

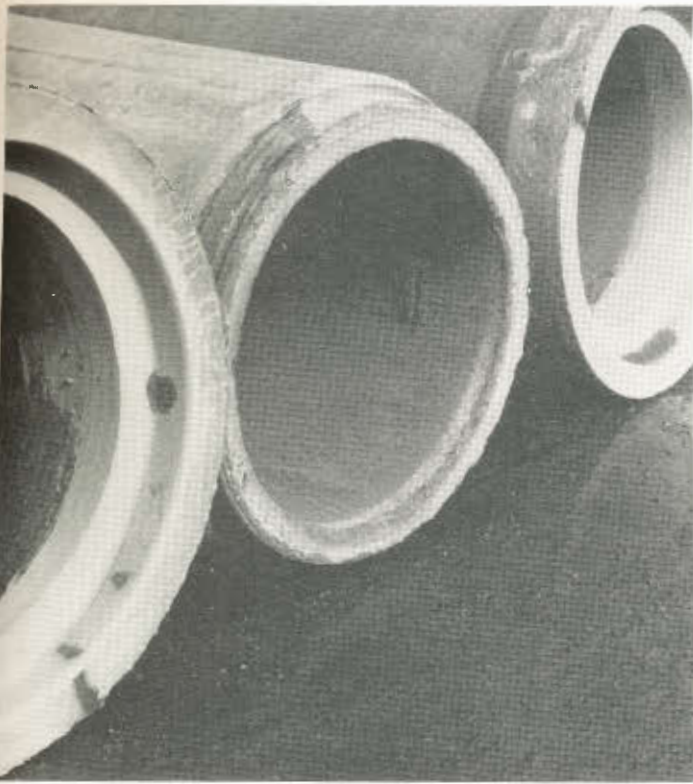


VOLUME
1 OF 11
REPORT
SECTION

ANNUAL REPORT 1985

**GEORGE W. KUHN ~~~ DRAIN COMMISSIONER
OAKLAND COUNTY, MICHIGAN**

OAKLAND COUNTY DRAIN COMMISSIONER



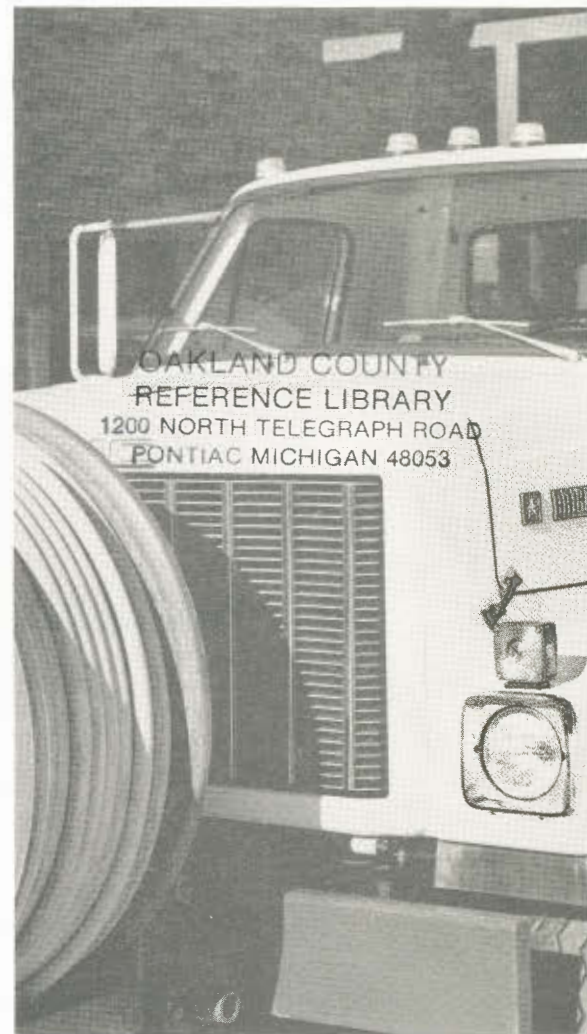
GEORGE W. KUHN



ROBERT H. FREDERICKS
CHIEF DEPUTY DRAIN COMMISSIONER

H. JAMES LUEDERS
DEPUTY & ASSISTANT CHIEF ENGINEER

DAVID J. SNYDER
DEPUTY & CHIEF ENGINEER





ROBERT H. FREDERICKS
Chief Deputy Commissioner
858-0970

GEORGE W. KUHN
OAKLAND COUNTY DRAIN COMMISSIONER
PUBLIC WORKS DRIVE
PONTIAC, MICHIGAN 48054
858-0958

DAVID J. SNYDER
Deputy and Chief Engineer
858-0976

January 6, 1986

TO: Members of the Oakland County
Board of Commissioners

Mr. Chairman, Ladies & Gentlemen:

The Drain Office began 1985 as it did in 1984 with a total of 59 budgeted positions, with four of those being vacant.

During 1985 two positions were eliminated from the S.O.C.S.D.S. budget because of the duplication of a sampling function now being performed by the Detroit Water and Sewerage Department. The deletion of the two S.O.C.S.D.S. positions, combined with the retirements of Don Ringler and Bud Corwin of the Sewer, Water & Solid Waste Division, plus two additional retirements expected in the Drain Office by mid-year will give the County an opportunity to save between \$250,000 and \$300,000 annually if the Board of Commissioners overrides the County Executive veto when it comes up for a vote.

To date we have dropped to a new low of 57 budgeted positions which is a drastic reduction from the peak workload period of 1979, as shown below:

<u>Date</u>	<u>Personnel</u>	<u>Date</u>	<u>Budget & O/S Personnel</u>
1978	107	1983	80
1979	208	1984	59
1980	173	1985	59
1981	147	1986	57
1982	106		

The personnel changes in 1985 combined with those changes effective January 1, 1986 result in a cumulative grand total savings to date of \$11,052,877.76, a substantial amount. The annualized savings totals \$2,335,868.00.

I believe the members of the Board of Commissioners will appreciate the continued efforts being made to maintain minimum staffing to adequately carry on efficient and effective Drain Office operations.

Most sincerely,


George W. Kuhn

FINANCIAL ACCOMPLISHMENTS - FEDERAL COURT CASE

1977 - 1985

	<u>EST. COST SAVINGS</u>
1. In 1978 we eliminated 7% differential rate of return charged to suburban rates (savings systemwide \$7 million, Oakland's share \$1.5 million annually).	\$12,000,000
2. In 1978 court awarded refund for overcharges on maintenance operations. (\$9 million systemwide, Oakland's share \$1 million).	\$ 1,000,000
3. In 1978 court reduced 1978-79 rate increase from 2.03 to 2.00 (savings .03 per 1,000 cubic feet).	\$ 350,000
4. In 1979 court ordered outside financial audit of Detroit Water & Sewerage Department.	N/A
5. In March, 1979 court placed Detroit Water & Sewerage Department under Federal receivership.	N/A
6. In January, 1980 sewer rate proposal of 3.45 mcf was reduced to 3.40, another \$.05 savings.	\$ 260,000
7. In 1980 court ordered a budget reduction for 1980-81 of \$3.5 million (from \$184 million to \$180.5 million).	
8. In 1984 a negotiated contract settlement on actual usage vs minimum usage (cost savings \$60,000).	\$ 60,000
9. In 1983 look back rebate for overcharges resulting from fiscal 1982-83 maintenance operations.	\$ 1,700,000
10. In 1984 a look back rebate for overcharges resulting from fiscal 1983-84 maintenance operations.	\$ 1,500,000
11. In 1985 a look back rebate for overcharges resulting from fiscal 1984-85 maintenance & operations budget.	<u>\$ 1,600,000</u>
GRAND TOTAL COST SAVINGS.....	\$18,500,000

January 10, 1986



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 OAKLAND COUNTY DRAIN COMMISSIONER
 PUBLIC WORKS DRIVE
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Most sincerely,


 George W. Kuhn

PERSONNEL MANAGEMENT/EMPLOYEE POSITIONS
ABOLISHED OR LEFT VACANT BY ATTRITION

	ANNUAL SALARY*	PROJECTED 12/31/85 CUMULATIVE TOTAL SAVINGS TO-DATE
<u>S.O.C.S.D.S.</u>		
Administrator - 1973	\$ 25,000.00	\$ 325,000.00
Thornton - 1975	20,232.00	222,552.00
2 Maintenance Men - 1977	25,000.00	225,000.00
1 Clerk Typist - 1982	13,345.00	53,380.00
Hodges - 1983	23,342.00	70,026.00
Hennigan - April, 1984	23,250.00	40,688.00
Anderson - April, 1984	18,600.00	32,550.00
Rothe - January, 1986	20,700.00	-0-
Spaulding - January, 1986	<u>20,700.00</u>	<u>-0-</u>
	\$190,169.00	\$ 969,196.00
 <u>DRAIN OFFICE</u>		
Terentiak (R/W) - 1977	\$ 18,000.00	\$ 162,000.00
Wolfe (R/W) - 1977	20,000.00	180,000.00
Kurmas (Engr.) 1979	25,000.00	175,000.00
3 Inspectors (Merger 1981)	3,500.00	17,500.00
Pelletier - July, 1979	22,000.00	143,000.00
Carnahan (Engr.) - 1974	8,330.00	99,960.00
Skotzke - 1980	21,500.00	129,000.00
Pemberton - (Engr.) July, 1981	42,200.00	189,900.00
Baetens - May, 1981	12,350.00	57,633.00
Edwards - October, 1980	18,960.00	99,540.00
Eckstein - (Engr.) August, 1982	40,661.00	138,925.00
Ballard - August, 1982	33,507.00	114,482.00
Marshall - September, 1982	1,980.00	6,600.00
Hill - July, 1983	18,244.00	45,610.00
Randall - July, 1983	21,000.00	52,500.00
Schuler - January, 1984	<u>36,400.00</u>	<u>72,800.00</u>
	\$343,632.00	\$1,684,450.00
 <u>DPW/DRAIN OFFICE</u>		
Alexander - 1975	\$ 36,400.00	\$ 400,400.00
Schandevel - 1976	22,800.00	228,000.00
Kokx - 1975	18,700.00	205,700.00
5 R/W Employees - July, 1981	125,000.00	562,500.00
2 Engineers - January, 1982	75,000.00	300,000.00
10 Const. Inspectors - Nov., 1980	158,456.00	818,689.00
12 Const. Inspectors - Jan., 1981	260,000.00	1,300,000.00
Castle - March, 1982	44,717.00	171,415.00
24 Const. Inspectors - Aug., 1982	380,971.00	1,301,651.00
Janowski (Engr.) - 1983	36,346.00	109,038.00
Texeira - 1983	<u>25,359.00</u>	<u>76,077.00</u>
	\$1,183,749.00	\$ 5,473,470.00
 TOTALS	 \$1,717,550.00	 \$ 8,127,116.00
FRINGE BENEFITS (36%)	<u>618,318.00</u>	<u>2,925,761.76</u>
GRAND TOTALS	<u>\$2,335,868.00</u>	<u>\$11,052,877.76</u>

*Cumulative savings are figured modestly on the same salary as held when the employee departed.

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1985 ANNUAL REPORT

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ENGINEERING UNIT

THE COUNTY DRAIN COMMISSIONER

The County Drain Commissioner has broad powers and responsibilities under several state laws. His primary duties are described in the Michigan Drain Code, Act 40 of 1956. Additional powers and duties of the Drain Commissioner derive from the provisions of two public works acts, Act 342 of 1939 and Act 185 of 1957, the Inland Lake Level Control Act, Act 146 of 1961, the Inland Lake Improvement Act, Act 345 of 1966, the Subdivision Control Act, Act 288 of 1967, the Soil Erosion and Sedimentation Control Act, Act 347 of 1972, and various other statutes.

For organizational purposes the functions of the Drain Commissioner as a part of Oakland County government are delegated to four operating units, Engineering, S.O.C.S.D.S., Inspection and Maintenance. The employees in each of these units perform the multitude of tasks necessary under the different programs of the office of the County Drain Commissioner to construct and maintain a variety of public works facilities for the use of residents in all parts of Oakland County.

ENGINEERING UNIT

The staff of engineers and other technical personnel in this unit are responsible for the design and construction of public works facilities of various kinds including storm drains, sanitary sewers, water mains and lake level control structures. The Chief Engineer, David J. Snyder, and the Assistant Chief Engineer, Herold J. Lueders, supervise the engineering functions of the unit. At the end of 1985 there were 20 employees in this unit. The following specific activities are performed in the Engineering Unit.

New Project Construction

Engineers and other support personnel administer the construction activity on new storm drains, sanitary sewers, water mains, and lake level control structures. This activity includes close cooperation with local units of government, state and federal agencies, consulting engineers, contractors and other interested parties. A summary of specific projects completed or under construction during 1985 is provided later in this report.

Plat Review

Under the provisions of Public Act 288 of 1967, the Subdivision Control Act, the Drain Commissioner reviews and approves all new subdivision plats in Oakland County. The review by the Drain Commissioner is made to ensure that adequate storm drainage facilities have been included in the engineering plans for the proposed plat. Act 288 made the approval of the Drain Commissioner mandatory. In addition, Act 419 of 1976, the Mobile Home Commission Act, requires that the Drain Commissioner review and approve the outlet drainage for new mobile home developments.

The Drain Office engineer in charge of plat review is Joseph P. Kozma, P.E. In 1985, 22 preliminary plats, 31 sets of subdivision construction plans, 42 final subdivision plats, and the outlet drainage for three mobile home developments were approved by the Drain Commissioner. Twenty-three Oakland County communities were represented in the approvals. The final subdivision plats comprised 34 commercial and 1311 residential lots, while the three mobile home parks had 368 sites.

Easement Acquisition

Prior to building any public works facility it is necessary to secure easements. Easements are permanent (land upon which a structure is located) or temporary (land required during construction of the facility). Upon completion of a project, temporary easements revert back to the owner, while permanent easements remain under the control of the Drain Commissioner.

The easement acquisition program of the Drain Commissioner's Office is supervised by James Isaacs, R.L.S., the Right-of-Way Technician for the Drain Office. During 1985 approximately 400 easement parcels were title searched, written and appraised by the Right-of-Way staff. A total of 194 easement parcels were acquired during 1985.

In 1985 the Drain Commissioner's Office sold approximately six parcels of excess property, generating approximately three and one half million dollars which was returned to the drainage districts involved. Also, in order to facilitate construction of retention basins throughout Oakland County, twelve fee purchases were made in 1985.

When a mutually acceptable agreement with a property owner cannot be reached, it is necessary to file a condemnation action in Circuit Court under Act 87 of P.A. of 1980, as amended. The Right-of-Way staff works closely with the Oakland County Corporation Counsel or outside legal counsel in filing a condemnation action. As a result of a condemnation proceeding, the Court awards the requested easement to the Drainage District, and, with the assistance of expert appraisers, awards the property owners a sum of money deemed to represent the diminution in value to the property caused by the easement.

The Right-of-Way staff works in close conjunction with the design engineer to determine the minimum requirements for construction and maintenance easements and relocations in order to minimize easement acquisition costs.

Lake Level Program

Under the provisions of Act 146 of 1961, the Drain Commissioner's office participates in legal proceedings to establish and build lake level control structures for lakes in Oakland County.

Oakland County is approximately 30 miles from east to west, and 30 miles from north to south, with an area of approximately 900 square miles. For water management purposes, portions of the County are located within the basins of six rivers, the Clinton, Huron, Rouge, Flint, Shiawassee and Belle Rivers. There are 44 lakes in the County where levels have been established and assigned to the Drain Commissioner for control. The 44 lakes are in four river basins; 26 in the Clinton, 13 in the Huron, three in the Rouge, and two in the Shiawassee.

In some cases the level of more than one lake can be controlled from a single lake level control structure. A summary containing basic information about the regulated lakes in Oakland County appears on the two following pages of this report.

Jack Portman, Civil Engineer III, is in charge of the lake level program which involves the operation and maintenance of 29 lake level control structures, six water supply pumps, and one storm water pump.

Regular inspection of lake level control structures is made on a weekly basis, or more often as weather conditions may dictate. The level of each lake is read and recorded, and adjustments to the structures are made throughout the year. Every effort is made to maintain the established legal level. Regular inspection also assures that the structures are in good operating condition, and permits scheduled maintenance and repairs when needed.

Special assessment districts are prepared for each project and, as necessary, annual assessment rolls are prepared to provide for necessary maintenance expenditures.

Drain and Lake Level Assessments

Drains constructed prior to 1956 were financed by special assessment against the property served by the drain. Maintenance charges for these drains are assessed against the special assessment district established when the drain was constructed. During 1985 maintenance work was performed on 33 of the special assessment drains, known as Chapter 4 drains, and 18 Lake Level Projects.

In 1985 the Board of Commissioners approved warrants in the amount of \$183,486.42 to assess property for the maintenance costs of Chapter 4 Drains and Lake Level Control Projects.

Soil Erosion and Sedimentation Control

For the past eleven years the Drain Commissioner's Office has operated as the designated enforcing agency in Oakland County for the Soil Erosion and Sedimentation Control Act, Act 347 of 1972. The program is operated to obtain the maximum effectiveness in protecting the environment, without placing an unreasonable burden on individual property owners.

OAKLAND COUNTY DRAIN COMMISSIONER
LAKE LEVEL PROJECTS

PROJECT NAME	LAKE	SIZE (IN ACRES)	YEAR ESTABLISHED	LOCATION
<hr style="border-top: 1px dashed black;"/>				
<u>CLINTON RIVER BASIN</u>				
Lakeville Lake	Lakeville*	492	1961	Addison Township
Oxford Multi-Lakes	Mickelson	61	1973	Oxford Township
	Squaw	29		
	Clear	32		
	Long	33		
	Cedar	15		
	Tan*	58		
Waterford Multi-Lakes	Cemetery or Middle	28	1966	Independence & Waterford Townships
	Dollar*	6		
	Greens	101		
	Maceday	234		
	Lotus	169		
	Lester	22		
	Van Norman	27		
	Upper Silver	41		
	Silver	108		
	Mohawk	35		
	Wormer	38		
	Schoolhouse	40		
	Loon*	265		
	Williams*	175		
Oakland-Woodhull Lakes	Woodhull	135	1958	Waterford Township
	Oakland*	235		
Watkins Lake	Watkins*	229	1960	Waterford Township
Cass Lake	Cass*	1280	1969	City of Keego Harbor and Waterford Township
Orchard Lake	Orchard*	850	1966	West Bloomfield Twp.

PROJECT NAME	LAKE	SIZE (IN ACRES)	YEAR ESTABLISHED	LOCATION
<u>HURON RIVER BASIN</u>				
Big Lake	Big*	220	1967	Springfield Twp.
White Lake	White*	540	1965	Highland and White Lake Townships
Duck Lake	Duck*	307	1962	Highland Township
Pontiac Lake	Pontiac*	615	1944	White Lake Twp.
Oxbow Lake	Oxbow*	286	1963	White Lake Twp.
Cedar Island Lake	Cedar Island*	169	1964	White Lake Twp.
Fox Lake	Fox*	39	1963	Commerce Twp.
Union Lake	Union*	465	1949	Commerce Twp.
Long Lake	Long*	175	1964	Commerce Twp.
Upper Straits Lake	Upper Straits*	378	1964	West Bloomfield Twp.
Middle & Lower Straits Lake	Middle Straits Lower Straits*	194 220	1963	Commerce Twp.
Commerce Lake	Commerce*	262	1964	Commerce Twp.
<u>ROUGE RIVER BASIN</u>				
Walled & Shawood Lakes**	Shawood Walled*	45 670	1984	City of Novi
<u>SHIAWASSEE RIVER BASIN</u>				
Bevins Lake	Bevins*	31	1964	Village of Holly
Tipsico Lake	Tipsico*	301	1954	Rose Township

*Lake level structure located at the outlet of the lakes marked with an asterisk.

**Former system of pipes replaced with dam in 1985.

In 1985, 499 applications for soil erosion permits were received by this office as compared to 353 applications received in 1984. There was a noticeable increase in both industrial construction and multiple housing in 1985.

The total revenue collected in 1985 was \$92,442.87, and wages totaled \$57,642. Although there was an increase in payroll costs for 1985, a net gain of \$34,800.87 occurred. It should be noted that the foregoing comparison does not include the miscellaneous and fixed costs associated with running the program, such as employee fringe benefits, telephones, office space, copying expense, gasoline, office supplies, etc.

As in the past, the Drain Commissioner's Soil Erosion and Sedimentation Control Division continued its informal instructional meetings with builders, developers, property owners, engineers, architects, etc.

Jack Portman, Civil Engineer III, is in charge of the Drain Commissioner's Soil Erosion and Sedimentation Control program.

Construction Permits

The Drain Commissioner, under provisions of the Drain Code, requires that a permit be obtained before making connections to, or doing work affecting, a County drain. The permit program is under the direction of Robert F. Smith, an Engineering Technician.

During 1985 a total of 70 permits were issued for work items affecting County and Inter-County Drains. The number of permits does not directly reflect the extent of construction or modification of the affected drains. A single permit may involve only a single connection to a drain or many different direct points of connection or other involvement.

In most cases before a permit is issued, two sets of construction plans are submitted for review. Requests for a connection to a drain may be submitted by public agencies, private property owners or contractors retained by others to construct particular facilities. All plans submitted for review must conform to the engineering design standards which have been developed by the Drain Commissioner's office to protect the integrity and usefulness of existing facilities.

At the time of construction of any work for which a permit has been issued, an inspection is made to assure that the job is done properly and in accordance with the approved engineering plans. A fee or fee and deposit is charged to offset the cost of this inspection.

Due to the construction of the I-696 Freeway in the southern, densely populated portion of Oakland County, several of the large county drains, both separate and combined, are being altered by Michigan Department of Transportation construction. For example, one permit included construction of a siphon on the 9'-6" diameter Campbell Road Drain, together with 51 other items. Inspection of these work items took place in 1984 and 1985 and is still underway. Six additional similar projects are anticipated to begin in 1986.

Review of Lateral Connections to the S.O.C.S.D.S.

All connections into any sewer that is tributary to the Southeastern Oakland County Sewage Disposal System are required to be first reviewed by this office prior to being submitted to the Michigan Department of Health.

This review helps protect established Drainage Districts and allows a record to be kept of all facilities outletting into County trunk lines, as well as assuring this office that proper and approved construction standards are used.

The Drain Commissioner works closely with local governments. All plans sent to the Drain Office for review are transmitted through the municipality's engineer or Engineering Department. This is done to assure that sewer lines conform to the local community master plan for sewerage development.

During 1985 the Engineering Unit received and reviewed 36 sets of sanitary and combined sewer plans for facilities that will outlet into the Southeastern Oakland County Sewage Disposal System.

Upon completion of review by Drain Office staff, each set of plans, with the recommendation that a construction permit be issued, is forwarded to the Water Quality Division of the Michigan Department of Natural Resources.

INSPECTION UNIT

INSPECTION UNIT

The Oakland County Drain Commissioner employs trained inspection personnel to inspect drain, sewer and water projects.

The supervisor of the Inspection Unit is Garie M. Vorpagel who schedules and coordinates all activities of the unit, and provides in-the-field assistance to individual inspectors. During each project assignment the individual inspector reports directly to the project engineer.

Due to the increased number of projects and involvements requiring inspection, an additional inspector was added to the unit in September. There were nine inspectors as of December 31, 1985.

The primary responsibility of the inspector is to insure that each facility is constructed in accordance with the plans and specifications, with particular attention paid to backfill material, proper compaction, and workmanship. Careful observation of the quality and proper placement of construction materials such as pipe, concrete and reinforcing steel in underground lines, pump stations and other structures are also important duties of the inspector.

Another major function of the inspector is to maintain good public relations with members of the public affected by the construction of various projects. Necessary services, such as mail delivery and garbage collection, and prompt restoration of access to private property during and after construction are expedited to reduce the inconvenience to the public.

The Inspection Unit is in radio and telephone communication with field personnel and local communities during working hours so that any complaints or inquiries or construction-related problems can be handled as quickly as possible.

The inspector prepares daily inspection reports and keeps a log of the progress of construction. His daily records assure accurate and thorough restoration of the construction site, and also insure correct payment to the contractors on the project, thus avoiding possible litigation at a future date.

The Inspection Unit also videotapes future construction sites and routes. Particular care is taken with easement areas where possible problems can be anticipated or where difficult types of restoration work will be needed. After construction, the video tapes are referred to as needed during restoration work, and can be used to resolve differences regarding the actual conditions which existed before construction. The video record is valuable to discourage litigation because a visual review of the prior condition of all property is possible.

A particularly important responsibility of the inspector on each project is the preparation of an "as-built" plan, which is a plan that shows exactly how the project was constructed in the field, with dimensions identifying the location of all underground structures. Future surface access for additional installations or service is thereby enhanced with a minimum of disturbance and cost to the existing facility.

The Inspection Unit has the responsibility for the field inspection portion of the Soil Erosion and Sedimentation Control program, and meets with municipalities and private citizens to promote a reasonable and effective soil erosion policy in an effort to reduce the pollution of Oakland County's lakes and streams.

The Inspection Unit has the additional responsibility of inspecting the more than 100 connections and other involvements with county drains throughout Oakland County. The inspector is present to insure that the integrity of the system is maintained, and that proper compliance with state and local regulations is observed.

MAINTENANCE UNIT

MAINTENANCE UNIT

The Oakland County Drain Commissioner is responsible for the regular maintenance of established storm drains located throughout Oakland County. The Drain Office engineer in charge of the Maintenance Unit is George Bondi. There were eight employees in this unit during 1985. Maintenance personnel provide a wide variety of maintenance and repair services. Primary work includes the inspection and maintenance of approximately 600 miles of established county drainage and combined storm and sanitary systems. In addition, lake level control structures used in the regulation, operation and control of the legal levels of 44 Oakland County lakes are maintained by this unit.

In the performance of these functions, personnel use various types of vehicles and construction equipment, including basic and specialized hand and power tools and certain necessary safety equipment. Inventory, repair and proper care of these tools and equipment is a function of the maintenance unit.

General Drain Maintenance

Periodic maintenance activities include removing roots, silt and other debris from enclosed drains; repairing structures that have failed or have been damaged; rehabilitating open drains by removing brush, debris, shoals and silt; cleaning and maintaining manholes and catch basins; and inspection and cleaning of diversion gates, meter chambers and outfall structures.

During 1985 general drain maintenance was performed on 94 Chapter 20 drains, three Chapter 21 drains, 41 Chapter 4 drains, and one Act 342 project. Also, maintenance was performed on six additional drains which have been incorporated within the Twelve Towns Relief Drains system.

Drain Inspections

Routine inspections are made, periodically, on all drainage systems. Once inspected the necessary repairs are performed. This preventive maintenance system assures reliable drainage to the residents of Oakland County and avoids costly drain failures.

During 1985 the following drains were inspected by the Oakland County Drain Commissioner's Maintenance Unit: 78 Chapter 20 drains, one Chapter 21 drain, and seven Chapter 4 drains. Inspections were also performed on four drains which have been incorporated within the Twelve Towns Relief Drains system.

Equipment

In order to increase efficiency while maintaining personnel at a constant level, the maintenance unit employs specialized power equipment.

The single most important piece of equipment is the Vactor Jet. The Vactor works with water pressure and vacuum to clean out storm and sanitary sewers. It is especially efficient in cleaning catch basins, manholes and sewer lines of 48 inch and lesser diameter pipe. By using the Vactor, more work can be done with a two-man crew than formerly could be done with hand equipment and substantially more manpower. It has enabled the maintenance unit to clean drains and sewers on an orderly and routine schedule. The result is decreased costs per job, and increased service to the public.

The Vactor, purchased in 1984 to replace a seven year old, seven cubic yard, single axle model previously used, is a 1984 GMC 1200 Series Diesel Vactor with a Brigadier chassis and larger six cylinder Cummins rear engine. It has considerably greater suction and jetting power with a 1000 gallon capacity water tank, and a 16 cubic yard debris holding tank. The Vactor has more than twice the capacity of the older equipment, permitting increased cleaning time before refilling the water tank and dumping the debris are required. The increased power permits cleaning drain pipes to 48" in size as compared to the previous 24" maximum. Additional features include a 30-foot extendable boom on the suction line and tandem axles permitting access to previously unaccessible areas. Also, a water recycling device permits usage of the equipment down to 15 degrees F. as opposed to the previous freezing limitation, thereby extending annual operation in the field by approximately two months.

The Drain Commissioner employs the necessary safety equipment needed to meet OSHA and MIOSHA standards as well as the hazards of the particular drain maintenance work.

Maintenance of Lake Level Structures

The drain maintenance unit also maintains lake level control structures including dike repair, painting and repair of structures, and repair of gates and landscaping. During 1985 maintenance was performed at 21 lake level control locations.

Rain Gauge Operations

There are 25 rain gauges located throughout Oakland County. Drain maintenance personnel install, maintain and repair rain gauges in cooperation with the U. S. Department of Agriculture, Weather Service Office. Supplies are distributed to the various stations and recorded data is collected and processed.

Work Sponsorship Programs

In addition to maintenance labor provided by full-time County employees, the Drain Commissioner uses programs that permit the use of workers at little or no cost to the taxpayer. Temporary summer employment, County welfare recipient, and the Community Service Corps programs supplied laborers for these programs in 1985.

Temporary summer employees were used by the maintenance unit primarily for the lake level structure maintenance program and as additional help to regular crews. County welfare recipient and Community Service Corps workers were used to assist with inspections, repairs and removal of brush and debris from open drainage channels on fifteen Chapter 4 drains in rural areas of the County, and provided the necessary labor for nineteen Chapter 20 drains, one Chapter 21 drain, and eighteen lake maintenance projects.

With minimal costs of supervisory personnel and equipment, these maintenance crews assisted permanent County employees in the maintenance work at substantial cost savings.

Inter-Departmental Services

The Drain Commissioner also cooperates with other County departments to provide specialized personnel and/or equipment as required. By lending personnel and equipment at minimal rates, other County departments were able to reduce their costs to complete specific maintenance assignments. The Department of Facilities and Operations, Oakland-Pontiac Airport, Water and Sewer Engineering, Public Works, Parks and Recreation and Construction Inspection utilized these available maintenance services during 1985.

Special Projects

The Drain Commissioner undertook certain special projects during 1985 utilizing Maintenance staff expertise enabling substantial cost savings. Projects completed were: Waterford Township Phase V sanitary sewer site - removal of debris and structures which were potentially hazardous to the public; site restoration on a segment of the Joachim Relief Drains following its construction; new pump installation on the Edwards Relief Drains and redesign of its power source for greater efficiency of operation; design and installation of safety rails on the Rewold Drain site; removal of potentially hazardous trees on the Oxford Multi-Lakes dam site; underwater probe for design information relative to bridge abutment and channel redesign on Pinewood Drive; and field inspection of existing storm collection systems on several sites with reported conditions and recommendations for rehabilitation in terms of their potential as drain projects.

Progress continued on a project involving extensive research and compilation of drain histories in conjunction with the development of a computer program designed to store, continuously update, and process information pertinent to drain operation and maintenance. Upon completion of the project, past, present and projected information relative to over 400 Chapter 4, 20 and 21 drains may be readily accessible by computer printout in terms of a drain and the communities it serves, or conversely, a community and the drains by which it is served. It is anticipated that the availability of such information will improve communication among governing bodies and enable the Drain Commissioner and the community, in the interest of public health, convenience and welfare, to more effectively plan maintenance activities and budget future expenditures, while achieving greater efficiency in the operation and maintenance of Oakland County drains, both economically and physically.

SOUTHEASTERN OAKLAND COUNTY
SEWAGE DISPOSAL SYSTEM

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM

The District

The Southeastern Oakland County Sewage Disposal System (S.O.C.S.D.S.) serves a district of approximately 46,000 acres and provides sewer service to all of the areas within the Cities of Berkley, Clawson, Ferndale, Hazel Park, Huntington Woods, Madison Heights, Oak Park, Pleasant Ridge, Royal Oak, and the Township of Royal Oak. Part of the area within the Cities of Birmingham, Southfield, Troy, and the Village of Beverly Hills also receive sewer service from the S.O.C.S.D.S. Of the 46,000 acres served, approximately 24,385 acres are served by combined sewers, and the remaining 21,615 acres are served by a separated sewer system.

The Pollution Control Facility - Background

Prior to 1974 the Twelve Towns Relief Drains system collected combined sewage from the district and delivered it to the Dequindre Interceptor at the rate of 118 cubic feet per second. When the total flow exceeded 118 cubic feet per second, the excess was stored in the Twelve Towns system up to a retention capacity of 90 acre/feet. When a storm event occurred of such magnitude that the storage capacity of the Twelve Towns Relief system was exceeded, the excess combined sewage would spill into the Red Run Drain. Overflows occurred approximately 25 times every year and were causing pollution of the Red Run Drain. In 1969 the County of Oakland was ordered by the Michigan Water Resources Commission to abate pollution of the Red Run Drain.

The Drain Commissioner as agent for the County of Oakland retained Hubbell, Roth & Clark, Inc., consulting engineers, to develop a plan to correct the problem of the pollution of the Red Run Drain. Hubbell, Roth & Clark designed a storage facility 65 feet wide and approximately two miles long with a capacity of 190 acre/feet. Construction of the Pollution Control Facility began in 1971 and was completed in 1974. Since 1974 the Pollution Control Facility has received the spillage from the Twelve Towns Relief system. With this additional facility the storage capacity of the district has been increased to 280 acre/feet of combined sewage.

Flows of combined sewage retained in the storage basin are later pumped into the Dequindre Interceptor up to a capacity of 260 cubic feet per second. When the storage capacity of both the Twelve Towns Drain and the Pollution Control Facility are exceeded by a storm event, a spill occurs to the Red Run Drain. Operators of the Pollution Control Facility can anticipate when such a spill is going to occur. With this knowledge, chlorine is pumped into the sewage spilling into the Pollution Control Facility to kill the bacteria so the quality of effluent spilling into the Red Run Drain meets standards established by the Michigan Water Resources Commission.

Operations - 1985

The Drain Commissioner currently employs nine people to maintain and operate the S.O.C.S.D.S. system. The nine employees are divided into two units under the direction of William E. Klockow, P.E., managing engineer.

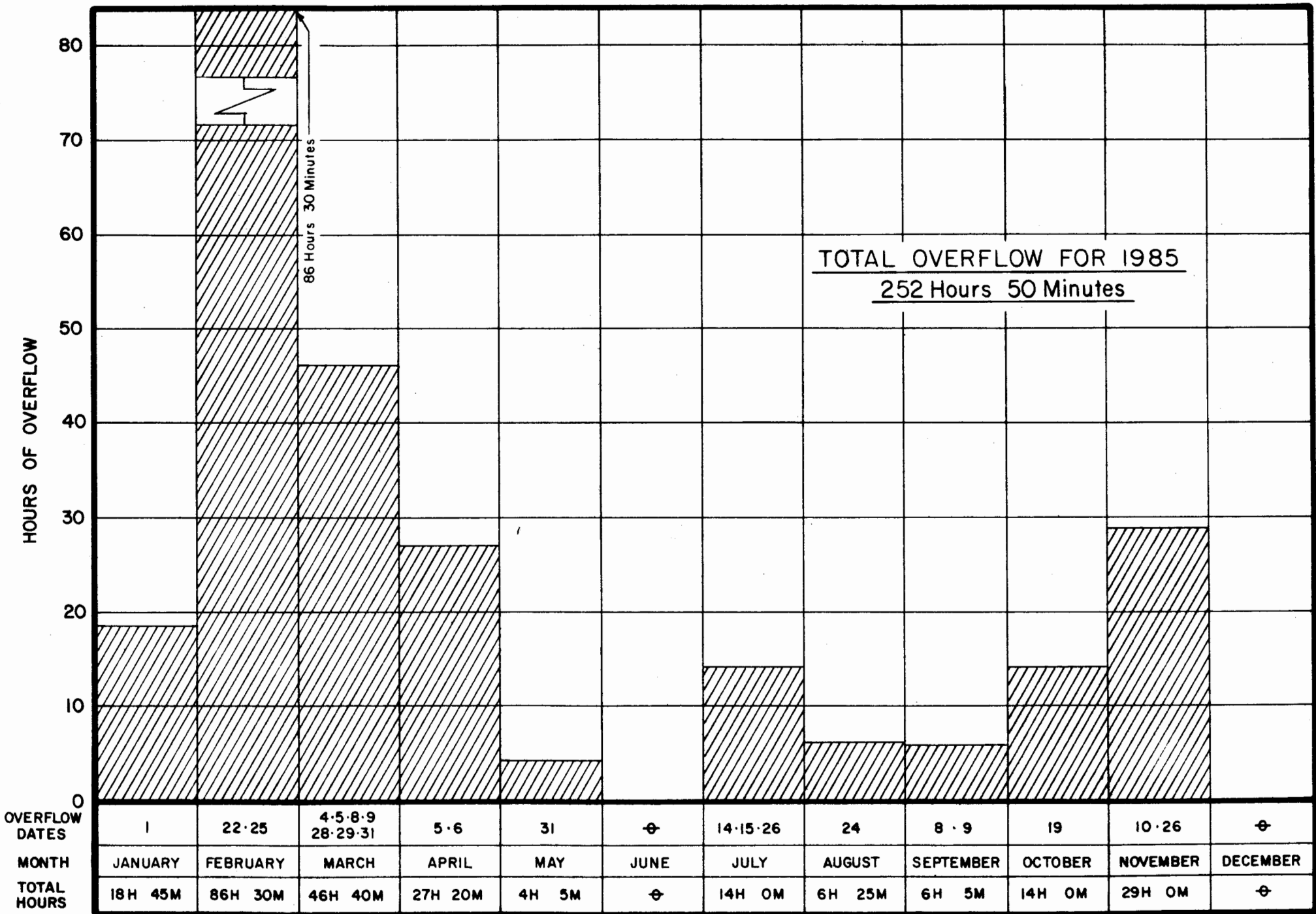
One unit is assigned to the Laboratory. The S.O.C.S.D.S. maintains the laboratory where staff continually monitors contributors to the sewer system. The purpose of the monitoring program is to test sewage effluent from industries at designated locations so as to limit the users of the system to the specific parameters of sewage strengths. The City of Detroit is notified of the results of these tests, and if a violation occurs the industry violating the sewage ordinance is also notified. During 1985 approximately 25,000 analyses were performed on more than 5,000 samples collected within the district. Through these efforts the district has been able to control the quality of effluent entering the system and later treated by the City of Detroit.

The second unit maintains and operates the Pollution Control Facility as well as the Red Run Drain. Responsibilities of this unit include the operation of the pump station housing six dewatering pumps which pump combined sewage from the Pollution Control Facility into the Dequindre Interceptor. Once the Pollution Control Facility has been pumped dry, a flushing system is activated to wash down the walls and floor of the Pollution Control Basin. After flushing, employees enter the Pollution Control Basin and remove any remaining debris.

In 1985 the Pollution Control Facility witnessed the largest volume of combined sewer flow in its history. There were 23 spills from the Twelve Towns system to the Pollution Control Facility of which eight were retained. The remaining 15 spills were chlorinated before spilling to the Red Run Drain for a period of 252 hours and 50 minutes representing a volume of 461,000,000 cubic feet.

Much of the area above the Pollution Control Facility has been designated as recreational property. Presently, a golf driving range and nine-hole executive golf course are operated by the Oakland County Parks and Recreation Commission. A wave pool and other recreational facilities are presently being constructed for another portion of the property above the Pollution Control Facility. Areas not being used for recreational purposes are maintained by this same unit.

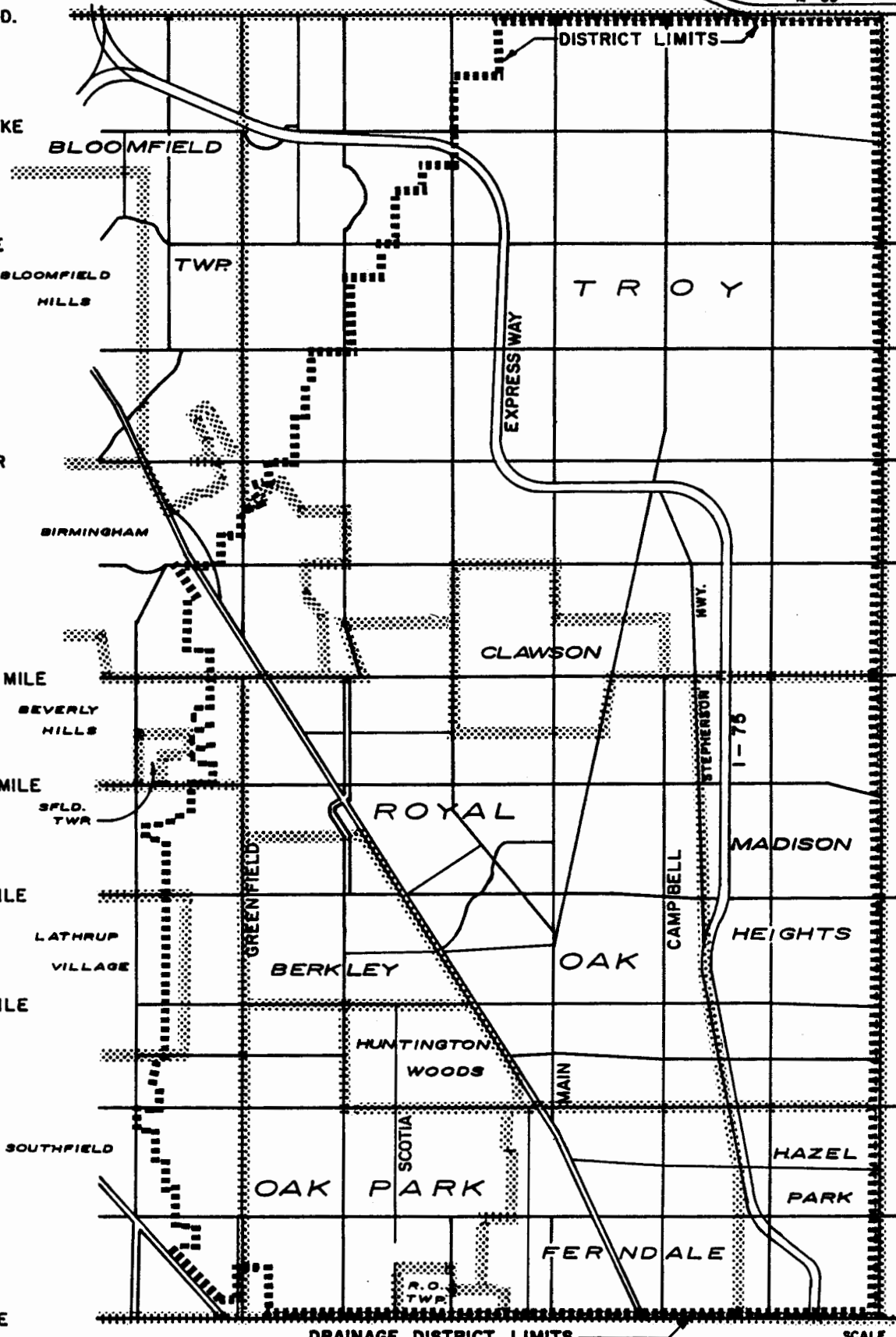
Another major responsibility of the second unit is the operation and maintenance of the Red Run Drain. The Red Run Drain begins at the outlet of the Pollution Control Facility at Thirteen Mile and Dequindre Roads and runs northeasterly through Macomb County approximately seven miles where it outlets into the Clinton River. This open watercourse is subject to erosion as well as shoaling. Funding for maintenance activities on the Red Run Drain is provided by assessments against the Chapter 21 inter-county drainage district for the Red Run Drain.



SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
 JANUARY 1, 1985 THRU DECEMBER 31, 1985

SOUTHFIELD ADAMS COOLIDGE CROOKS LIVERNOIS ROCHESTER JOHN R. DEQUINDRE

SOUTH BLVD.
SQUARE LAKE
LONG LAKE
WATTLES
BIG BEAVER
MAPLE
FOURTEEN MILE
THIRTEEN MILE
TWELVE MILE
ELEVEN MILE
TEN MILE
NINE MILE
EIGHT MILE



SCALE IN MILES
0 1 2

OAKLAND COUNTY DRAIN COMMISSIONER'S OFFICE
SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM

DRAIN CONSTRUCTION COMPLETED

DRAIN CONSTRUCTION

The Drain Commissioner, under the provisions of the Michigan Drain Code, Act 40 of Public Acts of 1956, as amended, is authorized to construct county drains.

Construction of a county drain is undertaken only after a petition has been filed with the Drain Commissioner. Petitions are normally filed by one or more governmental units, however, a petition may be filed by a property owner or a group of property owners.

During the time period covered by this report, six new drains were in various stages of planning and development, and three drains were under construction.

DRAIN CONSTRUCTION PROJECTS COMPLETED BETWEEN JANUARY 1, 1985 AND DECEMBER 31, 1985

Drakeshire Condominium Drain

The Drakeshire Condominium Drain was initiated under a program undertaken by the Township of West Bloomfield to require that all new storm drainage facilities in residential and commercial developments be constructed as county drains. The drainage project was established under Section 433 of Act 40 of the Public Acts of 1956, as amended. Joseph P. Kozma was designated the Drain Office Project Engineer for the Drakeshire Condominium Drain.

An agreement between the Drakeshire Condominium Drainage District and Maple-Drake Development, Inc., the developer, was entered into on February 22, 1985. The agreement provided that the properties in the development would bear the costs of operation and maintenance of the drain, and that the developer would pay all the costs involved in establishing and constructing the drain.

Construction of the Drakeshire Condominium Drain was completed in 1985, and the drain is presently in service.

Jackson Drain - Phase I

On March 22, 1982 the City Council of Troy adopted a petition for drainage improvements in Big Beaver Road from the Henry-Graham Drain west to 1/2 mile west of John R., and east to Dequindre Road. The petition was received by this office on March 30, 1982, and the first meeting of the Drainage Board was held the next day. The project was named the Jackson Drain, and Glen Yrjanainen was designated the Drain Office Project Engineer.

At a meeting held on May 12, 1982 the project was declared practicable and necessary for public health, the Final Order of Determination was approved, and Hubbell, Roth & Clark, Inc. was retained as consulting engineer. The total preliminary cost of the drain was \$1,320,000.

In 1983, as a part of the John R. Road improvement project, 105 lineal feet of Jackson Drain pipe enclosure was installed. The project was delayed approximately one year due to the postponement of the Big Beaver Road widening project; the road project was scheduled for the summer of 1985. Accordingly, work on right-of-way acquisition was started in early 1984. An agreement wherein the Jackson Drainage District and City of Troy each bore 50% of the right-of-way acquisition costs was entered into on September 10, 1984. On October 24, 1984 the Drainage Board approved the plans, specifications, cost estimate, route description, district description, and estimate of life. It set tentative apportionments and scheduled the hearing on final apportionments for December 5, 1984. At this meeting final apportionments of 74.89% to City of Troy and 25.11% to Oakland County were confirmed.

Construction bids for Phase I, the easterly portion of the project, were received on February 13, 1985, and the contract to construct Phase I was awarded to the low bidder, L. D'Agostini & Sons, Inc. in the amount of \$339,713.98. The project was essentially complete and in service by the end of 1985 except for miscellaneous cleanup and restoration.

Law Drain

In order to provide adequate storm water drainage for the Chestnut Run Subdivision, a single family residential development to be constructed in the East 1/2 of Section 9, Bloomfield Township, the developer, Chestnut Run Limited Partnership, agreed to pay the entire cost for the design, construction and inspection of a Chapter 20 drain to serve as a storm outlet for the property. On March 25, 1985, Bloomfield Township petitioned the Oakland County Drain Commissioner to construct such a drain.

Giffels-Webster Engineers, Inc. was retained to prepare plans and specifications for the Law Drain, and the developer hired DiPonio and Morelli Construction Co., Inc. at a cost of \$288,490 to construct a five-acre lake, control structure, and 700 feet, more or less, of stream improvement.

Construction began in June, 1985 and the project was completed and in service before the end of the year. Final ground restoration has been scheduled for the spring of 1986.

Lynn D. Allen Drain Extension

The Lynn D. Allen Drainage District agreed in a right-of-way document executed in May, 1976 that the existing Lynn D. Allen Drain would be extended by approximately 80 lineal feet in the N.W. 1/4 of Section 9 of Bloomfield Township at such time that the downstream watercourse was improved. The Law Drain, a Chapter 20 drain petitioned for by Bloomfield Township on March 25, 1985 and constructed in June of 1985 included downstream improvements, thereby necessitating the construction of the Lynn D. Allen Drain Extension.

The firm of Hubbell, Roth & Clark, Inc. was retained to prepare plans and specifications. Construction bids were received on May 22, 1985, and the construction contract was awarded to Yates Construction, Inc., the low bidder, in the amount of \$52,817. Construction began in September, 1985, and the project was essentially completed and in service by October, 1985. Final restoration will be completed in the spring of 1986.

Perrytown Estates Drain

The Perrytown Estates Drain was initiated under a program undertaken by the Township of West Bloomfield to require that all new storm drainage facilities in residential and commercial developments be constructed as county drains. The drainage project was established under Section 433 of Act 40 of the Public Acts of 1956, as amended. Joseph P. Kozma was designated the Drain Office Project Engineer for the Perrytown Estates Drain.

An agreement between the Perrytown Estates Drainage District and Binder Development Company, the developer, was entered into on September 20, 1985. The agreement provided that the properties in the development would bear the costs of operation and maintenance of the drain, and that the developer would pay all the costs involved in establishing and constructing the drain.

Construction of the Perrytown Estates Drain was completed in 1985, and the drain is presently in service.

Thornberry Drain

The Thornberry Drain was initiated under a program undertaken by the Township of West Bloomfield to require that all new storm drainage facilities in residential and commercial developments be constructed as county drains. The drainage project was established under Section 433 of Act 40 of the Public Acts of 1956, as amended. Joseph P. Kozma was designated the Drain Office Project Engineer for the Thornberry Drain.

An agreement between the Thornberry Drainage District and Maple Village Apartments Limited Partnership, developer, was entered into on December 16, 1985. The agreement provided that the properties in the development would bear the costs of operation and maintenance of the drain, and that the developer would pay all the costs involved in establishing and constructing the drain.

Construction of the Thornberry Drain was completed in 1985, and the drain is presently in service. Final restoration and cleanup will be completed in the spring of 1986.

Vogt Drain - Phase II

Flooding in Sections 13 and 14, City of Troy, in the lower portion of the existing Houghten Drainage District and downstream, prompted the City Council of Troy on April 19, 1982 to petition this office for storm drainage relief.

The first meeting of the Drainage Board was held on April 23, 1982, and the project was named the Vogt Drain. At a meeting held June 30, 1982 the project was found necessary for the public health and practical, and Hubbell, Roth & Clark, Inc. was retained as consulting engineer. Donald L. Mills was selected as the Drain Office Project Engineer.

Phase I of the project which begins at the Henry-Graham Drain east of John R. and ends at Hamman Drive, just west of John R. was completed and in service by the fall of 1984. Final payment to the contractor was made in December, 1985. The final construction cost for the Vogt Drain - Phase I was \$1,883,202.10.

Phase II of the project begins at Hamman Drive and connects with the existing Lanni Drain at Rochester Road. A branch also extends northerly to an existing retention reservoir serving the East Long Lake Estates Subdivision at Long Lake Road. Another branch extends southerly to relieve an existing retention reservoir which serves the Shallowbrook Subdivision.

Construction bids for Phase II were received on August 5, 1984, and the contract was awarded to the low bidder, L. D'Agostini & Sons, Inc. in the amount of \$1,719,134. Actual construction began in November, 1984, and was completed in the summer of 1985. The system is now in service, with minor cleanup and restoration to be completed in the spring of 1986.

DRAINS UNDER CONSTRUCTION

DRAINS UNDER CONSTRUCTION

Maplewoods North Subdivision Drain

The Maplewoods North Subdivision Drain was initiated under a program undertaken by the Township of West Bloomfield to require that all new storm drainage facilities in residential and commercial developments be constructed as county drains. The drainage project was established under Section 433 of Act 40 of the Public Acts of 1956, as amended. Joseph P. Kozma was designated the Drain Office Project Engineer for the Maplewoods North Subdivision Drain.

An agreement between the Maplewoods North Subdivision Drainage District and The Selective Group, the developer, was entered into on September 16, 1985. The agreement provided that the properties in the development would bear the costs of operation and maintenance of the drain, and that the developer would pay all the costs involved in establishing and constructing the drain.

Construction of the Maplewoods North Subdivision Drain is expected to be completed in 1986.

Nelson Drain - Phase I

A petition for certain drain improvements along the existing Gibson and Renshaw Drains in the northeastern part of the City of Troy was filed with the Drain Commissioner on May 7, 1984. At the first Drainage Board meeting held May 23, 1984, the project was named the Nelson Drain, and the public hearing on necessity was scheduled for July 11, 1984. No objections were made at the hearing, and the project was determined practical and necessary, and the Final Order of Determination was adopted.

Donald L. Mills was designated the the Drain Office Project Engineer for the Nelson Drain, and Hubbell, Roth & Clark, Inc. was employed as consulting engineer.

Phase I of the Nelson Drain consists of a 25-acre retention basin which is to be constructed on the east side of Rochester Road between Long Lake and Square Lake Roads. Construction bids were received on September 10, 1985, and the contract was awarded to the low bidder, Richard Mancini Equipment Co. in the amount of \$838,181.39. Actual construction including site clearing, tree removal, and earth excavation began in November, 1985. Completion of Phase I of the Nelson Drain is scheduled for summer of 1986.

Skarritt Drain

On April 9, 1985 the City of Pontiac adopted a petition to allow the Drain Commissioner's Office to construct a storm drain on Joslyn Road north of Walton Boulevard. Originally a City of Pontiac project, the City hired Giffels-Webster Engineers, Inc. to prepare engineering plans for the drain improvements. Construction bids were received by the City of Pontiac in February of 1985, and the contract was awarded to Harry Rosen's Bulldozing Services, Inc., the low bidder. Construction was hindered, however, because easements could not be obtained.

At a meeting of the Skarritt Drainage Board held June 26, 1985 the project was declared practicable and necessary for public health, the Final Order of Determination was approved, and Giffels-Webster Engineers, Inc. was employed as consulting engineer.

In an effort to obtain the necessary easements, Glen Yrjanainen, P.E. of the Drain Commissioner's staff redesigned the Skarritt Drain. After the redesign, all necessary easements were obtained and a change order reflecting the revisions was prepared. Harry Rosen's Bulldozing Services, Inc. submitted new costs for the revisions and the contract was altered to reflect the changes. William E. Klockow, P.E. was selected as project engineer for the Skarritt Drain.

Construction of the project began in October of 1985, with 75% of the project completed by year end. The balance of the work is expected to be completed in the spring of 1986.

LAKE LEVEL PROJECTS

LAKE LEVEL PROJECTS

Walled and Shawood Lake Level Project

On September 19, 1983 the Cities of Novi and Walled Lake entered into an agreement to share the cost of the Walled and Shawood Lake Level Control project. Also, the City of Novi agreed to sell bonds to finance this project. No special assessments are anticipated for either the lake level control construction or future maintenance. All expenses will be spread on a city-at-large basis.

A resolution for the establishment of a lake level for Walled Lake and Shawood Lake was passed by the Oakland County Board of Commissioners on October 6, 1983. The City of Novi sold the bonds required to fund this project on November 23, 1983. On December 19, 1983 a contract was entered into with JCK & Associates to conduct the necessary studies and prepare the required report, plans, and specifications.

The Engineering Report which was submitted to this office on August 9, 1984 recommended a summer legal lake level elevation of 932.80 feet and a winter legal lake level elevation of 932.10 feet (both U.S.G.S. datum). A Circuit Court hearing held on October 31, 1984 and the recommended levels were established for Walled and Shawood Lakes.

A bid opening was held on February 28, 1985, and South Hill Construction Company with a low bid in the amount of \$68,496.01 was selected to construct the project. Construction of the dam was completed in 1985.

SEWER AND WATER
CONSTRUCTION COMPLETED

SEWER AND WATER CONSTRUCTION COMPLETED

Huron Gardens Extension Improvements

This project is for construction of improvements to the existing sanitary sewer system located, generally, in the Huron Gardens Subdivision area of Sections 25 and 36, Waterford Township. The necessity for the improvements was identified by the Sewer System Evaluation Survey (SSES) completed in February of 1983 by consulting engineers, Johnson & Anderson, Inc.

An agreement between Waterford Township and the County of Oakland was approved by the Waterford Township Board on January 23, 1984. The Oakland County Board of Commissioners approved the agreement on February 9, 1984, assigned the project development and construction to the Drain Commissioner's Office as County Agency, and transferred \$110,000 in surplus funds from prior years' sewer construction projects to finance the project work.

Gerald Sweetland, P.E. was selected as the Drain Office project engineer for Huron Gardens Extension Improvements. The consulting firm of Johnson & Anderson, Inc. was retained to design the project and prepare construction plans and specifications. These project improvements, approximately 1500 lineal feet of 6-inch through 12-inch sanitary sewer, were to be constructed before the start of the 1984 street paving program by the Oakland County Road Commission.

Construction bids were received on March 22, 1984 and the contract was awarded to A.V.S. Construction Specialties of Auburn Hills, Michigan in the amount of \$70,111.25. Construction of sewer pipe and most of the cleanup and restoration were completed during the summer and fall of 1984. Several items of cleanup and restoration were completed during 1985, and the final payment to the contractor should be made early in 1986.

Oakland Township Extension No. 2

Late in 1979 and early 1980 owners of property located in south-central Oakland Township approached their Township officials and the Drain Commissioner's office with a request for Oakland County to construct a small, trunk sanitary sewer connecting to the Paint Creek Interceptor to serve a district easterly of Orion and Silverbell Roads. The project was to be financed with private funds placed on deposit with Oakland Township.

The Oakland Township Board approved a contract on January 13, 1981 and the Oakland County Board of Commissioners on February 19, 1981. Project development and construction was assigned to the Drain Commissioner's office as County Agency under Act 342, P.A. of 1939, as amended. Donald Mills, P.E. was selected as the Drain Office project engineer for Oakland Township Extension No. 2.

The consulting firm of Giffels-Webster Engineers, Inc. was retained to design the system and prepare construction plans and specifications. The system was to be composed of approximately 4,900 lineal feet of 6-inch and 10-inch sanitary sewer.

Construction bids were received on November 29, 1983 and the contract was awarded to the low bidder, P & R Contracting Co., in the amount of \$207,543.00. Construction was completed during the summer of 1984, and the system was placed in service on August 1, 1984. Initial cleanup and restoration took place in the fall of 1984, and all remaining items were completed in the spring of 1985. Final payment to the contractor was made in July, 1985.

West Bloomfield Water - Section VII

West Bloomfield Township requested Oakland County to proceed with the development of a project to construct a 20-inch water transmission main along Pontiac Trail within the limits of the City of Orchard Lake Village westerly from Orchard Lake Road. The west end would terminate in Pontiac Trail near Mirror Lake.

An agreement between West Bloomfield Township and the County of Oakland was approved by the Township Board on January 18, 1982. The Oakland County Board of Commissioners approved the agreement on February 4, 1982, assigned the project development and construction to the Drain Commissioner's office as County Agency, and transferred \$680,000 in surplus funds from prior years water construction projects to finance the project work.

The project is composed of approximately 7,000 lineal feet of water transmission and distribution main, 20" to 8" in size. The firm of Hubbell, Roth & Clark, Inc. was retained to design the system and prepare construction plans and specifications. William E. Klockow, P.E. was selected as the Drain Office project engineer for West Bloomfield Water - Section VII.

Construction bids were received on March 22, 1984 and the contract was awarded to Lawrence M. Clarke, Inc. of Ypsilanti, Michigan in the amount of \$393,739.00. Construction was completed during the summer of 1984 and the system was placed in service on September 14, 1984. Initial cleanup and restoration took place in late summer and fall of 1984, and all remaining items were completed in early 1985. Final payment to the contractor was made in October, 1985.

SEWER AND WATER PROJECTS
UNDER CONSTRUCTION

SEWER AND WATER PROJECTS UNDER CONSTRUCTION

Lapeer-Brown Road Water Main Extension

In early 1985 the Drain Commissioner received a request from the Township of Orion to construct a water transmission main extension in Brown and Lapeer Roads from design plans and specifications supplied by the Township and prepared by Orchard, Hiltz & McCliment, Inc., Township consulting engineers. An agreement between Orion Township and the County of Oakland was approved by the Orion Township Board on April 15, 1985, and by the Oakland County Board of Commissioners on May 9, 1985. The agreement assigned the construction to the Drain Commissioner as County Agency, and provided the necessary funds from Orion Township. Joseph P. Kozma, P.E. was appointed as Drain Office project engineer.

The system, consisting of approximately 18,000 lineal feet of 12-inch diameter to 24-inch diameter water main was to be constructed along Brown Road east of Giddings, and along Lapeer Road (M-24) from Brown Road north to Silver Bell Road in the vicinity of the General Motors Orion Plant. Direct water service was to be provided for further industrial and commercial development along the M-24 corridor, and capacity for further extension to the north.

All rights-of-way for water construction were acquired by voluntary grant. No condemnation proceedings were required. Construction bids were received July 1, 1985, and the contract was awarded to L. D'Agostini & Sons, Inc. of Sterling Heights, Michigan, in the amount of \$808,034. Construction began in July of 1985 and is scheduled to be completed in the summer of 1986.

Orion Township Extension No. 3

In December, 1983 the Drain Commissioner's Office received a request from the Township of Orion to construct a sanitary sewer along Lapeer Road (M-24) from a point north of Brown Road to a point north of Greenshield Road. This sewer would serve a district easterly and westerly of Lapeer Road and would allow for industrial and commercial development to occur along the M-24 corridor adjacent to the new General Motors plant. The Township Board requested that this project be constructed utilizing surplus funds currently on deposit with the County.

An agreement between Orion Township and the County of Oakland was approved by the Orion Township Board on February 6, 1984. The Oakland County Board of Commissioners approved the agreement on February 23, 1984, assigned the project development and construction to the Drain Commissioner's office as County Agency. Joseph P. Kozma, P.E., was selected as the Drain Office project engineer.

The consulting firm of Orchard, Hiltz & McCliment, Inc. was employed to design the system and prepare construction plans and specifications. The system will be composed of approximately 18,000 lineal feet of 8-inch diameter to 15-inch diameter sanitary sewer.

All rights-of-way for sewer construction were acquired by voluntary grant; condemnation proceedings were not required. Construction bids were received July 1, 1985, and the contract was awarded to L. D'Agostini & Sons, Inc. of Sterling Heights, Michigan, in the amount of \$970,118.64. Construction started in July of 1985 and is scheduled for completion in the summer of 1986.

LAKE IMPROVEMENT BOARDS

LAKE IMPROVEMENT BOARDS

The Inland Lake Improvement Act, Act No. 345 of 1966, as amended, permits a township to create a lake improvement board after receiving petitions from 2/3 of the freeholders owning land abutting the lake in the township. Section 4 of the Act provides that a representative of the County Drain Commissioner will serve as a member of the lake improvement board.

A brief summary of the activity of each lake improvement board during 1985 follows:

Big Lake Improvement Board

Big Lake is approximately 220 acres in size and is located in Springfield Township. The Oakland County Drain Commissioner also operates and maintains a lake level structure for Big Lake under the provisions of the Inland Lake Level Act. The members of the Lake Improvement Board during 1985 were Bernard A. Wendt, Chairman, Richard D. Kuhn, Jr., representing the Oakland County Board of Commissioners, Bob Lloyd, representing the lakefront owners on Big Lake, Peg Bostwick, representing the Michigan Department of Natural Resources, and Robert H. Fredericks, representing the Oakland County Drain Commissioner.

During 1983 the Lake Improvement Board approved a five-year lake improvement project consisting primarily of weed harvesting, and a five-year special assessment roll to finance the project.

Also in 1983 the Lake Improvement Board entered into a contract with the Big Lake Quality Water Association, Inc., a non-profit corporation formed by the residents on Big Lake to perform the weed harvesting work. During 1985 the weed harvesting program was continued by the residents through their non-profit corporation. Payments by the Lake Improvement Board to the contractor for weed harvesting in 1985 totaled \$40,600.00.

The third year of the five-year program of weed harvesting was successful on Big Lake. No substantial problems were encountered with the weed harvesting work, and the same program will be continued over the next two years.

Charlick Lake Improvement Board

Charlick Lake is located in Section 9 of Highland Township, being north of Middle Road, south of Clyde Road, and west of Milford Road. The lake has an approximate surface area of 20.5 acres.

The following individuals served as Charlick Lake Improvement Board members for 1985: Thomas Dunleavy, Board Chairman and Highland Township Supervisor; Richard Skarritt, representing the Oakland County Board of Commissioners; John Fitzgerald,

representing lakefront property owners, Glen Yrjanainen, Board Secretary and representative of the Oakland County Drain Commissioner; and Richard Mikula, representing the Michigan Department of Natural Resources.

In the spring of 1984 two-thirds of the freeholders of land abutting Charlick Lake petitioned Highland Township for the establishment of a lake improvement board under Act 345 of the Public Acts of 1966. The first organizational meeting of the board was held on June 25, 1984.

At the July 9, 1984 board meeting, MPK Engineers, Inc. was authorized to proceed with the preparation of a "feasibility study" for Charlick Lake. The results of the feasibility study were presented at a meeting of the Charlick Lake Improvement Board held May 2, 1985. The study recommended that a long term solution to improve the quality and condition of the lake would be to dredge and deepen the lake, as opposed to short term solutions such as weed harvesting or the use of chemicals, etc.

A joint special assessment amount totaling \$6,850 for the Charlick, Woodruff and Tomahawk Lake Improvement Boards was approved on June 10, 1985 to provide funds to pay for the feasibility study.

The majority of the owners of taxable properties abutting Charlick Lake petitioned for the use of chemical weed control, and at a meeting held September 5, 1985 the Lake Improvement Board approved chemical weed control as the method to be used for lake improvement in 1986, and approved a special assessment for the December, 1985 tax rolls in the amount of \$3,800 to implement the program.

Duck Lake Improvement Board

Duck Lake is located in Sections 2, 11, 12 and 14 of Highland Township, being north of Wardlow Road, south of White Lake Road, west of Duck Lake Road, and east of Harvey Lake Road. The lake has an approximate surface area of 307 acres.

The following individuals served as Duck Lake Board members for 1985: Thomas Dunleavy, Board Chairman and Highland Township Supervisor; Richard Skarritt, representing the Oakland County Board of Commissioners; Robert Hess, Board Secretary and representative of lakefront owners on Duck Lake; Glen Yrjanainen, representing the office of Oakland County Drain Commissioner; and Richard Mikula, representing the Michigan Department of Natural Resources.

In the fall of 1983, two-thirds of the freeholders of land abutting Duck Lake petitioned Highland Township for the establishment of a lake improvement board under Act 345 of the Public Acts of 1966. The first organizational meeting of the board was held on January 12, 1984.

At the May 1, 1984 board meeting Cleary Engineers, Inc. was authorized to proceed with the preparation of a "feasibility study" for Duck Lake. The study was completed by late fall, 1984 and formally presented to the lake owners at the November 19, 1984 board meeting. The presentation summarized the results of the study, and included specific recommendations as to what could be done to improve the quality and condition of the lake. In summary, the primary recommendation of the study was that a weed harvesting program be implemented for Duck Lake.

Special assessments totaling approximately \$61,700 were approved by the Duck Lake Improvement Board in June of 1985 to provide funds to pay for the feasibility study completed in 1984 and for a weed harvesting program for 1985. The Wittbold Company provided weed harvesting services for the Lake Improvement Board in 1985.

Indianwood Lake Improvement Board

Indianwood Lake is approximately 80 acres in size and is located primarily in Orion Township, with a small portion in Oxford Township. The members of the Lake Improvement Board during 1985 were Roy Rewold, Chairman and member of the Oakland County Board of Commissioners, Katherine E. Jacobs, Orion Township Clerk, representing Orion Township, Mary Heitjan, representing the lakefront owners on Indianwood Lake, Barry Horney representing the Michigan Department of Natural Resources, and Robert H. Fredericks, representing the Oakland County Drain Commissioner.

At a public hearing held on September 27, 1984, the Lake Improvement Board approved a new five-year project to continue the weed harvesting program on Indianwood Lake for the years 1985 through 1989. At a second public hearing held on November 29, 1984, the Lake Improvement Board confirmed a five-year special assessment roll to finance the cost of the lake improvement program through 1989.

On January 29, 1985 a contract for weed harvesting was awarded to KAM Aquatics, Ewart, Michigan. Two weed harvests were performed during 1985, one in May and one in August. A total of \$15,900 was paid to the contractor for weed harvesting work in 1985. A full report of expenditures by the Indianwood Lake Improvement Board is included in the Financial Report Section.

Island Lake Improvement Board

Island Lake is approximately 108 acres in size and is located in Bloomfield Township. The members of the Lake Improvement Board during 1985 were Fred Korzon, Chairman and Bloomfield Township Supervisor, Nancy McConnell, representing the Oakland County Board of Commissioners, Al Massey, representing the Michigan Department of Natural Resources, and David J. Snyder representing the Oakland County Drain Commissioner. On March 20, 1985 Marvin Katke was appointed to serve four years on the Board as the Island Lake property owners' representative.

During 1983 the Lake Improvement Board approved a five-year lake improvement project for Island Lake and a five-year special assessment roll to finance the project. On March 20, 1985 the Lake Board approved the 1985 weed harvesting contract with the non-profit corporation which was formed by residents on Island Lake. The Lake Board also confirmed the 1985 assessment of \$29,500.23. The Treasurer of Bloomfield Township serves as the treasurer of the Lake Board and maintains a record of all receipts and expenditures by the Board.

The third year of the weed harvesting program on Island Lake was successful. No problems were encountered in 1985, and the program is expected to continue in the same manner over the next two years.

Lake Louise Improvement Board

Lake Louise is located in Sections 19, 20 and 30 of Brandon Township near the intersection of Highway M-15 and Glass Road. The water surface covers approximately 112 acres. The lake is bounded by residential and some small business on the westerly and northerly sides, and by largely undeveloped land on the easterly and southerly sides. The lake is formed by an outlet dam at the north end which discharges water into Kearsley Creek and then the Flint River.

The Brandon Township Board of Trustees created the Improvement Board for Lake Louise on March 4, 1985 in response to petitions signed by two-thirds of the freeholders of Lake Louise property. The organizational meeting of the Board took place on May 8, 1985. The members of the Board in 1985 were Robert Sargent, Chairman and Brandon Township representative; Gordon Jorvitz, Secretary and representative of lakefront property owners; Richard R. Wilcox, representing the Oakland County Board of Commissioners; Howard Wandell, representing the Michigan Department of Natural Resources; and H. James Lueders, representing the Oakland County Drain Commissioner.

In mid-June, 1985 the Board engaged the services of Progressive Engineering Consultants of Grand Rapids, Michigan to conduct a feasibility study and prepare a report including recommended projects and cost estimates for the improvement of Lake Louise. The report was to be completed in two phases - the first by June 28, 1985 to determine the feasibility of a project to control the aquatic vegetation, and the second by May 15, 1986 to study and report all other alternatives. Mr. Tony Groves of Progressive Engineering Consultants presented the Phase I study results at a public hearing in July, 1985. He recommended an integrated program of mechanical weed harvesting and chemical herbicide treatment.

The Board determined that the recommended program was feasible and established a two-year project as recommended, starting with the 1986 summer season. The preparation of the special assessment roll, the public hearing, and the confirmation of the roll were completed, and the special assessment was placed on the winter, 1985 tax rolls.

Lake Ona Improvement Board

Lake Ona is located in Sections 31 and 32 of White Lake Township, north of Cooley Lake Road and east of Ford Road. The lake has an approximate surface area of 27 acres.

Members of the Lake Ona Improvement Board in 1985 were: James Reid, Board Chairman and White Lake Township Supervisor; William J. McGrath, representing lakefront property owners; Glen Yrjanainen, Board Secretary representing the Oakland County Drain Commissioner; Anne Hobart, Board member representing the Oakland County Board of Commissioners; and Richard Mikula, representing the Michigan Department of Natural Resources.

After being inactive since 1980, the Lake Board for Lake Ona reconvened on April 17, 1984. The lake owners advised the board of their desire to implement a weed harvesting program for Lake Ona whereby they would purchase and operate their own weed harvester. Mr. Glen Yrjanainen, a Registered Engineer and Lake Ona Improvement Board member, was requested to prepare a feasibility study addressing the viability of weed harvesting.

At the May 16, 1984 board meeting, Mr. Yrjanainen presented his Feasibility Study identifying weed harvesting as a viable method of improving the quality of Lake Ona.

At a June 27, 1984 meeting, the board proposed the purchase and operation of a weed harvester for Lake Ona, with the cost to be recovered by a five-year special assessment district against the lakefront property owners. At a September 7, 1984 meeting the Board approved a five-year special assessment, to run from 1985 through 1989, in the amount of \$13,500 to finance the purchase and operation of a weed harvester for Lake Ona. The Board entered into a five-year agreement on November 30, 1984 with the homeowners' association, whereby the association will harvest the weeds from Lake Ona using a weed harvester purchased specifically for that purpose.

The Lake Ona Lake Improvement Board experienced a successful year in 1985 with 250 hours of weed harvesting occurring. 1985 was the first year of the five-year special assessment.

Lakeville Lake Improvement Board

Lakeville Lake is approximately 460 acres in size and is located in Section 2 of Addison Township. The Oakland County Drain Commissioner also operates and maintains a lake level structure for Lakeville Lake under the provisions of the Inland Lake Level

Act. The members of the Lake Improvement Board during 1985 were Richard R. Wilcox, Chairman and representative of the Oakland County Board of Commissioners, Robert Swift, representing lakefront property owners on Lakeville Lake, Ron Wonboy, representing Addison Township, Barry Horney, representing the Michigan Department of Natural Resources, and Robert H. Fredericks, representing the Oakland County Drain Commissioner.

At a public hearing held on April 11, 1984, the Lake Improvement Board approved a new five-year project to continue the weed harvesting program on Lakeville Lake for the years 1985 through 1989. At a second public hearing held May 23, 1984, the Lake Improvement Board confirmed a five-year special assessment roll to finance the cost of the lake improvement program through 1989.

On May 30, 1985 the Lake Improvement Board entered into a contract with the Lake Restoration Association, Lakeville, Michigan, a non-profit corporation formed by the Lakeville Lake Property Owners Association to continue to perform the weed harvesting work on Lakeville Lake. Payments by the Lake Improvement Board to the contractor for weed harvesting in 1985 were \$27,990. A full report on receipts and expenditures by the Lake Improvement Board is included in the Financial Report Section.

Pontiac Lake Improvement Board

Pontiac Lake is located in Sections 11, 12, 13, and 14 of White Lake Township, and Section 18 of Waterford Township. Pontiac Lake is an artificial impoundment of approximately 615 acres and is bound by state, county, commercial and residential properties. The Oakland County Drain Commissioner maintains and operates the dam for Pontiac Lake, which forms the lake and maintains its level.

The Pontiac Lake Improvement Board was created in October, 1977 under the provisions of the Inland Lake Improvement Act (Act 345 of the Public Acts of 1966). The organizational meeting of the Board was held on March 21, 1978. The members of the Lake Improvement Board during 1985 were James L. Reid, Chairman and representative of White Lake Township; H. James Lueders, Secretary, representing the Oakland County Drain Commissioner; Anne M. Hobart, representing the Oakland County Board of Commissioners; Jean A. Scott, representing Waterford Township; Richard Mikula, representing the Michigan Department of Natural Resources; and Joseph A. Grasela, representing the lakefront property owners.

A December, 1979 study and report by Johnson & Anderson, Inc., consulting engineers, and the extensive analysis and report prepared by the Michigan Department of Natural Resources published in October, 1981 recommended several lake improvement projects: winter lake level drawdown for lake bottom improvement and aquatic vegetation control; aeration of the deep pool in the lake; supplemental flow augmentation from deep well sources; and

mechanical aquatic weed harvesting. The purpose of the extensive study and report by the Michigan Department of Natural Resources was to provide the basis for a grant application for Federal funds through the U.S. Environmental Protection Agency under the Federal Clean Lakes program. Subsequently, grant moneys were provided for an environmental monitoring program, to be conducted by the D.N.R., for construction of a deep well flow augmentation system and for the construction, operation and maintenance of an aeration system. The permanent installation of the deep well flow augmentation system was later cancelled after test well results identified an unsatisfactory water supply and a lack of cost effectiveness for the system.

In late 1981 and early 1982 the Pontiac Lake dam underwent a major reconstruction. In a cooperative effort, the Drain Commissioner's dam repair contractor, C.A. Hull, constructed an aeration system for the deep pool in the lake, complete with compressor building on the dam and the underwater air supply lines and diffusers. The ownership, maintenance and operation of the aeration system now rests with the Lake Improvement Board.

During the latter part of 1982, the Lake Improvement Board determined to proceed with the mechanical aquatic weed harvesting program and approved the spread of a five-year special assessment against property owners in the annual amount of \$50,000 for weed harvesting, and \$5,000 for matching grant obligations and for the operation and maintenance of the aeration system. On January 24, 1983 the Board entered into a contract with the Pontiac Lake Weed Harvesting Company to perform the weed harvesting operations. The Pontiac Lake Weed Harvesting Company is a Michigan, non-profit corporation whose membership is open to all Pontiac Lake residents. Weed harvesting for the three seasons ending in 1985 have been completed with considerable success.

The Lake Improvement Board was advised early in 1984 that Federal Grant funds budgeted and not used for the construction of the deep well flow augmentation system could be used for other activities via a grant amendment offered by the U.S. Environmental Protection Agency to the D.N.R. for the benefit of the Lake Improvement Board. The Lake Improvement Board directed the D.N.R. to accept the grant amendment and entered into an amended contract with the D.N.R. on March 7, 1984. The amendment provides 50% matching grant funds for one year of mechanical weed harvesting, operation and maintenance costs of two additional seasons of aeration, and additional environmental monitoring by the D.N.R. The period of the grant was extended from February 29, 1984 through December 31, 1985. Approximately \$30,000 has been paid to the Lake Improvement Board during this period.

Early in 1985 the Pontiac Lake Homeowners' Association requested the Lake Improvement Board to pursue the establishment of a new summer legal lake level approximately six inches higher to improve conditions for summer recreation and for weed harvesting. The Board hired Cleary Engineers, Inc. to conduct a feasibility study. The completed study contained the recommendation that a

summer level six inches higher was feasible, that it should be adopted, and that it could be implemented by the installation of a steel plate stop log on the crest of the existing dam. The Lake Improvement Board determined that the majority of lake residents favored the higher summer level, and requested the Drain Commissioner to take appropriate action.

Much of Pontiac Lake is very shallow which makes harvesting of weeds by mechanical means practically impossible. As a result, noxious aquatic weeds choke the lake where harvesting is not provided. At the request of lakefront residents, the Lake Improvement Board commissioned Cleary Engineers, Inc. to undertake a feasibility study update directed to an integrated program of aquatic weed control. Cleary performed the study and reported with the recommendation that the Board adopt an integrated program composed of a three foot winter lake drawdown, application of chemical herbicides, continued mechanical harvesting, and a formal program of professional monitoring. The Board will consider the recommendations early in 1986.

Rainbow Lake Improvement Board

A resolution dated September 21, 1981 by the Waterford Township Board established the Rainbow Lake Improvement Board. The Lake Improvement Board held its organizational meeting on November 24, 1982. The members of the Lake Improvement Board for 1985 were Betty Fortino, Chairman, representing the Oakland County Board of Commissioners, Paul Deni, Secretary, representing Waterford Township; Albert Massey, representing the Michigan Department of Natural Resources, and David J. Snyder, representing the Oakland County Drain Commissioner.

Rainbow Lake, an eight acre lake in Section 4 of Waterford Township, involves 21 residents who are affected by the project. Gerald A. Cleary, P.E., was retained to prepare an engineering feasibility report which included an economic study and cost estimate. The report was presented to the Rainbow Lake Improvement Board at a meeting held October 18, 1983 and subsequently to the residents at an evening Board meeting held November 1, 1983.

A lake cleanup program was accomplished in 1984, and a similar program for 1985 was proposed, approved and funded by a special assessment. Included in the program was the pumping required to maintain the summer lake level at approximately 965.7 feet above sea level.

Scott Lake Improvement Board

Scott Lake is a kettle lake located in Section 14 of Waterford Township. It comprises 78 acres, and has a surface elevation of 949 feet above mean sea level. There are 50 or more residents fronting on Scott Lake.

In late 1984 two-thirds of the freeholders abutting Scott Lake petitioned Waterford Township to establish a lake improvement board. On February 27, 1985 the first meeting of the Scott Lake Improvement Board took place. Members consisted of Betty Fortino, Chairperson and Oakland County Commissioner, Robert C. Sharrard, Waterford Township Trustee, Howard Wandell, Michigan Department of Natural Resources, Donald Borwick, Lakefront property owner, and David J. Snyder, Secretary and representative of the Oakland County Drain Commissioner.

At its meeting held April 18, 1985, Cleary Engineers, Inc. was hired to study the lake and prepare an engineering feasibility report, improvement recommendations, economic analysis, and cost estimates. This work was done over the summer of 1985 and was reported to the Lake Improvement Board at its meeting held October 15, 1985.

At the public hearing held December 5, 1985 a herbicide treatment of milfoil was recommended to be implemented in 1986. The Lake Board determined the project practicable, determined to proceed with the project, approved the cost estimate, and confirmed the related special assessment roll.

Tomahawk Lake Improvement Board

Tomahawk Lake is located in Section 9 of Highland Township, being north of Middle Road, south of Clyde Road, and west of Milford Road. The lake has an approximate surface area of 9.3 acres.

The following individuals served as Tomahawk Lake Improvement Board members in 1985: Thomas Dunleavy, Board Chairman and Highland Township Supervisor; Richard Skarritt, representing the Oakland County Board of Commissioners; Frank Wittbrodt, representing lakefront property owners; Glen Yrjanainen, Board Secretary and representative of the Oakland County Drain Commissioner; and Richard Mikula, representing the Michigan Department of Natural Resources.

In the spring of 1984 two-thirds of the freeholders of land abutting Tomahawk Lake petitioned Highland Township for the establishment of a lake improvement board under Act 345 of the Public Acts of 1966. The first organizational meeting of the board was held on May 1, 1984.

At the June 25, 1984 board meeting, MPK Engineers, Inc. was authorized to proceed with the preparation of a feasibility study for Tomahawk Lake. The results of the feasibility study were presented at a meeting of the Tomahawk Lake Improvement Board held May 2, 1985. The study recommended that a long term solution to improve the quality and condition of the lake would be to dredge and deepen the lake, as opposed to short term solutions such as weed harvesting or the use of chemicals, etc.

A joint special assessment amount totaling \$6,850 for the Charlick, Woodruff and Tomahawk Lake Improvement Boards was approved on June 10, 1985 to provide funds to pay for the feasibility study.

The majority of the owners of taxable properties abutting Tomahawk Lake petitioned for the use of chemical weed control, and at a meeting held November 12, 1985 the Lake Improvement Board approved chemical weed control as the method to be used for lake improvement in 1986.

Upper Long Lake Improvement Board

Upper Long Lake is approximately 123 acres in size and is located in Section 7 of Bloomfield Township and Section 12 of West Bloomfield Township. The members of the Lake Improvement Board during 1985 were Fred Korzon, Bloomfield Township Supervisor, John N. Doherty, West Bloomfield Township Supervisor, Albert Massey, representing the Michigan Department of Natural Resources, Nancy McConnell, Oakland County Commissioner, and David J. Snyder, representing the Oakland County Drain Commissioner. On March 20, 1985 Arthur B. Pearson was appointed to serve four years on the Board as the lakefront property owners' representative.

At a public hearing held on May 15, 1984, the Lake Improvement Board approved a one year project for lake improvement to include both chemical treatment and a mechanical weed harvesting program on Upper Long Lake for 1984. At a second public hearing held on May 31, 1984, the Lake Improvement Board confirmed a one year special assessment roll to finance the cost of the lake improvement program in 1984.

On June 7, 1984 the Lake Improvement Board approved an agreement with the Long Lake Shores Association, a non-profit corporation which was formed by the residents on Upper Long Lake for the purpose of entering into a contract for weed harvesting on Upper Long Lake as authorized by Section 27 of the Lake Improvement Act.

Payments by the Lake Improvement Board to the contractor for weed harvesting in 1984 were \$31,440. The Treasurer of Bloomfield Township serves as the treasurer for the Lake Improvement Board and maintains a record of all receipts and expenditures by the Board.

After a successful 1984 lake improvement program, the Upper Long Lake Board, at a public hearing held March 20, 1985 resolved to approve a weed control program for 1985 and confirmed the related assessments. The program involved a budget of \$32,500 and consisted of two weed harvesting cuttings and selective chemical treatment of canals and shoreline areas. The program was successfully implemented through the lake owners' association.

Van Norman Lake Improvement Board

VanNorman Lake is located in Sections 32 and 33 of Independence Township and Sections 4 and 5 of Waterford Township near the intersection of Dixie Highway and Andersonville Road. The water surface covers approximately 72 acres and the lake is bounded mostly by residential property. The Oakland County Drain Commissioner operates a lake level structure for Van Norman Lake as a part of the Waterford Multi-Lakes system under the provisions of the Inland Lake Level Act.

The Independence Township Board of Trustees created the Improvement Board for VanNorman Lake on December 8, 1983 in response to petitions signed by two-thirds of the freeholders of VanNorman Lake property. The organizational meeting of the Board took place February 13, 1984. The members of the Lake Improvement Board during 1985 were Richard D. Kuhn, Jr., Chairman and representative of the Oakland County Board of Commissioners, Richard A. Holman, Secretary, representing Independence Township, Paul Deni representing Waterford Township, Howard Wandell, representing the Michigan Department of Natural Resources, H. James Lueders representing the Oakland County Drain Commissioner; and Charles Harding, representing lakefront property owners.

The principal activities undertaken by the Board during 1985 were the determination of the feasibility of a two-year project for weed harvesting, limited application of herbicides for weed control, and approval of the project cost estimates; the preparation, approval, and confirmation of a special assessment roll; and planning for the performance of the work starting with the 1986 summer season.

Walters Lake Improvement Board

Walters Lake is located in Sections 12, 13, and 14 of Independence Township near the intersection of Clarkston and Eston Roads. The water surface covers nearly 83 acres and the lake is bounded almost entirely by residential property.

The Independence Township Board of Trustees created the Improvement Board for Walters Lake on October 4, 1983 in response to petitions signed by two-thirds of the freeholders of Walters Lake property. Formal organization of the Board took place on October 26, 1983. The members of the Lake Improvement Board for 1985 were Richard D. Kuhn, Jr., Chairman and representative of the Oakland County Board of Commissioners; Richard A. Holman, Secretary representing Independence Township; Howard Wandell representing the Michigan Department of Natural Resources, H. James Lueders representing the Oakland County Drain Commissioner; and Tom Gregory, representing lakefront property owners.

In early 1984 the Board engaged the services of Cleary Engineers, Inc. to conduct a feasibility study and prepare a report including recommended projects for the improvement of Walters Lake. The report also was to include estimates of cost and

methods of cost assessment. Mr. Gerald A. Cleary gave a presentation of the feasibility study at a public hearing in late November, 1984. A great deal of discussion followed the presentation, and at the conclusion of the public hearing the Board decided to delay a decision of project feasibility until additional facts and cost figures were developed.

The Board held a public meeting in June of 1985 to continue the discussion of project feasibility. A large number of lake area residents attended the meeting to hear the latest facts and cost figures. Lengthy discussion expressing strong sentiments both for and against project feasibility, cost estimates, and cost assessment followed. At the conclusion of discussion the Board moved to further postpone a decision of project feasibility until the Board receives more resident input, and until an acceptable method of cost assessment can be developed. No further meetings have been scheduled.

Watkins Lake Weed Control Board

Watkins Lake is located in Waterford Township and has a surface area of 225 acres. Having no natural inlet, Watkins Lake is normally supplemented by storm water runoff and ground water.

The Waterford Township Board adopted a resolution on April 20, 1970 to implement P.A. 345 of 1966 as amended to create the first lake improvement board in Oakland County, the Watkins Lake Weed Control Board. The Board members for 1985 were Betty Fortino, Chairman and representative from the Oakland County Board of Commissioners, Robert C. Sharrard, Board Secretary and Waterford Township representative; Howard Wandell, representative from the Michigan Department of Natural Resources, and George W. Kuhn, Oakland County Drain Commissioner.

After the formation of the Watkins Lake Weed Control Board, an engineering study was made by Johnson & Anderson, Inc. and completed on December 1, 1972. Engineering recommendations basically indicated two feasible methods of weed control - chemically treating 100 acres of Watkins Lake and harvesting the remainder. For the first five years of its weed harvesting program the Watkins Lake Weed Control Board contracted with the Oakland County Drain Commissioner's Office for weed harvesting services, however over the past several years the weed harvesting contract has been awarded to the Watkins Lakefront Owners Association, Inc.

On May 8, 1985 the Board approved a budget of \$25,000 for 1985, and confirmed a special assessment roll in that amount to be placed on the December 31, 1985 tax rolls. In 1985 the Watkins Lake Weed Control Board experienced another successful summer with the weed harvesting program, and purchased a new truck for weed hauling.

Wolverine Lake Improvement Board

Wolverine Lake is approximately 240 acres in size and is located in the Village of Wolverine Lake in Commerce Township. The members of the Lake Improvement Board during 1985 were Timothy R. Kozub, Chairman, Dr. G. William Caddell, representing the Oakland County Board of Commissioners, Al Massey, representing the Michigan Department of Natural Resources, and William E. Klockow, representing the Oakland County Drain Commissioner.

A drawdown of Wolverine Lake occurred in the fall of 1981 and spring of 1982 to allow stump removal, improvement to waterfront properties by residents, and weed control. There are no plans for another drawdown of the lake at this time, and there has been no further activity involving the Lake Improvement Board.

Woodruff Lake Improvement Board

Woodruff Lake is located in Section 9 of Highland Township, being north of Middle Road, south of Clyde Road, and west of Milford Road. The lake has an approximate surface area of 37.8 acres.

The following individuals served as Woodruff Lake Improvement Board members in 1985: Thomas Dunleavy, Board Chairman and Highland Township Supervisor; Richard Skarritt, representing the Oakland County Board of Commissioners; Patrick McKeough, representing lakefront property owners; Glen Yrjanainen, Board Secretary, representing the Oakland County Drain Commissioner; and Richard Mikula, representing the Michigan Department of Natural Resources.

In the spring of 1984 two-thirds of the freeholders of land abutting Woodruff Lake petitioned Highland Township for the establishment of a lake improvement board under Act 345 of the Public Acts of 1966. The first organizational meeting of the Board was held on June 25, 1984.

At the July 9, 1984 board meeting, MPK Engineers, Inc. was authorized to proceed with the preparation of a feasibility study for Woodruff Lake. The results of the feasibility study were presented at a meeting of the Woodruff Lake Improvement Board held May 2, 1985. The study recommended that a long term solution to improve the quality and condition of the lake would be to dredge and deepen the lake, as opposed to short term solutions such as weed harvesting or the use of chemicals, etc.

A joint special assessment amount totaling \$6,850 for the Charlick, Woodruff and Tomahawk Lake Improvement Boards was approved on June 10, 1985 to provide funds to pay for the feasibility study.

The majority of the owners of taxable properties abutting Woodruff Lake petitioned for the use of chemical weed control, and at a meeting held September 5, 1985 the Lake Improvement Board approved chemical weed control as the method to be used for lake improvement in 1986, and approved a special assessment for the December, 1985 tax rolls in the amount of \$4,700 to implement the program.

DRAINS UNDER DEVELOPMENT

DRAINS UNDER DEVELOPMENT

Caddell Drain - Phase II

In October of 1981 severe flooding took place in the I-96, Ten Mile Road, Grand River and Halstead Road areas of Farmington Hills. The area is known as the Tarabusi Creek District on the City of Farmington Hills Master Storm Drainage Plan which was then being prepared by Hubbell, Roth & Clark, Inc., consulting engineers. On December 21, 1981 the City of Farmington Hills approved petitioning for a county drain in the area. Several meetings between the county, state and the involved municipalities and their consultants took place, and on April 30, 1982 a petition, jointly signed by the City of Farmington, the City of Farmington Hills and the City of Novi was received by the Drain Office. On May 3, 1982 the first meeting of the Drainage Board took place and the project was named the Caddell Drain. On June 6, 1982 the project was declared necessary for the public health and the Final Order of Determination was signed; Hubbell, Roth & Clark, Inc. was retained as consulting engineer and the firm of Dickinson, Wright, Moon, Van Dusen & Freeman as bond counsel.

At a meeting at the Michigan Department of Transportation held July 29, 1982 preliminary authorization was received to proceed with Phase I of the drain, construction of an overflow system that would help relieve excessive flooding to the properties immediately west of M-102. The system could flood the freeway in a severe storm, but should prevent major flooding damage to buildings and other private property. Should this happen, the freeway will be closed and a by-pass route used for traffic. An action plan for closing the freeway was incorporated into a three party agreement between the Drain Office, the Michigan Department of Transportation and the City of Farmington Hills. Financing was provided by the City of Farmington Hills. Bids were taken by the Drainage Board on September 22, 1982, and the work was awarded to Dan's Excavating, Inc., Utica, Michigan for \$104,280.00. The 8'6" diameter overflow pipe was installed by open cut methods through the northbound M-102 off ramp during the weekend of October 15, 1982.

Engineering on the entire project has continued. Plans and specifications were approved and tentative apportionments set at a Drainage Board meeting held on December 1, 1982. At the January 26, 1983 meeting of the Drainage Board final apportionments were confirmed and the total cost estimate of \$4,000,000. was approved.

On February 9, 1983 the Drainage Board authorized the issuance of \$3,270,000. in bonds to finance the project. Pledge of Oakland County's full faith and credit was approved by the Board of Commissioners on February 24, 1983. Application to the Municipal Finance Commission for approval to sell bonds was made, and on March 17, 1983 our office received notice of receipt of the application.

After substantial effort to satisfy the many aspects of the State of Michigan reviews, a permit dated July 27, 1983 for the entire Caddell Drain project was issued by the Department of Natural Resources. Permits or approved applications were received for soil erosion and County Road Commission involvement. Approvals from the Michigan Department of Transportation are presently being worked on.

On August 23, 1983 the State of Michigan Municipal Finance Commission ruled that a bond sale could take place only if the debt service on the bonds would be met within the governing debt and tax limits of the applicants. This position was not changed at a rehearing which took place on December 27, 1983.

On January 23, 1984 the City of Novi adopted a resolution reaffirming its desire to proceed with the Caddell Drain project on a limited tax basis, and agreed that taxes levied for the payment of special assessments made for the payment of the cost of the Caddell Drain would be subject to applicable constitutional, statutory and charter tax rate limitations. The City of Farmington Hills adopted that same resolution on February 21, 1984, and the City of Farmington followed with the identical resolution on December 17, 1984.

At the conclusion of 1984 William E. Klockow was designated the Drain Office Project Engineer for the Caddell Drain.

In early 1985 the engineering plans for Phase II of the Caddell Drain were finalized. Permit applications were filed with governing agencies and easement negotiations began.

In October, 1985 a revised estimate of cost of \$5,100,000 was prepared to reflect changes which were required by easement considerations, permit requirements, and changes required by the involved communities. Each of the involved communities was advised of the increased cost of the project and of the need to have a second bond issue if necessary to guarantee the additional needed monies. All three communities agreed to the increased cost of the project, and further agreed to their increased proportionate share. It was determined at that time to receive construction bids as soon as possible in order to proceed with construction.

On December 18, 1985 construction bids were received. Award of the contract to construct Phase II of the Caddell Drain was expected to be made in January of 1986, with construction to begin shortly thereafter.

Holland Drain

The City of Pontiac adopted a petition on October 29, 1985 to construct a storm drain to alleviate flooding problems on Walton Boulevard between Perry Street and Joslyn Avenue.

At a meeting held December 18, 1985 the project was declared practicable and necessary for public health, the Final Order of Determination was approved, and the Engineering Staff of the Oakland County Drain Commissioner was employed to prepare plans, specifications and an estimate of cost. Glen Yrjanainen was designated the Drain Office Project Engineer for the proposed Holland Drain.

It is anticipated that construction bids for the project, which has an estimated construction cost of \$800,000, will be received by the summer of 1986 and the project constructed in the fall of 1986.

Jackson Drain - Phase II

On March 22, 1982 the City Council of Troy adopted a petition for drainage improvements in Big Beaver Road from the Henry-Graham Drain west to 1/2 mile west of John R., and east to Dequindre Road. The petition was received by this office on March 30, 1982, and the first meeting of the Drainage Board was held the next day. The project was named the Jackson Drain, and Glen Yrjanainen was designated the Drain Office Project Engineer.

At a meeting held on May 12, 1982 the project was declared practicable and necessary for public health, the Final Order of Determination was approved, and Hubbell, Roth & Clark, Inc. was retained as consulting engineer. The total preliminary cost of the drain was \$1,320,000.

In 1983, as a part of the John R. Road improvement project, 105 lineal feet of Jackson Drain pipe enclosure was installed. The project was delayed approximately one year due to the postponement of the Big Beaver Road widening project; the road project was scheduled for the summer of 1985. Accordingly, work on right-of-way acquisition was started in early 1984. An agreement wherein the Jackson Drainage District and City of Troy each bore 50% of the right-of-way acquisition costs was entered into on September 10, 1984. On October 24, 1984 the Drainage Board approved the plans, specifications, cost estimate, route description, district description, and estimate of life. It set tentative apportionments and scheduled the hearing on final apportionments for December 5, 1984. At this meeting final apportionments of 74.89% to City of Troy and 25.11% to Oakland County were confirmed.

Construction bids for Phase I, the easterly portion of the project, were received on February 13, 1985, and the contract to construct Phase I was awarded to the low bidder, L. D'Agostini & Sons, Inc. in the amount of \$339,713.98. The project was essentially complete and in service by the end of 1985 except for miscellaneous cleanup and restoration.

Phase II of the Jackson Drain is to be constructed along the north side of Big Beaver Road. The drain will originate at the existing Henry-Graham Drain west of Dequindre Road and extend westerly across John R to just east of Rochester Road.

Construction bids for Phase II were received on September 24, 1985, and the contract to construct the project was awarded to the low bidder, M & M Contracting of Michigan, Inc. in the amount of \$705,062.10. Construction is anticipated to begin in January, 1986 and is scheduled for completion by June 15, 1986.

Mainland Drain

On July 24, 1972, a petition from the County of Oakland and Township of Waterford was filed with the Drain Commissioner asking for the establishment of an intra-county drain in the City of Pontiac and Township of Waterford, including portions of the Oakland County Service Center. Due to political and financial problems, progress on this drain was delayed.

In 1985 an existing 18" storm drain located in the east portion of the Service Center paralleling the railroad was inspected and found to be severely deteriorated. Since this drain serves a considerable portion of the Service Center, its replacement with 1385 lineal feet of 30" diameter pipe was proposed as the Mainland Drain - Phase I project under the provisions of Chapter 20 of the Drain Code. The needed right-of-way was acquired, and funding was provided by Oakland County from the 1985 Capital Improvement program.

Bids were received, and on October 22, 1985 the Drainage Board awarded a contract to construct the Mainland Drain - Phase I to Polsinelli Construction Company of Warren, Michigan in the amount of \$138,950. The project engineer is Gerald A. Mitchell, P.E., of the Facilities Engineering Unit of the Oakland County Department of Facilities and Operations.

Nelson Drain - Phase II

A petition for certain drain improvements along the existing Gibson and Renshaw Drains in the northeastern part of the City of Troy was filed with the Drain Commissioner on May 7, 1984. At the first Drainage Board meeting held May 23, 1984, the project was named the Nelson Drain, and the public hearing on necessity was scheduled for July 11, 1984. At this hearing no objections were made, and the project was determined practical and necessary and the Final Order of Determination was adopted.

Donald L. Mills was designated the Drain Office Project Engineer for the Nelson Drain, and Hubbell, Roth & Clark, Inc. was appointed consulting engineer.

Phase I of the Nelson Drain, consisting of a 25 acre retention basin on the east side of Rochester Road between Long Lake and Square Lake Roads, was under construction in November of 1985.

Phase II of the project consists of channel improvements and widening from Dequindre Road westerly, and also immediately north and south of Long Lake Road. In 1985 construction plans for Phase II were completed by Hubbell, Roth & Clark, Inc., and the Department of Natural Resources permit was obtained. Right-of-way acquisition was underway, and it was anticipated that condemnation proceedings to obtain certain remaining easements would be required. Construction is scheduled to begin in the summer of 1986.

The Nelson Drain is being financed with surplus construction funds from completed drain projects under the provisions of Act No. 165 of the Public Acts of 1984.

Price Drain

Severe flooding has occurred to properties adjoining Sylvan Lake, Otter Lake and Cass Lake in recent years. During periods of intensive precipitation and heavy spring runoff, damage has been sustained by low lying properties in the vicinity of these lakes due to inadequate facilities to control the levels. The area most affected is west of Telegraph Road in West Bloomfield and Waterford Townships. The lakes are a part of the Clinton River system. Recent intensive development upstream from the lakes has increased the velocity and volume of runoff and has caused present control facilities to become inadequate. Present control of the levels of these lakes requires regulation of the Dawson Mill Pond dam, controlled by the City of Pontiac, and operation and control of dams on Cass Lake, controlled by the Oakland County Drain Commissioner. Coordination of these two efforts in the past has occasionally been difficult.

Because of the difficulty of maintaining constant levels in the Clinton River and the subject lakes, the Charter Township of Waterford and the City of Sylvan Lake petitioned the Oakland County Drain Commissioner to locate, establish and construct an intra-county drain under provisions of Act 40 of the Public Acts of 1956, as amended.

The Drainage Board determined that the proposed project was necessary for the public health and was practical and designated the project as the Price Drain. At the hearing held on September 8, 1976, there were several objections registered to the project and the hearing was adjourned.

Because the original petition did not include the Dawson Mill Pond dam, an amended petition was submitted by the City of Keego Harbor, the Township of West Bloomfield, the Township of Waterford and the City of Sylvan Lake. The amended petition includes the Dawson Mill Pond dam.

The engineering firm of Hubbell, Roth & Clark, Inc. was employed by the Drainage Board to prepare a study with regard to proposed Clinton River Improvements from and including the Dawson Mill Pond dam and the Clinton River system upstream through Cass Lake. The report has been completed and has been delivered to the Drainage Board.

The U. S. Army Corps of Engineers, under the direction of Project Engineer Dennis Oakes, is also making a study of improvements to relieve flooding problems in this area.

On December 20, 1979, the Drainage Board tentatively determined that the project proposed in revised petitions (for the limited purpose of undertaking planning and engineering studies) submitted by the City of Keego Harbor, City of Sylvan Lake, Township of West Bloomfield and the Charter Township of Waterford were of sufficiency and that the project proposed therein was practical.

Revised petitions to construct this project were sent to the communities on August 3, 1982. Only one acceptable petition was received (from the City of Pontiac) on October 13, 1982. An additional acceptable petition from one of the remaining communities must be received before any further action can be taken by this office. In 1983 and 1984 attempts to obtain a second petition were made, but proved to be unsuccessful.

As a result of meetings held in 1985 between the communities involved, it was decided to limit the project to the rebuilding of the Dawson Mill Pond Dam structure under the Lake Level Control Act. This action will necessitate the establishment of legal lake levels for the Dawson Mill Pond, Sylvan Lake, and Otter Lake.

Glen Yrjaninen, Drain Office engineer, was requested to design a more economical, scaled down version of the replacement dam originally designed by Hubbell, Roth & Clark, Inc.

SEWER AND WATER PROJECTS
UNDER DEVELOPMENT

SEWER AND WATER PROJECTS UNDER DEVELOPMENT

Bingham Farms Extension No. 3

In May of 1985 the Drain Commissioner's Office received a request from the Village of Bingham Farms to construct a short sanitary sewer extension along 13 Mile Road east of Telegraph Road to serve two residential lots which were inadvertently omitted from the Village system constructed several years prior. The Village Council requested that this extension be constructed utilizing surplus funds currently on deposit with Oakland County.

An agreement between Bingham Farms and the County of Oakland was approved by the Village Council on August 26, 1985. The Oakland County Board of Commissioners approved the agreement on September 26, 1985, assigned the project development and construction to the Drain Commissioner as County Agency, and transferred \$21,500 in surplus funds from prior years construction projects to finance the project work.

The consulting firm of Giffels-Webster Engineers, Inc. was contracted to design the system and prepare construction plans and specifications.

Construction bids were received December 23, 1985, and the contract was awarded to SBG Construction, Inc. of Wixom, Michigan, in the amount of \$12,250. Construction will begin in January, 1986, and all clean up should be completed during the first growing season of 1986.

Evergreen-Farmington Pollution Control Facilities

Two independent sanitary sewer interceptor systems known as the "Farmington" and the "Evergreen" were planned and designed in the mid 50's, and constructed in the late 50's and early 60's. The districts they serve are located in the south-central portion of Oakland County, from the City of Pontiac, south to Eight Mile Road. They have a common north-south boundary along the extended alignment of Inkster Road, the Evergreen to the east and the Farmington to the west.

Discharges from these two interceptors flow by a common connection to a City of Detroit Interceptor located at Eight Mile and Southfield Roads, and thence to the Detroit Sewage Treatment Plant. The Detroit Interceptor sewer carries both storm water and sanitary sewage, commonly called combined sewage. The Evergreen Interceptor also carries some combined sewage which was designed to spill only periodically into the Rouge River at control structures along its route during times of intense rainfall and limitations of downstream capacity.

Substantial growth has taken place in south Oakland County since the two interceptor systems were completed in the early 60's. The density and character of the growth in both districts have exceeded, substantially, that which was or could have been anticipated during the design phases. Consequently, physical capacities began to show severe strain and only periodic spills to the Rouge River became frequent spills. Growth and development in the districts continue today although the pace is much slower, but each increase adds to that strain.

Many new public regulations dealing with pollution of the waters of the state have been enacted within the decade of the 70's. As a result, stream water quality standards have been upgraded to a degree that requires much stricter control of pollutant discharges from all sources.

Much developed area within these districts is still served by onsite disposal through septic tanks and tile fields which for a variety of reasons do not function in their modern environment. Collector sewers must be constructed in such areas. New regulations also call for much stricter control over the discharge of combined sewer overflows. Such controls result in an increased demand for capacity to transport and treat sewage. Several sewage collector systems in the district constructed in earlier years contribute excessive non-sanitary flows of ground water or surface water origin. Such flows have increased the intensity of the problem.

On-going studies for project development address many major considerations. Three of these have a considerable impact. Cost to construct the necessary facilities continues to escalate rapidly. Available capacities within the districts' interceptors continue to dwindle. The cost of transportation and treatment of storm and other non-sanitary water inflows continues to increase. Accordingly, it is becoming increasingly cost-effective to reduce or eliminate non-sanitary flows.

Early in 1976, sixteen communities located in the districts requested Oakland County to apply for a Facilities Planning Grant (Step 1) and provided the local share as an advance to finance studies. The Board of Commissioners approved that request and assigned the work to the Drain Commissioner's office, as County Agency under Act 342, Public Acts of 1939, as amended. A subsequent Step 1 grant application was filed and approved by the D.N.R. and E.P.A.

Hubbell, Roth and Clark, Inc. was selected as the consulting engineer to perform the study. Frank Naglich, P.E. of the Sewer, Water and Solid Waste Division continues to act as the engineer in charge of this project for the Drain Commissioner.

The Facilities Plan was completed in October, 1982. The findings indicated that the program needs approach 38 million dollars for interceptors, 44 million dollars for combined sewer overflow controls, and 8 million dollars for sewer systems rehabilitation. Funding advances from local communities are providing for the preparation of construction plans for portions of the system.

Detroit Facilities Planning is also in progress. The plan includes additional outlet capacity for the Evergreen-Farmington district in conjunction with the North Huron Valley-Rouge Valley project.

Eight of the sixteen communities within the districts have initiated Facilities Planning for local needs. These efforts are expected to provide master plans for collector sewers within both developed and undeveloped areas. Construction for these needs could reach a level in excess of 50 million dollars.

North Huron Valley - Rouge Valley Wastewater Control System

The North Huron Valley-Rouge Valley Wastewater Control system is a sanitary interceptor project designed to serve the existing and future needs of eleven communities in Wayne County and three in Oakland County. The three Oakland County communities are the City of Wixom, which will abandon rather than improve its existing wastewater treatment plant; Commerce Township, which currently has no sanitary sewers; and the City of Novi, which is badly in need of additional capacity. All wastewater generated by the communities will be treated by the City of Detroit Wastewater Treatment Plant.

The project is to be financed in part with Federal funds under the EPA Wastewater Construction Grants Act. The County of Wayne has been the grant applicant for the studies portion of the project. Construction of the project will include new facilities in Oakland and Wayne Counties, and in the City of Detroit. Each of these entities will be responsible for its own construction and construction plan preparation. The Board of Commissioners assigned the work to the Drain Commissioner, as County Agency under Act 342, Public Acts of 1939, as amended. Frank Naglich, P.E. of the Sewer, Water & Solid Waste Division continues to act as the project engineer for the Drain Commissioner. Ten major project components are being combined into three construction grant segments. Segment 1 is to be constructed from grant funds available after October 1, 1985; Segment 2 is to be constructed from funds available after October 1, 1986; and Segment 3 is to be constructed from funds available after October 1, 1987. A description of individual project components and total costs are as follows:

SEGMENT 1 (FY 1986 FUNDS)

1. Component 1 - Master Control Interceptor - \$8.74 million

All work is in Wayne County.

2. Component 10 - Inkster Arm Storage - \$6.00 million

All work is in Wayne County

3. Component 9 - Detroit Improvements - \$19.80 million

9A Evergreen - Farmington Permanent Connection

The interceptor commences with a connection to the existing First Hamilton Interceptor at Seven Mile and San Juan, thence north in San Juan, thence west in Outer Drive, thence west in Vassar Drive, thence northwest in James Couzens, thence west in St. Martins, thence north in Oakfield and terminating at a connection to the existing interceptor in Eight Mile Road.

9B Diversion Structure

The diversion structure, located at Fourth and Myrtle, will inter-connect the existing First Hamilton Interceptor to the existing North Interceptor East Arm.

9C Control Gate Modification

A control gate on the Detroit River Interceptor will be modified to complete the Evergreen-Farmington flow shifting.

SEGMENT 2 (FY 1987 FUNDS)

1. Component 4 - Middle Rouge Interceptor from Inkster to Farmington - \$9.17 million.

2. Component 2 - Middle Rouge Interceptor from Master Control to Telegraph - \$6.97 million

3. Component 3 - Middle Rouge Interceptor from Telegraph to Inkster - \$7.35 million

All work is in Wayne County.

SEGMENT 3 (FY 1988 FUNDS)

1. Component 5 - Middle Rouge Interceptor from Farmington to Haggerty - 18.12 million

2. Component 8 - Warren Arm Interceptor - \$12.75 million

3. Component 7 - North Arm - Wayne County - \$3.00 million

7A North Arm Connection

7B Haggerty Arm

All work on these three components is in Wayne County

4. Component 6 - North Arm - Oakland County - \$18.45 million

6A Wixom Arm

The interceptor commences at the existing Wixom Wastewater Treatment Plant, thence east along Charms Road to Wixom Road, thence south to Potter Road, thence east to Benstein Road, interconnecting to the terminus of the Commerce Arm, thence due south along Benstein Road extended to the Chesapeake and Ohio Railroad, thence southeasterly along the Chesapeake and Ohio Railroad and terminating at a connection to the existing Novi Interceptor at the I-96 Expressway.

6B Commerce Arm

The interceptor main branch commences at the intersection of Commerce Road at Creedmore Road extended, thence south in Creedmore Road to Bluebird Drive, thence southerly along Bluebird Drive and the easterly shore of Commerce Lake to Watuga Road, thence southerly to Oakley Park Road, thence westerly adjacent to Oakley Park Road to Benstein Road, thence south in Benstein Road and terminating at a connection to the Wixom Arm at the intersection of Benstein Road and Potter Road extended, including a branch from the Walled Lake Central High School along Oakley Park Road westerly to a connection to the main branch. Currently the Township of Commerce is doing additional facilities planning to confirm the need and cost effectiveness of the Commerce Arm.

Orion Township Extension No. 4

On September 17, 1985 the Drain Commissioner's Office received a request from the Township of Orion to construct a sanitary sewer along Lapeer Road (M-24) from a point south of Scripps Road northerly to Clarkston Road. This sewer would serve a district easterly and westerly of Lapeer Road, and would provide service to existing and future industrial and commercial enterprise in this vicinity. The Township Board requested that this project be constructed utilizing surplus funds currently on deposit with the County.

An agreement between Orion Township and the County of Oakland was approved by the Orion Township Board on October 7, 1985. The Oakland County Board of Commissioners approved the agreement on October 24, 1985, assigned the project development and construction to the Drain Commissioner's Office as County Agency, and transferred \$1,039,000 in surplus funds from prior years

sewer construction projects to finance the work. Donald Mills, P.E., was selected as the project engineer for Orion Township Extension No. 4.

The consulting firm of Orchard, Hiltz & McCliment, Inc. was contracted to design the system and prepare construction plans and specifications. The system will be composed of approximately 8,000 lineal feet of 12" diameter sanitary sewer, along with a proposed pump station, force main, and appurtenances.

Acquisition of rights-of-way for sewer construction should begin during the spring of 1986, and actual construction should start by year end.

West Bloomfield Water - Section VIII

West Bloomfield Township has requested Oakland County to proceed with the development of a project to complete the construction of the water transmission mains along Haggerty Road (20" diameter) and Maple Road (16" diameter) at the northwest corner of Section 31.

An agreement between West Bloomfield Township and the County of Oakland was approved by the Township Board on August 19, 1985. The Oakland County Board of Commissioners approved the agreement on September 26, 1985, assigned the project development and construction to the Drain Commissioner's Office as County Agency, and transferred \$362,000 in surplus funds from prior years water construction projects to finance the project work.

The project is composed of approximately 4,000 lineal feet of 16" and 20" diameter water transmission mains. The firm of Hubbell, Roth & Clark, Inc. was retained to design the system and prepare construction plans and specifications. Donald L. Mills, P.E., was selected as the Drain Office Project Engineer.

Acquisition of rights-of-way should begin in the spring of 1986, with actual construction to be underway by year end.

FINANCIAL STATEMENTS

FINANCIAL STATEMENTS

Duplicate financial statements for the Southeastern Oakland County Sewage Disposal System and for each drainage district or project discussed in this volume are included here. Financial statements for each drainage district and itemized statements of all of the various accounts maintained by the Oakland County Drain Commissioner in connection with the construction, operation, and maintenance of all of the projects under the jurisdiction of the Oakland County Drain Commissioner are contained in Volume II of this Annual Report.

Reference should be made to the Table of Contents of the Financial Statements in Volume II for reference to any specific project or fund account not included in this volume.

OAKLAND COUNTY DRAIN COMMISSIONER

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM

Combined Balance sheet
at December 31, 1985

<u>ASSETS</u>	87700	87710	<u>TOTAL</u>
	OPERATION & MAINTENANCE SEWAGE DISPOSAL	OPERATION & MAINTENANCE POLLUTION CONTROL	
Cash	\$ 378,299.44	\$ 504,614.58	\$ 882,914.02
Investments (Schedule I)	2,531,169.67	1,309,300.00	3,840,469.67
Accounts Receivable (Schedule II)	723,565.05	605,668.16	1,329,233.21
Due from Municipalities-Detroit	737,762.53	350,535.64	1,088,298.17
Due from Other Funds (Schedule III)	19,006.25	10,962.23	29,968.48
Fixed Assets:			
Land	1,533.25	611,995.93	613,529.18
Buildings	83,558.46	2,701,974.43	2,785,532.89
Equipment	109,478.09	181,182.23	290,660.32
Facility	8,599,939.81	21,193,543.09	29,793,482.90
Allowance for Depreciation			
Buildings	(54,982.55)	(972,792.04)	(1,027,774.59)
Equipment	(80,812.25)	(158,556.05)	(239,368.30)
Facility	(4,729,966.81)	(6,345,249.47)	(11,075,216.28)
Prepaid Expenses	15,105.36	4,818.92	19,924.28
Recoverable Expenditures	374,296.60	43,188.01	417,484.61
Accrued Interest Receivable	15,087.29	8,610.04	23,697.33
TOTAL ASSETS	\$ 8,723,040.19	\$ 20,049,795.70	\$ 28,772,835.89
<u>LIABILITIES</u>			
Accounts Payable-Detroit	\$ 2,228,837.83	\$ 1,441,931.58	\$ 3,670,769.41
Vouchers Payable	3,235.61	9,119.08	12,354.69
Due to Other Funds (Schedule IV)	23,409.83	19,339.75	42,749.58
Due to Municipalities	330,871.02	262,901.73	593,772.75
Undistributed Funds	15,894.30		15,894.30
Accrued Payroll	4,537.17	4,661.65	9,198.82
TOTAL LIABILITIES	\$ 2,606,785.76	\$ 1,737,953.79	\$ 4,344,739.55
<u>FUND EQUITIES</u>			
Reserve for Operations & Maintenance	\$ 900,000.00	\$ 700,000.00	\$ 1,600,000.00
Reserves for Replacement	150,000.00		150,000.00
Undesignated	1,166,172.27	422,369.97	1,588,542.24
Equity in Fixed Assets	3,900,082.16	17,189,471.94	21,089,554.10
TOTAL FUND EQUITIES	\$ 6,116,254.43	\$ 18,311,841.91	\$ 24,428,096.34
TOTAL LIABILITIES & FUND EQUITIES	\$ 8,723,040.19	\$ 20,049,795.70	\$ 28,772,835.89

OAKLAND COUNTY DRAIN COMMISSIONER

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM

STATEMENT OF OPERATIONS

For Twelve Month Period Ending December 31, 1985

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
Income on Sales:			
Services	\$ 8,809,910.74	\$ 6,500,000.04	\$ 15,309,910.78
Penalties	183.27	144.60	327.87
Total Income from Sales	\$ 8,810,094.01	\$ 6,500,144.64	\$ 15,310,238.65
Less: Treatment Costs	\$ 8,595,367.42	\$ 5,873,453.82	\$ 14,468,821.24
Gross Gain on Sales	\$ 214,726.59	\$ 626,690.82	\$ 841,417.41
Less: Operating Expense (Schedule V)	382,250.13	631,402.67	1,013,652.80
Loss on Operations	\$ (167,523.54)	\$ (4,711.85)	\$ (172,235.39)
Add Other Income:			
Income from Investments	\$ 195,164.29	\$ 107,008.14	\$ 302,172.43
Disposal Permits	10,196.00		10,196.00
Refund of Prior Years Expenditure	848,055.87	438,169.55	1,286,225.42
Adjustment of Prior Year Revenue	(6,461.28)	(11,783.80)	(18,245.08)
Reimbursement for Drain Salaries	9,833.79	5,202.12	15,035.91
	\$ 1,056,788.67	\$ 538,596.01	\$ 1,595,384.68
Less Other Expense:			
Refund of Prior Years Revenue	762,595.71	350,535.64	1,113,131.35
Net Gain for Period Ending December 31, 1985	\$ 126,669.42	\$ 183,348.52	\$ 310,017.94

OAKLAND COUNTY DRAIN COMMISSIONER
SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM

SCHEDULE V
Detail of Operating Expenses
For The Year Ended December 31, 1985

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
Salaries	\$ 168,521.81	\$ 166,222.96	\$ 334,744.77
Fringe Benefits	\$ 56,527.20	\$ 58,391.67	\$ 114,918.87
Contractual Services:			
Accounting Services	\$ 24,273.92	\$ 24,273.92	\$ 48,547.84
Auditing Services	3,575.00	3,575.00	7,150.00
Building Maintenance Charges	292.89	359.63	652.52
Depreciation - Equipment, Operations	8,218.20	10,813.92	19,032.12
Equipment Repair - Operations		14,768.17	14,768.17
Equipment Repair - Motor Vehicles	799.38	3,372.15	4,171.53
Equipment Rental	111.18	708.39	819.57
Equipment Repairs & Maintenance	2,187.22	7,227.04	9,414.26
Gas - Natural	4,262.18	9,109.57	13,371.75
Gas - Oil & Grease	439.60	3,661.70	4,101.30
Insurance Liability & Property	10,571.93	9,173.58	19,745.51
Insurance - Vehicles	907.06	2,116.49	3,023.55
Lands & Grounds Maintenance	459.87	558.24	1,018.11
Laundry & Cleaning	1,279.07	2,285.19	3,564.26
Legal Expense	59,095.41	62,562.77	121,658.18
Light & Power	7,225.74	26,867.00	34,092.74
Investment Fees	307.44	131.64	439.08
Maintenance Contracts	1,861.00	3,246.25	5,107.25
Memberships, Dues & Publications	127.65	121.15	248.80
Protective Clothing	208.00	552.10	760.10
Sewer Maintenance	12,597.58		12,597.58
Travel & Conference	582.16	364.07	946.23
Trip Tickets	131.03	217.55	348.58
Water & Sewer Utilities	1,126.57	116,604.99	117,731.56
Engineering & Surveying	4,333.45	5,329.49	9,662.94
Garbage & Rubbish Disposal		644.00	644.00
Maintenance Equipment Repair		11.70	11.70
Transportation	96.80	62.91	159.71
Total Contractual Services	\$ 145,070.33	\$ 308,718.61	\$ 453,788.94

OAKLAND COUNTY DRAIN COMMISSIONER
SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM

SCHEDULE V - Continued
Detail of Operating Expenses
For the Year Ended December 31, 1985

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
Commodities			
Film and Processing	\$	\$	\$
Laboratory Supplies	3,794.11		3,794.11
Office Supplies	1,215.94	1,189.23	2,405.17
Postage	65.24	36.36	101.60
Chlorination Supplies		88,351.00	88,351.00
Employee Footwear			
Shop Supplies		1,330.04	1,330.04
Total Commodities	\$ 5,075.29	\$ 90,906.63	\$ 95,981.92
Capital Outlay			
Internal Services:			
Central Stores - Housekeeping	\$ 345.65	\$ 438.21	\$ 783.86
Radio Communications	1,375.56	1,920.36	3,295.92
Leased Vehicles	599.77	401.55	1,001.32
Equipment Rental-Office	149.38	149.32	298.70
Stationery Stock	5.25	5.24	10.49
Telephone Communication	1,202.09	1,570.62	2,772.71
Drain Equipment	3,377.80	2,677.50	6,055.30
Total Internal Services	\$ 7,055.50	\$ 7,162.80	\$ 14,218.30
Total Operating Expense	\$ 382,250.13	\$ 631,402.67	\$ 1,013,652.80

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 BIG LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80801

ASSETS

CASH	\$	341.88
INVESTMENTS		28,200.00
ASSESSMENTS RECEIVABLE		24,252.58
DUE FROM OTHER FUNDS		174.08
ACCRUED INTEREST RECEIVABLE		28.79
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	52,997.33
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	5.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	5.00
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

UNDESIGNATED	\$	52,992.33
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	52,992.33
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	52,997.33
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
BIG LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80801

REVENUES

GRANT REVENUE	\$	20,300.00
INCOME FROM INVESTMENTS		253.20
PROPERTY TAX LEVY		44,299.78
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	64,852.98
		<hr style="border-top: 3px double black;"/>

EXPENDITURES

ADJ OF PRIOR YEAR EXPENDITURES	\$(	.20)
CONTRACTED SERVICES		11,850.00
DRAIN EQUIPMENT		10.65
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	11,860.45
		<hr style="border-top: 3px double black;"/>
EXCESS (DEFICIENCY) OF REVENUES	\$	52,992.53
OVER EXPENDITURES		*****

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 CHARLICK LAKE IMPROVEMNT BOARD

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80816

ASSETS

ASSESSMENTS RECEIVABLE	\$	10,535.80
TOTAL ASSETS	\$	10,535.80

LIABILITIES

DUE TO OTHER FUNDS	\$	2,342.33
TOTAL LIABILITIES	\$	2,342.33

FUND-BALANCE

UNDESIGNATED	\$	8,193.47
TOTAL FUND BALANCE	\$	8,193.47
TOTAL LIABILITIES & FUND BALANCE	\$	10,535.80

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
CHARLICK LAKE IMPROVEMNT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80816

REVENUES

PROPERTY TAX LEVY	\$	10,535.80

TOTAL REVENUES	\$	10,535.80

EXPENDITURES

CONTRACTED SERVICES	\$	761.11
POSTAGE		25.80
STATIONERY STOCK		2.87
PRINT SHOP		23.73
DRAIN EQUIPMENT		6.60

TOTAL EXPENDITURES	\$	820.11

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	9,715.69
		=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
BALANCE SHEET
DUCK LAKE IMPROVEMENT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80812

ASSETS

ASSESSMENTS RECEIVABLE	\$	61,862.12
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	61,862.12
		<hr style="border-top: 3px dashed black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	6,696.41
NOTES PAYABLE		42,800.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	49,496.41
		<hr style="border-top: 3px dashed black;"/>

FUND-BALANCE

UNDESIGNATED	\$	12,365.71
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	12,365.71
		<hr style="border-top: 3px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	61,862.12
		<hr style="border-top: 3px dashed black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
DUCK LAKE IMPROVEMENT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80812

REVENUES

PROPERTY TAX LEVY	\$	61,862.12
		61,862.12
TOTAL REVENUES	\$	61,862.12

EXPENDITURES

ADMINISTRATIVE OVERHEAD	\$	56.43
CONTRACTED SERVICES		42,800.00
PUBLISHING LEGAL NOTICES		16.02
POSTAGE		212.40
COMPUTER SERVICES-OPERATIONS		33.44
PRINT SHOP		165.15
DRAIN EQUIPMENT		20.90
		43,304.34
TOTAL EXPENDITURES	\$	43,304.34

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	18,557.78
		18,557.78

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 INDIANWOOD LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80803

ASSETS

CASH	\$	933.06
ASSESSMENTS RECEIVABLE		38,829.00
		<hr style="border-top: 1px solid black;"/>
TOTAL ASSETS	\$	39,762.06
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	11,406.90
UNDISTRIBUTED TAXES		900.00
		<hr style="border-top: 1px solid black;"/>
TOTAL LIABILITIES	\$	12,306.90
		<hr style="border-top: 3px double black;"/>

FUND-BALANCE

UNDESIGNATED	\$	27,455.16
		<hr style="border-top: 1px solid black;"/>
TOTAL FUND BALANCE	\$	27,455.16
		<hr style="border-top: 3px double black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	39,762.06
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
INDIANWOOD LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80803

REVENUES

INCOME FROM INVESTMENTS	\$	145.80
PROPERTY TAX LEVY		38,829.00

TOTAL REVENUES	\$	38,974.80

EXPENDITURES

CONTRACTED SERVICES	\$	15,900.00
PUBLISHING LEGAL NOTICES		48.20
DRAIN EQUIPMENT		14.30

TOTAL EXPENDITURES	\$	15,962.50

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	23,012.30
		=====

GAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
BALANCE SHEET
LOUISE LAKE IMPROVEMENT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80820

ASSETS

ASSESSMENTS RECEIVABLE	\$	23,291.25

TOTAL ASSETS	\$	23,291.25
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	3,312.18

TOTAL LIABILITIES	\$	3,312.18
		=====

FUND-BALANCE

UNDESIGNATED	\$	19,979.07

TOTAL FUND BALANCE	\$	19,979.07
		=====
TOTAL LIABILITIES & FUND BALANCE	\$	23,291.25
		=====

**OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
LOUISE LAKE IMPROVEMENT BOARD**

DECEMBER 31, 1985

**LAKE
IMPROVEMENT
FUND NO
80820**

REVENUES

PROPERTY TAX LEVY	\$	23,291.25
TOTAL REVENUES	\$	23,291.25

EXPENDITURES

CONTRACTED SERVICES	\$	948.59
ENGINEERING AND SURVEY		2,086.49
PUBLISHING LEGAL NOTICES		258.00
POSTAGE		13.14
STATIONERY STOCK		1.46
GRAIN EQUIPMENT		4.50
TOTAL EXPENDITURES	\$	3,312.18

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	19,979.07

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 LAKEVILLE LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80802

ASSETS

CASH	\$	31.62
INVESTMENTS		1,000.00
ASSESSMENTS RECEIVABLE		23,325.00
DUE FROM OTHER FUNDS		3,358.00
ACCRUED INTEREST RECEIVABLE		5.43
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	27,720.05
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	4.25
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	4.25
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

UNDESIGNATED	\$	27,715.80
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	27,715.80
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	27,720.05
		<hr style="border-top: 3px double black;"/>

**OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 LAKEVILLE LAKE-LAKE IMP.**

DECEMBER 31, 1985

**LAKE
 IMPROVEMENT
 FUND NO
 80802**

REVENUES

INCOME FROM INVESTMENTS	\$	547.18
PROPERTY TAX LEVY		54,079.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	<u>54,626.18</u>

EXPENDITURES

CONTRACTED SERVICES	\$	27,990.00
DRAIN EQUIPMENT		4.25
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	<u>27,994.25</u>
		<hr style="border-top: 1px dashed black;"/>
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	<u>26,631.93</u> =====

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 PONTIAC LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80807

ASSETS

CASH	\$	407.16
INVESTMENTS		11,000.00
ASSESSMENTS RECEIVABLE		54,782.40
ACCRUED INTEREST RECEIVABLE		50.42
		<hr style="border-top: 1px solid black;"/>
TOTAL ASSETS	\$	66,239.98
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	396.82
		<hr style="border-top: 1px solid black;"/>
TOTAL LIABILITIES	\$	396.82
		<hr style="border-top: 1px solid black;"/>

FUND-BALANCE

UNDESIGNATED	\$	65,843.16
		<hr style="border-top: 1px solid black;"/>
TOTAL FUND BALANCE	\$	65,843.16
		<hr style="border-top: 1px solid black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	66,239.98
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BEARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
PONTIAC LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80807

REVENUES

INCOME FROM INVESTMENTS	\$	1,728.11
PROPERTY TAX LEVY		109,564.80
		<hr/>
TOTAL REVENUES	\$	<u>111,292.91</u>

EXPENDITURES

SALARIES - REGULAR	\$	137.86
FRINGE BENEFITS		49.63
CONTRACTED SERVICES		57,441.08
ELECTRICAL SERVICE		3,675.49
EQUIPMENT REPAIRS & MAINT.		411.83
PUBLISHING LEGAL NOTICES		79.70
MAINTENANCE SUPPLIES		62.88
DRAIN EQUIPMENT		28.00
		<hr/>
TOTAL EXPENDITURES	\$	<u>61,886.47</u>

EXCESS (DEFICIENCY) OF REVENUES	\$	49,406.44
OVER EXPENDITURES		<u>=====</u>

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 RAINBOW LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80810

LIABILITIES

DUE TO OTHER FUNDS	\$	2.10

TOTAL LIABILITIES	\$	2.10

FUND-BALANCE

UNDESIGNATED	\$(	2.10)

TOTAL FUND BALANCE	\$(	2.10)

=====

CARLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
RAINBOW LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80810

EXPENDITURES

DRAIN EQUIPMENT	\$	2.10

TOTAL EXPENDITURES	\$	2.10

EXCESS (DEFICIENCY) OF REVENUES	\$	2.10
OVER EXPENDITURES		=====

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 TOMAHAWK LAKE IMPROVEMNT BOARD

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80814

ASSETS

ASSESSMENTS RECEIVABLE	\$	1,871.80
		<u> </u>
TOTAL ASSETS	\$	1,871.80
		<u> </u>

LIABILITIES

DUE TO OTHER FUNDS	\$	2,335.73
		<u> </u>
TOTAL LIABILITIES	\$	2,335.73
		<u> </u>

FUND-BALANCE

UNDESIGNATED	\$(	463.93)
		<u> </u>
TOTAL FUND BALANCE	\$(	463.93)
		<u> </u>
TOTAL LIABILITIES & FUND BALANCE	\$	1,871.80
		<u> </u>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
TOMAHAWK LAKE IMPROVEMENT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80814

REVENUES

PROPERTY TAX LEVY	\$	1,871.80
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	1,871.80
		<hr style="border-top: 1px dashed black;"/>

EXPENDITURES

CONTRACTED SERVICES	\$	761.11
POSTAGE		25.80
STATIONERY STOCK		2.86
PRINT SHOP		23.74
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	813.51
		<hr style="border-top: 1px dashed black;"/>
EXCESS (DEFICIENCY) OF REVENUES	\$	1,058.29
OVER EXPENDITURES		*****

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 VAN NORMAN LAKE IMP. BOARD

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80813

ASSETS

ASSESSMENTS RECEIVABLE	\$	29,191.50
DUE FROM OTHER FUNDS		1,329.50
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	30,521.00
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	6,115.85
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	6,115.85
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

UNDESIGNATED	\$	24,405.15
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	24,405.15
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	30,521.00
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
VAN NORMAN LAKE IMP. BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80813

REVENUES

PROPERTY TAX LEVY	\$	30,521.00
TOTAL REVENUES	\$	30,521.00

EXPENDITURES

SALARIES - REGULAR	\$	12.45
FRINGE BENEFITS		4.48
CONTRACTED SERVICES		300.00
POSTAGE		128.48
STATIONERY STOCK		11.68
DRAIN EQUIPMENT		76.90
TOTAL EXPENDITURES	\$	533.99

EXCESS (DEFICIENCY) OF REVENUES	\$	29,987.01
OVER EXPENDITURES		*****

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE LEVEL MAINTENANCE FUNDS
 BALANCE SHEET
 WALLED AND SHAWCOO LAKE LEVEL

DECEMBER 31, 1985

MAINTENANCE
 FUND NO
 85304

LIABILITIES

DUE TO OTHER FUNDS	\$	203.10
		<u> </u>
TOTAL LIABILITIES	\$	<u>203.10</u>
		<u> </u>

FUND-BALANCE

UNDESIGNATED	\$(	203.10)
		<u> </u>
TOTAL FUND BALANCE	\$(	<u>203.10</u>)
		<u> </u>
		=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE LEVEL MAINTENANCE FUNDS
STATEMENT OF REVENUE & EXPENDITURES
WALLED AND SHAWOOD LAKE LEVEL

DECEMBER 31, 1985

MAINTENANCE
FUND NO
05304

EXPENDITURES

SALARIES - REGULAR	\$	84.63
FRINGE BENEFITS		118.47
ADJ OF PRIOR YEAR EXPENDITURES	(	725.96)
		<hr style="border-top: 1px solid black;"/>
TOTAL EXPENDITURES	\$(	522.86)
		<hr style="border-top: 1px solid black;"/>
<hr style="border-top: 1px solid black;"/>		
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	522.86
		<hr style="border-top: 1px solid black; border-bottom: 3px double black;"/>

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 WALTERS LAKE IMPROVEMENT BOARD

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NC
 80811

LIABILITIES

DUE TO OTHER FUNDS	\$	5,600.15
		<u> </u>
TOTAL LIABILITIES	\$	5,600.15
		<u> </u>

FUND-BALANCE

UNDESIGNATED	\$(	5,600.15)
		<u> </u>
TOTAL FUND BALANCE	\$(	5,600.15)
		<u> </u>
		=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
WALTERS LAKE IMPROVEMENT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80811

EXPENDITURES

DRAIN EQUIPMENT	\$	.15

TOTAL EXPENDITURES	\$	.15

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$(	.15)
		=====

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 WATKINS LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80808

LIABILITIES

DUE TO OTHER FUNDS	\$	79.76
TOTAL LIABILITIES	\$	79.76

FUND-BALANCE

UNDESIGNATED	\$(	79.76)
TOTAL FUND BALANCE	\$(	79.76)

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
WATKINS LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80808

EXPENDITURES

DRAIN EQUIPMENT	\$	_____ .40
TOTAL EXPENDITURES	\$	_____ .40

EXCESS (DEFICIENCY) OF REVENUES	\$ (	_____ .40)
OVER EXPENDITURES		=====

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 BALANCE SHEET
 WOLVERINE LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
 IMPROVEMENT
 FUND NO
 80809

ASSETS

CASH	\$	111.67
		111.67
TOTAL ASSETS	\$	111.67

LIABILITIES

DUE TO OTHER FUNDS	\$	6.80
		6.80
TOTAL LIABILITIES	\$	6.80

FUND-BALANCE

UNDESIGNATED	\$	104.87
		104.87
TOTAL FUND BALANCE	\$	104.87
TOTAL LIABILITIES & FUND BALANCE	\$	111.67

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
STATEMENT OF REVENUE & EXPENDITURES
WOLVERINE LAKE-LAKE IMP.

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80809

EXPENDITURES

DRAIN EQUIPMENT	\$	.30
TOTAL EXPENDITURES	\$	.30
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$(	.30)

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
LAKE IMPROVEMENT BOARD FUNDS
BALANCE SHEET
WOODRUFF LAKE IMPROVEMNT BOARD

DECEMBER 31, 1985

LAKE
IMPROVEMENT
FUND NO
80815

ASSETS

ASSESSMENTS RECEIVABLE	\$	12,242.60
TOTAL ASSETS	\$	12,242.60

LIABILITIES

DUE TO OTHER FUNDS	\$	2,362.55
TOTAL LIABILITIES	\$	2,362.55

FUND-BALANCE

UNDESIGNATED	\$	9,880.05
TOTAL FUND BALANCE	\$	9,880.05
TOTAL LIABILITIES & FUND BALANCE	\$	12,242.60

**OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 LAKE IMPROVEMENT BOARD FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 WOODRUFF LAKE IMPROVEMNT BOARD**

DECEMBER 31, 1985

**LAKE
 IMPROVEMENT
 FUND NO
 80815**

REVENUES

PROPERTY TAX LEVY	\$	12,242.60

TOTAL REVENUES	\$	12,242.60

EXPENDITURES

CONTRACTED SERVICES	\$	761.12
PUBLISHING LEGAL NOTICES		21.36
POSTAGE		25.80
STATIONERY STOCK		2.87
PRINT SHOP		23.73
DRAIN EQUIPMENT		2.40

TOTAL EXPENDITURES	\$	837.28

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	11,405.32
		=====

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 CADDELL DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81600

ASSETS

CASH	\$	48,049.03
INVESTMENTS		3,117,500.00
ACCRUED INTEREST RECEIVABLE		26,291.80
FIXED ASSETS		1,260,247.33
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	4,452,088.16
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	26,301.38
VOUCHERS PAYABLE		30,676.83
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	56,978.21
		<hr style="border-top: 3px double black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		1,260,247.33
UNDESIGNATED		3,134,862.62
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	4,395,109.95
		<hr style="border-top: 3px double black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	4,452,088.16
		<hr style="border-top: 3px double black;"/>

CAKLAND CCUNTY
SPECIAL ASSESSMENT FLNCS
CHAPTER 2C CCNSTRCTICN FLNCS
STATEMENT CF REVENLE & EXPENDITURES
CADELL DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
FUND NC
81600

REVENUES

INCOME FROM INVESTMENTS	\$	144,220.23
PRINCIPAL FROM MUNICIPALITIES		775,000.00
SALE OF BONDS		3,475,000.00
		<hr/>
TOTAL REVENUES	\$	<u>4,394,220.23</u>

EXPENDITURES

SALARIES - REGULAR	\$	33,335.27
PER DIEM		750.00
FRINGE BENEFITS		17,628.87
BOND ATTORNEY FEES		45,841.57
BOND PRINTING EXPENSE		1,070.00
BOND PROSPECTUS EXPENSE		7,914.97
INVESTMENT FEES		547.37
PROFESSIONAL SERVICES		7,500.00
APPRAISAL FEES		2,750.00
COPIER MACHINE RENTAL		424.70
DESIGN FEES	(	93,999.88)
EQUIPMENT RENTAL		211.50
FINANCIAL CONSULTANT FEES		8,292.30
OTHER ENGINEERING SERVICES		167,352.31
PUBLISHING LEGAL NOTICES		2,785.15
PURCHASE OF LAND & EASEMENT		452,298.22
RECORDING FEES		893.80
R/W NEGOTIATION AND EXPENSE		3,628.88
TRANSPORTATION		7,914.25
ENGINEERING SUPPLIES		194.13
MATERIAL & SUPPLIES		14,838.11
OFFICE SUPPLIES		25.41
		<hr/>
TOTAL EXPENDITURES	\$	<u>682,156.93</u>

EXCESS (DEFICIENCY) CF REVENUES	\$	3,712,023.30
OVER EXPENDITURES		<u>=====</u>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 4 MAINTENANCE FUNDS
BALANCE SHEET
DRAKESHIRE CONDOMINIUM DRAIN

DECEMBER 31, 1985

MAINTENANCE
FUND NO
84607

ASSETS

CASH	\$	5,770.73
		<u> </u>
TOTAL ASSETS	\$	5,770.73
		<u> </u>

LIABILITIES

DEPGSITS	\$	1,200.00
		<u> </u>
TOTAL LIABILITIES	\$	1,200.00
		<u> </u>

FUND-BALANCE

RESERVES	\$	5,224.00
UNDESIGNATED	(	653.27)
		<u> </u>
TOTAL FUND BALANCE	\$	4,570.73
		<u> </u>
TOTAL LIABILITIES & FUND BALANCE	\$	5,770.73
		<u> </u>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 4 MAINTENANCE FUNDS
STATEMENT OF REVENUE & EXPENDITURES
DRAKESHIRE CONDOMINIUM DRAIN

DECEMBER 31, 1985

MAINTENANCE
FUND NC
84607

REVENUES

INCOME FROM INVESTMENTS	\$	272.15
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	272.15
		<hr style="border-top: 1px dashed black;"/>

EXPENDITURES

FILING FEES	\$	19.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	19.00
		<hr style="border-top: 1px dashed black;"/>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	253.15
		<hr style="border-top: 1px dashed black;"/> =====

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 HOLLAND DRAIN

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81618

ASSETS

CASH	\$	10,781.25
INVESTMENTS		1,490,000.00
ACCRUED INTEREST RECEIVABLE		9,611.32
FIXED ASSETS		13,568.07

TOTAL ASSETS	\$	1,523,960.64
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	4,860.66
VOLCHERS PAYABLE		8,657.41

TOTAL LIABILITIES	\$	13,518.07

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED	\$	13,568.07
		1,496,874.50

TOTAL FUND BALANCE	\$	1,510,442.57

TOTAL LIABILITIES & FUND BALANCE	\$	1,523,960.64
		=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
HOLLAND DRAIN

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
81618

REVENUES

INCOME FROM INVESTMENTS	\$	10,442.57
TRANSFERS FROM OTHER FUNDS		1,500,000.00

TOTAL REVENUES	\$	1,510,442.57

EXPENDITURES

SALARIES - REGULAR	\$	3,909.13
PER DIEM		100.00
FRINGE BENEFITS		1,015.85
EQUIPMENT RENTAL		21.00
INSURANCE		125.00
LAYOUT AND STAKING		7,038.00
MISCELLANEOUS		178.56
PUBLISHING LEGAL NOTICES		452.07
TRANSPORTATION		365.80
ENGINEERING SUPPLIES		352.71
MATERIAL & SUPPLIES		9.95

TOTAL EXPENDITURES	\$	13,568.07

EXCESS (DEFICIENCY) OF REVENUES	\$	1,496,874.50
OVER EXPENDITURES		-----
		=====

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 JACKSON DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81599

ASSETS

CASH	\$	4,786.69
INVESTMENTS		1,353,000.00
ACCRUED INTEREST RECEIVABLE		11,047.61
FIXED ASSETS		909,968.30
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	2,278,802.60
		<hr style="border-top: 3px dashed black;"/>

LIABILITIES

DUE TO OTHER FUNDS		14,604.40
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	14,604.40
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		909,968.30
UNDESIGNATED		1,354,229.90
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	2,264,198.20
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	2,278,802.60
		<hr style="border-top: 3px dashed black;"/>

CARLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
JACKSON DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
81599

REVENUES

INCOME FROM INVESTMENTS	\$	116,187.03
PERMITS		493.33
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	116,680.36
		<hr style="border-top: 1px dashed black;"/>

EXPENDITURES

SALARIES - REGULAR	\$	30,549.70
PER DIEM		350.00
FRINGE BENEFITS		10,997.89
INVESTMENT FEES		754.34
CONTRACTED SERVICES		304,381.19
COPIER MACHINE RENTAL		95.95
DESIGN FEES		19,470.17
EQUIPMENT RENTAL		79.00
INSURANCE		51.76
LICENSES AND PERMITS		2,216.25
OTHER ENGINEERING SERVICES		72.00
PUBLISHING LEGAL NOTICES		329.26
PURCHASE OF LAND & EASEMENT		100,063.52
SOIL TEST BORINGS		1,297.68
TRANSPORTATION		5,766.50
ENGINEERING SUPPLIES		12.20
MATERIAL & SUPPLIES		470.83
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	476,958.24
		<hr style="border-top: 1px dashed black;"/>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	360,277.88
		<hr style="border-top: 1px dashed black;"/>

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 LAW DRAIN

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81610

ASSETS

CASH	\$	5,000.00
FIXED ASSETS		510.25
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	5,510.25
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DEPOSITS	\$	2,500.00
DUE TO OTHER FUNDS		510.25
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	3,010.25
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT	\$	510.25
UNDESIGNATED		1,989.75
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	2,500.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	5,510.25
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 LAW DRAIN

DECEMBER 31, 1985

CONSTRUCTION
 FUND NC
 81610

REVENUES

PAYMENT IN LIEU OF TAXES	\$	2,500.00

TOTAL REVENUES	\$	2,500.00

EXPENDITURES

PER DIEM	\$	150.00
COPIER MACHINE RENTAL		9.25
PUBLISHING LEGAL NOTICES		340.00
RECORDING FEES		11.00

TOTAL EXPENDITURES	\$	510.25

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	1,989.75

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 MAINTENANCE FUNDS
BALANCE SHEET
LYNN D. ALLEN DRAINAGE DIST.

DECEMBER 31, 1985

MAINTENANCE
FUND NC
89555

ASSETS

CASH	\$	249.11
INVESTMENTS		51,000.00
ACCRUED INTEREST RECEIVABLE		247.92
FIXED ASSETS		388,500.30

TOTAL ASSETS	\$	439,997.33
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	562.78

TOTAL LIABILITIES	\$	562.78

FUND-BALANCE

INVESTMENT IN FIXED ASSETS	\$	388,500.30
UNDESIGNATED		50,934.25

TOTAL FUND BALANCE	\$	439,434.55

TOTAL LIABILITIES & FUND BALANCE	\$	439,997.33
		=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 MAINTENANCE FUNDS
STATEMENT OF REVENUE & EXPENDITURES
LYNN D. ALLEN DRAINAGE DIST.

DECEMBER 31, 1985

MAINTENANCE
FUND NO
89555

REVENUES

INCOME FROM INVESTMENTS	\$	4,679.95
TRANSFERS FROM OTHER FUNDS		65,000.00

TOTAL REVENUES	\$	69,679.95

EXPENDITURES

SALARIES - REGULAR	\$	2,521.20
PER DIEM		150.00
FRINGE BENEFITS		907.62
INVESTMENT FEES		32.29
CONTRACTED SERVICES		51,760.66
DESIGN FEES		4,119.72
INSURANCE		38.25
LICENSES AND PERMITS		60.00
PUBLISHING LEGAL NOTICES		274.45
RECORDING FEES		16.00
TRANSPORTATION		36.95
DRAIN EQUIPMENT		386.52

TOTAL EXPENDITURES	\$	60,303.66

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	9,376.29
		=====

CLAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 CCNSTRUCTION FUNDS
BALANCE SHEET
MAINLAND DRAINAGE DISTRICT

DECEMBER 31, 1985

CCNSTRUCTION
FUND NC
81544

ASSETS

CASH	\$	9,130.93
INVESTMENTS		157,000.00
ACCRUED INTEREST RECEIVABLE		474.27
FIXED ASSETS		123,364.95
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	289,970.15
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	276.22
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	276.22
		<hr style="border-top: 3px double black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		123,364.95
UNDESIGNATED		166,328.98
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	289,693.93
		<hr style="border-top: 3px double black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	289,970.15
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
MAINLAND DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
81544

REVENUES

DEPOSITS - ENG PLANS & SPECS	\$	270.00
INCOME FROM INVESTMENTS		1,708.87
TRANSFERS FROM OTHER FUNDS		157,000.00

TOTAL REVENUES	\$	158,978.87

EXPENDITURES

SALARIES - REGULAR	\$	168.25
PER DIEM		150.00
FRINGE BENEFITS		4.65
INVESTMENT FEES		1.11
EQUIPMENT RENTAL		5.00
PUBLISHING LEGAL NOTICES		96.31
TRANSPORTATION		.90

TOTAL EXPENDITURES	\$	426.22

EXCESS (DEFICIENCY) OF REVENUES	\$	158,552.65
OVER EXPENDITURES		-----

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 4 MAINTENANCE FUNDS
 BALANCE SHEET
 MAPLEWOODS NORTH SUB. DRAIN

DECEMBER 31, 1985

MAINTENANCE
 FUND NO
 84614

ASSETS

CASH	\$	10,117.97
		<u> </u>
TOTAL ASSETS	\$	10,117.97
		<u> </u>

LIABILITIES

DEPOSITS	\$	8,987.35
CUE TO OTHER FUNDS		165.00
		<u> </u>
TOTAL LIABILITIES	\$	9,152.35
		<u> </u>

FUND-BALANCE

UNDESIGNATED	\$	965.62
		<u> </u>
TOTAL FUND BALANCE	\$	965.62
		<u> </u>
TOTAL LIABILITIES & FUND BALANCE	\$	10,117.97
		<u> </u>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 4 MAINTENANCE FUNDS
STATEMENT OF REVENUE & EXPENDITURES
MAPLEWOODS NORTH SUB. DRAIN

DECEMBER 31, 1985

MAINTENANCE
FUND NO
84614

REVENUES

INCOME FROM INVESTMENTS	\$	208.20
PAYMENT IN LIEU OF TAXES		2,500.00
		<hr/>
TOTAL REVENUES	\$	2,708.20
		<hr/>

EXPENDITURES

SALARIES - REGULAR	\$	1,106.86
FRINGE BENEFITS		398.47
FILING FEES		17.00
TRANSPORTATION		36.25
DRAIN EQUIPMENT		184.00
		<hr/>
TOTAL EXPENDITURES	\$	1,742.58
		<hr/>

EXCESS (DEFICIENCY) OF REVENUES	\$	965.62
OVER EXPENDITURES		*****

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 NELSON DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NC
 81605

ASSETS

CASH	\$	7,521.62
INVESTMENTS		1,238,300.00
ACCRUED INTEREST RECEIVABLE		9,791.73
FIXED ASSETS		524,598.74
		<hr/>
TOTAL ASSETS	\$	1,780,212.09
		<hr/> <hr/>

LIABILITIES

DUE TO OTHER FUNDS	\$	20,036.58
		<hr/>
TOTAL LIABILITIES	\$	20,036.58
		<hr/> <hr/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED		524,598.74
		1,235,576.77
		<hr/>
TOTAL FUND BALANCE	\$	1,760,175.51
		<hr/> <hr/>
TOTAL LIABILITIES & FUND BALANCE	\$	1,780,212.09
		<hr/> <hr/>

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 NELSON DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81605

REVENUES

INCOME FROM INVESTMENTS	\$	112,732.75
MISCELLANECUS		120.00
SALE OF LAND & BUILDINGS		47,322.76

TOTAL REVENUES	\$	160,175.51

EXPENDITURES

SALARIES - REGULAR	\$	30,292.58
PER DIEM		400.00
FRINGE BENEFITS		10,477.53
INVESTMENT FEES		732.70
APPRAISAL FEES		1,900.00
COPIER MACHINE RENTAL		180.20
DESIGN FEES		108,699.18
ELECTRICAL SERVICE		53.64
EQUIPMENT RENTAL		218.15
LICENSES AND PERMITS		825.00
PROPERTY TAXES		2,980.32
PUBLISHING LEGAL NOTICES		351.67
PURCHASE OF LAND & EASEMENT		354,892.64
RECORDING FEES		183.35
R/W NEGOTIATION AND EXPENSE		175.00
SOIL TEST BORINGS		900.00
TRANSPORTATION		3,609.75
ENGINEERING SUPPLIES		45.49
MAINTENANCE SUPPLIES		12.00
MATERIAL & SUPPLIES		33.57
OFFICE SUPPLIES		2.20

TOTAL EXPENDITURES	\$	516,964.97

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$ (	356,789.46)
		=====

CAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 4 MAINTENANCE FUNDS
BALANCE SHEET
PERRYTOWN ESTATES

DECEMBER 31, 1985

MAINTENANCE
FUND AC
84616

ASSETS

CASH	\$	7,338.59
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	7,338.59
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DEPOSITS	\$	7,005.00
DUE TO OTHER FUNDS		17.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	7,022.00
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

UNDESIGNATED	\$	316.59
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	316.59
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	7,338.59
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 4 MAINTENANCE FUNDS
STATEMENT OF REVENUE & EXPENDITURES
PERRYTOWN ESTATES

DECEMBER 31, 1985

MAINTENANCE
FUND NO
84616

REVENUES

PAYMENT IN LIEU OF TAXES	\$	2,377.50
TOTAL REVENUES	\$	2,377.50

EXPENDITURES

SALARIES - REGULAR	\$	1,303.31
FRINGE BENEFITS		469.20
FILING FEES		17.00
TRANSPORTATION		5.00
DRAIN EQUIPMENT		266.40
TOTAL EXPENDITURES	\$	2,060.91

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	316.59
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OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 PRICE DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81579

ASSETS

FIXED ASSETS	\$	29,866.77

TOTAL ASSETS	\$	29,866.77
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$(	133.23)

TOTAL LIABILITIES	\$(	133.23)
		=====

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		29,866.77
UNDESIGNATED		133.23

TOTAL FUND BALANCE	\$	30,000.00
		=====
TOTAL LIABILITIES & FUND BALANCE	\$	29,866.77
		=====

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 SKARRITT DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND AC
 81611

ASSETS

CASH	\$	32,163.24
INVESTMENTS		138,000.00
ACCRUED INTEREST RECEIVABLE		361.29
FIXED ASSETS		65,816.35
		<hr/>
TOTAL ASSETS	\$	236,340.88
		<hr/> <hr/>

LIABILITIES

DUE TO OTHER FUNDS	\$	8,449.12
VOUCHERS PAYABLE		4,740.78
		<hr/>
TOTAL LIABILITIES	\$	13,189.90
		<hr/> <hr/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED	\$	65,816.35
		157,334.63
		<hr/>
TOTAL FUND BALANCE	\$	223,150.98
		<hr/> <hr/>
TOTAL LIABILITIES & FUND BALANCE	\$	236,340.88
		<hr/> <hr/>

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 SKARRITT DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81611

REVENUES

INCOME FROM INVESTMENTS	\$	1,150.98
TRANSFERS FROM OTHER FUNDS		222,000.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	<u>223,150.98</u>

EXPENDITURES

SALARIES - REGULAR	\$	13,616.97
PER DIEM		250.00
FRINGE BENEFITS		3,324.32
LEGAL EXPENSE		1,279.78
PROFESSIONAL SERVICES		100.00
ADVERTISING		475.47
CONTRACTED SERVICES		23,711.25
COPIER MACHINE RENTAL		43.70
DESIGN FEES		1,745.00
EQUIPMENT RENTAL		108.00
LAYOUT AND STAKING		1,660.00
OTHER ENGINEERING SERVICES		15,364.44
PUBLISHING LEGAL NOTICES		420.59
PURCHASE OF LAND & EASEMENT		1,218.33
RECORDING FEES		176.20
SOIL TEST BORINGS		863.00
TRANSPORTATION		1,284.65
ENGINEERING SUPPLIES		154.19
MATERIAL & SUPPLIES		20.46
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	<u>65,816.35</u>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	<u>157,334.63</u> =====
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CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 4 MAINTENANCE FUNDS
 BALANCE SHEET
 THORNBERRY CRAIN

DECEMBER 31, 1985

MAINTENANCE
 FUND AC
 84612

ASSETS

CASH	\$	20,996.58
		<u> </u>
TOTAL ASSETS	\$	20,996.58
		<u> </u>

LIABILITIES

DEPOSITS	\$	23,496.58
DUE TO OTHER FUNDS		668.83
		<u> </u>
TOTAL LIABILITIES	\$	24,165.41
		<u> </u>

FUND-BALANCE

UNDESIGNATED	\$(	3,168.83)
		<u> </u>
TOTAL FUND BALANCE	\$(	3,168.83)
		<u> </u>
TOTAL LIABILITIES & FUND BALANCE	\$	20,996.58
		<u> </u>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 4 MAINTENANCE FUNDS
STATEMENT OF REVENUE & EXPENDITURES
THORNBERRY DRAIN

DECEMBER 31, 1985

MAINTENANCE
FUND NO
84612

REVENUES

INCOME FROM INVESTMENTS	\$	53.59
PAYMENT IN LIEU OF TAXES		2,500.00

TOTAL REVENUES	\$	2,553.59

EXPENDITURES

SALARIES - REGULAR	\$	3,561.71
FRINGE BENEFITS		1,282.21
GRAIN EQUIPMENT		878.50

TOTAL EXPENDITURES	\$	5,722.42

EXCESS (DEFICIENCY) OF REVENUES	\$	(3,168.83)
OVER EXPENDITURES		-----

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 VOGT DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 81602

ASSETS

CASH	\$	14,233.21
INVESTMENTS		519,000.00
ACCRUED INTEREST RECEIVABLE		1,283.09
FIXED ASSETS		4,310,309.58
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	4,844,825.88
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	5,990.56
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	5,990.56
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED		4,310,309.58
		528,525.74
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	4,838,835.32
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	4,844,825.88
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
CHAPTER 20 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
VOGT DRAINAGE DISTRICT

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
81602

REVENUES

INCOME FROM INVESTMENTS	\$	69,752.76
REFUND-PRIOR YEARS EXPENDITURE		27,040.81

TOTAL REVENUES	\$	96,793.57

EXPENDITURES

SALARIES - REGULAR	\$	42,451.11
PER DIEM		600.00
FRINGE BENEFITS		15,139.53
INVESTMENT FEES		554.09
CONTRACTED SERVICES		1,495,982.78
COPIER MACHINE RENTAL		243.50
DESIGN FEES		67,828.46
EQUIPMENT RENTAL		18.00
INSURANCE		488.32
LAYOUT AND STAKING		20,719.80
MISCELLANEOUS		9.92
OTHER ENGINEERING SERVICES		491.40
PURCHASE OF LAND & EASEMENT		6,734.80
TRANSPORTATION		8,186.10
MATERIAL & SUPPLIES		779.45

TOTAL EXPENDITURES	\$	1,660,227.26

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$ (	1,563,433.69)
		=====

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 EVERGREEN SDS-BINGHAM F.EXT#3

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 87387

ASSETS

CASH	\$	21,001.64
DUE FROM OTHER FUNDS		61.50
FIXED ASSETS		3,773.55
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	24,836.69
		<hr style="border-top: 3px dashed black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	816.69
VOUCHERS PAYABLE		2,520.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	3,336.69
		<hr style="border-top: 3px dashed black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT	\$	3,773.55
UNDESIGNATED		17,726.45
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	21,500.00
		<hr style="border-top: 3px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	24,836.69
		<hr style="border-top: 3px dashed black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
EVERGREEN SDS-BINGHAM F.EXT#3

DECEMBER 31, 1985

CONSTRUCTION
FUND NC
87387

REVENUES

TRANSFERS FROM OTHER FUNDS	\$	21,500.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	21,500.00
		<hr style="border-top: 1px dashed black;"/>

EXPENDITURES

SALARIES - REGULAR	\$	857.39
FRINGE BENEFITS		308.66
DESIGN FEES		2,520.00
PURCHASE OF LAND & EASEMENT		2.00
RECORDING FEES		14.00
TRANSPORTATION		47.50
DRAIN EQUIPMENT		24.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	3,773.55
		<hr style="border-top: 1px dashed black;"/>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	17,726.45
		<hr style="border-top: 1px dashed black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
BALANCE SHEET
EVERGREEN FARMINGTON SDS

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
87270

ASSETS

CASH	\$	18,357.74
INVESTMENTS		520,000.00
ACCRUED INTEREST RECEIVABLE		2,091.87
FIXED ASSETS		4,282,221.18
		<u>4,822,670.79</u>
TOTAL ASSETS	\$	4,822,670.79
		<u>=====</u>

LIABILITIES

DUE TO OTHER FUNDS	\$	2,361.07
		<u>2,361.07</u>
TOTAL LIABILITIES	\$	2,361.07
		<u>=====</u>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED		4,282,221.18
		538,088.54
		<u>4,820,309.72</u>
TOTAL FUND BALANCE	\$	4,820,309.72
		<u>=====</u>
TOTAL LIABILITIES & FUND BALANCE	\$	4,822,670.79
		<u>=====</u>

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 EVERGREEN FARMINGTON SDS

DECEMBER 31, 1985

CONSTRUCTION
 FUND NC
 87270

REVENUES

INCOME FROM INVESTMENTS	\$	48,994.10
REFUND-PRIOR YEARS EXPENDITURE		212.66
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	<u>49,206.76</u>

EXPENDITURES

SALARIES - REGULAR	\$	15,125.27
HOLIDAY		67.83
FRINGE BENEFITS		6,772.29
INVESTMENT FEES		82.47
LEGAL EXPENSE		4,350.00
COPIER MACHINE RENTAL		16.05
DESIGN FEES		245,329.09
PUBLISHING LEGAL NOTICES		779.96
STUDY & DESIGN-ENGINEER-MUNIC.		934.49
TRANSPORTATION		1,354.31
TRAVEL & CONFERENCE		7.00
OFFICE SUPPLIES		28.20
DRAIN EQUIPMENT		91.60
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	<u>274,938.56</u>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$(<u>225,731.80</u>)
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OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
BALANCE SHEET
CO SDS HURON GARDENS EXT. IMP.

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
87071

ASSETS

CASH	\$	461.77
INVESTMENTS		25,250.00
ACCRUED INTEREST RECEIVABLE		94.69
FIXED ASSETS		88,751.61

TOTAL ASSETS	\$	114,558.07
		=====

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		88,751.61
UNDESIGNATED		25,806.46

TOTAL FUND BALANCE	\$	114,558.07

TOTAL LIABILITIES & FUND BALANCE	\$	114,558.07
		=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
CO SDS HURON GARDENS EXT. IMP.

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
87071

REVENUES

INCOME FROM INVESTMENTS	\$	1,049.00
TOTAL REVENUES	\$	1,049.00

EXPENDITURES

COPIER MACHINE RENTAL	\$	.15
MISCELLANEOUS		50.00
TOTAL EXPENDITURES	\$	50.15

EXCESS (DEFICIENCY) OF REVENUES	\$	998.85
OVER EXPENDITURES		=====

GAKLAND CCUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 342 CONSTRUCTION FLNDS
 BALANCE SHEET
 LAPEER-BROWN RD WATER MAIN EXT

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 87386

ASSETS

CASH	\$	5,161.44
INVESTMENTS		625,000.00
ACCRUED INTEREST RECEIVABLE		2,343.75
FIXED ASSETS		398,118.30
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	1,030,623.49
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	4,236.03
VOUCHERS PAYABLE		1,851.62
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	6,087.65
		<hr style="border-top: 3px double black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		398,118.30
UNDESIGNATED		626,417.54
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	1,024,535.84
		<hr style="border-top: 3px double black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	1,030,623.49
		<hr style="border-top: 3px double black;"/>

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
LAPEER-BROWN RD WATER MAIN EXT

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
87386

REVENUES

INCOME FROM INVESTMENTS	\$	28,535.84
PRINCIPAL FROM MUNICIPALITIES		996,000.00
		<hr/>
TOTAL REVENUES	\$	1,024,535.84
		<hr/>

EXPENDITURES

SALARIES - REGULAR	\$	15,538.84
FRINGE BENEFITS		5,521.97
CONTRACTED SERVICES		363,184.00
DESIGN FEES		3,878.26
LAYOUT AND STAKING		8,171.63
PUBLISHING LEGAL NOTICES		88.13
SOIL TEST BORINGS		113.22
TRANSPORTATION		241.65
DRAIN EQUIPMENT		1,380.60
		<hr/>
TOTAL EXPENDITURES	\$	398,118.30
		<hr/>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	626,417.54
		<hr/> =====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
BALANCE SHEET
PAINT CREEK INT. OAK IMP EXT 2

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
87130

ASSETS

CASH		\$ (	184.25)
FIXED ASSETS			399,766.50

TOTAL ASSETS		\$	399,582.25
			=====

LIABILITIES

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED			399,766.50
		(	184.25)

TOTAL FUND BALANCE		\$	399,582.25

TOTAL LIABILITIES & FUND BALANCE		\$	399,582.25
			=====

OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 342 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
PAINT CREEK INT. OAK TWP EXT 2

DECEMBER 31, 1985

CONSTRUCTION
FUND NO
87130

REVENUES

INCOME FROM INVESTMENTS	\$	1,540.50
		<hr/>
TOTAL REVENUES	\$	1,540.50
		<hr/> <hr/>

EXPENDITURES

SALARIES - REGULAR	\$	1,105.01
FRINGE BENEFITS		397.80
COPIER MACHINE RENTAL		2.95
DESIGN FEES		2,879.25
TRANSPORTATION		64.20
DRAIN EQUIPMENT		16.40
		<hr/>
TOTAL EXPENDITURES	\$	4,465.61
		<hr/> <hr/>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$(	2,925.11)
		<hr/> <hr/> <hr/>

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 185 CONSTRUCTION FUNDS
 BALANCE SHEET
 CLIN OAK SDS CRICN TWP EXT #3

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 83621

ASSETS

CASH	\$	41,690.12
INVESTMENTS		450,500.00
ACCRUED INTEREST RECEIVABLE		1,689.37
FIXED ASSETS		991,952.78
		<hr/>
TOTAL ASSETS	\$	1,485,832.27
		<hr/> <hr/>

LIABILITIES

DUE TO OTHER FUNDS	\$	6,571.43
VOUCHERS PAYABLE		3,627.70
		<hr/>
TOTAL LIABILITIES	\$	10,199.13
		<hr/> <hr/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		991,952.78
UNDESIGNATED		483,680.36
		<hr/>
TOTAL FUND BALANCE	\$	1,475,633.14
		<hr/> <hr/>
TOTAL LIABILITIES & FUND BALANCE	\$	1,485,832.27
		<hr/> <hr/>

CLAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 185 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 CLIN OAK SDS CRICN TWP EXT #3

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 83621

REVENUES

INCOME FROM INVESTMENTS	\$	72,326.15
PRINCIPAL FROM MUNICIPALITIES		28,700.00
TRANSFERS FROM OTHER FUNDS		481,000.00

TOTAL REVENUES	\$	582,026.15

EXPENDITURES

SALARIES - REGULAR	\$	42,638.28
FRINGE BENEFITS		23,191.21
INVESTMENT FEES		138.89
LEGAL EXPENSE		1,280.80
CONTRACTED SERVICES		756,147.39
COPIER MACHINE RENTAL		136.65
DESIGN FEES		70,324.93
INSURANCE		213.13
LAYOUT AND STAKING		17,666.05
LICENSES AND PERMITS		1,670.00
MISCELLANEOUS		2.00
OTHER ENGINEERING SERVICES		1,097.50
PURCHASE OF LAND & EASEMENT		49,854.99
RECORDING FEES		126.00
R/W NEGOTIATION AND EXPENSE		157.14
SOIL TEST BORINGS		7,740.86
TRANSPORTATION		4,300.60
MATERIAL & SUPPLIES		11.70
OFFICE SUPPLIES		413.80
DRAIN EQUIPMENT		4,009.80

TOTAL EXPENDITURES	\$	981,121.72

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	359,095.57

OAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 185 CONSTRUCTION FUNDS
 BALANCE SHEET
 COSDS ORIGN TWP EXT #4

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 83964

ASSETS

CASH	\$	38,760.52
INVESTMENTS		1,000,000.00
ACCRUED INTEREST RECEIVABLE		5,833.33
FIXED ASSETS		472.46
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	1,045,066.31
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	232.98
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	232.98
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT UNDESIGNATED	\$	472.46
		1,044,360.87
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	1,044,833.33
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	1,045,066.31
		<hr style="border-top: 3px double black;"/>

CAKLAND CCUNTY
 SPECIAL ASSESSMENT FLNDS
 ACT 185 CCNSTRCTICN FLNDS
 STATEMENT OF REVENUE & EXPENDITURES
 CCSDS ORIGN TWP EXT #4

DECEMBER 31, 1985

CCNSTRUCTION
 FUND AC
 83964

REVENUES

INCCME FROM INVESTMENTS	\$	5,833.33
TRANSFERS FROM OTHER FUNDS		1,039,000.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	<u>1,044,833.33</u>

EXPENDITURES

SALARIES - REGULAR	\$	347.40
FRINGE BENEFITS		125.06
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	<u>472.46</u>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	<u><u>1,044,360.87</u></u>
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OAKLAND COUNTY
SPECIAL ASSESSMENT FUNDS
ACT 185 CONSTRUCTION FUNDS
BALANCE SHEET
WEST BLOOMFIELD WSS SEC NO VII

DECEMBER 31, 1985

CONSTRUCTION
FUND AC
83751

ASSETS

CASH	\$	19,000.35
FIXED ASSETS		590,894.19
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	609,894.54
		<hr style="border-top: 3px dashed black;"/>

LIABILITIES

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT		590,894.19
SURPLUS DISTRIBUTION	(	222,000.00)
UNDESIGNATED		241,000.35
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	609,894.54
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	609,894.54
		<hr style="border-top: 3px dashed black;"/>

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 185 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 WEST BLOOMFIELD TOWNSHIP SEC NO VII

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 83751

REVENUES

INCOME FROM INVESTMENTS	\$	14,463.45
TOTAL REVENUES	\$	14,463.45

EXPENDITURES

SALARIES - REGULAR	\$	4,216.11
FRINGE BENEFITS		985.30
INVESTMENT FEES		35.42
CONTRACTED SERVICES		38,721.01
COPIER MACHINE RENTAL		2.15
PURCHASE OF LAND & EASEMENT		108.90
TRANSPORTATION		1,241.80
MATERIAL & SUPPLIES		97.17
OFFICE SUPPLIES		.55
DRAIN EQUIPMENT		46.50
TOTAL EXPENDITURES	\$	45,454.91

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$ (	30,991.46)

CAKLAND COUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 185 CONSTRUCTION FUNDS
 BALANCE SHEET
 WEST BLOOMFIELD WSS-SECTION 8

DECEMBER 31, 1985

CONSTRUCTION
 FUND NO
 83963

ASSETS

CASH	\$	59,498.73
INVESTMENTS		305,000.00
ACCRUED INTEREST RECEIVABLE		515.11
FIXED ASSETS		462.59
		<hr style="border-top: 1px dashed black;"/>
TOTAL ASSETS	\$	365,476.43
		<hr style="border-top: 3px double black;"/>

LIABILITIES

DUE TO OTHER FUNDS	\$	122.99
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES	\$	122.99
		<hr style="border-top: 1px dashed black;"/>

FUND-BALANCE

INVESTMENT IN CAPITAL PROJECT	\$	462.59
UNDESIGNATED		364,890.85
		<hr style="border-top: 1px dashed black;"/>
TOTAL FUND BALANCE	\$	365,353.44
		<hr style="border-top: 1px dashed black;"/>
TOTAL LIABILITIES & FUND BALANCE	\$	365,476.43
		<hr style="border-top: 3px double black;"/>

CAKLAND CCUNTY
 SPECIAL ASSESSMENT FUNDS
 ACT 185 CCNSTRCTICN FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 WEST BLCOMFIELD WSS-SECTION 8

DECEMBER 31, 1985

CCNSTRUCTION
 FUNG NC
 83963

REVENUES

INCOME FROM INVESTMENTS	\$	3,353.44
TRANSFERS FROM OTHER FUNDS		362,000.00
		<hr style="border-top: 1px dashed black;"/>
TOTAL REVENUES	\$	<u>365,353.44</u>

EXPENDITURES

SALARIES - REGULAR	\$	331.97
FRINGE BENEFITS		119.52
DRAIN EQUIPMENT		11.10
		<hr style="border-top: 1px dashed black;"/>
TOTAL EXPENDITURES	\$	<u>462.59</u>

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	\$	<u>364,890.85</u>
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FINANCIAL STATEMENTS

Duplicate financial statements for the Southeastern Oakland County Sewage Disposal System and for each drainage district or project discussed in this volume are included here. Financial statements for each drainage district and itemized statements of all of the various accounts maintained by the Oakland County Drain Commissioner in connection with the construction, operation, and maintenance of all of the projects under the jurisdiction of the Oakland County Drain Commissioner are contained in Volume II of this Annual Report.

Reference should be made to the Table of Contents of the Financial Statements in Volume II for reference to any specific project or fund account not included in this volume.

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