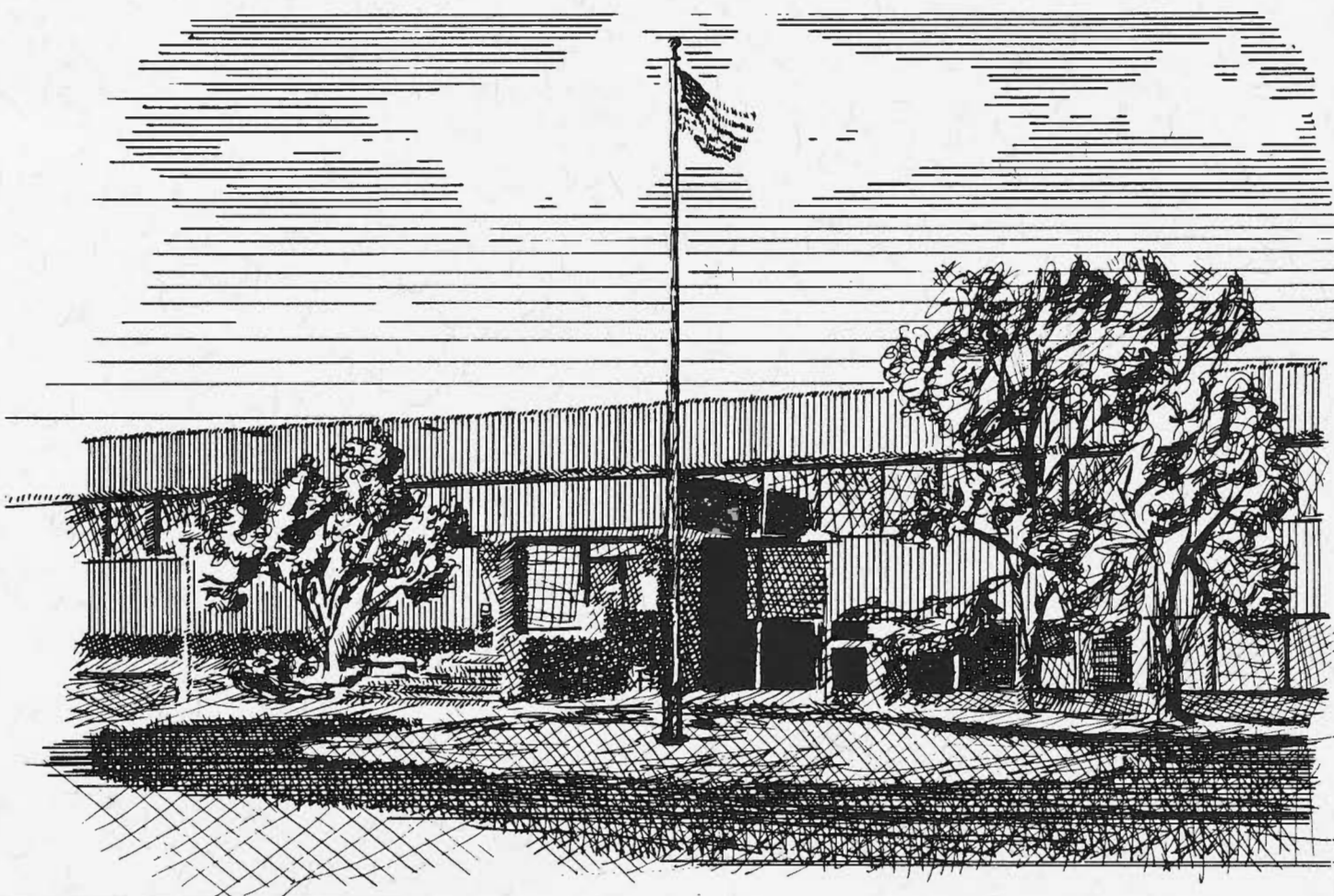


1992 ANNUAL REPORT



GEORGE W. KUHN
DRAIN COMMISSIONER
OAKLAND COUNTY, MICHIGAN
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GEORGE W. KUHN
OAKLAND COUNTY DRAIN COMMISSIONER
ONE PUBLIC WORKS DRIVE
WATERFORD, MICHIGAN 48328-1907
858-0958
FAX # (313) 858-1066

ROBERT H. FREDERICKS
Chief Deputy Commissioner
858-0970

GLEN YRJANAINEN
Deputy & Chief Engineer
Drain & Lakes Engineering
858-0981
WILLIAM E. KLOCKOW
Chief Engineer
Water & Sewer Engineering
858-1094

April 1, 1993

Honorable Board of Commissioners
County of Oakland
1200 North Telegraph Road
Pontiac, Michigan 48341

Mr. Chairperson, Ladies & Gentlemen:

As required by the Michigan Drain Code, I enclose the Annual Report of the operations of the Drain Commissioner's Office during the period January 1, 1992 through December 31, 1992.

The level of construction activity remained high in the Drain Office during 1992, as we completed construction of the \$33.5 million Segment II of the Evergreen-Farmington Sewage Disposal System. The cost to the 11 Oakland County municipalities involved in this project was substantially offset by an \$11 million grant from the Federal Government.

The demand for infrastructure systems by Oakland County municipalities has provided a steady source of activity for my office. Additionally, we anticipate an increasing workload as the Detroit Metropolitan Area begins to address the issue of combined sewer overflows. The enclosed report provides a summary of the numerous projects currently in varying stages of construction or development.

I wish to extend my thanks and appreciation to all members of the Board of Commissioners for the excellent cooperation and assistance extended to the Drain Commissioner's office during the past year.

Most sincerely,


George W. Kuhn

OAKLAND COUNTY DRAINAGE BOARD



George W. Kuhn
Drain Commissioner



Larry P. Crake
Chairman
Board of Commissioner



G. William Caddell
Chairman
Finance Committee

DRAIN DEPARTMENT MANAGEMENT STAFF



Robert H. Fredericks
Chief Deputy Drain Commissioner



Glen Yrjanainen
Deputy/Chief Engineer
Drain & Lakes



William E. Klockow
Chief Engineer
Water & Sewer



Philip Sanzica Joseph Kozma Donald Mills
Assistant Chief Engineers

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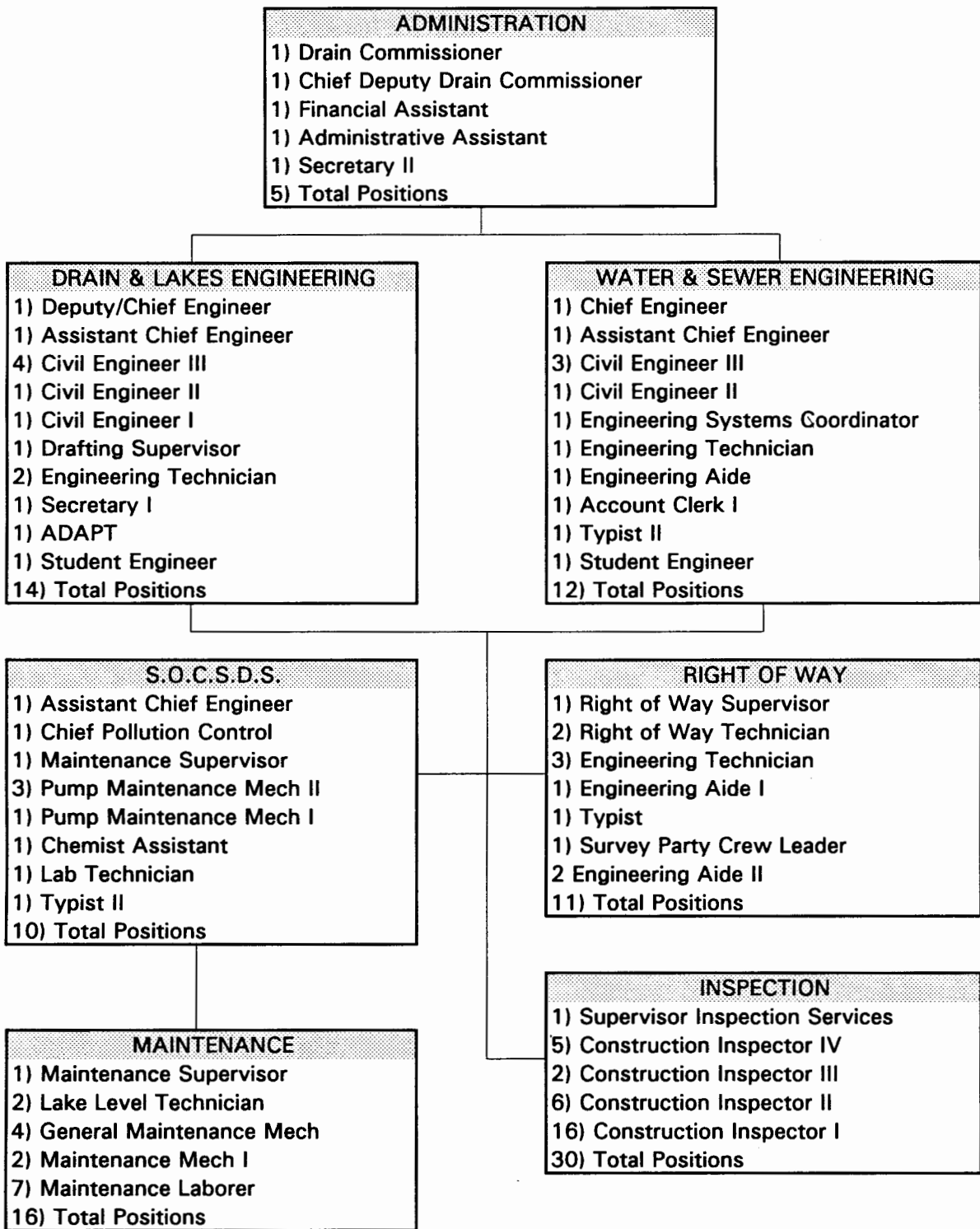
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ORGANIZATION CHART



ENGINEERING UNITS

OAKLAND 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 purposes of organization, the functions of the Drain Commissioner as a part of Oakland County government are delegated to six operating units: Drain and Lakes Engineering, Water and Sewer Engineering, Right of Way, Inspection, Maintenance, and S.O.C.S.D.S. The employees in each of these units perform a multitude of tasks necessary for 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 UNITS

The staff of engineers and other technical personnel in these two units 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. Two Chief Engineers, Glen Yrjanainen and William Klockow, supervise the engineering functions of these units. At the end of 1992 there were 25 employees in these units. The following specific activities are performed in the Engineering Units.

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 1992 is provided later in this report.

Plat Review

Under the provisions of the Subdivision Control Act, Act 288 of 1967, 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. In addition, the Mobile Home Commission Act, Act 96 of 1987, requires the Drain Commissioner to review and approve the outlet drainage for new mobile home developments.

In 1992, 41 preliminary plats, 56 sets of subdivision construction plans, and 53 final subdivision plats were reviewed by the engineering staff of the Drain Commissioner. A total of 21 Oakland County communities were represented in the projects reviewed.

The final subdivision plats contained 1879 lots. Total revenue generated from plat review fees in 1992 was \$19,115. Joseph P. Kozma, P.E. is the Drain Office engineer in charge of the plat review program.

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 50 lakes in the County where levels have been established and assigned to the Drain Commissioner for control. The 50 lakes are in four river basins; 33 in the Clinton, 13 in the Huron, two in the Rouge, and two in the Shiawassee.

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

Ronald R. Karttunen, P.E. is responsible for the lake level program which involves the operation and maintenance of 32 lake level control structures, and six lake level augmentation pumps.

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. A typical illustration of this is shown on page 7 of this report in the form of Dawson Mill Pond's 1992 hydrograph. These hydrographs are available for each lake level system.

Regular inspection also ensures that the structures are in good operating condition, and permits scheduled maintenance and repairs when needed. In order to effectively keep pace with the inspection and maintenance needs of the lake level program, two Lake Level Control Technicians are assigned to monitor the lake levels.

Special assessment districts were established by the Circuit Court for each project and, as necessary, annual assessment rolls are prepared to reimburse the cost of necessary maintenance expenditures. During 1992, maintenance work was performed on 23 lake level projects, and the Board of Commissioners approved assessments in the amount of \$268,612 to assess property for the maintenance costs on these Lake Level Control Projects. In addition to these assessments, three lake level projects were assessed in the amount of \$64,660 for a portion of the cost of construction of the Price Dam, Indianwood Dam, and Bunny Run Dam.

Soil Erosion and Sedimentation Control

For the past 17 years, the Drain Commissioner's Office has operated as the designated enforcing agency in Oakland County for the Soil Erosion & Sedimentation Control Act, Act 347 of 1972. The Drain Commissioner is currently enforcing agent for 18 cities, 19 townships, and 9 villages within Oakland County. The program is

**SUMMARY OF OAKLAND COUNTY LAKES
WITH COURT ESTABLISHED LEGAL LEVELS**

	LAKE	AREA (ACRES)	YEAR ESTABLISHED	LOCATION
<u>CLINTON RIVER BASIN</u>				
Lakeville Lake	Lakeville *	492	1961	Addison Twp
Oxford Multi-Lakes	Mickelson	61	1973	Oxford Twp
	Squaw	29		
	Clear	32		
	Long	33		
	Cedar	15		
	Tan	58		
	Mill Pond *	2		
Waterford Multi-Lakes	Cemetery	28	1966	Independence & Waterford Twps
	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 Twp
	Oakland *	235		
Watkins Lake	Watkins * (pump)	229	1960	Waterford Twp
Cass Lake	Cass *	1280	1969	Waterford Twp & Keego Harbor
Orchard Lake	Orchard * (pump)	850	1966	Orchard Lake & W. Blmflld Twp
Indianwood Sylvan-Otter	Indianwood *	122	1986	Orion Twp
	Otter	81	1986	Waterford Twp,
	Sylvan	458		Pontiac, Sylvan Lake & Keego Harbor
	Dawson Mill Pond *	8		
Crystal Lake	Crystal *	51	1989	Pontiac
Bunny Run Lake	Bunny Run *	11	1990	Orion Twp

* Lake level structure is located at the outlet of the lake

**SUMMARY OF OAKLAND COUNTY LAKES
WITH COURT ESTABLISHED LEGAL LEVELS**

LAKE	AREA (ACRES)	YEAR ESTABLISHED	LOCATION	
<u>HURON RIVER BASIN</u>				
Big Lake	Big *	220	1967	Springfield Twp
White Lake	White * (pump)	540	1965	White Lake & Highland Twps
Duck Lake	Duck * (pump)	307	1962	Highland Twp
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 * (pump)	175	1964	Commerce Twp
Upper Straits Lake	Upper Straits *	378	1964	W. Blmfld Twp
Middle & Lower Straits Lake	Middle Straits Lower Straits *	194 220	1963	Commerce Twp
Commerce Lake	(pump) Commerce *	262	1964	Commerce Twp
<u>Rouge River Basin</u>				
Walled & Shawood Lakes	Shawood Walled *	45 670	1984	Novi & Walled Lake
<u>Shiawassee River Basin</u>				
Bevins Lake	Bevins *	31	1964	Holly Twp
Tipsico Lake	Tipsico *	301	1954	Rose Twp

* Lake level structure is located at the outlet of the lake

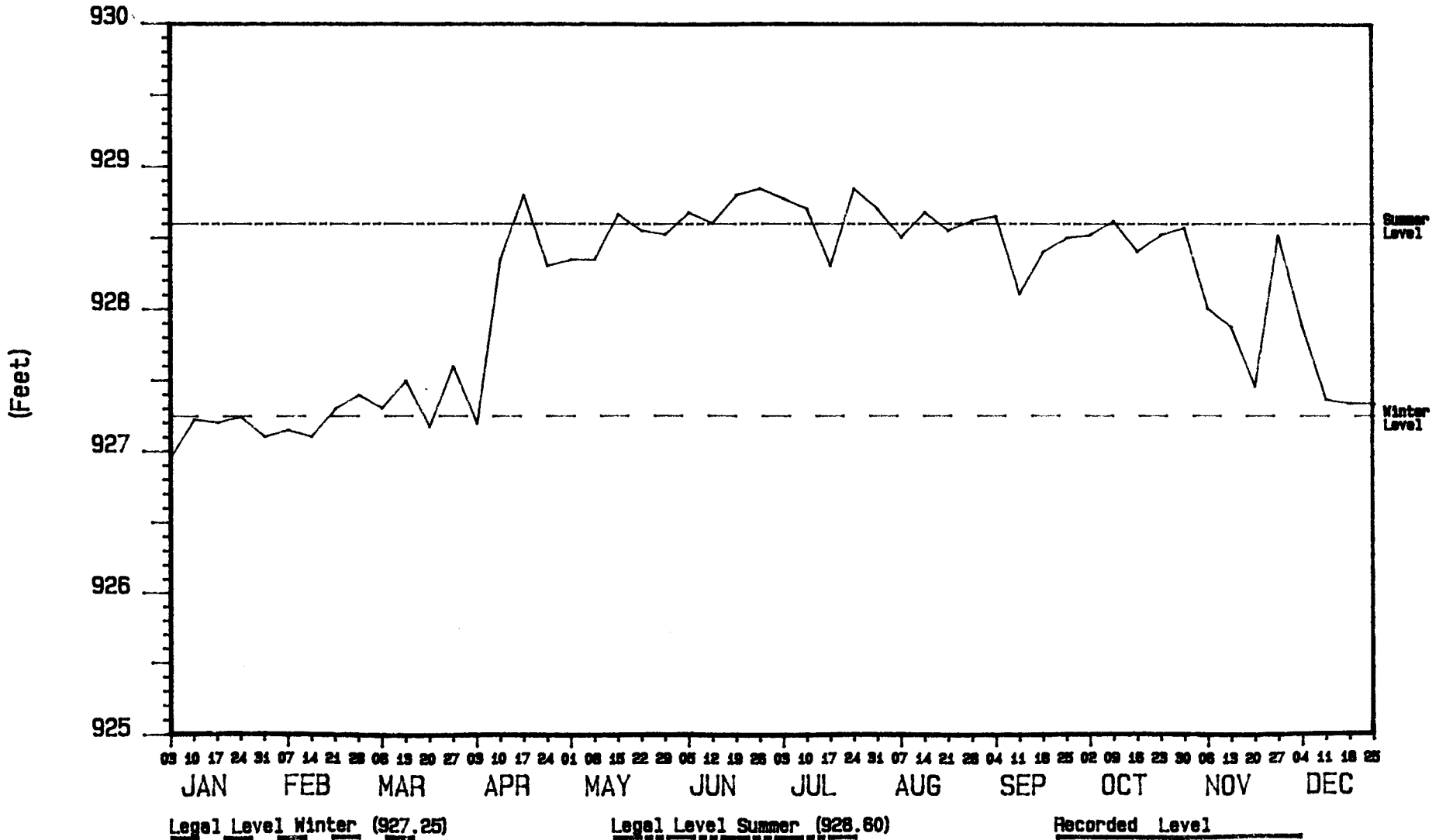
LAKE LEVEL EXPENDITURE SUMMARY FOR THE YEAR 1992

<u>Lake Level</u>	<u>Salaries & Fringes</u>	<u>Materials & Supplies</u>	<u>Misc Charges</u>	<u>Mileage Charges</u>	<u>Insurance</u>	<u>Electrical Service</u>	<u>Contracted Services</u>	<u>Total Expenditures</u>
Bevins Lake	\$1,366.49	\$12.00	\$0.00	\$1,486.05	\$95.56	\$0.00	\$0.00	\$2,960.10
Big Lake	\$2,115.56	\$12.00	\$0.00	\$1,397.31	\$123.87	\$0.00	\$0.00	\$3,648.74
Bunny Run Lake	\$4,869.55	\$11.08	\$17.00	\$484.76	\$760.91	\$154.28	\$0.00	\$6,297.58
Cass Lake	\$8,745.17	\$41.46	\$21.16	\$1,902.48	\$867.09	\$0.00	\$0.00	\$11,577.36
Cedar Island Lake	\$5,068.88	\$133.90	\$4.26	\$1,163.19	\$258.36	\$0.00	\$0.00	\$6,628.59
Commerce Lake	\$2,421.64	\$0.00	\$37.26	\$1,171.22	\$350.37	\$0.00	\$0.00	\$3,980.49
Crystal Lake	\$6,792.53	\$89.85	\$50.00	\$890.08	\$477.78	\$176.82	\$0.00	\$8,477.06
Duck Lake	\$4,064.66	\$2.88	\$0.00	\$1,402.86	\$583.96	\$1,950.58	\$0.00	\$8,004.94
Fox Lake	\$1,709.33	\$0.00	\$0.00	\$837.25	\$205.27	\$0.00	\$0.00	\$2,751.85
Indianwood Lake	\$1,740.02	\$0.00	\$0.00	\$1,098.94	\$424.69	\$0.00	\$0.00	\$3,263.65
Lake Louise	\$1,660.79	\$0.00	\$82.65	\$219.21	\$0.00	\$0.00	\$13,834.35	\$15,797.00
Lakeville Lake	\$1,976.83	\$0.00	\$0.00	\$1,699.16	\$138.03	\$0.00	\$0.00	\$3,814.02
Long Lake	\$3,422.87	\$69.94	\$0.00	\$1,301.87	\$251.28	\$2,423.28	\$29,154.17	\$36,623.41
Middle & Lower Lake	\$11,793.63	\$529.83	\$65.72	\$1,924.79	\$438.85	\$1,475.78	\$5,193.90	\$21,422.50
Oakland-Woodhull Lake	\$8,350.83	\$58.22	\$0.00	\$1,695.69	\$1,061.74	\$0.00	\$0.00	\$11,166.48
Orchard Lake	\$8,587.97	\$307.75	\$344.62	\$1,368.62	\$378.69	\$597.34	\$5,822.10	\$17,407.09
Oxbow Lake	\$5,909.40	\$24.00	\$298.00	\$1,908.24	\$293.75	\$0.00	\$0.00	\$8,433.39
Oxford Multi Lake	\$2,993.10	\$22.27	\$0.00	\$1,679.69	\$842.31	\$0.00	\$0.00	\$5,537.37
Pontiac Lake	\$7,529.52	\$0.00	\$171.59	\$2,094.35	\$1,054.66	\$0.00	\$0.00	\$10,850.12
Scott Lake	\$2,366.39	\$0.00	\$11.00	\$105.70	\$0.00	\$0.00	\$0.00	\$2,483.09
Sylvan Otter Lake	\$9,711.90	\$581.28	\$0.00	\$1,677.28	\$1,238.69	\$0.00	\$0.00	\$13,209.15
Tipsico Lake	\$1,841.45	\$14.31	\$0.00	\$1,662.56	\$28.31	\$0.00	\$0.00	\$3,546.63
Union Lake	\$4,484.81	\$0.00	\$0.00	\$1,196.00	\$201.73	\$0.00	\$0.00	\$5,882.54
Upper Straits Lake	\$1,986.84	\$24.00	\$0.00	\$978.39	\$53.09	\$0.00	\$0.00	\$3,042.32
Walled & Shawood Lake	\$1,995.40	\$112.00	\$0.00	\$1,661.13	\$343.29	\$0.00	\$0.00	\$4,111.82
Waterford Multi Lake	\$17,726.23	\$168.47	\$0.00	\$1,769.44	\$2,880.85	\$0.00	\$0.00	\$22,544.99
Watkins Lake	\$1,771.77	\$38.88	\$12.00	\$556.07	\$141.56	\$1,807.88	\$0.00	\$4,328.16
White Lake	\$2,859.01	\$2.88	\$127.51	\$1,448.26	\$944.94	\$2,957.99	\$0.00	\$8,340.59
TOTAL	\$135,862.57	\$2,257.00	\$1,242.77	\$36,780.59	\$14,439.63	\$11,543.95	\$54,004.52	\$256,131.03

Note: Hydrograph derived
from lake level elevation
record readings, U.S.G.S.
datum.

DAWSON MILL POND

HYDROGRAPH for 1992



designated to protect the environment without placing an undue burden on property owners or contractors.

In 1992, 775 applications for soil erosion permits were received by this office. The total revenue received in 1992 from soil erosion permit fees was \$204,604. Douglas D. Smith, P.E. was in charge of the Drain Commissioner's Soil Erosion & Sedimentation Control program in 1992.

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 Edward T. Micol, Supervisor of Inspection Services.

During 1992 a total of 80 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, engineering firms, 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.

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 reviewed by the Drain Commissioner prior to being submitted to the Michigan Department of Natural Resources. This review allows a record to be kept of all facilities outletting into County trunk lines, as well as assuring that proper and approved construction standards are used on new connections.

The Drain Commissioner works closely with local units of government. All plans sent to the Drain Office for review are transmitted through the municipality's engineer or Engineering Department, to ensure that sewer lines conform to the local community master plan for sewer service. During 1992 the Engineering Unit received and reviewed 23 sets of sanitary and combined sewer plans for facilities that will outlet into the Southeastern Oakland County Sewage Disposal System.

INSPECTION UNIT

INSPECTION UNIT

The Oakland County Drain Commissioner employs trained inspection personnel to inspect drain, sewer and water projects. During 1992 there were twenty seven employees in the Inspection Unit. The supervisor of the Inspection Unit is Edward T. Micol 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 engineer responsible for the project.

The inspector insures 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.

The Drain Commissioner also strives 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.

Inspectors use radio, pager and telephone communication with the office and local communities during working hours so that any complaints, inquiries, or construction related problems can be handled as quickly as possible.

Daily inspection reports and a log of the progress of construction are maintained by the inspector on each project. Daily records permit proper restoration of the construction site, and also assure that correct payment will be made to the contractors on the project.

Inspection staff 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 available 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.

An 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 at a lower cost with a minimum of disturbance to the existing facility.

The Inspection Unit is responsible 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 lakes and streams in Oakland County. The soil erosion inspection program is supervised by Dan MacLennan.

Inspection staff is also responsible for inspecting connections and other involvements with county drains throughout Oakland County. The inspector is present to insure that the integrity of the existing system is maintained, and that proper compliance with state and local regulations are observed.

MAINTENANCE UNIT

MAINTENANCE UNIT

The Oakland County Drain Commissioner's Maintenance Unit, under the direction of Assistant Chief Engineer, Joseph P. Kozma, P.E. is responsible for the operation and maintenance of approximately 600 miles of legally established county drains, 32 lake level control structures and related facilities.

Description of Unit

The Maintenance Unit consists of a Drain Maintenance Supervisor and a staff of 15 maintenance workers. Operations require that the Maintenance Unit maintain seven pickup trucks, a bulldozer, a backhoe, a jet vactor truck, a dump truck, skid loader, trailers and a variety of other equipment such as compressors, pumps, and power tools.

Operational Description

Through a procedure of routine inspection and response to complaints, the County drains are inspected on a regular basis for maintenance needs and routine repairs. Often during these inspections it is possible to identify potential problems or violations associated with the proper operation of the drains. The majority of the work performed by the Maintenance Unit is the general upkeep of the drains and correcting problems identified by these inspections.

Response to drainage complaints from citizens and local municipalities is also a major function of the Maintenance Unit. In most cases complaints are answered on the same day that they are submitted to this office. The department's policy of prompt response to complaints has been instrumental in preventing property damage and personal injury associated with flooding and failure of drainage facilities under this office's jurisdiction.

Additional Operations

The Maintenance Unit is also responsible for maintenance of lake level control structures, U.S. Department of Agriculture Weather Service Office rain gauge stations, and numerous pump stations related to maintaining lake levels and stream flow.

Rain gauge stations under our operational control consist of twenty-four units located throughout Oakland County. Trained maintenance personnel monitor these stations to insure that they operate reliably to provide accurate data for use by national and local organizations. Frequent repairs are required on these units due to the sensitivity of the mechanisms and exposed location.

In cooperation with other County governmental units, the Maintenance Unit provides services and equipment, at a minimal rate, to the Oakland County Road Commission, DPW, FM&O, Oakland-Pontiac Airport and others in their operations and maintenance work in order to assist them in reducing the costs of their specific maintenance responsibilities.

Funding for the Maintenance Unit is provided by direct assessment to responsible municipal governments and special assessment districts.

RIGHT OF WAY

RIGHT OF WAY

The Oakland County Drain Commissioner employs a trained and experienced staff of thirteen full time people in this unit; including a three person survey crew. This unit is under the supervision of James W. Isaacs, Jr., R.L.S.

The primary purpose of this unit is the acquisition of easements for the construction of storm drains, sanitary sewer systems and water supply systems. The easements for these projects are obtained by contacting individual property owners. In order to obtain an easement, it is necessary to negotiate an acceptable agreement with the property owner. This process can be slow and difficult. It may be necessary to make several contacts with each owner, or in some cases, with multiple owners. Easements are either permanent (land upon which facilities are located) or temporary (land required for use during construction only). Upon completion of a project, temporary easements revert to the owner, while permanent easements remain under the control of the County or the Drainage District.

Besides easement acquisition, the Right-of-Way Unit is responsible for verifying signatures on petitions to establish lake level controls and researching requests and/or lawsuits for plat easement vacations or amendments. This unit has also been working with the Drain Inspection Unit to acquire new easements needed for Drain relocations due to industrial or residential development.

Another important function of the Right-of-Way Unit is to purchase property, in fee, for such things as pump station sites, retention ponds or other areas where large easements are required. Property may also be purchased for additional road Right-of-Way and later deeded to the local municipality.

The Right-of-Way Staff becomes involved early in the planning stage of projects. This is necessary to accommodate possible route changes, land and soil conditions, landscaping, and the desires of the public. Any or all of these factors may affect the cost of a project. Staff members work closely with the engineer assigned to each project and make recommendations to help control or reduce costs.

Once the route and basic design of a project are determined, easement documents must be prepared to cover the area required for construction. A title search is necessary to determine the legal owners of record and all parties having an interest in the land, i.e., mortgage holders, land contract purchasers, etc. In many cases, old records have to be researched, which can be both difficult and time consuming.

The easement description is written by calculating the exact location of the facility which will be constructed on private land. The description must be precise, as it will become part of a recorded title document. After the easement documents are prepared, they are assigned to a Right-of-Way Field Agent who will contact the property owner. All signed easement documents are recorded at the Oakland County Register of Deeds.

When an easement cannot be obtained from a property owner, it is necessary to file a condemnation action in Circuit Court under the Uniform Condemnation Act, Act 87 of 1980. Right-of-Way Staff works closely with the Oakland County Corporation Counsel or outside legal counsel in filing a condemnation action. In a condemnation proceeding, the Court, with the assistance of expert appraisers, awards the requested easement to the County and awards the property owners a sum of money deemed to represent the diminution in value to the property caused by the easement.

Due to increasing demand for infrastructure development, the Right of Way Unit was involved in over 50 projects during 1992. Significant easement acquisitions occurred on the Waterford Iron Removal System, the King Drain in Troy, the Bishop Drain, and the McIntyre Drain in Rochester Hills, the Oakland Township Sewer, and the Orchard Lake Water and Sewer Project. In all approximately 700 easements were acquired in 1992. Additionally a large parcel of land was purchased for expansion of the Walled Lake-Novu Waste Water Treatment Plant.

**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, primarily in the Cities of Troy and Madison Heights, are served by separated sewer systems.

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 (approximately 33 million gallons). When a storm event occurred of such magnitude that the storage capacity of the Twelve Towns Drain Relief system was exceeded, the excess combined sewage would spill into the Red Run Drain. These combined sewer overflows (CSO) occurred approximately 25 times every year and were causing pollution of the Red Run Drain. The Red Run Drain is a large, open inter-county Chapter 21 drain, over eight miles in length, flowing east from Dequindre Road north of 13 Mile Road through Macomb County until it outlets into the Clinton River.

To mitigate this pollution of the Red Run Drain and the Clinton River, the Drain Commissioner as agent for the County of Oakland constructed the Pollution Control Facility, a storage facility 65 feet wide, 20 feet high and approximately two miles long with a capacity of 190 acre/feet (approximately 62 million gallons), which now receives overflows from the Twelve Towns Drain Relief System. With this additional facility the storage capacity of the district has been increased to 280 acre/feet of combined sewage.

After a storm event, flows of combined sewage retained in the storage basin are pumped into the Dequindre Interceptor up to a capacity of 260 cubic feet per second. Only when the storage capacity of both the Twelve Towns Drain and the Pollution Control Facility are exceeded, will a CSO spill occur 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 combined sewage spilling into the Pollution Control Facility to kill bacteria so that the quality of effluent spilling into the Red Run Drain meets standards established by the Michigan Water Resources Commission.

Operations - 1992

The Drain Commissioner currently employs nine people to maintain and operate the S.O.C.S.D.S. under the direction of Assistant Chief Engineer Joseph P. Kozma, P.E.

Laboratory staff collect and test samples to continually monitor 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 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 notified. During 1992 approximately 52,000 analyses were performed on approximately 10,000 samples collected within the district. Through these efforts the district has been able to control the strength of the effluent entering the system and later treated by the City of Detroit.

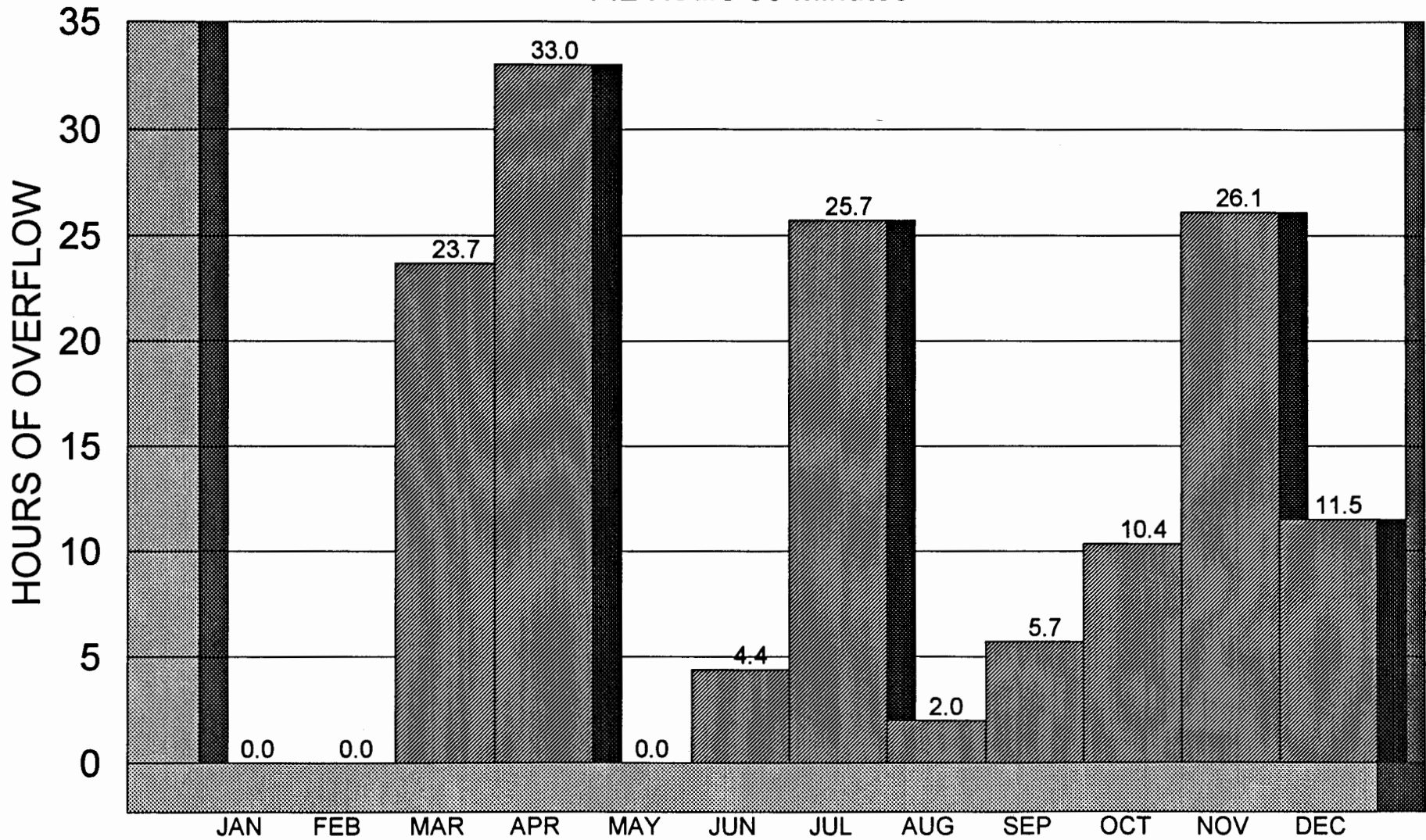
Field staff maintain and operate the Pollution Control Facility. Responsibilities include the operation of the pump station housing six dewatering pumps that pump combined sewage from the Pollution Control Facility into the Dequindre Interceptor. Once the Pollution Control Facility has been pumped dry after a storm event, 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.

During all of 1992 there were 24 spills from the Twelve Towns Relief Drain system to the Pollution Control Facility, of which 11 were retained in the basin with no spill to the Red Run Drain. The remaining 13 spills were chlorinated before spilling to the Red Run Drain. The total overflows to the Red Run Drain were limited to a total period of 142 hours and 30 minutes for the year. The total volume of flow spilled was approximately 138,100,000 cubic feet or approximately 1033 million gallons.

S.O.C.S.D.S. employees also operate and maintain the Red Run Drain, the outlet water course for the Pollution Control Facility, which begins North of Thirteen Mile at Dequindre Road and runs northeasterly through Macomb County for over eight miles where it outlets into the Clinton River. This open water course is subject to erosion and 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.

TOTAL OVERFLOW FOR 1992

142 Hours 30 Minutes



SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
January 1, 1992 Through December 31, 1992

DRAINS COMPLETED IN 1992

DRAINS COMPLETED IN 1992

Crake Drain

The City of Rochester Hills requested the construction of the Crake Drain by way of petition and resolution which were received by the Drain Commissioner's office on December 30, 1987. The first drainage board meeting was held on January 12, 1988, and the Final Order of Determination was adopted February 23, 1988 with no objections being heard. Mr. David Lakin was designated as the project engineer for the Crake Drain, and Hubbell, Roth & Clark, Inc., was selected to be the consulting engineer.

The City of Rochester Hills requested the Crake Drain improvements to alleviate flooding in some older neighborhoods in the S.E. quarter of Section 34 and S.W. quarter of Section 35. It is also believed that the improvements will help drainage of the existing gravel roads which, in turn, would mean less road maintenance.

Bids were received on May 21, 1991, and on July 10, 1991 the Crake Drain Contract was awarded to L. D'Agostini & Son, Inc. who was the lowest responsive bidder in the amount of \$1,228,372.36. The award was made subject to the sale of bonds which were sold on September 10, 1991. Dickinson, Wright, Moon, VanDusen & Freeman acted as bond counsel for the project, and Bendzinski & Company as financial consultant.

The work began in November of 1991 and by the end of 1992 the project was completed except for minor restoration. The final contract amount will be approximately \$1,350,000.

David L. Moffitt Drain

A petition for certain drain improvements in the vicinity of the Oaks Drain in Section 32, City of Pontiac, was filed with the Oakland County Drain Commissioner on May 13, 1992. At the first Drainage Board Meeting held on May 26, 1992, the project was named the David L. Moffitt Drain, and a Public Hearing on necessity was scheduled for July 14, 1992. No objections were received at the Hearing and, therefore, the project was determined practicable and necessary at the Public Hearing, and the Final Order of Determination was adopted.

The project consists of approximately 1600 lineal feet of 12" through 21" diameter storm drain along with the construction of miscellaneous appurtenances. The construction of this project will provide storm drainage improvements to several City of Pontiac streets. These drainage improvements are part of the City of Pontiac's 1992 Contract 'S' Street Improvement Program.

Nowak and Fraus, Inc. was appointed as the Consulting Engineer for the David L. Moffitt Drain, and Glenn R. Appel, P.E. was designated as the Project Engineer. Construction bids were received for the City of Pontiac's 1992 Contract 'S' Street

Improvement Program on April 6, 1992, and the Contract was awarded to Cadillac Asphalt, Inc. with the drain construction portion of the work being subcontracted to Wcisel and Wcisel, Inc. The estimated project cost for the David L. Moffitt Drain is \$80,508.30.

Actual construction of the drain began in July, 1992. The project was substantially completed by October, 1992, with only punch list items remaining. Surplus funds from previous drain construction projects within the City of Pontiac were used to finance the construction of the David L. Moffitt Drain.

McIntosh Drain

The Charter Township of West Bloomfield, in a petition dated December 18, 1989, requested the construction of a storm drain along Middlebelt Road between Fourteen Mile Road and Maple Road to relieve a portion of the existing Ward Drain, a County Drain originally constructed in 1920.

The name "McIntosh Drain" was given this project at the first meeting of the Drainage Board held on January 9, 1990. No objections were heard at the February 27, 1990 Public Hearing for the Drain and therefore the McIntosh Drain was determined to be practical and necessary for the public health. The engineering firm of Giffels-Webster Engineers, Inc. was retained to prepare engineering plans and specifications for the project.

Final apportionment percentages for the McIntosh Drain were established by the Drainage Board at their meeting on March 26, 1991. The Township of West Bloomfield financed their portion of the Drain through the use of Edwards Relief Drainage District surplus construction funds.

Construction bids were received on July 23, 1991. Pacentro Construction Company, Inc. of Mt. Clemens was awarded the contract for the construction of the McIntosh Drain for their low bid amount of \$98,835.00. Construction began in September 1991 and was completed by the Spring of 1992.

Oaks Drain

A petition for certain drain improvements along the existing Clinton River channel in the southwestern part of the City of Pontiac was filed with the Drain Commissioner on June 6, 1990. At the first Drainage Board meeting held June 12, 1990, the project was named the Oaks Drain, and the public hearing on necessity was scheduled for July 31, 1990. No objections were received at the hearing, and as a result, the project was determined practicable and necessary for the public health and the Final Order of Determination was adopted. Hampton Engineering Associates, Inc. was employed to prepare bid plans and specifications for the Oaks Drain and Ronald R. Karttunen, P.E. was designated as the Drain Office engineer for the project.

The project consisted of selectively clearing, regrading and improving the existing Clinton River channel from the Cucksey Dam, located near Bagley Street, to an area

upstream near the Grand Trunk Western Railroad trestle for a distance of approximately 1,800 lineal feet. Also, the Walter Moore Dam which is located at the outlet to Crystal Lake and the Cucksey Dam was modified to allow increased water flow into the Oaks Drain. This increased flow has enhanced the aesthetic appearance and qualities of the former river channel.

On June 18, 1991, plans and specifications for the project were received, adopted and approved. Construction bids were received with the contract being awarded on August 6, 1991 to the low bidder, Man Con, Inc., of Sterling Heights, Michigan.

The project cost, \$495,000.00, was financed with surplus construction funds from completed drain projects under the provisions of Act No. 165 of the Public Acts of 1984.

Construction began in the Fall of 1991 with the majority of the work completed by the end of 1991. The balance of construction consisting of minor restoration, was completed in the Spring of 1992.

Palmer Drain

A petition for certain drain improvements in the vicinity of the Skarritt and Sinking Bridge Drains in Section 9, City of Pontiac, was filed with the Oakland County Drain Commissioner on May 13, 1992. At the first Drainage Board Meeting held on May 26, 1992, the project was named the Palmer Drain, and a Public Hearing on necessity was scheduled for July 14, 1992. No objections were received at the Hearing and, therefore, the project was determined practicable and necessary for the Public Health and the Final Order of Determination was adopted.

The project consists of approximately 450 lineal feet of 12" diameter storm drain along with the construction of miscellaneous appurtenances. The construction of this project will provide storm drainage improvements to an existing City of Pontiac street. These drainage improvements are part of the City of Pontiac's 1992 Contract 'S' Street Improvement Program.

Nowak and Fraus, Inc. was appointed as the Consulting Engineer for the Palmer Drain, and Glenn R. Appel, P.E. was designated as the Project Engineer. Construction bids were received for the City of Pontiac's 1992 Contract 'S' Street Improvement Program on April 6, 1992 and the Contract was awarded to Cadillac Asphalt, Inc. with the drain construction portion of the work being subcontracted to Wcisel and Wcisel, Inc. Project cost of the Palmer Drain is \$28,738.50.

Actual construction of the drain began July 1992, the project was substantially completed by October 1992, with only punch list items remaining. Surplus funds from previous drain construction projects within the City of Pontiac were used to finance the construction of the Palmer Drain.

Pebble Creek Drain

On June 7, 1990, a petition was filed with the Drain Commissioner's Office by the City of Farmington Hills for drainage improvements to be undertaken in several areas of the Pebble Creek drainage basin. In accordance with the City's Master Storm Drainage Plan, drainage relief was intended to be provided in an area bounded approximately by Fourteen Mile Road to the north, Thirteen Mile Road to the south, Orchard Lake Road to the west and Middlebelt Road to the east. The project was named the Pebble Creek Drain and a public hearing on necessity was scheduled for July 31, 1990. No objections were received at the hearing, and therefore the project was determined practicable and necessary for the public health and the Final Order of Determination was adopted. Hubbell, Roth and Clark, Inc. was employed to prepare bid plans and specifications for the Pebble Creek Drain and Ronald R. Karttunen, P.E. was designated as engineer for the project. Dickinson, Wright, Moon, VanDusen and Freeman was named Bond Counsel for the project. The project was divided into two phases.

Phase I involved the construction of a storm water detention dam on line within the Pebble Creek watercourse at the easterly boundary of the Glen Oaks Golf Course, and also open ditching improvements to the north of the golf course from Pebble Creek easterly to the Tri-Atria commercial development.

Phase II consisted of ditching and storm sewer improvements within the Franklin Knolls Subdivision located north of Northwestern Highway and west of Middlebelt Road.

Phase I of the project was advertised and construction bids were received. The contract was awarded on August 6, 1991 to the low bidder, DeAngelis Landscape, Inc. of Woodhaven, Michigan. Construction began in September, 1991 and was substantially completed by May, 1992.

Phase II of the project was advertised, and construction bids were received on June 9, 1992. The contract was awarded on June 23, 1992 to the low bidder, Dans Excavating, Inc. of Shelby Township. Construction began in July, 1992 and was substantially completed by November, 1992.

The cost of the project was financed by the sale of Oakland County Drain Bonds in the amount of \$3,540,000.00 for which the City of Farmington Hills pledged its full faith and credit for repayment. The bonds were sold on December 3, 1991 at an average effective interest rate of 6.49% over 20 years.

DRAINS UNDER CONSTRUCTION

DRAINS UNDER CONSTRUCTION

Lueders Drain

A petition for certain drain improvements in the vicinity of the existing Sprague and Taylor Drains in Section 28, 29, 32 and 33, City of Rochester Hills, was filed with the Drain Commissioner on January 19, 1984. At the first drainage board meeting held February 8, 1984, the project was named the Moore Drain (renamed the Lueders Drain on October 25, 1988) and the public hearing on necessity was scheduled for March 21, 1984. No objections were received at the hearing and therefore the project was determined practicable and necessary for the public health and the Final Order of Determination was adopted. Hubbell, Roth & Clark, Inc. was appointed as the consulting engineer for the Lueders Drain, and Donald L. Mills, P.E. was designated as the Project Engineer.

The project consists of approximately 40,000 lineal feet of 12" through 96" diameter storm sewer, channel improvements to approximately 3,500 lineal feet of open storm drain, along with the construction of miscellaneous appurtenances. The construction of this project will provide storm drainage improvements and reduce flooding in Sections 28, 29, 32 and 33. The final Estimate of Cost for the Lueders Drain was \$4,660,000.

Construction bids were received for Phase I of the Lueders Drain on April 23, 1991 and the contract was awarded to the low bidder, Lanzo Construction Company, in the amount of \$2,889,671.09. Actual construction began in the fall of 1991. Completion is scheduled for the spring of 1993.

Drain bonds to finance the project were sold on July 23, 1991 at an average effective interest cost of 6.66% over 20 years.

**WATER & SEWER
COMPLETED IN 1992**

WATER & SEWER COMPLETED IN 1992

Evergreen-Farmington S.D.S. Amy Relief Sewer

This project was developed under a contract between the Drain Commissioner and the Township of Bloomfield, the City of Bloomfield Hills and the City of Auburn Hills.

The project consisted of approximately 17,000 lineal feet of 10" through 24" diameter sanitary sewer, a 4,500 g.p.m. pumping station and miscellaneous appurtenances. The project was designed to provide sanitary relief for the North Evergreen Interceptor within the above communities.

The firm of Hubbell, Roth & Clark, Inc. of Bloomfield Hills, Michigan designed the entire project, prepared construction plans and specifications and provided resident engineer inspection services at the pumping station. Philip Sanzica, P.E. was designated as project engineer for the Amy Relief Sewer project.

The project was financed by the sale of Oakland County Bonds for which the City of Bloomfield Hills and the Township of Bloomfield have pledged their full faith and credit. The bonds were sold on December 4, 1990 in the amount of \$3,425,000 at an effective net interest rate of 6.73% over 19 years.

Construction bids were received on July 12, 1990 and the low bidders were: Contract 1 - Adamo Contracting Corporation of Detroit, Michigan in the amount of \$1,354,572.65; Contract 2 - O'Laughlin Construction Company of Novi, Michigan in the amount of \$1,092,081. The following is a summary of the contracts:

Contract 1

Approximately 99% of Contract 1, including all gravity sanitary sewer and force main, was completed in 1992. The remainder of the project, including some minor road restoration and cleanup will be completed in the spring of 1993.

Contract 2

All of Contract 2, including the caisson, building construction, mechanical, electrical and instrumentation was completed in 1992. Final construction payment will be made in the spring of 1993.

Evergreen-Farmington Pollution Control Facilities

The Evergreen-Farmington Sewage Disposal District is an area of approximately 130 square miles within southern Oakland County, and serves all or part of fifteen communities.

Due to population growth over the years, the regional interceptors and local sanitary sewage collection systems within the Evergreen-Farmington District have been subject to excessive infiltration/inflow, and lack the necessary capacity to collect and transport peak wastewater flows. Early in 1976, the fifteen communities requested Oakland County to apply for a Facilities Planning Grant, and provided the local share as an advance to finance the studies. The Facilities Plan Studies were completed in October 1982 and approved by the member communities of the District and submitted

to the Michigan Department of Natural Resources and the U.S. Environmental Protection Agency (E.P.A.) with an application for a grant to construct the proposed facilities. This application led to a Michigan Department of Natural Resources request for additional studies and reports.

By mid-1988 all the necessary environmental issues, sewer system evaluation studies and flow routing concerns had been addressed. In the fall of 1988 the County of Oakland and each of the fifteen member communities entered into Final Orders of Abatement which mandated schedules for constructing the various improvements to the Evergreen-Farmington Sanitary Sewer System.

These schedules called for the improvements to be constructed in two phases or segments. Segment I was completed in 1992. Segment II is currently under construction.

Segment I

Work in Segment I consists of the construction of a 2.26 million gallon retention facility; improvements to the existing Muirwood Pumping Station; and construction of approximately 6,300 lineal feet of 54" diameter tunnel sewer and 7,400 lineal feet of 30" force main to relieve the existing Eight Mile Road Interceptor.

The firm of Hubbell, Roth & Clark, Inc. of Bloomfield Hills, Michigan was retained to design the system, prepare construction plans and specifications and provide resident engineer inspection services on the retention basin and pump station contracts.

Contract No. 1

This contract involved the construction of a 2.26 million gallon Retention Tank, complete with pumps, flushing and odor control system, in the Kendallwood-Westbrooke area of the City of Farmington Hills. Construction bids were received on May 10, 1989 and the contract was awarded to the low bidder, the Barton-Malow Company of Southfield, Michigan in the amount of \$3,796,000. This project was completed and placed into service on July 2, 1991 with minor work order changes and landscaping completed in mid-1992. Gary R. Aho, P.E. was designated as the Drain Office project engineer for this contract.

Contract No. 2

This contract involved the construction of improvements to the existing Muirwood Pumping Station located in the City of Southfield. Work included the replacement of all pumps, additional piping and valves, replacement of electrical switch gear, and a 31 foot by 26 foot building to house a new 1,000 k.w. diesel generator. Construction bids were received on May 10, 1989 and the contract was awarded to the low bidder, Lerner-Linden, Inc. of Novi, Michigan, in the amount of \$2,177,000. This project was completed and placed into service in December of 1991 with minor work order changes and final cleanup completed in mid-1992. Gary R. Aho, P.E. was designated as the Drain Office project engineer for this contract.

Contract No. 3

This contract involved the construction of approximately 7,150 lineal feet of 30" force main sewer, 850 lineal feet of 36" sanitary sewer, 6,300 lineal feet of 54" tunnel sewer, one overflow chamber with connection sewer and manholes, structures and appurtenances in the City of Southfield. Construction bids were received on May 10,

1989 and the contract was awarded to the low responsible bidder, M. & M. Contracting of Michigan of Detroit, Michigan, in the amount of \$5,085,852. This project was completed and placed into service in December 1991. Final restoration and cleanup was completed in the spring of 1992. Gary R. Aho, P.E. was designated as the Drain Office project engineer for this contract.

In summary, the total project cost for Segment I of the improvements and additions to the Evergreen-Farmington Pollution Control Facilities was \$16,400,000. Construction grants from the E.P.A. in the amount of \$5,300,000 were received, and the balance of local share cost was \$11,100,000. A portion of the local cost share was financed by the sale of Oakland County Bonds for which the participating communities have pledged their full faith and credit. The bonds were sold on September 7, 1989 in the amount of \$9,300,000 at an effective rate of 6.94% over 20 years.

Segment II

Segment II consisted of the construction of approximately 24,000 lineal feet of 8" to 12" sewer, 21,000 lineal feet of 15" to 21" sewer, 21,000 lineal feet of 24" to 36" sewer, 3,000 lineal feet of 6" to 12" force main, 5,000 lineal feet of 54" tunnel sewer, construction of a three million gallon retention facility, repairs to 4,000 existing manholes, joint grouting for 46,000 lineal feet of existing 8" to 24" sewer, in place relining of approximately 14,000 lineal feet of 8" to 24" sanitary sewer and the installation of 68 permanent flow meters throughout the Evergreen-Farmington District.

The above work was performed under eighteen different contracts of which 16 were bid in July 1990 and awarded in December 1990. Of the remaining two contracts, Contract No. 12A was bid on April 30, 1991 and awarded November 12, 1991 while Contract No. 21 was bid on June 4, 1991 and awarded August 19, 1991.

The firm of Hubbell, Roth & Clark, Inc. of Bloomfield Hills, Michigan was retained to design the system and prepare construction plans and specifications for Contracts No. 4 through No. 19 and No. 21.

The firm of Giffels-Webster Engineers, Inc. of Rochester Hills, Michigan was retained to design the system and prepare construction plans and specifications for Contract No. 20.

Contract No. 4

This contract involved the construction of approximately 250 lineal feet of 15" through 27" sanitary sewer, 5,500 lineal feet of 30" and 36" open cut sanitary sewer and 5,000 lineal feet of 54" tunnel sewer, in the City of Southfield. Construction bids were received on July 10, 1990 and the contract was awarded to the low bidder, Ric-Man Construction, Inc. of Sterling Heights, Michigan in the amount of \$2,696,537.56. Due to a methane gas problem encountered at Nine Mile and Beech Roads, it was decided to delete approximately 654 lineal feet of 54" tunnel sewer from this contract and to re-bid the work under separate contract (Contract No. 4A). All other work under this contract was completed in mid-1992. Gary R. Aho, P.E. was designated as the Drain Office project engineer for this contract.

Contract No. 4A

This contract involved the construction of approximately 654 lineal feet of 54" tunnel sewer, two tunnel manholes, and related miscellaneous work. This work was a re-bid of tunnel work deleted from Contract No. 4 due to changed site conditions resulting from methane gas. Bids were received on August 25, 1992 and the contract was awarded to the low bidder, JayDee Contractors, Inc. of Livonia, Michigan in the amount of \$482,596.00. The work began in October 1992 with completion scheduled for mid-January 1993. Due to the location of this section of tunnel, Contracts No. 4, No. 5 and No. 6 could not be placed in service until Contract No. 4A was completed. Gary R. Aho, P.E., was the Drain Office project engineer for this contract.

Contract No. 5

This contract involved the construction of approximately 20,000 lineal feet of 18" to 30" sanitary sewer and appurtenances in the Cities of Southfield and Farmington Hills. Construction bids were received on July 10, 1990 and the contract was awarded to the low bidder Dan's Excavating, Inc. of Shelby Township, Michigan in the amount of \$1,982,798. All work, with the exception of minor restoration and cleanup, was completed in 1992. Gary R. Aho, P.E. was designated as the Drain Office project engineer for this contract.

Contract No. 6

This contract involved the construction of approximately 8,300 lineal feet of 10" to 18" sanitary sewer, two sanitary sewage pumping stations, 1,800 lineal feet of 8" and 10" force main and appurtenances in the City of Southfield. Construction bids were received on July 10, 1990 and the contract was awarded to the low bidder, Lanzo Construction, Inc. of Roseville, Michigan, in the amount of \$1,578,612.08. Completion of the two pumping stations and related abandonment of existing pump stations was delayed due to re-bid of a portion of the downstream outlet sewer (Contract No. 4A). All work will be completed in early 1993. Gary R. Aho, P.E. was the Drain Office project engineer for this contract.

Contract No. 7

This contract involved the construction of approximately 6,600 lineal feet of 10" to 15" sanitary sewer, 3,300 lineal feet of 6" and 12" force main and three sanitary sewage pumping stations, located along 13 Mile Road between Lahser and Southfield Roads in the Village of Beverly Hills. Construction bids were received on July 10, 1990 and the contract was awarded to the low bidder, S.B.G. Construction, Inc. of Wixom, Michigan, in the amount of \$1,528,748.62. All work, with the exception of minor restoration and cleanup, was completed in 1992. Gary R. Aho, P.E., was designated as the Drain Office project engineer for this contract.

Contract No. 8

This contract involved the construction of 290 lineal feet of 10" sanitary sewer in Bloomfield Township, 2,200 lineal feet of 10" sanitary sewer along Grand River in the City of Farmington Hills and 8,100 lineal feet of 10" through 15" sanitary sewer in two sections of West Bloomfield Township. Construction bids were received on July 12, 1990 and the contract was awarded to the low bidder, Giannetti Contracting Corporation and Giannetti Construction of Sterling Heights, Michigan, a joint venture, in the amount of \$1,068,506. The project was substantially completed in 1992. Philip Sanzica, P.E. was the Drain Office project engineer for this contract.

Contract No. 9

This contract involved the construction of 3,350 lineal feet of 10" sanitary sewer in West Bloomfield Township, 2,260 lineal feet of 8" and 10" sanitary sewer in the City of Troy, and 1,740 lineal feet of 10" sanitary sewer in the City of Farmington Hills. Construction bids were received on July 12, 1990 and the contract was awarded to the low bidder, L. D'Agostini and Sons, Inc. of Sterling Heights, Michigan, in the amount of \$693,975. All work with the exception of minor cleanup and restoration was completed in 1992. Gary R. Aho, P.E. was designated as the Drain Office project engineer for this contract.

Contract No. 10

This contract involved the construction of approximately 7,000 lineal feet of 8" through 27" local relief sanitary sewer and appurtenances throughout Lathrup Village. Construction bids were received on July 10, 1990 and the contract was awarded to the low bidder, Giannetti Contracting Corporation of Sterling Heights, Michigan in the amount of \$593,881.30. The project was substantially completed in 1992. Philip Sanzica, P.E. was the Drain Office project engineer for this contract.

Contract No. 11 (Lathrup Village Retention Tank)

The contract consisted of the construction of a 123 foot by 242 foot by 18 foot concrete Retention Tank below grade (3 million gallon capacity) and a Control Building above grade. The work included influent, dewatering and flushing pumps, flushing and odor control systems, miscellaneous appurtenances and sewer and water connections. The project is located in the area of Eleven Mile and Evergreen Roads in the City of Lathrup Village. The \$4,488,000 project was bid July 11, 1990, awarded to Barton-Malow Company of Southfield, Michigan in April of 1991 and was substantially completed on September 18, 1992 with a dedication ceremony held on site on September 21, 1992. George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 12A (Interceptor Permanent Meter Installation)

The contract involved the installation of 68 ultrasonic type flow meters, 6 rain gauges and 2 control computer systems. The meter installation included telephone connections, start-up, personnel training and three years of data processing, preventative and repair maintenance. The system was designed to monitor sewage flow to identify any unexpected sources of inflow entering into the Evergreen-Farmington Sanitary Sewer System. The meters were mounted in manholes located in 14 communities in Oakland County. The \$2,142,096 project was bid on July 11, 1990 and awarded to ADS Environmental Services, Inc. of Huntsville, Alabama in December 1991. Installation was substantially completed as of July 1, 1992. Personnel training, maintenance and data processing procedures will continue under this contract until July 1, 1995. George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 13 (SSES Rehabilitation)

The contract involved rehabilitation of 403 manholes for sanitary sewers operated and maintained by the Oakland County Department of Public Works and the communities of Bloomfield Hills, Bingham Farms and Keego Harbor. Bid July 10, 1990 and awarded to Ric-Man Construction Company of Sterling Heights, Michigan in the amount of \$212,794, the work began in February of 1991. Less than 2% of the work had been completed when changed conditions were encountered in the field for which resolution could not be attained. By mutual agreement with the Contractor,

the remaining work was deleted and the contract concluded. Subsequently the work was rebid under "Contract No. 13A." George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 13A (SSES Rehabilitation)

This contract involved rehabilitation of 412 manholes for sanitary sewers operated and maintained by the Oakland County Department of Pubic Works and the Communities of Bloomfield Hills, Bingham Farms, and Keego Harbor. Bid August 18, 1992 and awarded to SOS Group Services, Inc., of Brighton, Michigan in the amount of \$300,786, the work began in September and was substantially completed by December 13, 1992. George A. Bondi was the Drain Office project engineer for this Contract.

Contract No. 14 (SSES Rehabilitation)

The contract involved rehabilitation of 813 manholes for sanitary sewers located in the community of Bloomfield Township. Bid July 10, 1990 and awarded to Ric-Man Construction Company of Sterling Heights, Michigan in the amount of \$338,961, the work began in February of 1991. When the contract was approximately 22% complete, changed conditions were encountered in the field for which resolution could not be attained. By mutual agreement with Contractor, the remaining work was deleted and the contract concluded. Subsequently, the work was rebid under "Contract No. 14A." George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 14A (SSES Rehabilitation)

The contract involved the rehabilitation of 671 manholes for sanitary sewers located in the community of Bloomfield Township. Bid August 18, 1992 and awarded to SOS Group Services, Inc. of Brighton, Michigan in the amount of \$412,612.00, the work began in September and was substantially completed by December 23, 1992. George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 15 (SSES Rehabilitation)

The contract involved the rehabilitation of 811 manholes for sanitary sewers located in the communities of Beverly Hills, Troy and West Bloomfield Township. Bid July 11, 1990 and awarded to Lanzo Construction Company of Roseville, Michigan in the amount of \$320,994, the work began in February of 1991 and was substantially completed as of November 24, 1992. George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 16 (SSES Rehabilitation/Sewer Grouting)

The contract consisted of the rehabilitation of 441 manholes, 68 sanitary sewer "point repairs" (pipe repair or replacement at 68 different locations) and sewer grouting with root control of 22,406 lineal feet of 8", 982 lineal feet of 10", 3,110 lineal feet of 12", 3,208 lineal feet of 15" and 2,788 lineal feet of 18" sanitary sewer lines in the City of Farmington Hills. Bid July 11, 1990 and awarded to Lanzo Construction Company of Roseville, Michigan in the amount of \$645,022, the work began in February of 1991 and was substantially completed as of September 22, 1992. George A. Bondi was the project engineer for this office for the Oakland County Drain Commissioner.

Contract No. 17 (SSES Rehabilitation)

The contract involved the rehabilitation of 1,121 manholes and 140 lineal feet of 8" storm sewer in the City of Southfield. Bid July 12, 1990 and awarded to Inland

Waters Pollution Control, Inc. of Detroit, Michigan in the amount of \$421,245, the work began in January of 1991 and was substantially completed in August of 1992. George A. Bondi was the Drain Office project engineer for this contract.

Contract No. 21

This contract involved the construction of approximately 3,400 lineal feet of 8" force main, 220 lineal feet of 48" sanitary sewer and one sanitary sewage pumping station running along Tequesta, Watergate and Lake Bluff Roads in West Bloomfield Township. Construction bids were received on June 6, 1991 and the contract was awarded to the low bidder, Giannetti Contracting Corporation of Sterling Heights, Michigan, in the amount of \$427,240. All sewer construction was completed by mid-1992. However, pump station design modifications have delayed construction of that portion of work until early 1993. Gary R. Aho, P.E. was the Drain Office project engineer for this contract.

Huron-Rouge Sewage Disposal System - Walled Lake-Novi Wastewater Treatment Plant 1989 Enlargement

An agreement between the Cities of Walled Lake and Novi and the County of Oakland to increase the capacity of the existing treatment plant to an average flow of 3.5 MGD was approved by the City Councils on February 21 and 27, 1989, respectively. The County Board of Commissioners approved the agreement and authorized the sale of bonds to finance the project on June 28, 1990. Project development and construction was assigned to the Drain Commissioner as County Agency under the provisions of Act 342 of 1939.

The firm of McNamee, Porter & Seeley, Inc. of Ann Arbor, Michigan designed the entire project and prepared construction plans and specifications. McNamee, Porter & Seeley, Inc., also provided resident engineer inspection services at the treatment plant site. Philip Sanzica, P.E. was designated as project engineer for the Walled Lake-Novi 1989 Enlargement project.

The construction contract was awarded on June 12, 1990 to Clark Construction Co. of Lansing, Michigan in the amount of \$6,998,000.

The project was financed by Oakland County Bonds sold on August 22, 1990 in the amount of \$2,600,000 at an effective rate of interest of 7.05% over 15 years. The balance of the financing (\$5,820,690) was forwarded by the City of Novi.

The project consisted of the construction of a new activated sludge treatment unit, a new administration building and a new blower building to house the process blowers, sludge pump and rotary sludge thickener. The improvements also included necessary site revisions to accommodate these additions and a sludge storage tank for stabilization of sludge.

Oakland County Water Supply and Sewage Disposal System For Rochester Hills - 1988 Extensions

The City of Rochester Hills requested Oakland County proceed with acquiring right of way, constructing, and financing this project. The total project cost was estimated at \$12 million in several contracts. Plans and specifications were prepared by the consulting engineers, Hubbell Roth & Clark, Inc. The following is a summary of the Contracts which have been completed.

Contract No. 1

This contract was bid on April 27, 1989 at a cost of \$521,263 with Adamo Contracting Corporation being the successful bidder. Contract I was scheduled to be completed in 1989, however supplies necessary were not delivered on time to allow the contractor to complete the work on schedule. The work was completed in early 1990, including restoration.

Contract No. 2

This contract was bid on November 10, 1988 at a cost of \$1,570,630 with Adamo Contracting Corporation being the successful bidder. Construction was completed in 1989, and restoration was finished in 1990.

Northwest Transmission Water Main

This contract was bid on April 27, 1989 at a cost of \$1,904,065 with D'Alessandro Construction, Inc. being the successful bidder. Work was started on October 30, 1989, and was completed and placed into service on September 28, 1990. Cleanup and restoration were substantially completed in the spring of 1991.

Tienken Road Water Booster Station

This contract was bid on July 20, 1989 at a cost of \$516,810 with L. D'Agostini & Sons, Inc. being the successful bidder. Construction began on July 13, 1990 and was completed and placed into service on September 21, 1990. Cleanup and restoration were substantially completed in the Spring of 1991.

Contract No. 3

This contract was bid on November 17, 1990 at a cost of \$1,863,098. The successful bidder was A.V.S. Construction Specialties, Inc. This project was constructed and placed into service during 1991, with minor restoration completed in the Spring of 1992.

Contract No. 4

This contract was bid on September 6, 1990 at a cost of \$455,567. Pacitto & Forest Construction Company was the successful bidder. This project was completed, including restoration, in the Fall of 1991.

West Bloomfield Water Supply System - Section XI

West Bloomfield Township requested Oakland County to proceed with the development of a project to complete the construction of the water transmission main along Haggerty Road northerly from Maple Road to Pontiac Trail, and easterly along Pontiac Trail to Green Lake Road in Sections 19 and 30 of the Township.

In addition to approximately 13,000 lineal feet of 20" diameter transmission main along Haggerty Road and Pontiac Trail, the project consisted of a 400,000 gallon elevated storage tank which was constructed on Commerce Road east of Keith Road and a metered connection to the existing D.W.S.D. main at the intersection of 14 Mile Road and Haggerty Road.

An agreement between West Bloomfield Township and the County of Oakland was approved by the Township Board on June 15, 1987, and by the Oakland County Board of Commissioners on July 23, 1987. The Township paid the entire cost of the project, currently estimated to be \$1,819,000.00, by advancing cash installments to

the County.

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.

Contract No. 1

This contract provided for the construction of a 400,000 gallon elevated storage tank. Construction bids were received on October 4, 1988 and the contract was awarded to the low bidder, CBI Na-Con, Inc., in the amount of \$597,500.00. Actual erection of the tank began in the spring of 1989 and was completed in the fall of 1989. Final payment was made in December of 1990.

Contract No. 2

This contract provided for the construction of the metered connection to the existing D.W.S.D. water main. Construction bids were received on March 5, 1991 and the contract was awarded to the low bidder, Lawrence M. Clarke, Inc., in the amount of \$280,000.00. Actual construction began in the summer of 1991, and completed in the fall of 1992.

Contract No. 3

This contract provided for the construction of 13,000 lineal feet of 20" diameter transmission main along Haggerty Road and Pontiac Trail. Construction bids were received on May 17, 1989 and the contract was awarded to the low bidder, Mago Construction Co., in the amount of \$787,394.00. Actual construction began in the fall of 1989 and was completed in the spring of 1990. Final payment was made in August of 1990.

West Bloomfield Water Supply System - Section XII

Contract 2: West Bloomfield Township requested the County of Oakland to construct approximately 14,300 lineal feet of 20" diameter water transmission main along Green Lake Road northerly from Pontiac Trail to Commerce Road and then westerly to the 400,000 gallon elevated storage tank located east of Keith Road near the Westacres Subdivision. Also, 3,300 lineal feet of 16" diameter water transmission main along Willow Road from east of Keith Road easterly to Arneth Road and 515 lineal feet of 8" water main along Warner Drive north from Commerce Road.

An agreement between West Bloomfield Township and the County of Oakland was approved by the Township Board on April 4, 1988 and by the Oakland County Board of Commissioners on April 28, 1988. Construction plans were completed by Hubbell, Roth & Clark, consulting engineers, and Permits and easements were acquired. Construction bids were received on March 12, 1992 and the contract was awarded to the low bidder, Lawrence M. Clarke, Inc., in the amount of \$1,511,407. Construction began on July 6, 1992 as was completed. The total project is estimated to cost \$2,590,000. George A. Bondi is the Drain Office engineer for this project.

**WATER & SEWER UNDER
CONSTRUCTION**

WATER & SEWER UNDER CONSTRUCTION

Oakland County Water Supply and Sewage Disposal System For Rochester Hills - 1988 Extensions

The City of Rochester Hills requested Oakland County proceed with acquiring right of way, constructing, and financing this project. The total project cost was estimated at \$12 million in several contracts. Plans and specifications were prepared by the consulting engineers, Hubbell Roth & Clark, Inc. The following is a summary of the Contracts currently under construction.

Contract No. 5

This contract provides for the construction of water main transmission lines on Dequindre Road between Hamlin and Parkdale, and also on portions of Avon and School roads. In the course of easement acquisition it was discovered that there were several adjacent sites which were old landfills that had contaminated soils. While working with the MDNR, plans are proceeding cautiously to make sure that the construction does not help spread any contamination already present.

Contract No. 6R

This contract consisted of both watermain and sanitary sewer extensions throughout the City of Rochester Hills, were combined under one contract to obtain more competitive bids. Bids are planned for the late Spring of 1992.

This project is being financed by surplus funds held by Oakland County from prior water and sewer construction projects in Rochester Hills. When the existing surplus is exhausted, bonds will be sold to finance the remaining work.

Waterford Township Extensions - Phase VI

The Charter Township of Waterford requested the County of Oakland to construct approximately 55,000 lineal feet of 8" through 24" sanitary sewer, modifications to the existing Cooley Lake Road Pump Station and miscellaneous appurtenances. Construction of this project will eliminate existing and potential sources of pollution from individual on-site septic systems into Pleasant Lake and ground water.

The firm of Johnson & Anderson, Inc. of Waterford, Michigan was retained to design the system and prepare construction plans and specifications. Philip Sanzica, P.E. was selected as the Drain Office project engineer. The project was financed by the transfer of surplus funds from prior sewer construction projects.

Contract No. 52 - Sewer

This contract involves the construction of 32,000 lineal feet of 8" through 24" sanitary sewer and appurtenances. Construction bids were received on March 28, 1991 and the contract was awarded to the low bidder Giannetti Contracting Corporation, of Sterling Heights, Michigan in the amount of \$2,319,628.55. Approximately 95% of the project was completed in 1992 with final cleanup and restoration to be completed by the spring of 1993.

Contract No. 53 - Sewer

This contract involves the construction of 23,000 lineal feet of 8" through 18" sanitary sewer and appurtenances. Construction bids were received on May 27, 1992 and the contract was awarded to the low bidder, Dan's Excavating, Inc. of Shelby Township, Michigan in the amount of \$1,418,215.00. Approximately 30% of the project was completed in 1992 with the contract to be completed by the fall of 1993.

Contract No. 54

This contract involves modifications to the existing Cooley Lake Road Pump Station including the replacement of two existing sewage pumps and motors and furnishing and installing a third pump and motor, constructing a concrete masonry building over the existing drywell to house electrical and maintenance equipment and miscellaneous appurtenances. Construction bids were received on March 28, 1991 and the contract was awarded to the low bidder Sheridan Construction, Inc. of Garden City, Michigan in the amount of \$147,950. The project was substantially completed in 1992.

Waterford Water Supply System Extension No. 9

The Charter Township of Waterford requested the County of Oakland to construct 24,000 lineal feet of 8" through 12" diameter water mains and appurtenances. The water main is to be constructed in conjunction with the Waterford Township Extensions, Phase VI Sewage Disposal project to provide a potable water supply during dewatering operations due to the existing shallow wells, and to provide potable water and fire protection to the area.

The total project cost is estimated to be \$1,101,000 and is based on plans and specifications prepared by Johnson & Anderson, Inc. of Waterford Township, Michigan. The project is financed by available local funds from the Township of Waterford. Philip Sanzica, P.E. was selected as the Drain Office project engineer for the project. The following is a summary of the contracts:

Contract No. 52 - Water

This contract involves the construction of 13,000 lineal feet of 8" and 12" water mains and appurtenances. Construction bids were received on March 28, 1991 and the contract was awarded to the low bidder, Giannetti Contracting Corporation of Sterling Heights, Michigan in the amount of \$525,935.00. Approximately 99% of the project was completed in 1992 with the cleanup and restoration to be completed by the spring of 1993.

Contract No. 53 - Water

This contract involves the construction of 11,000 lineal feet of 8" and 12" water mains and appurtenances. Construction bids were received on May 27, 1992 and the contract was awarded to the low bidder, Dan's Excavating, Inc. of Shelby Township, Michigan in the amount of \$447,660.50. The water main installation will be completed by the fall of 1993.

Waterford Water Supply System - Iron Removal Water Treatment Facilities

The Charter Township of Waterford requested the County of Oakland construct ten Iron Removal Water Treatment Facilities, and miscellaneous water mains and appurtenances. Construction of this project will provide Induced Draft/Gravity Filtration Systems to remove the existing high concentrations of iron and some magnesium in the Township Well System.

The firm of Fishbeck, Thompson, Carr & Huber, Inc. of Ada, Michigan was selected to design the system and prepare construction plans and specifications. Philip Sanzica, P.E. was selected as the Drain Office project engineer.

The project will be constructed in two phases and began in the summer of 1992. The total project is estimated to cost \$9,100,000. The project is to be financed by the sale of Oakland County Bonds for which the Township has pledged its full faith and credit. The Phase I Bonds were sold on June 9, 1992 in the amount of \$6,000,000 at an effective net interest rate of 6.0269% over 15 years.

Contract No. 1

This contract involves the furnishing of all supplies, constructing and placing in operation five water iron removal facilities. Construction bids were received on April 24, 1992 and the contract was awarded to the low bidder, Sorenson-Gross Construction Company of Flint, Michigan in the amount of \$3,254,000. Approximately 62% of the contract was completed in 1992 with the balance of the contract to be completed in the summer of 1993.

Contract No. 2

This contract involves the furnishing of all supplies, constructing and placing in operation five water iron removal facilities. The construction plans and specifications and easement acquisition are substantially complete and are awaiting final permits to bid the contract in the spring of 1993.

Contract No. 3

This contract involves the construction of 10,000 lineal feet of 8" and 12" raw water mains and appurtenances. The construction plans and specifications are substantially complete and are awaiting the easement acquisitions to bid the project in the spring of 1993.

PROJECT EXPENDITURE SUMMARY

**OAKLAND COUNTY DRAIN COMMISSIONER
PROJECT EXPENDITURES FOR THE CALENDAR YEAR 1992
BY PROJECT**

<u>DRAINS</u>	<u>EXPENDITURE</u>
LUEDERS DRAIN	\$3,014,810.13
PEBBLE CREEK DRAIN	\$1,869,961.59
CRAKE DRAIN	\$878,834.78
NELSON DRAIN	\$518,710.12
BISHOP DRAIN	\$89,369.71
JENSEN DRAIN	\$68,257.84
KING DRAIN	\$66,833.90
OAKS DRAIN	\$64,040.96
HAMPTON DRAIN	\$43,127.84
DUTTON DRAIN	\$37,496.47
MCINTOSH DRAIN	\$22,239.00
ROBERT HUBER DRAIN	\$11,001.25
IRELAND DRAIN	\$10,644.88
DOROTHY WEBB DRAIN	\$9,799.61
MCINTYRE DRAINAGE DISTRICT	\$9,475.25
JOHNSON DRAIN	\$8,175.16
DAVID L. MOFFITT DRAIN	\$3,666.66
PALMER DRAIN	\$2,166.45
CHESTER DRAIN	\$2,000.00
VAN TASSEL DRAIN	\$1,860.28
TOTAL DRAINS	\$6,732,471.88
<u>WATER</u>	
WATERFORD WSS IRON REM. TREAT	\$2,171,903.34
WEST BLOOMFIELD WSS - SEC XII	\$1,435,815.61
WEST BLOOMFIELD WSS - SEC XI	\$123,561.96
WATERFORD WSS EXT #9	\$73,583.05
ORCHARD LK VILLAGE WSS CONST	\$176.58
TOTAL WATER	\$3,805,040.54
<u>SEWER</u>	
EFSDS PCF SEG. II	\$8,916,798.83
COSDS-WATERFORD EXT-PHASE VI	\$1,799,167.79
ORCHARD LK VIL. SSC & DS	\$1,565,603.59
EFSDS PCF SEG. I	\$857,888.38
HRSDS-WALLED LK-NOVI WWTP ENLG	\$696,406.61
WIXOM SDS - EXT NO. 2	\$580,852.45
OCWS & SDS-ROCHESTER HILLS 1988 EXT	\$485,863.06
AMY DRAIN RELIEF SEWER	\$385,568.26
WATERFORD WSS IRON REM. TREAT	\$281,683.66
TOTAL WATER	\$15,569,832.63
GRAND TOTAL	\$26,107,345.05

PROJECTS UNDER DEVELOPMENT

DRAINS UNDER DEVELOPMENT

Bishop Drain

The petition and resolution for the Bishop Drain were received from the City of Rochester Hills on June 7, 1989. The first Drain Board Meeting was held on July 12, 1989.

The Bishop Drain is needed to curtail flooding that occurs in the area of Eyster's Bloomer Park Subdivision located in Section 14. The flooding is to be controlled with the use of enclosed storm sewers and a storm water Retention Facility. The existing drainage ditch and proposed Retention Facility are located in wetland areas under the jurisdiction of MDNR. In order to meet MDNR requirements, the design for both the Retention Facility and storm sewers had to be revised. The scope of the original project has also been revised to include the construction of lateral storm sewers to pick up road drainage.

The consulting engineer for this project is Hubbell, Roth & Clark, Inc. The estimated project cost is \$1,635,000, which will be funded by a bond sale. Construction is expected to start in the Summer of 1993. The Drain Office project engineer for this project is Donald L. Mills, P.E.

Chester Drain

A petition for certain drain improvements in Sections 30 and 31 upstream of the Borden Drain were received from the City of Rochester Hills on October 10, 1990. The Final Order of Determination was adopted on December 12, 1990.

The drainage improvement proposed as part of the Chester Drain includes open channel improvement from the Robert J. Evans Retention Facility north to Auburn Road. Storm sewers will also be constructed to pick up drainage of local residential roads.

The consulting engineer for this project is Hubbell, Roth & Clark, Inc. The estimated project cost is \$1,550,000, which will be funded by a bond sale. Construction is expected to start in the Spring of 1994. The Drain Office project engineer for this project is Donald L. Mills, P.E.

Dorothy Webb Drain

On February 3, 1986, the Charter Township of West Bloomfield adopted a petition to construct drainage facilities in the Maple Road-Farmington Road area. The first meeting of the Drainage Board for the proposed project was held February 12, 1986, and the Drain was formally designated the "Dorothy Webb Drain".

The project was declared practical and necessary at the March 25, 1986 meeting of the Drainage Board, and following execution of the Final Order of Determination, the Drainage Board employed Giffels-Webster Engineers, Inc. to prepare the necessary plans and specifications for the project.

Preliminary construction drawings were received in the summer of 1986, followed by acquisition of easements, permits and development of final plans and specifications during 1987-88.

In October, 1989, the Township requested that the project be held in abeyance due to potential litigation involved in acquiring of easements in the area of the Drain outlet. Upon resolution of the litigation issue in 1991, the Township requested in December, 1991, that the project be reactivated for construction. In January, 1992, Giffels-Webster Engineers was authorized to proceed with updating of the drawings and specifications.

It is anticipated that construction bids for the Dorothy Webb Drain will be received in the summer of 1993. Ronald R. Karttunen, P.E., is designated as Drain Office Engineer for the project. The estimated cost for the Dorothy Webb Drain is \$390,000.00.

Huntoon Drain

A petition for certain drain improvements in the vicinity of Churchhill Road and Auburn Road in Section 25, City of Auburn Hills, was filed with the Oakland County Drain Commissioner on July 19, 1990. At the first Drainage Board Meeting held on August 14, 1990, the project was named the Huntoon Drain, and the Public Hearing on necessity was scheduled for September 25, 1990. No objections were received at the Hearing, therefore, the project was determined practicable and necessary for the Public Health, and the Final Order of Determination was adopted.

The project consists of approximately 480 lineal feet of storm drain varying in size from 12" to 30" in diameter, approximately 825 lineal feet of open ditch construction, and miscellaneous appurtenances. Construction of this project will provide storm drainage improvements and reduce flooding in the Southwest 1/4 of Section 25.

The Consulting Engineer for this project is Orchard, Hiltz and McCliment, Inc. The estimated project cost of the Huntoon Drain is \$135,000.00, which will be funded by a bond sale. Construction is expected to start in the Spring of 1994. The Drain Office Project Engineer for this project is Glenn R. Appel, P.E.

John E. Olsen Drain

A petition for certain drain improvements along the existing Sinking Bridge Drain in Section 9, City of Auburn Hills, was filed with the Oakland County Drain Commissioner on March 8, 1991. At the first Drainage Board Meeting held on March 11, 1991 the project was named the Olsen Drain (renamed the John E. Olsen Drain on April 14, 1992), and the Public Hearing of necessity was scheduled for April 23, 1991. No objections were received at the Hearing and, therefore, the project was

determined practicable and necessary for the Public Health, and the Final Order of Determination was adopted.

The project consists 727 lineal feet of 12" to 15" diameter and 95" x 65" arch enclosed storm drain and 1050 lineal feet of open ditch channel improvements along with the construction of miscellaneous appurtenances. The construction of this project will provide storm drainage improvements and reduce flooding in Section 9, City of Auburn Hills.

Orchard, Hiltz and McCliment, Inc., was appointed as the Consulting Engineer for the John E. Olsen Drain and Glenn R. Appel, P.E. was designated as the Project Engineer. The estimated project cost of the John E. Olsen Drain is \$814,710.00 with construction expected to commence in August 1993.

Joseph Jones Drain

A petition for certain drain improvements in the vicinity of Aaron Perry City Park and Oakland City Park, both located in section 21 of the City of Pontiac, was filed with the Oakland County Drain Commissioner on December 1, 1992. At the first Drain Board Meeting held on December 8, 1992, the project was named the Joseph Jones Drain and a public hearing on necessity was scheduled for January 26, 1993.

The project consists of two stormwater pumping stations. The pump stations will be constructed to alleviate flooding at Aaron Perry City Park and Oakland City Park. The estimated construction cost for the two pump stations is \$77,880.

Construction is expected to commence in the summer of 1993. Glen R. Appel, P.E. has been designated as the Drain Office project engineer for this project.

King Drain

A petition for certain drain improvements along Square Lake Road from an existing open ditch crossing approximately 2,500 feet east of Livernois Road west to a point just east of Crooks Road, was filed by the City of Troy with the Drain Commissioner's Office on August 23, 1988. At the first drainage board meeting, held September 7, 1988, the project was named the King Drain, and the public hearing on necessity was scheduled for October 25, 1988. No objections were received at the hearing and the project was determined practicable and necessary for the public health, and the Final Order of Determination was adopted.

The project consists of approximately 7,500 lineal feet of 12" through 60" diameter storm sewer and miscellaneous appurtenances. Construction of this project will provide storm drainage for widening and improvements to Square Lake Road, and also for the Crooks Road and I-75 overpass which has been re-constructed at Square Lake Road by the Michigan Department of Transportation. The project scope has been increased to include a junction chamber and a redesigned outlet into the Sylvan Glen Golf Course including channel improvements. Construction plans are being prepared with easement and permit acquisition currently underway.

The consulting engineer for this project is Hubbell, Roth & Clark, Inc. The estimated project cost is \$4,500,000, which will be funded with surplus construction funds from completed drain projects under the provisions of Act No. 165 of the Public Acts of 1984, and from the sale of bonds. Construction is expected to start in the Fall of 1993. The Drain Office project engineer for this project is Donald L. Mills, P.E.

Lueders Drain - Phase II

This project provides for the construction of approximately 4400 lineal feet of 12" through 54" diameter storm sewer along with modifications and enlargement of an existing storm water retention facility. Construction is expected to start in the summer of 1993. The estimated project cost is \$740,000.

Maplehurst Drain

A petition for certain drain extensions and improvements consisting of the replacement and renovation of existing pipe installation along the route of the existing Chapter 4 Maplehurst Drain was filed, by the City of Auburn Hills with the Drain Commissioner's Office on July 16, 1990. At the first drainage board meeting, held August 14, 1990, the project was named the Maplehurst Drain, and the public hearing on necessity was scheduled for September 25, 1990. No objections were received at the hearing and the project was determined practicable and necessary for the public health, and the Final Order of Determination was adopted.

The project consists of approximately 8,800 lineal feet of 12" through 72" diameter storm sewer and miscellaneous appurtenances. Construction of this project will provide storm drainage improvements and reduce flooding in the Southeast 1/4 of Section 25, and the East 1/2 of Section 36.

The consulting engineer for this project is Orchard, Hiltz & McCliment, Inc. The estimated project cost is \$1,200,000. Construction is anticipated to start in 1994. The Drain Office project engineer for this project is Donald L. Mills, P.E.

McIntyre Drain

The City of Rochester Hills filed a petition and resolution for the creation of the McIntyre Drain on June 28, 1989. The first meeting of the McIntyre Drain Board was held on July 12, 1989.

The McIntyre Drain will alleviate flooding which occurs east of Rochester Road and north of M-59 during moderate to heavy rainfalls. Potential flooding will be controlled by a new Retention Facility which will reduce peak flows. The proposed Retention Facility is to be located on City owned land, which contains regulated wetlands, requiring an MDNR permit. Both on-site and off-site mitigation will be necessary in order to compensate for the disturbance to the existing wetland areas.

This project was originally anticipated to begin in the summer of 1992. However, contaminated soils found in the project area necessitated additional soil sampling and an environmental assessment along the route of the drain. The project is now

scheduled to be bid in June of 1993, with construction commencing in November of 1993.

The consulting engineer for this project is Hubbell, Roth & Clark, Inc. The estimated project cost is \$1,580,000 which will be funded by a bond sale. The Drain Office project engineer for this project is David A. Lakin, P.E.

McPherson Drain

A petition for certain drain improvements consisting of the enclosure of an existing drainage course from Squirrel Road westerly approximately 2,700 feet to Dexter Road, was filed by the City of Auburn Hills with the Drain Commissioner's Office on July 16, 1990. At the first drainage board meeting, held August 14, 1990, the project was named the McPherson Drain, and the public hearing on necessity was scheduled for September 25, 1990. No objections were received at the hearing and the project was determined practicable and necessary for the public health, and the Final Order of Determination was adopted.

The project consists of approximately 2,700 lineal feet of 66" through 84" diameter storm sewer and miscellaneous appurtenances. Construction of this project will provide storm drainage improvements and reduce flooding in the Southeast 1/4 of Section 11, and the South 1/2 of Section 12.

The consulting engineer for this project is Orchard, Hiltz & McCliment, Inc. The estimated project cost is \$1,300,000. Construction is anticipated to start in 1994. The Drain Office project engineer for this project is Donald L. Mills, P.E.

Minnow Pond Drain

A petition for certain drain improvements in the vicinity of the existing Minnow Pond Drain between 12 and 13 Mile Roads in Section 10, City of Farmington Hills, was filed with the Drain Commissioner on June 7, 1990. At the first drainage board meeting held June 12, 1990, the project was named the Minnow Pond Drain and the public hearing on necessity was scheduled for July 31, 1990. No objections were received at the hearing and therefore the project was determined practicable and necessary for the public health and the Final Order of Determination was adopted.

The project consists of approximately 7,000 Lineal Feet of 30" through 120" diameter Storm Sewer including a 102" diameter Pass Storm Water Relief Sewer to be built down Kendallwood Drive. Also included is a Storm Water Storage Facility to be constructed at the southeast corner of 13 Mile and Farmington Roads, along with miscellaneous diversion structures and appurtenances. The construction of this project will provide storm drainage improvements and reduce flooding in Section 10. Construction plans have been completed with easement and permit acquisition currently underway.

Hubbell, Roth & Clark, Inc., was appointed as the consulting engineer for this project, and Ronald R. Karttunen, P.E. was designated as the project engineer. The estimated project cost of \$12,600,000 will be funded through the sale of bonds. Construction is expected to begin in the fall of 1993.

Rewold Drain

A request for certain drain improvements to the existing Rewold Drain along the route of the existing Chapter 4 Honeywell Drain between John R. and Dequindre Roads was received from the City of Rochester Hills. On July 12, 1989 the Drainage Board authorized design of the proposed improvements.

The originally proposed improvements included Storm Water Detention Facilities west of John R. Road (John R. Road Detention Facility) and west of Dequindre Road (Dequindre Road Basin), as identified in the Rochester Hills Master Storm Water Management Plan.

Based upon anticipated problems with obtaining the necessary permits from MDNR to construct the detention basins, alternative designs were considered.

The selected revised plan called for elimination of both detention basins, and redesign of the Rewold Drain as a storm drain without retention. The redesigned project consisted of approximately 3,500 lineal feet of 90" diameter storm sewer to be constructed along John R. and School Roads and 1,700 lineal feet of open channel storm drain from Dequindre Road east to the Clinton River.

Due to costs and problems in constructing the outlet channel as well as concerns over soil conditions along the proposed route of the proposed 90" storm drain, a second redesign is being studied. This new plan would utilize storm water storage in the natural channel within the SOCCRA Landfill site thereby eliminating the outlet channel and re-route the drain to eliminate construction within John R. and School Roads.

The consulting engineer for this project is Hubbell, Roth & Clark, Inc. No estimated project cost has been prepared for this alternative. Construction is anticipated to start in 1994. The Drain Office project engineer for this project is Gary R. Aho, P.E.

Robert Huber Drain

The City of Rochester Hills filed a petition and resolution for the Robert Huber Drain on July 23, 1991. The first meeting of the Drain Board was held on August 6, 1991.

The purpose of the Robert Huber Drain is to provide improved drainage on residential roads in the S.W. quarter of Section 34.

The consulting engineer for this project is Professional Engineering Associates, Inc. The estimated project cost is \$650,000. Construction is anticipated to start in the Summer of 1994. The Drain Office project engineer for this project is Donald L. Mills, P.E.

Rufe Collier Drain

A petition for certain drain improvements in the vicinity of the upper terminus of the existing Bartlett Drain in section 34, City of Pontiac, was filed with the Oakland County Drain Commissioner on December 1, 1992. At the first Drain Board Meeting

held on December 12, 1992, the project was named the Rufe Collier Drain and a Public Hearing on necessity was scheduled for January 26, 1993.

This project consists of open channel and enclosed drain improvements within an existing watercourse. Estimated cost of construction is \$242,055. Construction is expected to commence in the fall of 1993. The Drain Office project engineer assigned to this project is Glenn R. Appel, P.E.

Vinewood Drain

A petition for certain drain improvements consisting of the enclosure of the existing Chapter 4 Vinewood Drain along with the construction of a retention pond, was filed by the City of Auburn Hills with the Drain Commissioner's Office on July 4, 1990. At the first drainage board meeting, held August 14, 1990, the project was named the Vinewood Drain, and the public hearing on necessity was scheduled for September 25, 1990. No objections were received at the hearing and the project was determined practicable and necessary for the public health, and the Final Order of Determination was adopted.

The project consists of approximately 9,500 lineal feet of 12" through 72" diameter storm sewer and miscellaneous appurtenances. The construction of this project will provide storm drainage improvements and reduce flooding in the Northeast 1/4 of Section 9, the Northwest 1/4 of Section 10, and the Southwest 1/4 of Section 3.

The consulting engineer for this project is Orchard, Hiltz & McCliment, Inc. The estimated project cost is \$1,700,000. Construction is anticipated to start in 1994. The Drain Office project engineer for this project is Donald L. Mills, P.E.

Wolf Drain

A petition and resolution were received from the City of Rochester Hills for the Wolf Drain on November 11, 1991. The Wolf Drain is an extension of the McIntyre Drain and will serve an area of Rochester Hills west of Rochester Road and north of M-59.

The project consists of open ditch improvements west of Rochester Road up to Auburn Road and local storm sewers to provide road drainage in residential areas.

The consulting engineer for this project is Professional Engineering Associates, Inc. The estimated project cost is \$2,188,000. Construction is expected to start in the Summer of 1994. The Drain Office project engineer for this project is Donald L. Mills, P.E.

WATER & SEWER UNDER DEVELOPMENT

Huron-Rouge Sewage Disposal System

Walled Lake-Novi Wastewater Treatment Plant - 1993 Enlargement

The Cities of Walled Lake and Novi approved resolutions requesting the County of Oakland to acquire and construct a 1.7 million gallon sludge storage tank as an expansion to the Walled Lake-Novi Wastewater Treatment Plant on November 17 and November 9, 1992, respectively. The County Board of Commissioners will be requested to approve a resolution authorizing the use of money remaining in the 1989 Construction Fund and the use of money in the Water and Sewage Operations Trust Fund in the amount of \$500,000 to defray costs of the 1993 Expansion Project in the spring of 1993. Project development and construction was assigned to the Drain Commissioner as County Agency under the provisions of Act 342 of 1939.

The firm of McNamee, Porter & Seeley, Inc. of Ann Arbor, Michigan was selected to design the system and prepare construction plans and specifications. Philip Sanzica, P.E. was selected as the Drain Office Project Engineer. The project is estimated to cost \$1,480,000.

Oakland Township Extension No. 3

The Township of Oakland has requested the County of Oakland to construct approximately 9,600 lineal feet of 8" through 24" sanitary sewer and appurtenances in the southwest sections of the Township which will outlet to the Paint Creek Interceptor.

The firm of Giffels-Webster Engineers, Inc. of Rochester Hills, Michigan was retained to design the system and prepare construction plans and specifications. David L. Potter, P.E. was selected as the Drain Office project engineer. The total project is estimated to cost \$1,250,000. The project is to be financed by the sale of Oakland County Bonds for which the Township of Oakland will pledge its full faith and credit.

Construction plans and specifications were prepared by Giffels-Webster, consulting engineers. The bid date is scheduled for March 10, 1993. Construction is estimated to begin in the summer of 1993.

Orchard Lake Village Sanitary Sewage Collection and Disposal System

The City of Orchard Lake Village has requested the Oakland County Drain Commissioner to proceed with the development of a project to provide sanitary sewer service to the entire community. An agreement between the City and the County was approved by the City Council on September 20, 1989, and was ratified by a majority vote of the electorate on November 7, 1989, and was approved by the Oakland County Board of Commissioners on February 8, 1990.

The project consists of approximately 96,600 lineal feet of 6" to 10" diameter sanitary sewer along with the construction of eleven sewage lift stations. Construction of this project will eliminate existing and potential sources of pollution from individual on-

site septic systems, into Orchard, Upper Straits, and Cass Lakes. When completed, the entire system will outlet into the Evergreen-Farmington Sewage Disposal System.

Construction plans were prepared by Hubbell, Roth & Clark, Inc. The project is expected to begin in 1993. The estimated project cost is \$8,400,000. The Drain Office engineer for this project is David A. Lakin, P.E.

Orchard Lake Village Water Supply System

The City of Orchard Lake Village has requested the Oakland County Drain Commissioner to proceed with the development of a project to provide water service to the entire community. An agreement between the City and the County was approved by the City Council on July 16, 1990, and was ratified by a majority vote of the electorate on November 6, 1990, and approved by the Oakland County Board of Commissioners on February 28, 1991. The project consists of approximately 105,000 lineal feet of 8" to 30" diameter water main.

Construction plans have been prepared by Hubbell, Roth & Clark, Inc., consulting engineer. A portion of the water supply system includes a shared water transmission line which will benefit both the city of Orchard Lake Village and West Bloomfield Township. The estimated project cost is \$6,000,000. The Drain Office engineer for this project is David A. Lakin, P.E.

West Bloomfield Water Supply System - Section XIII

West Bloomfield Township requested Oakland County to proceed with the development of a project to complete the construction of the water transmission main along Willow Road and Hiller Road extending from Lochaven Road to Commerce Road.

The project consists of 850 lineal feet of 24" diameter water main in Hiller Road from Commerce Road north to Willow Road and 5,300 lineal feet of 20" diameter water main on Hiller Road from Commerce Road northerly to Willow Road and Willow Road from Hiller Road westerly to Lochaven Road.

An agreement between West Bloomfield Township and the County of Oakland was approved by the Township Board on June 18, 1990, and by the Oakland County Board of Commissioners on June 28, 1990.

Construction plans are currently being developed by the Hubbell, Roth & Clark, consulting engineer. Estimated project cost is \$680,000. Construction is expected to begin in 1993. The Drain Office engineer for this project is Gary R. Aho, P.E.

White Lake Township Sewage Disposal System:

The Township of White Lake has requested the County of Oakland to construct approximately 27,000 lineal feet of 10" through 24" sanitary sewer and appurtenances serving the central and southeastern sections of White Lake Township flowing to the South Commerce Wastewater Treatment Facility.

The firm of Spalding, DeDecker & Associates, Inc. of Madison Heights, Michigan was retained to design the system and prepare construction plans and specifications.

Philip Sanzica, P.E. was selected as the Drain Office Project Engineer. The total project is estimated to cost \$6,000,000. The project is to be financed by the sale of Oakland County Bonds to the State Revolving Loan Fund for which the Township of White Lake will pledge their full faith and credit.

Preliminary plans are currently being developed by Spalding, DeDecker & Associates, Inc., Consulting Engineers. Easement acquisition is scheduled for the spring of 1993. Construction is estimated to begin in the fall of 1993.

LAKE LEVEL PROJECTS UNDER DEVELOPMENT

Ruth Johnson Dam

On May 18, 1990, petitions were received by the Oakland County Drain Commissioner to establish a legal level for Lake Louise and Huff Lake. A new dam will be constructed at the outlet of Lake Louise sufficient to keep and maintain the level of the respective lakes at their normal elevations. Lake Louise and Huff Lake are located in Sections 19, 20, 29 and 30 of Brandon Township. Lake Louise has a surface area of approximately 103 acres and Huff Lake approximately 11 acres.

Conceptual plans for the Ruth Johnson Dam, were prepared by Glen Yrjanainen, P.E. and Joseph P. Kozma, P.E. of the Drain Office engineering staff. Mr. Joseph P. Kozma was also designated the project engineer for the Lake Louise Dam project. Hampton Engineering Associates, Inc. of Pontiac, Michigan, was retained to prepare engineering plans and specifications for the project.

On November 8, 1991, the Honorable Francis X. O'Brien, Oakland County Circuit Judge, established the legal level for Lake Louise and Huff Lake. Judge O'Brien also confirmed the boundaries of the Special Assessment District for the dam.

Construction bids for the Ruth Johnson Dam were received on November 6, 1992, with Trojan Development Company, Inc., of Oxford Township, Michigan submitting the low bid in the amount of \$237,454. Construction of the new lakelevel control structure is scheduled to begin in February, 1993. Completion of the project is anticipated by September 1993.

Long Lake Level Augmentation Well

On September 4, 1991, the Oakland County Circuit Court, after a public hearing, approved a project to assist in the maintenance of the water level on Long Lake through the construction of a ground water augmentation well. Long Lake has a surface area of approximately 175 acres and is located in Sections 1 and 2, Commerce Township and Sections 35 and 36, White Lake Township.

Mr. Ronald R. Karttunen, P.E., was designated as the Drain Office engineer for the Long Lake Augmentation Well and Professional Engineering Assoc., Inc. of Troy, Michigan was retained to prepare engineering plans and specifications for the project.

In November 1991, a contract was awarded to Brown Drilling Company of Howell, Michigan, the low bidder, to begin exploratory drilling for the Long Lake augmentation well. After test drilling in several locations, an aquifer capable of supplying an adequate amount of water to maintain the level of Long Lake was discovered in the vicinity of the Michigan Department of Natural Resources Public Access Site located on the north side of Long Lake.

It is anticipated that bids for the drilling of the production well and construction of a well house to maintain the level for Long Lake will be received in Spring, 1993 with construction to begin thereafter.

LAKE IMPROVEMENT BOARDS

LAKE IMPROVEMENT BOARDS

Lake improvement boards are established by petition of lakefront property owners on certain lakes within the County of Oakland. These boards are funded by the property owners with access to the lake involved. Presently there are 35 lake improvement boards operating in 12 townships and the City of Troy. Twelve members of the Board of Commissioners serve on one or more Lake Improvement Boards. C. Hugh Dohany, the Oakland County Treasurer, serves as the Treasurer for 22 of the Lake Improvement Boards. The Township Treasurers of Bloomfield, Oakland, Waterford, and White Lake Townships serve as the Treasurer for 13 Lake Improvement Boards.

Each Lake Improvement Board may decide to pursue one or more lake improvement projects. Most frequently, Lake Improvement Board projects are intended to improve water quality and clarity by mechanical weed harvesting, chemical treatment, aeration or dredging, all directed toward the reduction of aquatic weeds in the lake. These programs have been successful in controlling weeds and maintaining water quality. In calendar year 1992 there were expenditures of \$594,456 for the Lake Improvement Boards where Oakland County is Treasurer (see page 47).

All Lake Improvement Board programs are financed by special assessment rolls against property abutting the lake or having access to the lake. The total amount of the special assessment rolls spread in 1992 on the 22 lakes for which Oakland County is Treasurer was \$664,040.

**LAKE IMPROVEMENT EXPENDITURE SUMMARY
FOR THE YEAR OF 1992**

PROJECT	ENGINEER SERVICES	HARVEST SERVICES	TREATMENT SERVICES	PUB/LEGAL NOTICES	DETROIT EDISON	MISC. CHARGES	TOTAL EXPENDITURES
Big Lake	\$0.00	\$56,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$56,000.00
Charlick Lake	\$0.00	\$0.00	\$4,000.00	\$0.00	\$1,116.42	\$483.81	\$5,600.23
Dixie Lake	\$5,579.62	\$18,535.00	\$3,680.00	\$639.04	\$0.00	\$1,748.45	\$30,182.11
Duck Lake	\$230.00	\$23,002.00	\$19,017.50	\$546.58	\$0.00	\$3,876.74	\$46,672.82
Highland Lake	\$0.00	\$0.00	\$7,716.00	\$66.96	\$0.00	\$0.00	\$7,782.96
Huntoon Lake	\$5,997.93	\$0.00	\$5,100.00	\$0.00	\$0.00	\$3,300.00	\$14,397.93
Indianwood Lake	\$0.00	\$14,400.00	\$12,700.00	\$0.00	\$0.00	\$2,737.68	\$29,837.68
Lake Charnwood	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27,173.59	\$27,173.59
Lake Louise	\$3,628.64	\$0.00	\$14,440.00	\$0.00	\$0.00	\$4.80	\$18,073.44
Lakeville Lake	\$0.00	\$52,800.00	\$0.00	\$0.00	\$0.00	\$0.00	\$52,800.00
Pontiac Lake	\$0.00	\$64,972.29	\$62,098.00	\$1,118.92	\$0.00	\$8,276.53	\$136,465.74
Round Lake	\$270.00	\$8,160.00	\$0.00	\$77.04	\$0.00	\$0.00	\$8,507.04
Taggett Lake	\$5,400.00	\$0.00	\$2,760.00	\$213.50	\$0.00	\$1.60	\$8,375.10
Tomahawk Lake	\$0.00	\$0.00	\$1,450.00	\$0.00	\$0.00	\$52.79	\$1,502.79
Van Norman Lake	\$8,274.73	\$13,370.00	\$6,111.50	\$439.80	\$0.00	\$332.45	\$28,528.48
Walters Lake	\$1,989.14	\$13,776.00	\$6,750.00	\$0.00	\$0.00	\$72.70	\$22,587.84
White Lake	\$5,097.27	\$0.00	\$87,740.00	\$146.52	\$0.00	\$1,898.83	\$94,882.62
Woodruff Lake	\$0.00	\$0.00	\$4,000.00	\$0.00	\$441.92	\$643.94	\$5,085.86
Total	\$36,467.33	\$265,015.29	\$237,563.00	\$3,248.36	\$1,558.34	\$50,603.91	\$594,456.23

NOTE - Miscellaneous Expenses Include:

Photo Copy Expenses, Postage Expenses, Equipment Rental, Mileage Charges, Legal Expenses, and Other Charges.

* Lake Charnwood includes a payment of \$27,173.59 on a loan from Oakland County.

FINANCIAL STATEMENTS

FINANCIAL STATEMENTS

Summary financial statements for the Southeastern Oakland County Sewage Disposal System, and for major current projects discussed in the Annual Report are included in this volume. Volumes II and III of this report contains complete financial statements for every County drainage district, and itemized statements of all of the various accounts maintained in connection with the construction, operation, and maintenance of all of the projects under the jurisdiction of the Oakland County Drain Commissioner.

Reference should be made to the Table of Contents of the Financial Statements Volumes (II and III) for information on any specific project or fund account not included in these summary statements.

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
COMBINED BALANCE SHEET, DECEMBER 31, 1992

ASSETS	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
CURRENT ASSETS:			
CASH - OPERATING	\$ 286,898.49	\$ 398,926.60	\$ 685,825.09
CASH - INVESTMENTS	1,607,934.27	1,751,246.41	3,359,180.68
DUE FROM MUNICIPALITIES	1,109,508.10	1,092,012.74	2,201,520.84
DUE FROM CITY OF DETROIT	0.00	494,378.99	494,378.99
DUE FROM OTHER FUNDS	46,109.25	73,416.18	119,525.43
PREPAID EXPENSES	11,154.19	3,629.07	14,783.26
ACCOUNTS & INTEREST RECEIVABLE	67,832.53	3,587.38	71,419.91
RECOVERABLE EXPENSES	9,901.39	54,308.66	64,210.05
TOTAL CURRENT ASSETS	3,139,338.22	3,871,506.03	7,010,844.25
PROPERTY AND EQUIPMENT AT COST:			
DRAINS AND INTERCEPTORS	53,888,410.08	19,830,235.17	73,718,645.25
FLOWAGE RIGHTS	1,132,889.68	1,363,307.92	2,496,197.60
BUILDINGS AND IMPROVEMENTS	87,038.46	2,741,693.98	2,828,732.44
EQUIPMENT	179,265.25	283,988.84	463,254.09
LAND AND IMPROVEMENTS	1,533.25	624,465.22	625,998.47
	55,289,136.72	24,843,691.13	80,132,827.85
LESS: ALLOWANCE FOR DEPRECIATION	34,014,924.79	11,820,375.06	45,835,299.85
PROPERTY AND EQUIPMENT - NET	21,274,211.93	13,023,316.07	34,297,528.00
TOTAL ASSETS	\$24,413,550.15	\$16,894,822.10	\$41,308,372.25

LIABILITIES AND FUND EQUITY

CURRENT LIABILITIES:			
DUE TO CITY OF DETROIT	\$ 2,252,510.97	\$ 1,683,378.54	\$ 3,935,889.51
DUE TO MUNICIPALITIES	514.86	490,643.34	491,158.20
DUE TO OTHER FUNDS	28,675.42	29,955.55	58,630.97
VOUCHERS & ACCOUNTS PAYABLE	46,656.04	16,744.81	63,400.85
ACCRUED PAYROLL	2,922.82	3,868.99	6,791.81
UNDISTRIBUTED FUNDS	46,601.19	0.00	46,601.19
TOTAL CURRENT LIABILITIES	2,377,881.30	2,224,591.23	4,602,472.53

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
COMBINED BALANCE SHEET, DECEMBER 31, 1992

PAGE 2

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
FUND EQUITY:			
CONTRIBUTED CAPITAL	\$21,204,715.57	\$12,913,268.01	\$34,117,983.58
RETAINED EARNINGS:			
RESERVED FOR:			
OPERATIONS AND MAINTENANCE	1,025,000.00	0.00	1,025,000.00
REPLACEMENT	25,000.00	0.00	25,000.00
MAINTENANCE AND REPLACEMENT	0.00	700,000.00	700,000.00
	1,050,000.00	700,000.00	1,750,000.00
UNDESIGNATED EARNINGS	(219,046.72)	1,056,962.86	837,916.14
TOTAL RETAINED EARNINGS	830,953.28	1,756,962.86	2,587,916.14
TOTAL FUND EQUITY	22,035,668.85	14,670,230.87	36,705,899.72
TOTAL LIABILITIES & FUND EQUITY	\$24,413,550.15	\$16,894,822.10	\$41,308,372.25

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
 COMBINED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN RETAINED EARNINGS
 FOR THE YEAR ENDED DECEMBER 31, 1992

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
REVENUE FROM SERVICE SALES	\$ 9,759,596.59	\$ 6,950,000.10	\$16,709,596.69
LESS: TREATMENT COSTS	9,557,623.30	6,433,923.84	15,991,547.14
GROSS GAIN ON SALES	201,973.29	516,076.26	718,049.55
LESS: OPERATING EXPENSES	812,533.09	669,546.55	1,482,079.64
GAIN OR (LOSS) ON OPERATIONS	(610,559.80)	(153,470.29)	(764,030.09)
OTHER REVENUE (EXPENSES):			
GAIN ON SALE OF EQUIPMENT	0.00	110.00	110.00
REIMBURSEMENT-SALARIES	3,958.28	31,481.85	35,440.13
INCOME ON INVESTMENTS	73,885.05	74,555.27	148,440.32
DISPOSAL PERMITS	6,713.00	0.00	6,713.00
MISCELLANEOUS	0.00	(0.08)	(0.08)
TRANSFER TO UNDISTRIBUTED FUNDS	(8,036.46)	0.00	(8,036.46)
RENTAL - EQUIPMENT	13,113.00	0.00	13,113.00
REIMBURSEMENT-ACCOUNTING SERVICES	27,416.03	27,416.03	54,832.06
TOTAL OTHER REVENUE (EXPENSES)	117,048.90	133,563.07	250,611.97
OPERATING TRANSFERS OUT	(80,000.00)	0.00	(80,000.00)
NET GAIN OR (LOSS) BEFORE DEPRECIATION ON ASSETS ACQUIRED FROM CONTRIBUTED CAPITAL	(573,510.90)	(19,907.22)	(593,418.12)
LESS: DEPRECIATION ON ASSETS ACQUIRED FROM CONTRIBUTED CAPITAL	1,019,396.40	610,897.80	1,630,294.20
NET GAIN OR (LOSS) AFTER DEPRECIATION ON ASSETS ACQUIRED FROM CONTRIBUTED CAPITAL	(1,592,907.30)	(630,805.02)	(2,223,712.32)
ADD BACK DEPRECIATION ON ASSETS ACQUIRED FROM CONTRIBUTED CAPITAL	1,019,396.40	610,897.80	1,630,294.20
NET GAIN OR (LOSS)	(573,510.90)	(19,907.22)	(593,418.12)
RETAINED EARNINGS AT 01/01/92	1,404,464.18	1,776,870.08	3,181,334.26
RETAINED EARNINGS AT 12/31/92	\$ 830,953.28	\$ 1,756,962.86	\$ 2,587,916.14

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
 COMBINED SCHEDULE OF OPERATING EXPENSES
 FOR THE YEAR ENDED DECEMBER 31, 1992

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
	-----	-----	-----
SALARIES	\$199,023.35	\$189,761.22	\$388,784.57
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FRINGE BENEFITS	81,118.22	78,363.59	159,481.81
	-----	-----	-----
CONTRACTUAL SERVICES:			
ACCOUNTING SERVICES	52,702.86	52,702.87	105,405.73
AUCTION EXPENSE	0.00	7.00	7.00
AUDITING SERVICES	5,250.00	5,250.00	10,500.00
BUILDING MAINTENANCE	587.03	1,267.83	1,854.86
CONSULTANTS	19,432.70	35,410.21	54,842.91
DEPRECIATION-OPERATING EQUIPMENT	13,194.42	22,311.45	35,505.87
EQUIPMENT REPAIR - OPERATIONS	55.55	25,184.20	25,239.75
EQUIPMENT REPAIR - MOTOR VEHICLES	1.04	117.03	118.07
ENGINEERING AND SURVEY	798.56	25,265.53	26,064.09
EQUIPMENT RENTAL	0.00	0.00	0.00
EQUIPMENT REPAIRS AND MAINTENANCE	506.09	11,137.31	11,643.40
GARBAGE AND RUBBISH DISPOSAL	0.00	2,649.75	2,649.75
GAS - NATURAL	2,387.89	3,490.17	5,878.06
INSURANCE	3,605.07	4,616.15	8,221.22
INVESTMENT FEES	195.68	194.79	390.47
LANDS AND GROUNDS MAINTENANCE	0.00	804.08	804.08
LAUNDRY AND CLEANING	1,233.79	2,531.95	3,765.74
LEGAL EXPENSE	391,932.14	16,494.06	408,426.20
LIGHT AND POWER	7,756.13	31,062.75	38,818.88
MAINTENANCE CONTRACTS	1,260.00	2,220.00	3,480.00
MAINTENANCE EQUIPMENT RENTAL	0.00	203.60	203.60
MEMBERSHIP, DUES AND PUBLICATIONS	155.50	65.50	221.00
PROTECTIVE CLOTHING AND EQUIPMENT	352.55	1,269.94	1,622.49
SEWER MAINTENANCE	12,480.00	0.00	12,480.00
TRAVEL AND CONFERENCE	4,184.65	96.25	4,280.90
WATER PURCHASES	0.00	5,497.23	5,497.23
WATER AND SEWER UTILITIES	1,660.18	1,774.81	3,434.99
	-----	-----	-----
TOTAL CONTRACTUAL SERVICES	519,731.83	251,624.46	771,356.29
	-----	-----	-----
COMMODITIES:			
CHLORINATION SUPPLIES	0.00	133,708.10	133,708.10
FILM AND PROCESSING	0.00	93.86	93.86
LABORATORY SUPPLIES	3,750.07	0.00	3,750.07
OFFICE SUPPLIES	30.88	99.16	130.04
POSTAGE	21.33	29.13	50.46
SHOP SUPPLIES	0.00	4,434.54	4,434.54
	-----	-----	-----
TOTAL COMMODITIES	3,802.28	138,364.79	142,167.07
	-----	-----	-----

SOUTHEASTERN OAKLAND COUNTY SEWAGE DISPOSAL SYSTEM
 COMBINED SCHEDULE OF OPERATING EXPENSES
 FOR THE YEAR ENDED DECEMBER 31, 1992
 PAGE 2

	87700 SEWAGE DISPOSAL	87710 POLLUTION CONTROL	TOTAL
	-----	-----	-----
INTERNAL SERVICES:			
DPW WATER & SEWER EQUIPMENT	\$ 326.02	\$ 326.01	\$ 652.03
MICROFILM & REPRODUCTIONS	0.00	0.00	0.00
RADIO COMMUNICATIONS	1,301.16	1,826.76	3,127.92
MOTOR POOL	2,152.10	5,987.92	8,140.02
EQUIPMENT RENTAL - OFFICE	120.00	120.00	240.00
MATERIALS MANAGEMENT	98.17	238.05	336.22
TELEPHONE COMMUNICATIONS	3,198.43	1,272.23	4,470.66
DRAIN EQUIPMENT	1,661.53	1,661.52	3,323.05
	-----	-----	-----
TOTAL INTERNAL SERVICES	8,857.41	11,432.49	20,289.90
	-----	-----	-----
TOTAL OPERATING EXPENSES	\$812,533.09	\$669,546.55	\$1,482,079.64
	=====	=====	=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 CRAKE DRAINAGE DISTRICT CONST.

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81665

ASSETS

CASH	\$	151,008.16
INVESTMENTS		26,097.87
FIXED ASSETS		1,821,830.38

TOTAL ASSETS	\$	1,998,936.41
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	14,974.83

TOTAL LIABILITIES		14,974.83

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		1,821,830.38
UNDESIGNATED		139,512.47
DESIGNATED		22,618.73

		1,983,961.58

TOTAL LIABILITIES & FUND BALANCE	\$	1,998,936.41
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 CRAKE DRAINAGE DISTRICT CONST.

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81665

REVENUES

INCOME FROM INVESTMENTS	\$	22,806.32

TOTAL REVENUES		22,806.32

EXPENDITURES

SALARIES - REGULAR		68,629.64
PER DIEM		450.00
FRINGE BENEFITS		38,222.96
INVESTMENT FEES		228.60
LEGAL EXPENSE		2,147.36
CONTRACT ADMINISTRATION		527.43
DESIGN FEES		45,234.98
ENGINEERING ADMINISTRATION		20,308.60
OTHER ENGINEERING SERVICES		60.19
PURCHASE OF LAND & EASEMENT		200.00
SOIL TEST BORINGS		603.63
TRANSPORTATION		3,426.75
MATERIAL & SUPPLIES		122.21
DRAIN EQUIPMENT		4,591.40
PROJECT CONST. & IMPROVEMENTS		826,944.04

TOTAL EXPENDITURES		1,011,697.79

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		(988,891.47)

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$(	988,891.47)
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 DAVID L. MOFFITT DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81717

ASSETS

CASH	\$	35,083.19
FIXED ASSETS		52,667.51

TOTAL ASSETS	\$	87,750.70
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	625.70

TOTAL LIABILITIES		625.70

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		52,667.51
UNDESIGNATED		34,457.49

TOTAL FUND BALANCE		87,125.00

TOTAL LIABILITIES & FUND BALANCE	\$	87,750.70
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 DAVID L. MOFFITT DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81717

REVENUES

PERMITS	\$	125.00

TOTAL REVENUES		125.00

EXPENDITURES

SALARIES - REGULAR		996.76
PER DIEM		150.00
FRINGE BENEFITS		577.58
DESIGN FEES		3,666.66
LICENSES AND PERMITS		213.82
PUBLISHING LEGAL NOTICES		683.80
DRAIN EQUIPMENT		104.70
PROJECT CONST. & IMPROVEMENTS		46,274.19

TOTAL EXPENDITURES		52,667.51

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		(52,542.51)

OTHER FINANCING SOURCES(USES)

OPERATING TRANSFERS IN		87,000.00

TOTAL OTHER FINANCING SOURCES(USES)		87,000.00

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$	34,457.49
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 MCINTOSH DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81690

ASSETS

CASH	\$	51,920.63
FIXED ASSETS		156,113.81

TOTAL ASSETS	\$	208,034.44
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	136.17

TOTAL LIABILITIES		136.17

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		156,113.81
UNDESIGNATED		51,784.46

TOTAL FUND BALANCE		207,898.27

TOTAL LIABILITIES & FUND BALANCE	\$	208,034.44
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 MCINTOSH DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81690

REVENUES

INCOME FROM INVESTMENTS	\$	603.36
PROPERTY TAX LEVY		67,337.00

TOTAL REVENUES		67,940.36

EXPENDITURES

SALARIES - REGULAR	2,377.76
PER DIEM	50.00
FRINGE BENEFITS	1,349.22
INVESTMENT FEES	10.00
LEGAL EXPENSE	50.19
OTHER ENGINEERING SERVICES	60.18
TRANSPORTATION	132.13
DRAIN EQUIPMENT	391.55
PROJECT CONST. & IMPROVEMENTS	22,239.00

TOTAL EXPENDITURES	26,660.03

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	----- 41,280.33 -----
--	-----------------------------

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$ 41,280.33 =====
--	-----------------------

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 OAKS DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81701

ASSETS

CASH	\$	538.95
INVESTMENTS		3,000.00
FIXED ASSETS		524,733.47

TOTAL ASSETS	\$	528,272.42
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	340.81

TOTAL LIABILITIES		340.81

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		524,733.47
UNDESIGNATED		3,198.14

TOTAL FUND BALANCE		527,931.61

TOTAL LIABILITIES & FUND BALANCE	\$	528,272.42
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 OAKS DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81701

REVENUES

INCOME FROM INVESTMENTS	\$	574.32

TOTAL REVENUES		574.32

EXPENDITURES

SALARIES - REGULAR		6,355.38
PER DIEM		200.00
FRINGE BENEFITS		3,592.56
INVESTMENT FEES		12.22
LEGAL EXPENSE		50.17
OTHER ENGINEERING SERVICES		60.19
SOIL TEST BORINGS		596.50
DRAIN EQUIPMENT		919.65
PROJECT CONST. & IMPROVEMENTS		64,082.64

TOTAL EXPENDITURES		75,869.31

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (75,294.99) -----
--	--	--------------------------------

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$ (75,294.99) =====
--	------	---------------------

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 PALMER DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81716

ASSETS

CASH	\$	29,131.96
FIXED ASSETS		23,169.33

TOTAL ASSETS	\$	52,301.29
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	1,176.29

TOTAL LIABILITIES		1,176.29

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		23,169.33
UNDESIGNATED		27,955.67

TOTAL FUND BALANCE		51,125.00

TOTAL LIABILITIES & FUND BALANCE	\$	52,301.29
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 PALMER DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81716

REVENUES

PERMITS	\$	125.00

TOTAL REVENUES		125.00

EXPENDITURES

SALARIES - REGULAR	1,704.74
PER DIEM	150.00
FRINGE BENEFITS	984.82
DESIGN FEES	2,166.45
LICENSES AND PERMITS	76.13
PUBLISHING LEGAL NOTICES	683.80
TRANSPORTATION	4.25
FILM & PROCESSING	3.98
MATERIAL & SUPPLIES	20.00
DRAIN EQUIPMENT	133.50
PROJECT CONST. & IMPROVEMENTS	17,241.66

TOTAL EXPENDITURES	23,169.33

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (23,044.33) -----
--	--	--------------------------------

OTHER FINANCING SOURCES(USES)

OPERATING TRANSFERS IN	51,000.00

TOTAL OTHER FINANCING SOURCES(USES)	51,000.00

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$	27,955.67 =====
--	----	--------------------

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 BALANCE SHEET
 PEBBLE CREEK DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81702

ASSETS

CASH	\$	656,418.30
ACCRUED INTEREST RECEIVABLE		452.14
FIXED ASSETS		3,048,965.77

TOTAL ASSETS	\$	3,705,836.21
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	8,916.50

TOTAL LIABILITIES		8,916.50

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		3,048,965.77
UNDESIGNATED		601,991.21
DESIGNATED		45,962.73

-		3,696,919.71

TOTAL LIABILITIES & FUND BALANCE	\$	3,705,836.21
		=====

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 PEBBLE CREEK DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81702

REVENUES

INCOME FROM INVESTMENTS	\$	67,834.43

TOTAL REVENUES		67,834.43

EXPENDITURES

SALARIES - REGULAR		109,121.28
PER DIEM		700.00
FRINGE BENEFITS		60,390.24
BOND ATTORNEY FEES		20,997.67
BOND PRINTING EXPENSE		1,798.00
BOND PROSPECTUS EXPENSE		6,941.48
BOND RATING EXPENSE		7,500.00
INVESTMENT FEES		781.99
LEGAL EXPENSE		1,811.97
CONTRACT ADMINISTRATION		4,815.74
DESIGN FEES		32,773.50
FINANCIAL CONSULTANT FEES		12,541.74
INSPECTION		37.94
LICENSES AND PERMITS		2,291.75
OTHER ENGINEERING SERVICES		1,083.90
PUBLISHING LEGAL NOTICES		299.64
PURCHASE OF LAND & EASEMENT		4,157.16
RECORDING FEES		237.35
SOIL TEST BORINGS		6,906.60
TRANSPORTATION		103.75
FILM & PROCESSING		14.02
MATERIAL & SUPPLIES		490.11
OFFICE SUPPLIES		15.50
MICROFILM & REPRODUCTIONS		89.00
DRAIN EQUIPMENT		10,133.95
PROJECT CONST. & IMPROVEMENTS		1,862,565.62

TOTAL EXPENDITURES		2,148,599.90

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (2,080,765.47) -----

OAKLAND COUNTY
 CHAPTER 20 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 LUEDERS DRAIN

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 81655

REVENUES

INCOME FROM INVESTMENTS	\$	90,020.62
PERMITS		50.00

TOTAL REVENUES		90,070.62

EXPENDITURES

SALARIES - REGULAR	194,549.30
PER DIEM	875.00
FRINGE BENEFITS	107,219.87
INVESTMENT FEES	1,560.38
LEGAL EXPENSE	67,012.13
APPRAISAL FEES	1,500.00
CONTRACT ADMINISTRATION	11,150.87
DESIGN FEES	19,502.76
ENGINEERING ADMINISTRATION	48,740.14
LICENSES AND PERMITS	208.48
OTHER ENGINEERING SERVICES	41,501.25
PUBLISHING LEGAL NOTICES	800.00
PURCHASE OF LAND & EASEMENT	25,755.06
RECORDING FEES	123.15
R/W NEGOTIATION AND EXPENSE	190.00
SOIL TEST BORINGS	37,665.14
TRANSPORTATION	6,046.38
MATERIAL & SUPPLIES	1,433.47
MICROFILM & REPRODUCTIONS	111.00
DRAIN EQUIPMENT	15,560.85
PROJECT CONST. & IMPROVEMENTS	3,239,426.82

TOTAL EXPENDITURES	3,820,932.05

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (3,730,861.43) -----
--	--	-----------------------------------

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER	\$	(3,730,861.43)
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OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 AMY DRAIN AREA RLF SEWER CONST

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87420

ASSETS

CASH	\$	.00
INVESTMENTS		124,128.55
ACCRUED INTEREST RECEIVABLE		618.88
FIXED ASSETS		4,157,605.31

TOTAL ASSETS	\$	4,282,352.74
		=====

LIABILITIES

ACCOUNTS PAYABLE	\$	20,429.63
DUE TO OTHER FUNDS		549.93

TOTAL LIABILITIES		20,979.56

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		4,157,605.31
UNDESIGNATED		80,692.37
DESIGNATED		23,075.50

		4,261,373.18

TOTAL LIABILITIES & FUND BALANCE	\$	4,282,352.74
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 AMY DRAIN AREA RLF SEWER CONST

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87420

REVENUES

INCOME FROM INVESTMENTS	\$	10,130.85

TOTAL REVENUES		10,130.85

EXPENDITURES

SALARIES - REGULAR		28,000.96
FRINGE BENEFITS		16,339.80
INVESTMENT FEES		339.50
LEGAL EXPENSE		81.38
CONTRACT ADMINISTRATION		2,542.27
INSPECTION		13,271.26
LAYOUT AND STAKING		14,093.58
LICENSES AND PERMITS		708.91
OTHER ENGINEERING SERVICES		96.30
PERSONAL MILEAGE		566.00
MATERIAL & SUPPLIES		63.43
DRAIN EQUIPMENT		3,113.55
PROJECT CONST. & IMPROVEMENTS		330,765.98

TOTAL EXPENDITURES		409,982.92

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (399,852.07) -----
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EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$ (399,852.07) =====
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OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 EFSDS PCF SEGMENT 1

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87271

ASSETS

CASH	\$	.00
INVESTMENTS		903,919.38
DUE FROM FEDERAL GOVERNMENT		276,972.00
ACCRUED INTEREST RECEIVABLE		4,716.14
FIXED ASSETS		16,715,932.60

TOTAL ASSETS	\$	17,901,540.12
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	443.95
DEFERRED INCOME		276,972.00

TOTAL LIABILITIES		277,415.95

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		16,715,932.60
UNDESIGNATED		855,520.57
DESIGNATED		52,671.00

		17,624,124.17

TOTAL LIABILITIES & FUND BALANCE	\$	17,901,540.12
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 EFSDS PCF SEGMENT 1

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87271

REVENUES

GRANTS	\$	315,286.00
INCOME FROM INVESTMENTS		44,164.82

TOTAL REVENUES		359,450.82

EXPENDITURES

SALARIES - REGULAR	10,351.84
FRINGE BENEFITS	5,358.69
INVESTMENT FEES	98.57
LEGAL EXPENSE	17,166.44
ARCHITECT FEES-O & M MANUEL	7,610.57
CONTRACT ADMINISTRATION	93,897.19
INSPECTION	57,944.25
LICENSES AND PERMITS	4,284.76
OTHER ENGINEERING SERVICES	96.30
PERSONAL MILEAGE	2.50
DPW WATER & SEWER EQUIPMENT	320.85
DRAIN EQUIPMENT	1,280.05
PROJECT CONST. & IMPROVEMENTS	685,225.03

TOTAL EXPENDITURES	883,637.04

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (524,186.22) -----
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EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$(524,186.22) =====
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OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 EFSDS PCF SEG. II CONST.

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87265

ASSETS

CASH	\$	.00
INVESTMENTS		855,214.87
DUE FROM FEDERAL GOVERNMENT		4,705,930.00
DUE FROM OTHER FUNDS		2,542,606.59
ACCRUED INTEREST RECEIVABLE		9,813.13
FIXED ASSETS		31,913,353.30

TOTAL ASSETS	\$	40,026,917.89
		=====

LIABILITIES

ACCOUNTS PAYABLE	\$	222,406.90
DUE TO OTHER FUNDS		29,944.58
VOUCHERS PAYABLE		3,393.18
DEFERRED INCOME		4,705,930.00

TOTAL LIABILITIES		4,961,674.66

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		31,913,353.30
UNDESIGNATED		670,576.26
DESIGNATED		2,481,313.67

		35,065,243.23

TOTAL LIABILITIES & FUND BALANCE	\$	40,026,917.89
		=====

OAKLAND COUNTY
ACT 342 CONSTRUCTION FUNDS
STATEMENT OF REVENUE & EXPENDITURES
EFSDS PCF SEG. II CONST.

DECEMBER 31, 1992

	CONSTRUCTION FUND NO 87265

TOTAL OTHER FINANCING SOURCES(USES)	276,817.22

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$(5,686,185.11) =====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 EFSDS PCF SEG. II CONST.

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87265

REVENUES

DEPOSITS - ENG PLANS & SPECS	\$	225.00
GRANTS		3,459,430.00
INCOME FROM INVESTMENTS		96,227.33
PRINCIPAL FROM MUNICIPALITIES		410,902.00

TOTAL REVENUES		3,966,784.33

EXPENDITURES

SALARIES - REGULAR	252,514.54
FRINGE BENEFITS	132,926.65
INVESTMENT FEES	1,943.50
LEGAL EXPENSE	58,941.57
APPRAISAL FEES	7,750.00
ARCHITECT FEES-O & M MANUEL	44,823.01
CONTRACT ADMINISTRATION	715,555.20
CONTRACTED SERVICES	6.50
DESIGN FEES	12,827.97
INSPECTION	660,616.89
LICENSES AND PERMITS	15,875.83
OTHER ENGINEERING SERVICES	96.30
PERSONAL MILEAGE	4,397.00
PUBLISHING LEGAL NOTICES	1,275.00
PURCHASE OF LAND & EASEMENT	7,300.67
RECORDING FEES	11.00
R/W NEGOTIATION AND EXPENSE	130.00
SOIL TEST BORINGS	12,252.50
TRAVEL & CONFERENCE	5.50
MATERIAL & SUPPLIES	51.87
OFFICE SUPPLIES	2.29
DPW WATER & SEWER EQUIPMENT	118,323.78
DRAIN EQUIPMENT	25,798.73
PROJECT CONST. & IMPROVEMENTS	7,856,360.36

TOTAL EXPENDITURES	9,929,786.66

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	----- (5,963,002.33) -----
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OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 HRSDS-WALLED LK-NOVI WWTP ENLG

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87500

ASSETS

CASH	\$	.00
INVESTMENTS		438,247.14
ACCRUED INTEREST RECEIVABLE		1,066.13
FIXED ASSETS		8,456,531.47

TOTAL ASSETS	\$	8,895,844.74
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	3,311.91
VOUCHERS PAYABLE		277.46

TOTAL LIABILITIES		3,589.37

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		8,456,531.47
UNDESIGNATED		435,723.90
DESIGNATED		17,821.00

		8,910,076.37

UNDESIGNATED	(	17,821.00)

TOTAL FUND BALANCE	(	17,821.00)

TOTAL LIABILITIES & FUND BALANCE	\$	8,895,844.74
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 HRSDS-WALLED LK-NOVI WWTP ENLG

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87500

REVENUES

INCOME FROM INVESTMENTS	\$	26,948.57

TOTAL REVENUES		26,948.57

EXPENDITURES

SALARIES - REGULAR		5,579.67
FRINGE BENEFITS		2,968.01
INVESTMENT FEES		78.51
LEGAL EXPENSE		80.28
APPRAISAL FEES		2,000.00
ARCHITECT FEES-O & M MANUEL		20,295.35
CONTRACT ADMINISTRATION		82,867.35
OTHER ENGINEERING SERVICES		96.30
PURCHASE OF LAND & EASEMENT		145,350.43
SOIL TEST BORINGS		485.15
POSTAGE		38.00
DPW WATER & SEWER EQUIPMENT		41,720.79
DRAIN EQUIPMENT		599.45
PROJECT CONST. & IMPROVEMENTS		446,069.50

TOTAL EXPENDITURES		748,228.79

EXCESS (DEFICIENCY) OF REVENUES		
OVER EXPENDITURES	(	721,280.22)

EXCESS (DEFICIENCY) OF REVENUES		
AND OTHER SOURCES OVER	\$(	721,280.22)
EXPENDITURES AND OTHER USES		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 OCWS & SDS-ROCHSTR HL 1988 EXT

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87435

ASSETS

CASH	\$	.00
INVESTMENTS		3,720,356.29
ACCRUED INTEREST RECEIVABLE		10,967.43
FIXED ASSETS		8,910,337.47

TOTAL ASSETS	\$	12,641,661.19
		=====

LIABILITIES

ACCOUNTS PAYABLE	\$	95.82
DUE TO OTHER FUNDS		20,231.73
VOUCHERS PAYABLE		6.75

TOTAL LIABILITIES		20,334.30

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		8,910,337.47
UNDESIGNATED		2,759,793.92
DESIGNATED		951,195.50

		12,621,326.89

TOTAL LIABILITIES & FUND BALANCE	\$	12,641,661.19
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 OCWS & SDS-ROCHSTR HL 1988 EXT

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87435

REVENUES

INCOME FROM INVESTMENTS	\$	150,609.57

TOTAL REVENUES		150,609.57

EXPENDITURES

SALARIES - REGULAR	53,069.13
FRINGE BENEFITS	29,912.07
INVESTMENT FEES	388.75
LEGAL EXPENSE	22,981.52
CONTRACTED SERVICES	430,301.63
DESIGN FEES	46,695.20
LICENSES AND PERMITS	2,832.03
OTHER ENGINEERING SERVICES	96.30
PERSONAL MILEAGE	928.25
PUBLISHING LEGAL NOTICES	204.00
PURCHASE OF LAND & EASEMENT	2,239.50
RECORDING FEES	44.20
SOIL TEST BORINGS	1,766.50
MATERIAL & SUPPLIES	463.34
OFFICE SUPPLIES	1.96
DRAIN EQUIPMENT	5,464.85

TOTAL EXPENDITURES	597,389.23

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (446,779.66) -----
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EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$(446,779.66) =====
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OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 WEST BLOOMFIELD WSS - SEC. XI

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87406

ASSETS

CASH	\$	2,070.75
INVESTMENTS		92,000.00
ACCRUED INTEREST RECEIVABLE		79.22
FIXED ASSETS		2,024,834.70

TOTAL ASSETS	\$	2,118,984.67
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	99.92

TOTAL LIABILITIES		99.92

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		2,024,834.70
UNDESIGNATED		94,050.05

TOTAL FUND BALANCE		2,118,884.75

TOTAL LIABILITIES & FUND BALANCE	\$	2,118,984.67
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 WEST BLOOMFIELD WSS - SEC. XI

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87406

REVENUES

INCOME FROM INVESTMENTS	\$	5,458.76

TOTAL REVENUES		5,458.76

EXPENDITURES

SALARIES - REGULAR		10,465.58
FRINGE BENEFITS		6,137.29
INVESTMENT FEES		14.61
LEGAL EXPENSE		11,957.05
CONTRACTED SERVICES		111,508.61
OTHER ENGINEERING SERVICES		96.30
MATERIAL & SUPPLIES		2.47
DRAIN EQUIPMENT		2,549.95

TOTAL EXPENDITURES		142,731.86

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		----- (137,273.10) -----
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EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES		\$ (137,273.10) =====
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OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 W BLOOMFIELD WSS SEC XII CONST

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87407

ASSETS

CASH	\$	270,887.95
INVESTMENTS		108,000.00
ACCRUED INTEREST RECEIVABLE		431.18
FIXED ASSETS		2,346,939.55

TOTAL ASSETS	\$	2,726,258.68
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	9,258.47
VOUCHERS PAYABLE		1,594.42

TOTAL LIABILITIES		10,852.89

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		2,346,939.55
UNDESIGNATED		346,358.24
DESIGNATED		22,108.00

		2,715,405.79

TOTAL LIABILITIES & FUND BALANCE	\$	2,726,258.68
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 W BLOOMFIELD WSS SEC XII CONST

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87407

REVENUES

INCOME FROM INVESTMENTS	\$	27,911.66
MISCELLANEOUS		500.00
SALE OF BONDS		1,950,000.00

TOTAL REVENUES		1,978,411.66

EXPENDITURES

SALARIES - REGULAR		84,123.66
FRINGE BENEFITS		42,493.23
BOND ATTORNEY FEES		14,297.64
BOND PRINTING EXPENSE		1,085.00
BOND PROSPECTUS EXPENSE		5,459.15
BOND RATING EXPENSE		7,800.00
INVESTMENT FEES		76.51
LEGAL EXPENSE		789.46
CONTRACT ADMINISTRATION		6,929.75
CONTRACTED SERVICES		1,489,299.00
DESIGN FEES		22,505.54
DISCOUNT ON BONDS		28,962.50
FINANCIAL CONSULTANT FEES		6,300.00
OTHER ENGINEERING SERVICES		96.30
PERSONAL MILEAGE		700.75
PUBLISHING LEGAL NOTICES		979.00
PURCHASE OF LAND & EASEMENT		2,225.00
RECORDING FEES		40.65
SOIL TEST BORINGS		4,114.10
MATERIAL & SUPPLIES		623.02
OFFICE SUPPLIES		67.00
MICROFILM & REPRODUCTIONS		14.00
DRAIN EQUIPMENT		7,144.90

TOTAL EXPENDITURES		1,726,126.16

EXCESS (DEFICIENCY) OF REVENUES		-----
OVER EXPENDITURES		252,285.50

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 COSDS-WATERFORD EXT-PHASE VI

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87084

ASSETS

CASH	\$	.00
INVESTMENTS		3,665,306.91
ACCRUED INTEREST RECEIVABLE		14,602.47
FIXED ASSETS		3,886,396.08

TOTAL ASSETS	\$	7,566,305.46
		=====

LIABILITIES

ACCOUNTS PAYABLE	\$	260,420.98
DUE TO OTHER FUNDS		30,821.60
VOUCHERS PAYABLE		115.37

TOTAL LIABILITIES		291,357.95

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		3,886,396.08
UNDESIGNATED		2,010,422.82
DESIGNATED		1,378,128.61

		7,274,947.51

TOTAL LIABILITIES & FUND BALANCE	\$	7,566,305.46
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 COSDS-WATERFORD EXT-PHASE VI

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87084

REVENUES

INCOME FROM INVESTMENTS	\$	182,910.59

TOTAL REVENUES		182,910.59

EXPENDITURES

SALARIES - REGULAR	144,986.02
FRINGE BENEFITS	79,989.11
INVESTMENT FEES	495.78
LEGAL EXPENSE	8,163.96
APPRAISAL FEES	2,000.00
CONTRACT ADMINISTRATION	10,807.00
CONTRACTED SERVICES	40,205.99
DESIGN FEES	33,010.00
INSPECTION	5,277.46
LAYOUT AND STAKING	48,644.46
OTHER ENGINEERING SERVICES	96.30
PERSONAL MILEAGE	2,178.50
PHOTOCOPY EXPENSE	10.00
PUBLISHING LEGAL NOTICES	89.25
PURCHASE OF LAND & EASEMENT	2,684.00
SOIL TEST BORINGS	4,708.30
MATERIAL & SUPPLIES	315.54
POSTAGE	101.79
DPW WATER & SEWER EQUIPMENT	741.53
MICROFILM & REPRODUCTIONS	70.00
PRINT SHOP	36.19
DRAIN EQUIPMENT	10,274.95
PROJECT CONST. & IMPROVEMENTS	2,241,982.61

TOTAL EXPENDITURES	2,636,868.74

EXCESS (DEFICIENCY) OF REVENUES		
OVER EXPENDITURES		(2,453,958.15)

EXCESS (DEFICIENCY) OF REVENUES

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 WATERFORD WATER SUP. SYS.EXT#9

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87150

ASSETS

CASH	\$	45,674.72
INVESTMENTS		475,000.00
ACCRUED INTEREST RECEIVABLE		124.69
FIXED ASSETS		611,976.23

TOTAL ASSETS	\$	1,132,775.64
		=====

LIABILITIES

DUE TO OTHER FUNDS	\$	370.95

TOTAL LIABILITIES		370.95

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		611,976.23
UNDESIGNATED		516,208.46
DESIGNATED		4,220.00

		1,132,404.69

TOTAL LIABILITIES & FUND BALANCE	\$	1,132,775.64
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 WATERFORD WATER SUP. SYS. EXT#9

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87150

REVENUES

INCOME FROM INVESTMENTS	\$	12,141.51
PRINCIPAL FROM MUNICIPALITIES		323,000.00

TOTAL REVENUES		335,141.51

EXPENDITURES

SALARIES - REGULAR	3,159.71
FRINGE BENEFITS	1,843.29
INVESTMENT FEES	26.72
LEGAL EXPENSE	80.28
CONTRACT ADMINISTRATION	2,991.50
DESIGN FEES	20,960.00
LAYOUT AND STAKING	1,090.17
OTHER ENGINEERING SERVICES	96.30
PUBLISHING LEGAL NOTICES	89.25
MICROFILM & REPRODUCTIONS	229.00
DRAIN EQUIPMENT	473.05
PROJECT CONST. & IMPROVEMENTS	48,514.75

TOTAL EXPENDITURES	79,554.02

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	255,587.49

EXCESS (DEFICIENCY) OF REVENUES AND OTHER SOURCES OVER EXPENDITURES AND OTHER USES	\$	255,587.49
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 BALANCE SHEET
 WATFD WSS IRON REM TREAT CONST

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87160

ASSETS

CASH	\$	3,329,090.50
FIXED ASSETS		2,811,061.17

TOTAL ASSETS	\$	6,140,151.67
		=====

LIABILITIES

ACCOUNTS PAYABLE	\$	66,113.17
DUE TO OTHER FUNDS		3,118.53
VOUCHERS PAYABLE		2,400.00

TOTAL LIABILITIES		71,631.70

FUND-BALANCE

INVESTMENT IN FIXED ASSETS		2,811,061.17
UNDESIGNATED		1,681,882.80
DESIGNATED		1,575,576.00

		6,068,519.97

TOTAL LIABILITIES & FUND BALANCE	\$	6,140,151.67
		=====

OAKLAND COUNTY
 ACT 342 CONSTRUCTION FUNDS
 STATEMENT OF REVENUE & EXPENDITURES
 WATFD WSS IRON REM TREAT CONST

DECEMBER 31, 1992

CONSTRUCTION
 FUND NO
 87160

REVENUES

INCOME FROM INVESTMENTS	\$	68,519.97
SALE OF BONDS		6,000,000.00

TOTAL REVENUES		6,068,519.97

EXPENDITURES

SALARIES - REGULAR	23,777.21
FRINGE BENEFITS	12,709.82
BOND ATTORNEY FEES	27,109.46
BOND PRINTING EXPENSE	1,536.00
BOND PROSPECTUS EXPENSE	3,330.28
BOND RATING EXPENSE	5,800.00
INVESTMENT FEES	171.30
LEGAL EXPENSE	80.28
CONTRACTED SERVICES	750.00
DESIGN FEES	232,841.49
DISCOUNT ON BONDS	60,000.00
FINANCIAL CONSULTANT FEES	12,000.00
INSPECTION	67,748.33
LICENSES AND PERMITS	21,617.00
OTHER ENGINEERING SERVICES	96.30
PERSONAL MILEAGE	59.25
PHOTOCOPY EXPENSE	110.00
PUBLISHING LEGAL NOTICES	875.50
PURCHASE OF LAND & EASEMENT	6,856.00
RECORDING FEES	503.55
R/W NEGOTIATION AND EXPENSE	240.00
SOIL TEST BORINGS	2,170.90
MATERIAL & SUPPLIES	49.55
MICROFILM & REPRODUCTIONS	417.00
DRAIN EQUIPMENT	2,303.55
PROJECT CONST. & IMPROVEMENTS	2,327,908.40

TOTAL EXPENDITURES		2,811,061.17

EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES		3,257,458.80
