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THE  
ONTARIO WATER RESOURCES  
COMMISSION

WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF COBOCONK

TOWNSHIPS OF BEXLEY AND SOMERVILLE

POLICE VILLAGE OF COBOCONK  
TOWNSHIPS OF BEXLEY AND SOMERVILLE

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**TD**  
**380**  
**.C632**  
**1966**

Report on a water pollution  
survey of the police village of  
Coboconk in the townships of  
Bexley and Somerville in the  
80840

THE  
ONTARIO WATER RESOURCES COMMISSION

REPORT ON A  
WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF COBOCONK

in the

TOWNSHIPS OF BEXLEY AND SOMERVILLE

in the

COUNTY OF VICTORIA

Division of Sanitary Engineering

1 9 6 6

REPORT ON A WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF COBOCONK

<u>INDEX</u>	<u>PAGE NO.</u>
INTRODUCTION	1
INTERVIEW WITH OFFICIALS	1
POLICE VILLAGE OF COBOCONK	2
WATER SUPPLY	2
SURFACE WATER DRAINAGE	2
SANITARY WASTE DISPOSAL	3
MUNICIPAL REFUSE DISPOSAL	4
SAMPLING PROCEDURE AND RESULTS	4
REMEDIAL MEASURES	5
SUMMARY	6
RECOMMENDATIONS	6
 <u>APPENDICES</u>	
INTERPRETATION OF ANALYSES	
LABORATORY RESULTS	
MAP OF THE POLICE VILLAGE OF COBOCONK	

REPORT ON A WATER POLLUTION SURVEY

of the

POLICE VILLAGE OF COBOCONK

in the

TOWNSHIPS OF BEXLEY AND SOMERVILLE

INTRODUCTION

A water pollution survey of this police village was performed on May 4, 1966, with follow-up investigations of one specific problem area on June 21 and July 14, 1966. Water pollution surveys are made by this Commission for the purpose of locating and recording sources of existing and potential water pollution. Where pollution sources are noted, recommendations are made concerning their abatement to the parties concerned.

The appendices to this report include an interpretation of the various tests performed on the samples, a tabulation of the sample results, and a map of the police village showing the sample point locations.

INTERVIEW WITH OFFICIALS

The following officials were interviewed:

Dr. R. E. Jamieson, Medical Officer of Health;  
Mr. A. H. Smith, Clerk, Township of Bexley;  
Mrs. H. E. Millyard, Inspecting Trustee of Police Village.

POLICE VILLAGE OF COBOCONK

The Police Village of Coboconk is located on the boundary between the Townships of Bexley and Somerville. Gull River which drains Silver Lake bisects the police village as it empties into Balsam Lake. Balsam Lake is part of the Trent Waterway.

The topography of the area is irregular with prevailing shallow soil depths.

According to the 1966 Municipal Directory the population is 537.

WATER SUPPLY

The Police Village of Coboconk does not have a municipal water works. Water supplies are obtained from private wells of apparent adequacy except the laundromat in which case water is obtained from the Gull River.

SURFACE WATER DRAINAGE

Due to the topography of the police village surface run-off flows to the Gull River. A Department of Highways storm sewer conveys flows from at least two Township of Bexley storm sewers to the Gull River at the Highway 35 bridge.

Two Department of Highways storm sewers carry run-off from the Township of Somerville section of the police village to the Gull River at the main bridge.

SANITARY WASTE DISPOSAL

The provision of adequate private sub-surface sewage disposal systems has been hampered to some extent by soil conditions and a high water table.

Three significant waste disposal problems presented themselves during the period of this survey. The laundromat, the Pattie House Hotel, and Shield's Store. Wastes from the latter two establishments had access via a common drain to a municipal storm sewer and thence via a Department of Highways storm sewer to the local watercourse.

Waste collection and haulage arrangements have now been implemented for the problem at the hotel. Wastes from the store no longer gain access to the river. Wastes from the laundromat operated by Mrs. H. E. Millyard are directed to a septic tank of undisclosed capacity. The effluent from this tank has access to the Gull River via a submerged outfall pipe approximately 50 feet upstream of sample point No. TG 166.3 WC. This problem was investigated and reported on by Commission staff during October, 1965.

A correction of this problem has not been effected to date. Similar arrangements to those employed at the hotel may be necessary in this instance as indicated in the report. Prompt action on this problem will be necessary.



Through investigation by dye tests, it was revealed that sanitary wastes from a restaurant, associated with the Esso Service Station, and located opposite the Pattie House Hotel, had direct access to the watercourse. A manner of waste disposal that will provide protection for the quality of the waters of the Gull River is required at this site.

#### MUNICIPAL REFUSE DISPOSAL

The local refuse disposal site is located east of the police village. No problems have been reported concerning any effects this site might exert on water quality.

#### SAMPLING PROCEDURE AND RESULTS

Samples were collected from pertinent locations on the Gull River and from three storm sewer outfalls at the main bridge.

The pertinent laboratory analyses results of both this survey and a water quality monitoring program together with an interpretation of the various analyses employed and a map showing the location of sampling points are appended to this report.

The analyses employed in this survey to assess the quality of surface waters and outfall discharges were biochemical oxygen demand (BOD), suspended solids, anionic detergents as ABS and Total and Most Probable Number coliform counts.

The OWRC objectives for surface-water quality are that the following concentrations are not exceeded:

BOD - 4.0 ppm  
Coliform Count - 2,400 coliforms per 100 ml.

Adequate protection of surface waters except in certain specific instances influenced by local conditions, is generally obtained if the following waste discharge concentrations are not exceeded:

BOD - 15 ppm  
Suspended Solids - 15 ppm

Generally satisfactory water quality is indicated in the sample results pertinent to the river. The outfall sample results confirm the reports that inadequately treated sanitary wastes have access to the storm sewer system.

#### REMEDIAL MEASURES

A provincially-financed sewage works project is one answer to the urgent waste disposal problem in Coboconk as outlined in our letter of May 3, 1966.

In the event that a sewage works project is not feasible, it will be necessary to proceed without delay in the satisfactory disposal of wastes on an individual basis at those sites where a hazard to water quality exists.

SUMMARY

A water pollution survey of the Police Village of Coboconk in May, June and July, 1966, confirmed the fact that inadequately treated wastes from several premises had access either directly or via storm sewers to the Gull River. A significant problem of waste disposal at the Pattie House Hotel and Shield's Store has been corrected since the time of the field investigations. Alternate methods of waste disposal will be necessary for the laundromat and the restaurant mentioned in the body of the report.

RECOMMENDATIONS

A satisfactory method of waste disposal should be provided for the laundromat and the restaurant mentioned in the body of the report, either through a sewage works project for the police village or on an individual basis by the responsible parties.

Prepared by: *A. D. McConnell*  
A. D. McConnell,  
Technician,  
Division of Sanitary Engineering.

## INTERPRETATION OF ANALYSES

The analyses employed to determine the quality of the water samples were biochemical oxygen demand (BOD), solids and detergents. Bacteriological examinations were performed to determine the presence of coliform organisms.

The BOD of sewage or polluted waters is the oxygen required during stabilization of the decomposable organic or chemical matter by aerobic biochemical action. A five-day BOD determination with incubation at 20 degrees Centigrade is reported. A high BOD is indicative of organic or chemical pollution.

The analyses for solids include tests for total, suspended, and dissolved solids. The results are reported in ppm. The first test measures both the solids in solution and in suspension. The suspended solids indicate the measure of undissolved solids of organic or inorganic nature in suspension. Significant sources of suspended solids are sewage, industrial wastes and land erosion. The dissolved solids are a measure of those solids in solution.

The presence of anionic detergents as ABS usually is an indication that domestic waste is contained in the sample.

The membrane filter technique is employed to obtain a direct enumeration of coliform organisms and is reported per 100 millilitres of the sample. The presence of coliforms indicates pollution from human or animal excrement, or from some non-faecal sources.

The Most Probable Number (MPN) method provides an index of the number of coliform organisms per 100 cubic centimetre of the water sample. The Multiple Tube Fermentation technique was employed. Although the presence of coliforms indicates pollution from human or animal excrement, or from some non-faecal sources, E. Coli organisms originate in the intestinal tract of humans and other warm blooded animals.

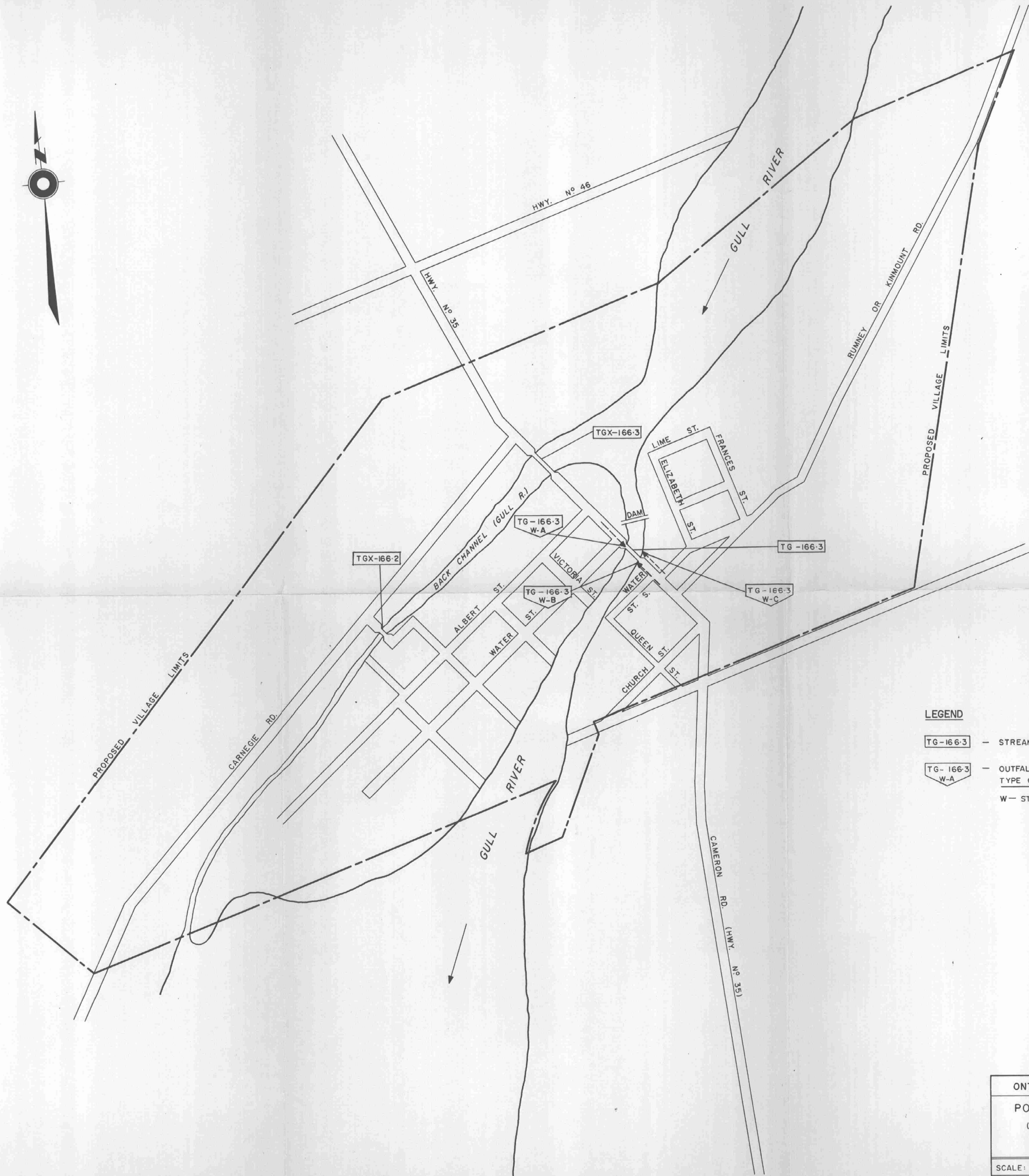
POLICE VILLAGE OF COBOCONK - WATER POLLUTION SURVEY

SAMPLE POINT NO.	DATE COLLECTED	DESCRIPTION	5-DAY BOD	S O L I D S			ANIONIC DETERGENTS AS ABS	BACTERIOLOGICAL		EXAMINATION
				TOTAL	SUSP.	DISS.		M P N	E. COLI	COLIFORMS/100 ML MEMBRANE FILTER
TGX 166.3	MAY 4/66	GULL RIVER INLET AT NORTH BRIDGE ON HWY. NO. 35	1.3	78	1	77	---	9.1	0	---
TGX 166.2	MAY 4/66	GULL RIVER INLET AT SIDE ROAD CULVERT	1.0	66	1	65	---	7.3	3.6	---
TG 166.3 WA	JUNE 21/66	STORM SEWER OUTFALL TO GULL RIVER AT MAIN BRIDGE - WEST BANK (SAMPLE COLLECTED FROM LAST MANHOLE)	28	1088	114	974	2.8	---	---	12,900,000
TG 166.3 WB	JUNE 21/66	STORM SEWER OUTFALL TO GULL RIVER SOUTH OF MAIN BRIDGE - EAST BANK	1.2	318	10	308	0.1	---	---	5,500
TG 166.3 WC	MAY 4/66	STORM SEWER OUTFALL TO GULL RIVER NORTH OF MAIN BRIDGE - EAST BANK	3.0	346	59	287	---	15,000	2,300	---
TG 166.3	MAY 4/66	GULL RIVER AT MAIN BRIDGE ON HWY. NO. 35	1.5	50	1	49	---	43	0	---

POLICE VILLAGE OF COBOCONK - WATER POLLUTION SURVEY

GULL RIVER MONITORING RESULTS - TG 166.3

<u>DATE</u> <u>COLLECTED</u>	<u>DESCRIPTION</u>	<u>5-DAY</u> <u>BOD</u>	<u>S O L I D S</u>		<u>BACTERIOLOGICAL EXAMINATION</u>
			<u>TOTAL</u>	<u>SUSP.</u>	<u>COLIFORMS PER 100 ML.</u> <u>MEMBRANE FILTER</u>
MAY 18/66	GULL RIVER AT MAIN BRIDGE ON HWY. NO. 35	0.8	80	--	36
JULY 21/66		0.4	62	3	810
AUG. 9/66		1.2	--	3	336
AUG. 30/66		1.5	108	<15	560
SEPT. 13/66		---	--	--	180
DEC. 9/66		2.0	60	1	2200



**LEGEND**

TG-166-3 — STREAM SAMPLING POINT SHOWING MILEAGE

TG-166-3  
W-A — OUTFALL SHOWING STREAM AND MILEAGE  
TYPE OF OUTFALL

W — STORM SEWER

ONTARIO WATER RESOURCES COMMISSION

POLICE VILLAGE OF COBOCONK  
(TWPS. OF BEXLEY AND SOMERVILLE)

WATER POLLUTION SURVEY 1966

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SCALE: 1" = 400'

DRAWN BY: A.R.S.	DATE: OCT., 1966
CHECKED BY:	DRAWING NO: 66-70