements for the 1996, 1997, and 1998 periods for the following parameters:

Inorganic Chemicals	Asbestos
Nitrate	Nitrite
Radiologicals	Synthetic Organic Chemicals
Volatile Organic Chemicals	

At the time of the survey, I reviewed the sampling requirements with Ms. Montgomery and Mr. McKinney. It appears that since the last survey, sampling has been conducted in accordance with the new requirements and results indicate compliance with Ohio EPA standards. If you have questions concerning your monitoring requirements, please contact a member of our Water Quality Unit at (614) 644-2752.

E. LEAD AND COPPER MONITORING

Water systems the size of the Village of Lockland's are required to monitor lead and copper at consumers' taps. Review of the sample results collected during the last five years show compliance with current standards. Our records indicate that your water system has achieved three consecutive reduced annual monitoring periods in which the 90th percentile for both lead and copper have resulted in values less than the action levels. Therefore, Rule 3745-81-86 of the OAC allows you to further reduce your monitoring frequency from every year to every three years. In order to remain in compliance, your next lead and copper samples, minimum 20 sites, must be collected during the June 1 - September 30 period of 1997, 1998, or 1999. During the survey, Ms. Montgomery indicated that lead and copper samples were taken during July, 1997, however, the results of these samples are not yet known.

Ms. Kovack
August 27, 1997
Page 6

If these results are below both the lead and copper action levels then you will need to continue sampling for lead and copper at least every three years during the same June 1 through September 30 period. Your next lead and copper samples must be collected during the June 1, 2000 - September 30, 2000 period. The sample results must be received in our Ohio EPA Southwest District Office no later than October 10 of each monitoring period on the appropriate completed forms (Ohio EPA forms 5105, 5106, and 5107). If you have any questions regarding lead and copper monitoring, call me at (937) 285-6118.

F. CONTINGENCY PLAN

Contingency planning was discussed at the time of the survey. The goal of an adequately designed contingency plan is to provide essential data for water systems when they face emergency situations and the users are not assured of a potable water supply. During the survey Ms. Montgomery provided me with a copy of the Village's contingency plan. After my review, the plan appeared to adequately address all pertinent questions and potential problems. Ms. Montgomery reported that the plan was last revised during July, 1997.

G. BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL

During the survey, we discussed the need for protecting the water system from cross-connections to non-potable water systems and equipment that could pose a threat to the drinking water system. In order to protect the health of the consumers, it will be necessary to ensure that any connection the water system which could come in contact with a harmful substance is equipped with a backflow prevention device.

During the survey, Ms. Montgomery provided me with an inventory of all containment devices installed throughout the Village's service area. After my review, there appeared to be approximately 84 containment devices installed. The inventory contained such information as to the location of device, type of device installed, and dates when the device was last inspected. It was also reported by Ms. Montgomery that during May of each year the Village sends letters to the owners of backflow preventers reminding them to have their devices are inspected annually by a qualified individual. Mr. McKinney also reported that reinspections of the water use practices of customers are conducted to determine if conditions have changed to require a backflow preventer.

The backflow prevention and cross-connection program is an ongoing task that I believe is managed appropriately by the Village. For more information about cross-connection and backflow prevention consult the Ohio EPA Division of Drinking and Ground Water Backflow Prevention and Cross-Connection Control manual or you may call me at (937) 285-6118.

H. WELLHEAD PROTECTION

The Safe Drinking Water Act, as amended in 1986, mandates that each state develop a wellhead protection program to protect public water supplies that use a ground water source. Accordingly, the State of Ohio developed a Wellhead Protection Program that was approved by U.S. EPA in May 1992. Under Ohio's Wellhead Protection Program, local Wellhead Protection Plans are to be developed and implemented by local drinking water purveyors. The goal of these plans is to prevent contamination of the public water supplies by managing land-use activities on or near the wellfield.

It appears that since the last survey Lockland has made little or no progress to develop and implement a wellhead protection plan, much remains to be done. Wellhead protection is becoming more important every year. Activities surrounding the Village's wells having the potential to contaminate the ground water appear to be significant and steps should be taken to complete a wellhead protection plan. I am aware that the Village is in the process of completing its potential pollution source inventory. During the survey, Ms. Montgomery expressed an interest in developing a consortium with its neighboring communities, City of Wyoming and the Village of Glendale. It may be beneficial in forming a consortium because the delineation area of the wells of Lockland, Glendale and Wyoming maybe located within the same area.

In addition, as mentioned above, the Village has entered into a contract with Jones & Henry Engineers for the purpose of preparing a plan for upgrading its water system. More specifically, one component of this plan is to review and prepare an outline for developing a wellhead protection program for the Village's wells.

We encourage you to reinitiate your efforts to develop and implement a wellhead protection plan that addresses each component outlined in the Ohio's Wellhead Protection Program. Taking steps to protect the source of your water supply is much more cost effective than trying to remediate contamination after it has occurred or having to develop an alternative source of water. If you have any questions or require any information concerning the Wellhead Protection Program, please contact Mike Ekberg of our Southwest District Office at (937) 285-6451 or Mike Baker of our Central Office at (614) 644-2752.

I. PLANT CLASSIFICATION/OPERATOR CERTIFICATION

Our records indicate that the Village of Lockland water treatment plant and distribution system have been designated a Class II and Class I, therefore, as stated by Rule 3745-07-02 of the OAC:

Each person operating a public water system serving a population of over two hundred fifty shall place the responsibility for the technical operation and maintenance of such a water system under the responsible charge of a certified operator having a certificate of the class at least equal to that required by that water system classification.

Our records indicate that Tina Scott Montgomery has been designated as the "person in responsible charge" of the Lockland public water system. Therefore, Ms. Montgomery would be the persons at the facility responsible for the on-site supervision or technical operations and maintenance of the public water system, or any parts thereof which may affect the quality of the water produced by such works. If for any reason Ms. Montgomery would vacate her position, then it would be necessary to contact this office immediately.

As a reminder, operator certificates are valid for a period of two years. All operators should renew their certificates as the expiration date approaches. For questions concerning operator certification requirements, you should contact Raymond Shesky at (614) 644-2752.

J. LICENSE TO OPERATE

Our records indicate that the Village of Lockland public water system currently has 1,314 service connections, therefore, as stated by Rule 3745-84-05 of the OAC, the current fee for license renewal to operate your public water system, required under this chapter, is \$0.96 per service connection or \$1,261.44. This license is valid for one year and will expire on January 30, 1998. Before that time, our central office will be forwarding you an application for license renewal. Please inform this office of any changes in the number of service connections under the Village of Lockland water system. If you have any questions regarding your licence renewal, please contact Evelyn Young at (614) 644-2752.

K. WATER SOURCE

1. Water Source Designation

Rule 3745-81-76 of the Ohio Administrative Code requires us to evaluate your wells with regard to the potential influence by surface water. Factors considered in this evaluation include construction of the wells, proximity to potential contamination sources, and quality of the untreated water.

Currently, the Village is served by a total of four wells, #5, 6, 7, and 8. As a result of the survey and after reviewing our records, all four wells will remain designated as ground water.

2. Well Abandonment

I was pleased to hear that during June, 1997 well #4 was abandoned. In order to ensure that this well was properly abandoned, it will be necessary to provide a copy of the sealing report to this office prior to September 30, 1997.

In addition, during the survey, I noticed three existing old buildings located in the Village's wellfield which evidently housed the Village's original production wells. It is my understanding that these three wells are no longer operated and have been physically disconnected from Lockland's water system. Have these wells been abandoned? If not, it will be necessary to properly abandon them before December 31, 1997.

L. **REQUIREMENTS AND RECOMMENDATIONS**

The following is a summary of the requirements and recommendations that were determined upon the conclusion of the sanitary survey of the Village of Lockland public water system:

Requirements

1. Section B1, Water System Design Capacity, The Village must either consider operating the plant for longer hours or increase the plant's design capacity to meet the current and potential increasing water needs.
2. Section B2, Filter Backwash Recycling, Recycling of filter backwash water may be returned to the head of the plant at a combined rate of less than ten percent of the instantaneous raw water flow rate entering the plant. What percentage of the filter backwash water is recycled to the head of the plant?

If any substantial changes are made to the water treatment plant, it will be necessary to cover the backwash pit. Plans of any plant modifications shall be submitted and approved prior to any construction.

3. Section K2, Well Abandonment, Provide a copy of the well sealing report for well #4 and confirm if the original three production wells have been properly abandoned. If not, then before December 31, 1997 it will be necessary to abandon these wells.

Ms. Kovack
August 27, 1997
Page 10

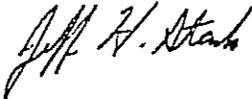
Recommendations

1. We encourage you to reinitiate your efforts to develop and implement a wellhead protection plan that addresses each component outlined in the Ohio's Wellhead Protection Program.

Please respond in writing by September 30, 1997, to let me know what actions the Village plans to take in regard to the above required and recommended items.

I appreciated Ms. Montgomery's and Mr. McKinney's cooperation during the sanitary survey of the Village of Lockland public water system. If you believe a misunderstanding has occurred regarding any of the items listed above, please bring them to my attention. If you have any questions or comments, feel free to write or call me at our Ohio EPA Southwest District Office at (937) 285-6118.

Sincerely,



Jeff H. Stark
Division of Drinking and Ground Waters
Public Drinking Water Unit

JHS/laj

Enclosure

cc: Mayor Jim Brown and Council
Chris Eddy, Hamilton County General Health District
Dave Evans, Engineering and Operations, Ohio EPA, DDAGW, CO



State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, OH 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6249

George V. Voinovich, Governor
Nancy P. Hollister, Lt. Governor
Donald R. Schregardus, Director

September 1, 1998

RE: VILLAGE OF LOCKLAND
HAMILTON COUNTY
COMMUNITY WATER SUPPLY
PWS I.D. #3101212

Ms. Evonne Kovack
Village of Lockland Administrator
101 North Cooper Avenue
Lockland, Ohio 45215

1998 Sanitary Survey

Dear Ms. Kovack:

On August 26, 1998, I met with Dick Caudil and Lonnie McKinney to conduct a sanitary survey of the water supply system which serves the Village of Lockland. The purpose of the survey was to evaluate the ability of the system to provide an adequate, safe and potable drinking water that meets the requirements of the Ohio Safe Drinking Water Law, Chapter 6109 of the Ohio Revised Code, and the implementing regulations of the Ohio Administrative Code (OAC). As a result of the survey, the following comments and apply to the Village of Lockland public water system.

A. WATER SYSTEM SUMMARY

1. Population and Service Connections

Approximate population served by water system:	4,356
Number of service connections:	1,314

2. Plant Production and System Design Capacity

Average daily plant production (MGD):	0.754
Peak plant production (MGD):	1.099 (1-7-98)
Water system design capacity (MGD):.	1.0

2. Finished Water Storage

As indicated by the "Drinking Water Operation Reports" for the last twelve months, the Village has an average water usage of approximately 0.754 MGD, therefore, the Village has nearly four days of treated water available in storage. This conforms with the *Recommended Standard for Water Works* which states that the minimum storage capacity shall be at least equal to the average daily water consumption.

3. Disinfection

Rule 3745-83-02 of the OAC requires that a chlorine residual of at least 0.2 mg/l of free chlorine or 1.0 mg/l of combined chlorine be maintained throughout representative points throughout the distribution system. A review of the Village's monthly operation reports appear to indicate that the above minimum free and/or combined chlorine residuals are being maintained throughout the distribution system.

An inspection of the gaseous chlorine feed facility was also conducted during the survey. No deficiencies were noted at this time.

4. Filtration

During the survey, Mr. Caudil and Mr. McKinney conducted a backwash of the south filter. The results of the filter backwash appeared adequate. No deficiencies were noted at this time.

C. BACTERIOLOGICAL MONITORING

1. Monitoring

A review of our records indicates that bacteriological analyses of samples collected from the Village's distribution system are being performed and reported as required. Since the last sanitary survey of August 26, 1997, our records indicate that the water produced by the system complies with the Ohio EPA drinking water quality standards for bacteriological contaminants. As a reminder, the Village of Lockland public water supply is required to collect and have analyzed by an Ohio EPA certified laboratory a minimum of five total coliform samples at sites which are representative of water throughout the distribution system each month.

2. Chemical Analysis

According to the *Ohio EPA 1997 Minimum Required Chemical Analysis of Water for Community and Major Non-Community Water Systems*, ground-water/lime softening type treatment plants, such as the Village of Lockland, are required to conduct weekly chemical analysis for alkalinity (stabilization) at the plant tap. Your monthly operation reports indicate that this has not always been conducted. Therefore, it will be necessary to immediately begin conducting chemical analysis for stabilization weekly and record these results on the *Drinking Water Operation Report Plant-Distribution* (EPA 5002). If you have any questions regarding this chemical analysis, please refer to the attached *Instruction Sheet for Drinking Water Operational Report EPA Form 5002*.

E. LEAD AND COPPER MONITORING

Water systems the size of the Village of Lockland's are required to monitor lead and copper at consumers' taps. Review of the sample results collected during the last six years show compliance with current standards. Our records indicate that your first reduced triennial sampling was conducted during the June 1, 1997 - September 30, 1997 period. The results of this sampling indicate compliance with current standards with the 90th percentile for lead of <5.0 ug/L and <50 ug/L for copper. In order to remain in compliance, your second reduced triennial lead and copper monitoring, minimum 20 sites, must be collected during the June 1 - September 30, 2000 and the sample results transferred to the appropriate Ohio EPA forms and received in our Ohio EPA Southwest District Office no later than October 10, 2000. If you have any questions regarding lead and copper monitoring, call me at (937) 285-6118.

F. CONTINGENCY PLAN

Contingency planning was discussed at the time of the survey. The goal of an adequately designed contingency plan is to provide essential data for water systems when they face emergency situations and the users are not assured of a potable water supply. During the survey Mr. McKinney provided me with a copy of the Village's contingency plan. After my review, the plan appeared to adequately address all pertinent questions and potential problems. It will be necessary to revise and update your contingency plan as necessary, but at least annually. Mr. Caudil reported that the plan was last revised during August, 1998.

Ms. Kovack
September 1, 1998
Page 7

We encourage you to reinitiate your efforts to develop and implement a wellhead protection plan that addresses each component outlined in the Ohio's Wellhead Protection Program. Taking steps to protect the source of your water supply is much more cost effective than trying to remediate contamination after it has occurred or having to develop an alternative source of water. If you have any questions or require any information concerning the Wellhead Protection Program, please contact Mike Ekberg of our Southwest District Office at (937) 285-6451 or Mike Baker of our Central Office at (614) 644-2752.

I. PLANT CLASSIFICATION/OPERATOR CERTIFICATION

Our records indicate that the Village of Lockland public water system has been designated as Class II and therefore, each person operating a public water system serving a population of over two hundred fifty shall place the responsibility for the technical operation and maintenance of such a water system under the responsible charge of a certified operator having a certificate of the class at least equal to that required by that water system classification.

It is our understanding that both the water treatment plant and the distribution system are under joint control meaning that the person in responsible charge of both the plant and distribution system having at least a Class II public water supply certificate is Tena Scott Montgomery. Therefore, Ms. Montgomery is the person at the facility responsible for the on-site supervision or technical operations and maintenance of the public water system, or any parts thereof which may affect the quality of the water produced by such works. If for any reason Ms. Montgomery would vacate your position then it will be necessary to contact this office immediately.

As a reminder, operator certificates are valid for a period of two years. All operators should renew their certificates as the expiration date approaches. For questions concerning current certification requirements, you should contact Deedra Davis of the Certification and Operation Unit at (614) 644-2029.

J. LICENSE TO OPERATE

Our records indicate that the Village of Lockland public water system currently has 1,314 service connections, therefore, as stated by Rule 3745-84-05 of the OAC, the current fee for license renewal to operate your public water system, required under this chapter, is \$0.96 per service connection or \$1,261.44. This license is valid for one year and will expire on January 30, 1999. Before that time, our central office will be forwarding you an application for license renewal. Please inform this office of any changes in the number of service connections under the Village of Lockland water system. If you have any questions regarding your licence renewal, please contact Evelyn Young at (614) 644-2752.

Ms. Kovack
September 1, 1998
Page 9

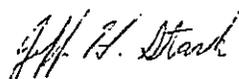
3. Section D2, Water Quality Monitoring - Chemical Analysis, It will be necessary to immediately begin conducting chemical analysis for stabilization weekly and record these results on the *Drinking Water Operation Report Plant-Distribution* (EPA 5002).
4. Section K, Water Source Designation, Prior to October 31, 1998, please inform this office the Village's intentions regarding well #8.

Recommendations

1. Section H, Wellhead Protection, We encourage you to reinitiate your efforts to develop and implement a wellhead protection plan that addresses each component outlined in the Ohio's Wellhead Protection Program.

Please respond in writing by the above dates to let me know what actions the Village of Lockland plans to take in regard to the required and recommended items. I appreciated Mr. Caudil's and Mr. McKinney's cooperation during the sanitary survey of the Village of Lockland public water system. If you believe a misunderstanding has occurred regarding any of the items listed above, please bring them to my attention. If you have any questions or comments, feel free to write or call me at our Ohio EPA Southwest District Office at (937) 285-6118.

Sincerely,

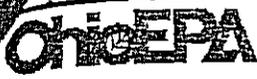


Jeff H. Stark
Division of Drinking and Ground Waters
Public Drinking Water Unit

JHS/mal

Enclosures

cc: Mayor Jim Brown and Council
Tena Scott Montgomery, Village of Lockland w/enclosures
Chris Eddy, Hamilton County General Health District
Dave Evans, Engineering and Operations, Ohio EPA, DDAGW, CO



Division of Drinking and Ground Waters

DRINKING WATER
OPERATION REPORT
PLANT-DISTRIBUTION

PWS Name Village of Lockland WTP

PWS ID 3101212

Lab. Certification No. 1160 Expires 11-1-99

Month Year January, 1997

NOTICE:

This report is required under Sections 6109.04 and 6109.12, Ohio Revised Code. Non-compliance may result in civil penalties up to a maximum of \$25,000 per violation per Sections 6109.31 and 6109.33.

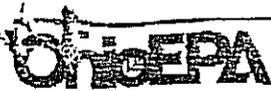
DATE	PLANT PRODUCTION (MGD)	PLANT TAP (all units mg/l except pH)											DISTRIBUTION SYSTEM						
		pH	Alkalinity			Hardness	Phosphate as Total P	Iron	Manganese	Copper	Chlorine Dioxide	Chlorite	Chlorine		Chlorine				
			Phenol	Total	Stability								Free	Combined		Free	Combined		
1	A/C																.80	.90	
2	1.0593	9.4	10	30		156						1.6	1.9				.70	.70	
3	1.2357	9.1	10	40		160						1.0	1.5				.50	.50	
4	.7765	9.3	10	36		156						1.1	1.8				.40	.40	
5	A/C																.60	.60	
6	.4021	9.1	4	32		158						1.3	1.6				.70	.70	
7	.4038	9.3	6	26	+0.6	154						1.7	1.9				1.2	1.3	+0.6
8	.4041	9.5	8	26		152						1.7	1.9				1.3	1.3	
9	.8492	9.3	6	24		150						1.7	1.9				1.6	1.7	
10	.4825	9.4	16	32		146						1.7	2.1				.90	.90	
11	.7513	9.0	8	38		158						1.0	1.4				.90	.90	
12	A/C																.30	.50	
13	.8923	9.5	20	56		164						1.7	1.9				1.2	1.2	
14	.4066	9.4	14	30		160						1.9	2.1				1.4	1.5	
15	.4039	9.6	12	38		160						1.9	2.2				1.5	1.8	
16	.4003	9.2	10	30	+0.5	154						1.8	2.1				1.0	1.1	+0.9
17	.4057	9.5	12	30		160						1.9	2.1				1.5	1.6	
18	.5666	9.2	8	32		154						1.9	2.0				1.2	1.5	
19	A/C																1.2	1.4	
20	.4024	9.6	10	36		154						1.8	2.0				1.0	1.0	
21	.4224	9.6	16	48		170						1.8	2.1				1.4	1.4	
22	.4265	9.4	14	44		166						1.7	2.0				1.2	1.3	
23	.4498	9.6	14	44		180						1.8	2.2				1.4	1.5	
24	.4932	9.6	16	40	+0.9	140						1.6	2.3				.90	1.0	+1.1
25	.6078	9.6	16	44		148						1.5	2.1				.70	.80	
26	A/C																1.0	1.2	
27	.8846	9.7	30	70		178						1.9	2.3				.30	.40	
28	.8947	10.0	22	58		182						2.1	2.4				.3	.4	
29	.8942	9.3	10	36		160						1.8	2.0				.7	.8	
30	.8940	9.8	14	32		180						1.4	1.8				.5	.7	
31	.7409	10.5	26	48		136						1.9	2.4				.1	.1	
TOTAL	23.1004	246.5	342	1000	+1.0	4136						432	52				524	35	+5.6
MAX.	1.2357	10.5	30	70	+0.9	182						2.1	2.4				.7	.8	+1
MIN.	.5666	9.0	6	24	+0.5	136						1.0	1.4				.30	.40	+1.6
AVG.	.8885	9.5	13	38	+0.7	154						1.7	2.0				.0	1.1	+2.9

I certify under penalty of law that I have personally examined and am familiar with the data submitted in this MOR; that the data in this report is true, accurate and complete; and I am aware that falsification thereof could result in the imposition of fines and penalties including revocation of my certification as a public water system operator.

Name of Certified Operator and Certification Number # 3-94-019
Tena Scott Montgomery

Signature of Responsible Official
Tena Scott Montgomery

Date 2-5-97



Division of Drinking and Ground Waters

DRINKING WATER OPERATION REPORT PLANT-DISTRIBUTION

PWS Name _____

PWS ID _____
Month/Year December 1997

Lab. Certification No. _____ Expires _____

NOTICE: This report is required under Sections 6109.04 and 6109.12, Ohio Revised Code. Non-compliance may result in civil penalties up to a maximum of \$25,000 per violation per Sections 6109.31 and 6109.33.

DATE	PLANT PRODUCTION (MGD)	PLANT TAP (all units mg/l except pft)										DISTRIBUTION SYSTEM		Chloride		
		pH	Alkalinity			Hardness	Phosphate as Total P	Iron	Manganese	Copper	Chlorine Dioxide	Chlorite	Chlorine			
			Phenol	Total	Stability								Free		Combined	
1	661300	9.0	34	74	166							1.6	2.1	1.0	1.1	
2	669200	9.6	30	92	186							2.1	2.5	1.4	1.4	
3	668200	9.6	28	78	166							2.0	2.2	-	-	
4	673400	9.7	30	80	160							1.8	2.0	-	-	
5	918800	9.3	20	76	198							1.8	2.3	.70	.60	
6	426600	9.7	36	90	196							2.1	2.4	1.2	1.2	
7		PLANT DOWN														
8	646600	9.8	36	80	162							1.9	2.2	.70	.90	
9	656700	9.7	36	86	170							1.5	2.1	.50	.90	
10	857600	9.7	34	82	170							1.7	2.1	1.1	1.1	
11	990500	9.7	42	108	182							1.6	2.5	.70	1.2	
12	998100	9.6	38	110	184							1.5	2.3	1.1	1.1	
13	285200	9.8	38	108	190							1.1	2.2	.70	1.0	
14	368700	9.6	44	112	200							1.2	1.8	.70	.70	
15	1,000,500	9.7	42	110	182							1.8	2.2	.70	1.1	
16	1,009,000	9.6	36	106	182							1.4	2.3	1.5	2.2	
17	1,010,200	9.9	40	88	170							1.7	2.4	-	-	
18	1,015,700	9.9	40	92	184							1.5	2.4	.70	1.4	
19	972900	9.9	36	88	180							1.8	2.7	.35	.50	
20	5x 5800	9.8	30	70	180							1.7	2.5	1.2	1.3	
21		PLANT DOWN														
22	799800	9.7	42	100	184							1.7	2.3	1.8	1.8	
23	947500	9.9	36	86	180							1.7	2.6	.30	.60	
24	547700	9.8	42	90	182							1.4	2.3	.30	.70	
25		PLANT DOWN														
26	1,022,300	9.8	42	100	184							1.8	2.3	.50	.60	
27	633100	9.8	42	94	186							1.8	2.3	.70	.80	
28		PLANT DOWN														
29	1,019,300	9.9	42	90	172							2.0	2.5	.90	1.0	
30	746900	10.0	46	84	174							1.4	2.2	1.2	1.2	
31	621400	9.8	32	84	170							1.8	2.3	.20	.60	
TOTAL	20,506,800	9.627	979	2476	1824							45.4	61.9	22.65	29.3	
MAX.	1,019,300	10.0	42	110								2.1	2.7	1.8	2.2	
MIN.	285,200	9.3	20	70								1.2	1.8	.20	.70	
AVG.	759,511	9.7	36	91	179							1.7	2.3	.98	1.5	

I certify under penalty of law that I have personally examined and am familiar with the data submitted in this MOR; that the data in this report is true, accurate and complete; and I am aware that falsification thereof could result in the imposition of fines and penalties including revocation of my certification as a public water system operator.

Name of Certified Operator and Certification Number

Signature of Responsible Official

Date

ADDITIONAL SUPPORT INFORMATION

For Program Year 1999 (July 1, 1999 through June 30, 2000), jurisdictions shall provide the following support information to help determine which projects will be funded. Information on this form must be accurate, and where called for, based on sound engineering principles. Documentation to substantiate the individual items may be required by the Support Staff if information does not appear to be accurate.

- 1) What is the condition of the existing infrastructure to be replaced, repaired, or expanded? For bridges, submit a copy of the current State form BR-86.

Closed _____ Poor X
Fair _____ Good _____

Give a brief statement of the nature of the deficiency of the present facility such as: inadequate load capacity (bridge); surface type and width; number of lanes; structural condition; substandard design elements such as berm width, grades, curves, sight distances, drainage structures, or inadequate service capacity. If known, give the approximate age of the infrastructure to be replaced, repaired, or expanded.

See Attachment 2 - Additional Support Information

- 2) If State Capital Improvement Program funds are awarded, how soon (in weeks or months) after receiving the Project Agreement from OPWC (tentatively set for July 1, 1999) would the project be under contract? The Support Staff will be reviewing status reports of previous projects to help judge the accuracy of a particular jurisdiction's anticipated project schedule.

four (4) weeks/months (Circle one)

Are preliminary plans or engineering completed? Yes No

Are detailed construction plans completed? Yes No

Are all right-of-way and easements acquired? Yes No N/A

*Please answer the following if applicable:

No. of parcels needed for project: N/A Of these, how many are Takes N/A, Temporary N/A, Permanent N/A

On a separate sheet, explain the status of the ROW acquisition process of this project for any parcels not yet acquired.

Are all utility coordination's completed? Yes No N/A

Give an estimate of time, in weeks or months, to complete any item above not yet completed. six (6) weeks/months

3) How will the proposed project impact the general health, safety and welfare of the service area? (Typical examples may include the effects of the completed project on accident rates, emergency response time, fire protection, health hazards, user benefits, commerce, and highway capacity.) Please be specific and provide documentation if necessary to substantiate the data.

See Attachment 2 - Additional Support Information

4) What types of funds are to be utilized for the local share for this project?

Federal _____ ODOT _____ Local _____
MRF _____ OWDA _____ CDBG _____
Other NONE _____

Note: If MRF funds are being used for the local share, the MRF application must have been filed by August 7, 1998 for this project with the Hamilton County Engineer's Office.

The minimum amount of matching funds for grant projects (local share) must be at least 10% of the TOTAL CONSTRUCTION COST. What percentage of matching funds is being committed to this project?

-0- %

5) Has any formal action by a federal, state, or local government agency resulted in a complete or partial ban of the use or expansion of use for the involved infrastructure? (Typical examples include weight limits, truck restrictions, and moratoriums or limitations on issuance of building permits.) A copy of the approved legislation must be submitted with the application. THE BAN MUST HAVE AN ENGINEERING JUSTIFICATION TO BE VALID. See Attachment 2 - Additional Support Information

Complete Ban _____ Partial Ban X No Ban _____

Will the ban be removed after the project is completed?

Yes X No _____

- 6) What is the total number of existing users that will benefit as a result of the proposed project?

ADT = _____ X 1.20 = 7460* users/day

For roads and bridges, multiply current documented Average Daily Traffic by 1.20. For public transit, submit documentation substantiating the count. Where the facility currently has any restrictions or is partially closed, use documented traffic counts prior to the restriction. For storm sewers, sanitary sewers, water lines, and other related facilities, multiply the number of households in the service area by 4. *1865 households x 4 = 7460 users/day
(1990 U.S. Census)

- 7) Has the jurisdiction developed a Five-Year Capital Improvement Plan as required in O.R.C., chapter 164?

Yes X No _____

- 8) Give a brief statement concerning the regional significance of the infrastructure to be replaced, repaired, or expanded.

See Attachment 2 - Additional Support Information.

- 9) For roadway betterment projects, provide the existing and proposed Level of Service (LOS) of the facility using the methodology outlined within AASHTO'S "Geometric Design of Highways and Streets" and the 1985 Highway Capacity Manual.

Existing LOS N/A Proposed LOS N/A

If the proposed LOS is not "C" or better, explain why LOS "C" cannot be achieved. (Attach separate sheets if necessary.)

N/A

**SCIP/LTIP PROGRAM
 ROUND 13 - PROGRAM YEAR 1999
 PROJECT SELECTION CRITERIA
 JULY 1, 1999 TO JUNE 30, 2000**

JURISDICTION/AGENCY: LOCKLAND
 NAME OF PROJECT: WATER PLANT IMPROVEMENTS
 PRELIMINARY SCORE FOR THIS PROJECT: 63
 FINAL SCORE FOR THIS PROJECT: _____
 RATING TEAM: 2

- | | | <u>POINTS</u> |
|----|---|---------------|
| 1) | If SCIP/LTIP funds are granted, when would the construction contract be awarded? <u>(See Addendum for definition of delinquency)</u> | <u>5</u> |
| | 5 Points - Will be under contract by end of 1999 and no delinquent projects in Rounds 10 & 11. | |
| | 3 Points - Will be under contract by March 30, 2000 and/or Jurisdiction has had one delinquent project in Rounds 10 & 11. | |
| | 0 Points - Will not be under contract by March 30, 2000 and/or Jurisdiction has had more than one delinquent project in Rounds 10 & 11. | |
| 2) | What is the physical condition of the existing infrastructure to be replaced or repaired? <u>(See Addendum for definitions)</u> | <u>23</u> |
| | 25 Points - Failed <i>REQUIRES PARTIAL</i> | |
| | 23 Points - Critical <i>RECONSTRUCTION OF</i> | |
| | 20 Points - Very Poor <i>EXISTING FACILITIES PLUS</i> | |
| | 17 Points - Poor <i>NEW FACILITIES</i> | |
| | 15 Points - Moderately Poor | |
| | 10 Points - Moderately Fair | |
| | 5 Points - Fair Condition | |
| | 0 Points - Good or Better | |

NOTE: If the infrastructure is in "good" or better condition, it will NOT be considered for SCIP/LTIP funding unless it is an expansion Project that will improve serviceability.

3) If the project is built, what will be its effect on the facility's serviceability? Documentation is required. *MAY BE INCREASED TO 5 pts*

- 5 Points - Project design is for future demand. 5
- 4 Points - Project design is for partial future demand. *Current capacity is*
- 3 Points - Project design is for current demand. *1.0 mgd*
- 2 Points - Project design is for minimal increase in capacity. *Design capacity is*
- 1 Point - Project design is for no increase in capacity. *1.7 mgd*

4) How important is the project to HEALTH, SAFETY, AND WELFARE of the Public and the citizens of the District and/or service area? (See Addendum for definitions)

- 10 Points - Highly significant importance, with substantial impact on all 3 factors. 8
- 8 Points - Considerably significant importance, with substantial impact on 2 factors, or noticeable impact on all 3 factors.
- 6 Points - Moderate importance, with substantial impact on 1 factor or noticeable impact on 2 factors.
- 4 Points - Minimal importance, with noticeable impact on 1 factor
- 2 Points - No measurable impact. *Welfare - improves quality of life & business expansion point*
Health - app states health aspect is maintained not improved
Safety - DOCUMENTED PERIODS OF DAYS WHEN DEMAND EXCEEDED CAPACITY, INCREASING SYSTEM RESERVES, w/ POTENTIAL IMPACT
NO IMPACT
NO IMPACT
NO IMPACT

5) What is the overall economic health of the jurisdiction? *ON FIRE PROTECTION*

- 10 Points
- 8 Points
- 6 Points
- 4 Points
- 2 Points

4

6) What matching funds are being committed to the project, expressed as a percentage of the TOTAL CONSTRUCTION COST? Loan and Credit Enhancement projects automatically receive 5 points, and no match is required; however, up to 5 additional points will be awarded according to the Loan & Credit Enhancement scale as stated below. All grant-funded projects require a minimum of 10% matching funds. Points will be awarded according to the following schedule:

<u>Projects below \$1,000,000</u>	<u>Projects \$1M to \$2M</u>	<u>Projects above \$2M</u>
10 Pts - 50% or more	10 Pts - 60% or more	10 Pts - 70% or more
8 Pts - 40% to 49.99%	8 Pts - 50% to 59.99%	8 Pts - 60% to 69.99%
6 Pts - 30% to 39.99%	6 Pts - 40% to 49.99%	6 Pts - 50% to 59.99%
4 Pts - 20% to 29.99%	4 Pts - 30% to 39.99%	4 Pts - 40% to 49.99%
2 Pts - 10% to 19.99%	2 Pts - 20% to 29.99%	2 Pts - 30% to 39.99%
	0 Pts - 10% to 19.99%	0 Pts - 10% to 29.99%

Loans & Credit Enhancements

- 5 Pts - 50% or more
- 4 Pts - 40% to 49.99%
- 3 Pts - 30% to 39.99%
- 2 Pts - 20% to 29.99%
- 1 Pt - 10% to 19.99%

5

7) Has any formal action by a federal, state, or local government agency resulted in a partial or complete ban of the usage or expansion of the usage for the involved infrastructure? POINTS MAY ONLY BE AWARDED IF THE END RESULT OF THE PROJECT WILL CAUSE THE BAN TO BE LIFTED.

5 Points - Complete ban

3 Points - Partial ban

0 Points - No ban of any kind

*ON ASI "WELLFARE" STATEMENT
FOR WALK LEAVE NO ADDITIONAL 3
INTERLINE EXPANSION BE APPLIED
IF AVERAGE MONTHLY FLOW EXCEEDED
95% OF PLANT CAPACITY.
LIST OF DESIGN MEMORANDUM STATES
THIS (2012) IS BASED ON CURRENT O&M
REQUIREMENTS, THE PLANT HAS A PRESENT RATED CAPACITY
OF 0.9 MGD
6,300 M.
95% OF 0.9 MGD*

8) What is the total number of existing daily users that will benefit as a result of the proposed project? Appropriate criteria include current traffic counts, households served, when converted to a measurement of persons. Public transit users are permitted to be counted for the roads and bridges, but only when certifiable ridership figures are provided.

5 Points - 16,000 or more

4 Points - 12,000 to 15,999

3 Points - 8,000 to 11,999

2 Points - 4,000 to 7,999

1 Point - 3,999 and under

2
7460 (ASI)
4356 (JEPA letter)

9) Does the infrastructure have regional impact? Consider originations and destinations of traffic, functional classifications, size of service area, number of jurisdictions served, etc. (See Addendum for definitions)

5 Points - Major impact

4 Points -

3 Points - Moderate impact

2 Points -

1 Point - Minimal or no impact

5

10) Has the jurisdiction enacted the optional \$5 license plate fee, an infrastructure levy, a user fee, or a dedicated tax for infrastructure and provided certification of which fees have been enacted?

5 Points - Two of the above

3 Points - One of the above

0 Points - None of the above

3

ADDENDUM TO THE RATING SYSTEM DEFINITIONS/CLARIFICATIONS

Criterion 1 - *ABILITY TO PROCEED*

The Support Staff will assign points based on engineering experience and OPWC defined delinquent projects. A project will be considered delinquent when any of the following occurs: 1) A letter is sent from the OPWC to the affected jurisdiction stating that the project has not moved in accordance with the time frame listed on the application (copies are sent to the District); or 2) no time extension has been granted by the OPWC; or 3) A jurisdiction receiving approval for a project subsequently terminates the same after the bid date on the application. The OPWC sends a letter to a jurisdiction which announces that its' project is going to be terminated when the project is sixty (60) days beyond the bid date shown on the original application and a time extension for the project has not previously been requested or has been denied.

Criterion 2 - *CONDITION*

Condition is based on the amount of deterioration that is *field verified* or documented exclusive of capacity, serviceability, or health, safety and welfare issues. Condition is rated only on the existing facility being repaired or abandoned. If the existing facility is not being abandoned or repaired, but a new facility is being built, it shall be considered as an expansion project. (Documentation may include ODOT BR-86 reports, pavement management condition reports, televised underground system reports, age inventory reports, maintenance records, etc., and will only be considered if included with the original application.)

Definitions:

FAILED CONDITION - Requires complete reconstruction where no part of the existing facility is salvageable. (E.g. Roads: complete reconstruction of roadway, curbs and base; Bridges: no part of the bridge can be salvaged; Underground: removal and replacement of an underground drainage or water system; Hydrants: completely non-functioning and replacement parts are unavailable.)

CRITICAL CONDITION - Requires moderate or partial reconstruction to maintain integrity. (E.g. Roads: reconstruction of roadway, curbs can be saved; Bridges: only the substructure can be salvaged with modifications; Underground: removal and replacement of part of an underground drainage or water system; Hydrants: some non-functioning, others obsolete and replacement parts are unavailable.)

VERY POOR CONDITION - Requires extensive rehabilitation to maintain integrity. (E.g. Roads: extensive full depth, partial depth and curb repair of a roadway with a structural overlay; Bridges: substructure and superstructure can be salvaged with extensive repairs; Underground: repair of joints and/or minor replacement of pipe sections; Hydrants: non-functioning and replacement parts are available.)

POOR CONDITION - Requires standard rehabilitation to maintain integrity. (E.g. Roads: moderate full depth, partial depth and curb repair to a roadway with no structural overlay needed or structural overlay with minor repairs to a roadway needed; Bridges: deck cannot be salvaged, substructure and superstructure need repair; Underground: insituform or other in ground repairs; Hydrants: functional, but leaking and replacement parts are unavailable.)

MODERATELY POOR CONDITION - Requires minor rehabilitation to maintain integrity. (E.g. Roads: minor full depth, partial depth or curb repairs to a roadway with either a thin overlay or no overlay needed; Bridges: deck can be salvaged with repairs and overlay; Hydrants: functional and replacement parts are available.)

MODERATELY FAIR CONDITION - Requires extensive maintenance to maintain integrity. (E.g. Roads: thin or no overlay with extensive crack sealing, minor partial depth and/or slurry or rejuvenation; Bridges: deck rehabilitation required, overlay not required.)

FAIR CONDITION - Requires routine maintenance to maintain integrity. (e.g. Roads: slurry seal, rejuvenation or routine crack sealing to the roadway; Bridges: minor rehabilitation required.)

GOOD OR BETTER CONDITION - Little or no maintenance required to maintain integrity; Bridges: no work required.

Criterion 4 - *HEALTH, SAFETY & WELFARE*

Definitions:

SAFETY - The design of the project will prevent accidents, promote safer conditions, and eliminate or reduce the danger of risk, liability, or injury.

EXAMPLES: Widening existing roadway lanes to standard lane widths; Adding lanes to a roadway or bridge to increase capacity or alleviate congestion; replacing old or non-functioning hydrants; increasing capacity to a water system, etc.

HEALTH - The design of the project will improve the overall condition of the facility so as to reduce or eliminate disease; or correct concerns regarding the environmental health of the area.

EXAMPLES: Improving or adding storm drainage or sanitary facilities; replacing lead joints in water lines;

WELFARE - The design of the project will promote economic well-being and prosperity.

EXAMPLES: Project has the potential to improve business expansions or opportunities in the area; project will improve the quality of life in the area;

PLEASE NOTE: The examples listed above are NOT a complete list, but only a small sampling of situations that may be relevant to any given project. Each project is looked at on an individual basis to determine if any aspects of this rating category apply, and if so, to what severity level (minor or significant).

The severity and extent of the problem, as it relates to Health, Safety and Welfare, MUST be fully detailed by the applicant and apparent to the rating team. The Support Staff will not attempt to determine these issues on its own.

Without such detail the jurisdiction should expect a lower rating than the project may deserve.

Criterion 9 - *REGIONAL IMPACT*

Definitions:

MAJOR IMPACT - Roads: major multi-jurisdictional route, primary feed to an interstate, Federal Aid Primary routes; Underground: primary water or sewer main serving and entire system; Hydrants: multi-jurisdictional.

MODERATE IMPACT - Roads: principal thoroughfares, Federal Aid Urban routes; Underground: primary water or sewer main serving only part of a system; Hydrants: all hydrants in a local system serving only one jurisdiction.

MINIMAL/NO IMPACT - Roads: cul-de-sacs, subdivision streets; Underground: individual water or sewer main not part of a large system; Hydrants: only some hydrants in a local system serving only one jurisdiction.