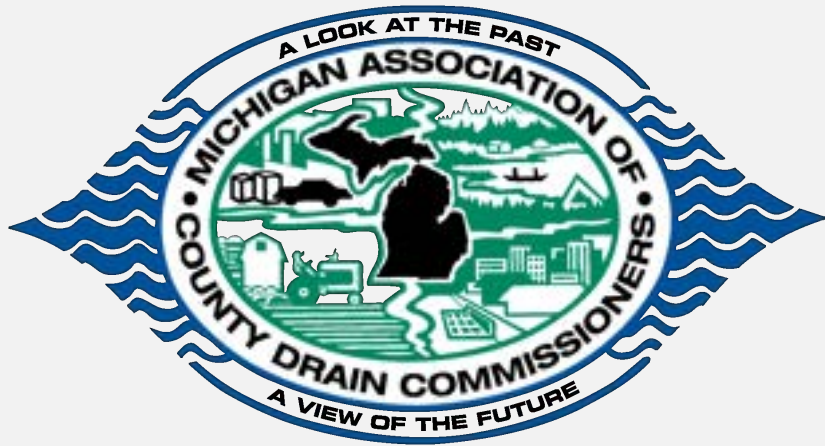


# MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS



## 100 Years of the Michigan Department of Agriculture and Rural Development's (MDARD) Intercounty Drain Program

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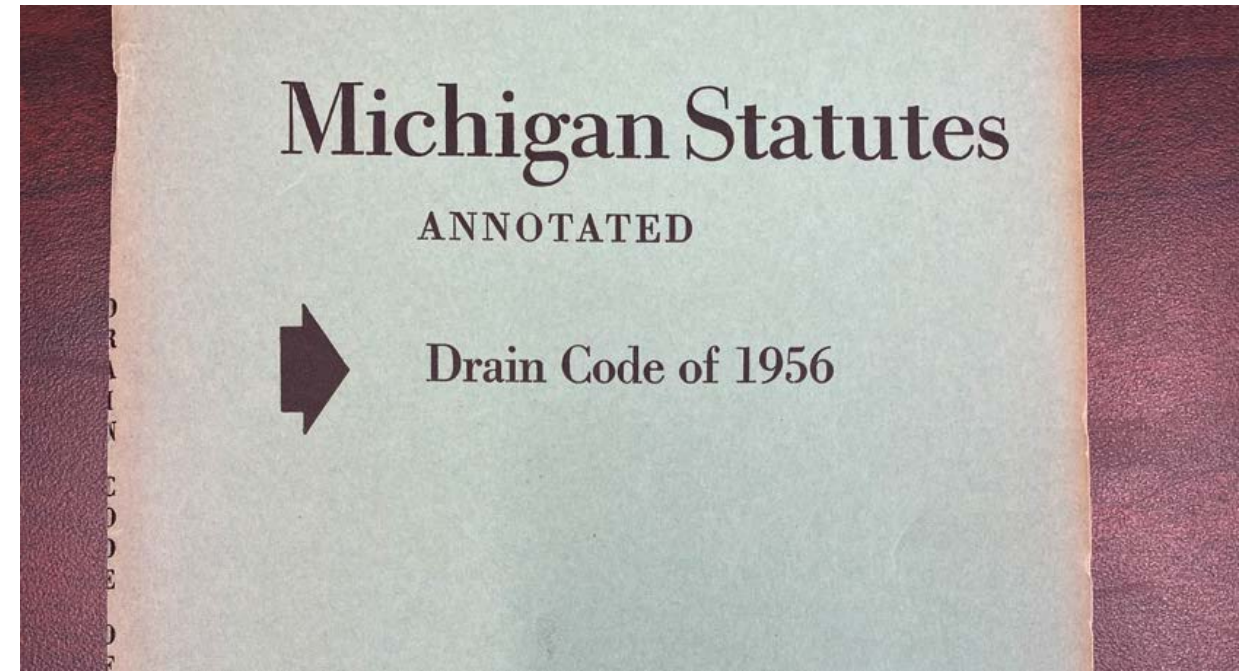
Michael R. Gregg, Manager  
Michigan Department of Agriculture and Rural Development  
Intercounty Drain Program

*July 26, 2023*  
*macdc.us*

# PRESENTATION OUTLINE

- Program Beginning and Early Documentation
- Program Evolution
- Today and the Future





Intercounty Drain Program

# PROGRAM BEGINNING AND EARLY DOCUMENTATION

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# THE RATIONALE TO ESTABLISH MDARD'S INTERCOUNTY DRAIN PROGRAM

- “As our population grew and the low land was needed to the proper development of the state the question of water levels and flowage rights took on a new dignity. Even so the original drainage act of 1839 continued to serve in all drainage questions until 1897 when the county system was established and has worked out very satisfactorily and brought Michigan up to a high state of development in drainage operations and policies.”
- “As the time passed, the close observers of the workings of the county system understood that sooner or later a broader unit of authority would be necessary to properly handle drainage matters as between counties and larger areas. This was cared for by the Legislature in 1923 under the provisions of Act No. 316, Public Acts of 1923, . . .”

Source: Michigan State Department of Agriculture, First Biennial Report, Years ending June 30, 1923, and 1924



# WHAT WAS THE INTERCOUNTY DRAIN PROCESS PRIOR TO 1923?

## Act 254, P.A. 1897

- Chapter VII – “Drains Traversing More Than One County”
- County drain commissioner who receives the application notifies other county drain commissioner and they “jointly take all steps and perform all steps and sign all papers . . . .”
- Unable to agree as to necessity, location or benefit may appeal to the state highway commissioner
- State highway commissioner “shall have the right to subpoena witnesses and take testimony, and his decision relative to such matters as may be in dispute shall be final.”



# MDARD'S FIRST STEPS IN IMPLEMENTING PUBLIC ACT (P.A.) 316

## Chapter II, Section 2.

- Any drain proceedings pending when this act takes effect shall be completed in the manner prescribed in this act.
- Immediately following the taking effect of Act 316, P. A. 1923, a communication was mailed to the County Drain Commissioners requesting a list of all Joint County Drains, and the counties affected.
- A list was tabulated from replies received from correspondence and personal visits.

Source: Michigan State Department of Agriculture, First Biennial Report, Years ending June 30, 1923, and 1924



Drains.	Counties.	Condition found.
Adams.....	Lapeer, Tuscola.....	Pending.
Ames.....	Bay, Saginaw, Midland.....	Contracts sold.
Alder Creek.....	Clinton, Shiawassee.....	Pending.
Bickerton.....	Midland, Isabella.....	Contract sold.
Blanchard.....	Hillsdale, Lenawee.....	Contract sold.
Bank.....	Eaton, Ingham.....	Contract sold.
Bear Swamp.....	Monroe, Lenawee.....	Contract sold.
Bullock Creek.....	Midland, Gratiot.....	Pending.
Budd.....	Bay, Arenac.....	Pending.
Budd Extension.....	Bay, Arenac.....	Pending.
Carroll.....	Eaton, Ionia.....	Pending.
Clarenceville.....	Wayne, Oakland.....	Contract sold)
Constant DuRussell.....	Bay, Saginaw, Tuscola.....	Contract sold.
Chamberlain Doty.....	Hillsdale, Calhoun.....	Contract sold.
Clark.....	Sanilac, Tuscola.....	Contract sold.
Denton.....	Saginaw, Bay.....	Contract sold.
Drake.....	Lapeer, Tuscola.....	Contract sold.
Elk Creek Extension No. 1.....	Sanilac, Lapeer.....	Pending.
Freeman.....	Newaygo, Oceana.....	Contract sold.
Galley.....	St. Clair, Lapeer.....	Contract sold.
Grosse Pointe Flow.....	Macomb, Wayne.....	Pending.
Hildbrand.....	Kent, Newaygo.....	Contract sold.
Lane and Griffin.....	Allegan, Van Buren.....	Pending.
Lampton Run and McIlwain.....	Calhoun, Hillsdale.....	Contract sold.
Looking Glass River.....	Ionia, Clinton, Shiawassee, Livingston, Ingham.....	Dismissed by circuit court.
Markle.....	Muskegon, Newaygo.....	Contract sold.
Mary.....	Monroe, Washtenaw.....	Pending.
No. 140.....	Saginaw, Gratiot, Shiawassee.....	Dismissed by Drainage Board.
Ottawa Lake outlet.....	Monroe, Lenawee.....	Contract sold.
Paw Paw Lake outlet.....	Kalamazoo, Van Buren.....	Contract sold.
Pingle.....	Clinton, Eaton.....	Contract sold.
Pink.....	Arenac, Iosco, Ogemaw.....	Contract sold.
Riffe River.....	Arenac, Ogemaw.....	Pending.
Sag.....	Arenac, Gladwin.....	Pending.
Sonsmith Drain.....	Arenac, Bay.....	Pending.
Star Tile.....	Clinton, Eaton.....	Contract sold.
Sump.....	Oakland, Washtenaw, Wayne.....	Contract sold.
Thetford and Arbela.....	Tuscola, Genesee.....	Pending.
Tawas.....	Iosco, Ogemaw, Arenac.....	Pending.
Van Auken.....	Lenawee, Hillsdale.....	Contract sold.
Weeks.....	Saginaw, Midland, Gratiot.....	Contract sold.
Winans.....	Eaton, Ingham.....	Pending.

# THE PARTNERSHIP WITH DRAIN COMMISSIONERS BEGINS

- Ernest Hunter, first MDARD Chief of Drainage former Bay County Drain Commissioner (DC)
- Intercounty Drain Division inherited 37 active projects involving 33 counties
- 23 additional applications/petitions the first two years including major projects on the Flint, Cass, Sebawaing, Black and Dowagiac Rivers adding four more counties
- “At the annual meeting of the Michigan Association of County Drain Commissioners, which was held at Grand Rapids February 5, 6, and 7 (1924), a thorough discussion of the law was had, and uniform plans adopted for plats and profiles on all inter-county work.”

Source: Michigan State Department of Agriculture, First Biennial Report, Years ending June 30, 1923, and 1924



# GENERAL DRAIN LAW, P.A. 316 OF 1923

## Chapter III Drainage Districts, Intercounty Drains

- **Sec. 6.** Upon receipt of such application, the commissioner shall within twenty days notify by registered mail the commissioner of each county traversed by such proposed drain and the commissioner of each county in which lies lands liable for assessment for benefits for the construction of such proposed drain, and he shall also notify the state commissioner of agriculture of the receipt of such application.
- **Sec. 7.** Upon convening said meeting the state commissioner of agriculture or any deputy selected by him shall act as chairman. . . In such meeting the state commissioner of agriculture or deputy designated by him shall have no vote, except he may cast the deciding vote in case of a tie.



# “THE FUTURE TREND OF DRAINAGE IN MICHIGAN AS VIEWED BY DRAINAGE OFFICIALS”

- Drainage officials are somewhat handicapped in not having reliable data on which to base their judgment as to the adequacy of the outlet of drains. This is especially true on the larger rivers.
- We find that upon applying the present drain law, while it is a long step ahead of any of our preceding laws, . . . it does not meet all our requirements.
- Drainage officials and all parties interested in drainage and flood protection realize the need of having the State mapped as to its trunk line rivers and their watersheds.
- ... we need a more careful study of the rain fall of these areas, the flow of streams, where dams could be maintained, where waterpower could be improved and where dikes would be necessary for flood control.

Source: Michigan State Department of Agriculture, First Biennial Report, Years ending June 30, 1923, and 1924



Intercounty Drain Program

# PROGRAM EVOLUTION

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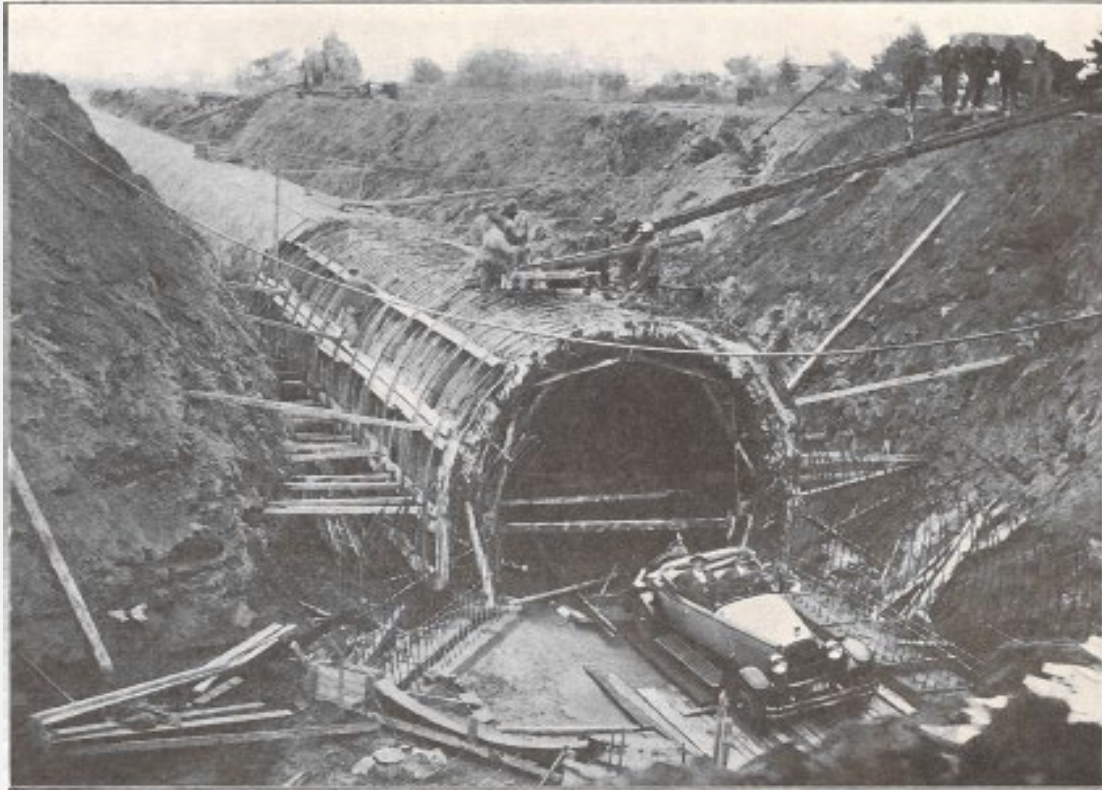


# THE “ROARING 20’S” AND INTERCOUNTY DRAINS

- “Formerly when speaking of drainage, our mind immediately reverted to the act of removing the surplus water from the swamps, swales and low places thus lowering the water table of the soil, thereby improving the same for Agriculture as well as health purposes. To a large, extent this still remains true in the Agriculture districts, but in the more thickly populated portions of the State, especially those adjacent to the larger cities, towns and resort centers, drainage assumes a different aspect, ... drainage not only takes into consideration the removal of the surplus water from the lots and streets, but also takes into consideration the removal and disposal of the sewage, which is one of the major problems of these districts.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1925, and 1926





Showing Size of Drain in Comparison to Automobile.



"The Royal Oak Drain is in Oakland County at Royal Oak. This is one of the large projects costing four million dollars. This drain affects and is the outlet for a portion of State Trunk Line 10, on which the State was assessed three percent, the final adjustment as shown was 2.60 per cent."

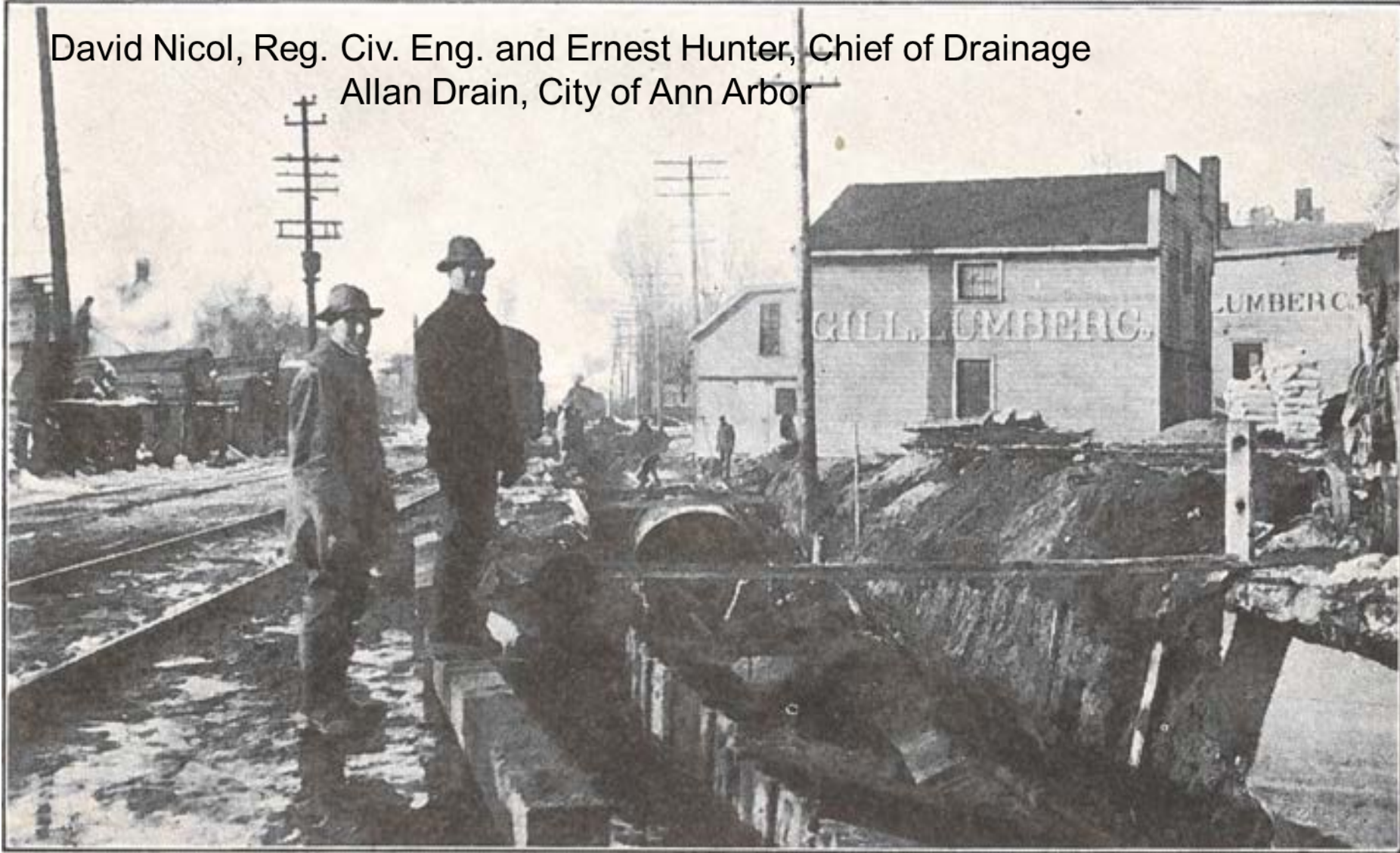
# THE “ROARING 20’S” AND INTERCOUNTY DRAINS CONT’D

- P.A. 316 amended in 1925 pertaining to the use of county drains for sewage disposal.... “This in connection with the drainage district makes it possible to create sanitary districts under the supervision of the drain commissioner or drainage board.”
- “The sanitary drainage in some of the counties is the major problem and has added to the labors and responsibilities of the drain commissioner and the Division of Drains.”
- “The first sanitary district formed under the 1925 amendment was the Nine Mile and Halfway located in Macomb County. The division had no connection with this project, only in an advisory capacity.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1925 and 1926



David Nicol, Reg. Civ. Eng. and Ernest Hunter, Chief of Drainage  
Allan Drain, City of Ann Arbor



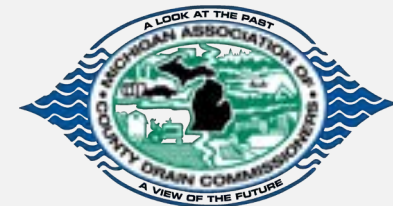
**Inspecting the Work.**

# THE “ROARING 20’S” AND INTERCOUNTY DRAINS CONT’D

- Another 1925 amendment to P.A. 316 for apportioning benefits to State Trunk Line highways outlined the notice requirements and appeals that remains essentially the same today:

“...the Commissioner of Agriculture or some deputy selected by him, shall review the apportionment made against the said State Trunk Line highway, listen to the proofs and allegations of the parties and may view the highway benefited and his action and decision, thereon reduced to writing shall be final.”

- **1925 – 1930:** a total of 58 highway appeals were filed with over half resulting in some reduction.



# THE “ROARING 20’S” AND INTERCOUNTY DRAINS CONT’D

- Biennial Reports presented comprehensive listing on the number of intercounty applications/petitions received with detailed tables of each including status length, size, type, costs and acres benefited.
- 1923-24 = 60 (37 “inherited” and 23 new)
- 1925-26 = 68
- 1927-28 = 64 (5 for State Highways)
- 1929-30 = 98 (22 for State Highways)



# 1920'S INTERCOUNTY DRAIN METRICS

Extensive reports were compiled by the Department from data collected from surveys of all the county drain commissioners and reported in detailed tables. The following slide is one from the 1929 - 1930 Biennial Report.



# MICHIGAN STATE DEPARTMENT OF AGRICULTURE

HERBERT E. POWELL,  
Commissioner of Agriculture

A. C. CARTON,  
Director Bureau Agricultural Industry

DIVISION OF DRAINS  
Table No. 4  
1929

ERNEST L. HUNTER,  
Chief of Drains

DAVID A. NICOL, Reg. Civ. Eng.,  
Asst. Chief of Drains

COUNTY	NO. OF DRAINS*			LENGTH**				AVERAGE					COST		COST		COST		COST		Acres	Total Cost	Assessment 1929				
	N.	R.	Ep.	Tot.	Open	Closed	Total	Sp.	Wd.	Leak.	Cost per Lk.	Cost per Md.	P.A.	Const.	%	Bridges	%	Tub.	%	Eng'g.				%			
Alcona	4	18	12	32	25.1	6.2	25.9	4.5	2.4	0.8	999.12	1,226.77	2.45	24,398.16	78.9	1,984.80	8.2	349.33	0.8	524.00	1.7	121.00	0.4	12,590	31,012.00	30,987.00	
Alcona	9	2	0	5	8.7		8.7	4.7	4.8	1.2	3,203.12	2,390.38	4.91	9,180.20	57.3	4,904.30	28.7			727.98	4.5	440.00	2.7	3,240	18,018.88	26,248.78	
Alcona	6	10	17	27	60.9		60.9	40.9	4.7	2.8	5,773.37	2,649.70	9.23	95,179.77	90.2	31,982.80	29.8			5,542.87	3.3	2,110.00	1.9	17,308	108,374.00	77,318.22	
Alcona	2	23	51	65	15.9	8.5	24.2	4.7	2.2	1.0	1,728.12	1,713.94	6.78	30,112.44	69.5	300.00	0.5	13,221.54	31.9	1,551.00	3.8	787.52	1.9	5,114	41,475.91	41,931.54	
Alcona	3	4		7	14.1	1.3	15.4	3.9	4.5	0.1	12,411.38	2,421.98	2.88	29,534.10	79.5	4,380.00	11.7	1,583.33	4.2	1,615.85	4.3	31.40	0.1	13,920	37,388.99	21,592.32	
Alcona	2	1	7	10	5.4	0.5	5.7	5.4	4.3	1.9	1,004.44	5,355.45	4.13	21,424.00	71.4	3,325.00	13.7	289.77	0.9	1,184.67	3.9	200.00	0.7	7,375	30,013.80	18,294.28	
Alcona	1			1	0.5		0.5	2.5	2.0	0.6	526.55	877.58	0.97	400.00	78.0					19.47	3.7	15.00	2.8	780		523.55	
Alcona	2	8		10	10.3	5.6	15.8	4.8	5.5	1.6	2,965.80	1,894.07	2.96	16,371.17	54.5	582.00	1.9	7,897.41	26.4	744.38	2.5	31.52	0.1	10,117	29,958.00	21,785.70	
Alcona	2	5	7	14	12.3	3.4	15.7	5.9	8.4	2.2	7,471.42	3,331.21	2.98	25,799.55	49.3	14,902.22	28.5	4,233.65	5.1	1,552.00	3.0	591.95	1.1	19,397	52,390.90	43,143.58	
Alcona	12		18	30	6.3	12.7	19.3	5.8	3.9	1.6	7,408.38	4,520.30	18.98	22,974.91	57.1	7,719.40	8.7	38,915.77	38.2	2,967.00	3.0	2,364.75	2.9	4,714	88,900.00	51,728.98	
Alcona	10	18	56	85	20.3	30.9	41.2	4.7	3.3	1.4	3,937.44	2,773.54	5.30	45,990.52	40.2	4,474.44	8.9	38,032.92	38.2	3,753.17	3.3	2,150.70	1.9	18,198	114,475.88	109,997.89	
Alcona	2	8	22	27	1.4	3.3	4.7	3.6		1.3	2,750.68	2,052.74	15.52	4,420.51	32.1			5,517.25	47.4	589.18	4.3	80.00	0.8	832	13,783.38	16,513.89	
Alcona	3	2		5	14.7		14.7	6.3	5.8	3.3	6,820.00	1,982.04	2.38	17,173.32	51.9	10,264.35	31.0			1,851.08	5.5	226.62	0.7	13,875	33,100.00	21,900.00	
Alcona	3	1	3	9	17.8	4.3	22.1	5.3	4.2	5.5	12,025.00	2,357.42	15.24	15,813.70	30.4	11,243.87	21.5	3,992.78	7.5	1,828.75	3.5	795.21	1.5	3,395	52,100.00	15,730.84	
Alcona	3	4	2	9	8.5	4.0	12.3	5.5	6.0	1.9	4,613.21	2,825.40	4.01	19,594.91	39.9	4,225.00	18.1	3,895.58	12.0	990.30	3.1	153.50	0.5	8,060	32,292.48	19,586.72	
Alcona	5	4		9	4.2	10.0	14.2	4.9	4.0	1.5	3,269.34	2,031.14	5.21	11,421.45	34.5	502.00	1.7	12,902.84	43.3	786.22	2.5	1,082.00	2.5	5,588	39,594.21	29,804.21	
Alcona	2			2	3.7	0.9	4.6	6.0	5.0	2.2	7,475.00	3,250.00	5.25	9,540.00	58.8	1,002.80	5.7	1,329.00	8.9	712.50	4.8	359.37	2.4	2,843	14,950.00	10,915.95	
Alcona	1	5	1	15	7.8	0.1	7.9	2.4	2.4	0.8	1,096.62	1,249.31	3.16	5,511.10	55.8	1,889.54	17.4			1,234.39	12.5	155.00	1.5	3,115	9,849.55	14,036.75	
Alcona	8	2	3	13	12.3	10.3	22.6	6.6	2.0	2.3	22,389.12	3,897.94	19.10	188,821.09	84.4	15,099.00	7.2	Included in const.		5,017.99	2.2	7,361.75	3.3	11,772	223,691.20	182,545.83	
Alcona	6			6	22.1		22.1	3.9	4.3	3.7	4,133.33	1,122.17	2.23	10,620.72	42.9	2,977.50	12.0			338.07	2.2			11,096	24,800.00	22,050.00	
Alcona	3	10		13	9.8	4.7	14.5	5.6	3.3	1.1	2,702.07	2,424.14	3.30	21,891.82	61.8	207.90	0.6	7,960.09	22.7	587.95	1.7	897.30	2.5	10,973	35,125.00	33,837.87	
Alcona	1	4		5	10.2	2.5	12.7	4.5	2.8	2.5	5,180.00	2,029.37	4.42	19,318.40	74.6	954.00	3.7	2,045.00	7.9	805.00	3.1			5,890	35,900.00	25,050.00	
Alcona	19	15	15	49	32.9	9.3	42.1	9.4	2.4	0.9	10,124.82	7,455.34	24.02	242,362.08	77.2	3,904.98	1.2			13,025.14	4.1	3,782.10	2.8	13,067	313,870.00	278,054.55	
Alcona	2	1		3	2.6		2.6	3.4	2.3	0.5	925.00	1,067.31	2.80	1,931.12	70.7	439.00	15.5							1,090	2,775.00	2,775.00	
Alcona	3	2		5	4.0	2.5	6.5	3.7		1.3	1,669.52	1,307.32	4.27	4,381.12	51.6	170.00	2.0	2,395.00	28.2	343.87	4.0	95.72	1.1	1,190	8,497.80	8,497.80	
Alcona	2	9	2	14	15.9	3.7	20.6	4.2	3.4	1.7	2,063.75	1,194.37	3.30	14,958.56	50.4	1,917.25	7.7	4,728.02	19.1	1,709.20	6.9	745.00	2.0	7,504	24,785.00	13,786.34	
Alcona	1			1	1.9		1.9	2.0	3.0	1.9	1,480.90	798.89	2.56	1,200.00	82.1	70.00	4.8			100.00	6.8	80.00	4.1	570	1,480.90	1,480.90	
Alcona	8	18	3	31	24.8	3.5	30.3	4.8	2.1	1.5	3,573.73	2,305.13	4.32	58,188.15	62.6	4,335.00	6.2	16,885.27	18.2	2,587.28	2.8	2,531.15	2.8	21,485	92,917.00	90,722.30	
Alcona	1	1		2	0.4	0.4	0.8	7.3		0.4	1,415.50	3,541.25	94.42	513.42	38.2			342.00	24.1	48.88	2.5	30.00	3.1	15	1,415.50	1,588.10	
Alcona	6	3		9	11.2	6.0	17.2	4.9	3.4	1.9	15,322.78	8,549.09	19.60	101,457.89	69.1	1,150.84	0.8	24,000.00	18.3	3,755.00	2.5	1,520.00	1.0	7,570	145,905.00	39,700.00	
Alcona	1	1		2	2.8		2.8	3.7	5.0	2.8	7,900.00	3,821.43	8.81	5,797.45	78.4	550.00	7.0			210.00	2.7	50.00	0.5	1,160	7,900.00	3,875.97	
Alcona	2			2	3.5	0.1	3.6	5.1	3.5	1.8	6,110.00	3,394.44		9,012.09	73.8					1,829.41	15.0	450.00	3.7	12,220.00	1,711,220.56		
Alcona	2			2	8.1		8.1	4.7	3.2	1.6	892.48	517.71	0.96	1,223.75	74.9	100.00	4.2			82.10	5.1	20.00	1.2	2,420	1,804.92	1,604.92	
Alcona																											
Alcona	3	1	1	5	3.4		3.4	2.3	4.2	0.9	595.00	700.00	4.96	2,050.08	86.1	125.00	5.7			112.50	4.7			480	2,380.00	2,055.00	
Alcona	1	10	3	14	24.0	0.2	24.2	4.3	4.3	2.2	2,472.94	1,128.84	2.48	21,596.65	79.2	526.00	1.9	273.21	1.0	1,199.00	4.4	155.00	0.5	11,090	27,197.00	21,555.01	
Alcona	7	17	11	35	59.8		59.8	6.1	7.2	2.4	8,018.12	3,245.11	2.48	127,827.60	66.4	49,531.50	25.7			4,593.40	2.4	225.00	0.1	78,140	192,435.00	121,325.00	
Alcona	5	1		6	22.3		22.3	6.3	12.5	2.8	28,552.23	1,024.26	1.21	128,516.87	80.6	68,552.44	30.0			4,140.28	1.8			197,527	228,410.00	67,819.21	
Alcona	13	26	39	59	5.9	6.3	11.5	4.4	3.7	0.9	5,248.00	7,052.98		33,568.96	41.3	2,155.57	3.7	15,159.80	18.7	3,003.63	3.7	1,300.50	1.5	81,234.02	51,632.98		
Alcona	7			7	14.9	1.3	16.2	6.1	6.5	2.3	11,088.21	4,799.59	5.98	27,816.00	34.0	30,202.28	39.1			2,551.50	3.3			12,900	77,367.43	46,397.23	
Alcona	2	9	5	16	37.4		37.4	6.3	9.7	2.3	7,377.27	2,189.79	2.00	39,403.89	48.5	35,758.91	38.0	600.00	0.5	4,012.97	4.9	1,594.00	2.0	40,928	81,150.00	51,530.70	
Alcona	1	5	17	24	6.4	3.3	9.7	4.6	2.7	1.4	4,729.29	3,412.88	5.92	18,942.34	57.2	101.00	0.3	3,927.96	11.9	553.70	1.7	222.00	0.7	5,591	33,105.00	32,735.96	
Alcona	8	8	23	39	14.9	27.2	42.1</																				

“This drain, located in Huron and Tuscola Counties, is the largest purely agricultural drainage enterprise ever undertaken in the State. It consists of forty-two miles of main drain and branches, requiring the construction of seventy-two bridges, and draining a territory of 64,650 acres, at a cost of \$510,000.”

SEBEWAING RIVER



1929-30

DEPARTMENT OF AGRICULTURE

BLACK RIVER

# THE 1930'S DEPRESSION & WORKS PROGRESS ADMINISTRATION (WPA) DRAINAGE

- **1931 – 1932:** “28 petitions for inter-county drains were filed with the Division, 14 being for new work and 14 for clean-out or reconstruction work. Of this number, 15 drains were declared necessary by the drainage board, 11 were declared unnecessary, and 2 are pending.”
- “The demand of the public for reduced expenditures for public works has resulted in a decrease in drainage work done in the state for the last two years.”
- “Fewer petitions for drains are being filed, ... they are declared necessary only when the board of determination, for county drains, or the drainage board, for inter-county drains, believes the present need to be extreme.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1931-32





RODEO

AGRICULTURE

AGRICULTURE

AGRICULTURE

# THE 1930'S DEPRESSION AND THE WORKS PROGRESS ADMINISTRATION (WPA) DRAINAGE CONT'D

34

DEPARTMENT OF AGRICULTURE

	1928-1929	1930-1931
Number New Drains Constructed.....	290	185
Number Drains Reconstructed.....	495	299
Number Drains Repaired.....	410	811
Number Miles Open Drain, New and Reconstructed.....	1187	853
Number Miles Closed Drain, New and Reconstructed.....	386	189
Number Acres Drained by New and Reconstructed Drains... ..	1,042,008	633,718
Total Cost of New and Reconstructed Drains.....	\$9,775,034	\$5,718,755

“From the above table one can see the vast falling off of new drain construction, also that the work of repairing existing drains has materially increased, which denotes that during these trying times the people are endeavoring to maintain their drains in working condition. This is being done at a very low cost to the tax payers, and in a number of counties the work is being done by the welfare departments.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1931-32



# THE 1930'S DEPRESSION & WPA DRAINAGE CONT'D

- **1933 – 1934:** Intercounty meetings held on 36 drains and on 14 petitions from the State Highway Department
- “The work accomplished under the WPA on county drains exceeded the average for a normal year's drain work ...”
- “The outstanding drainage district bonds in many of the counties have been a serious problem, as many, are in default, due to delinquent taxes. The outstanding drainage district bonds on December 31, 1933, as reported by the state treasurer, aggregated \$17,908,164.92.”

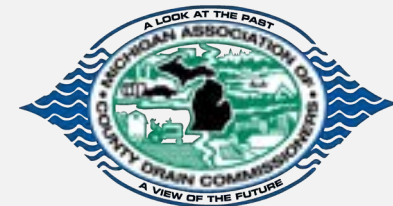
Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1933-34



# THE 1930'S DEPRESSION & WPA DRAINAGE CONT'D

- “Total assessments for county drains in 1932 were \$974,337.54, and for 1933, \$778,714. This is considerably below previous years, but is due to the retarding of new construction and merely making such reassessments as are necessary to maintain the drains in working order until they can be properly reconstructed in the future.”
- “It has been the policy of the department, understanding well the burden of the taxpayers, to work with the county drain commissioners to eliminate all possible additional taxes. The department has had fine cooperation from all the drain commissioners in Michigan.”

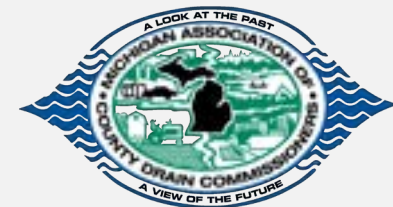
Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1933-34



# THE 1930'S DEPRESSION & WPA DRAINAGE CONT'D

- **1937** John Hudson becomes Chief of Drains, formerly the Shiawassee County Drain Commissioner – “The drainage of land, which is the removing of surplus water from the soil, is a health-giving measure; moreover, proper drainage is the foundation rock upon which a better agriculture must be built. Recent developments in regard to matters pertaining to drainage in this state have convinced me that we have not entirely settled our drainage problems in a satisfactory manner.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1937-38



# THE 1930'S DEPRESSION & WPA DRAINAGE CONT'D

“On February 10, 1938, the Michigan Association of County Drain Commissioners at their annual convention held in Bay City, unanimously went on record in favor of amending the Constitution to allow the State to participate in the improvements of rivers and streams for drainage purposes.”

Mr. Hudson: “...drainage activities in Michigan would be much improved if we could have a complete survey of each drainage district which the drain commissioners could follow in the construction of drains. This would embrace the cleaning out of the rivers and creeks which are trunk line drains and the complete mapping of the drainage district.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1937-38



# END OF THE DEPRESSION

- “The work in the Division of Drains has increased a great deal during the past two years due to the fact that the Federal Government has spent \$10,120,252.03 on WPA drainage work in the State of Michigan.”
- “...past two years (1939-1940) we have had 168 petitions, compared with 62 during the previous two years, ... Of this number we have completed 100 drains. Each drain requires at least 5 public meetings before the project is completed.”
- “From the year 1898 to the present time, a period of 42 years, \$74,974,462.61 of Federal and local money has been spent for drainage purposes, \$14,248,596.12 of which was spent during the past two years.”

Source: Michigan State Department of Agriculture, First Biennial Report, Years ending June 30, 1939-40





Looking Glass River Inter-county Drain in Clinton and Shiawassee Counties  
before construction.



Looking Glass River Inter-county Drain in Clinton and Shiawassee Counties  
after construction.

• Source: Michigan State Department of Agriculture, First Biennial Report, Years ending June 30, 1941-42

# DRAINAGE IN THE 1940'S

- **1941- 1942:** “123 applications and petitions were filed ... At the beginning of this period petitions and applications for 68 drains were under consideration, thus making a total of 191 petitions and applications acted on...”
- “A considerable amount of our work has been of an advisory nature meeting with the County Drain Commissioners whenever called upon to do so and advising them in regard to the laws and helping to solve the irregular problems which come to them.”
- “One of the important factors in the development of our agricultural possibilities is the improving of our highways. In the building of improved highways, we are bringing the markets of the world within a short distance of every farm.”
- “The importance of drainage to Michigan Agriculture is best appreciated when we realize that the people of Michigan have \$74,273,620.34 invested in established agricultural drains . . . There are 22,485 miles of drains. . .that. . . service 17,118,951 acres...”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1941-42



# DRAINAGE IN THE 1940'S CONT'D

- “Due to the excessive rainfall of 1943 and the first six months of 1944, we have had a tremendous increase in work in this division. Also, the increase in prices and urgent need for food for our armed forces has helped to accelerate our work.”
- “We are also assisting the drain commissioners in preparing applications for State participation on a fifty-fifty basis for plans and specifications for postwar projects.”
- “128 inter-county drains petitioned for in the biennium will indicate the amount of work passing through this office”
- “Our ledger sheets show we have 450 active inter-county drains now established in the State of Michigan which have cost the taxpayers over \$75,000,000.00, and we have held 520 drainage board meetings during the last biennial period.”

Source: Michigan State Department of Agriculture Biennial Report, Years ending June 30, 1943-44





Construction of a 40 ft. width of bottom drain.



Cleaning out a 6 ft. width of bottom drain.

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1943-44

# DRAINAGE IN THE 1940'S CONT'D

- **1945 - 1946:** “221 petitions filed asking for the cleaning out, widening, deepening, straightening, relocating, or extending inter-county drains and 20 applications asking for the laying out and designating new drainage districts.”
- “669 inter-county drains that have been located, established and constructed since 1923 and practically all of these have been re-petitioned for to clean out, deepen, widen, straighten or extend.”

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1945-46





**Inter County Drainage Construction. Hills do not interfere or have any barriers between marshes. Modern equipment comes straight through.**

# DRAINAGE IN THE 1940'S CONT'D

- “...post war drainage projects approved by the Drainage Division of the State Department of Agriculture for the Buildings & Construction Division of the State Administrative Board.”
- Over 600 county and intercounty drains were granted \$12,486,542.

Source: Michigan State Department of Agriculture, Biennial Report, Years ending June 30, 1945-46





Starting place of the Ramey-Chandler Drain, affecting Ingham & Clinton counties, before construction.



Finished portion of the Ramey-Chandler Drain, after construction.

# THE LATE 1940'S AND POST WORLD WAR II

- Explosive growth and demand for housing and the start of outward growth from core cities required more intensive storm drainage
- Improved material supply for steel and concrete
- Greater mechanical capacity for excavation
- Demand for agricultural products, improved tile drainage, require well maintained and deeper outlets
- Department of Agriculture biennial reports cease



# THE 1950'S

- Interstate highway system begins requiring drainage and alteration of drains
- PL 566 passed in 1954, SCS administered numerous watershed projects investigated over the next 25 years many sponsored by drain commissioners and intercounty drain boards
- 1955 Stan Quakenbush becomes Chief of Drains
- 1956 Drain Code with new chapters 20, 21, and 22 added



# Michigan Statutes

ANNOTATED



Drain Code of 1956



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# THE 1960'S

- 1960 Milk River pump station completed (Macomb & Wayne), largest intercounty combined sewer pumping and treatment facility
  - 7 storm water pumps (4 - 1,500 hp and 3 - 1,750 hp) – capable of pumping up to 862,000 gpm;
  - Upstream river enclosed in a 16-foot tunnel, 45-foot of vertical lift
  - Serves a population of 40,000 in Grosse Pointe Woods, Harper Woods and St. Clair Shores
- 1966 Darwin McLeod, P.E. joins Drains Division, former St. Clair County Deputy
- 1967 Harry Mikan joins Drains Division, former Genesee County Deputy





# THE TURBULENT 1970'S

- Federal Clean Water Act of 1972
- Michigan Inland Lakes and Streams Act
- Michigan Wetland Protection Act
- Freedom of Information Act
- Open Meetings Act (OMA)
- Michigan Environmental Review Board created
- 1974 Mike Gregg begins career at Ingham County Drain Office



# THE 1970'S CONT'D

- **1978:** The Headlee Amendment to the Constitution
  - Bond and financing uncertainty
  - Litigation over application to drain bonds
- **1979:** Mike Gregg joins Drains Division as an inspector
- **1979:** Harry Mikan named Drains Division Chief
- Drain commissioners come under increasing criticism over environmental impacts, assessment authority and too much “power”
- Chapter 21 projects expand



# THE 1980'S

- **1980:** The Department of Agriculture convenes The Task Force on Drains to address mounting pressure to change the Drain Code
  - Diversified membership including DC's, Michigan Department of Natural Resources, environmentalist and farmers. Mike Gregg co-authored the report
- **1980:** Jeff Friedle, P.E. joins the Drains Division
- **1981:** Karl Hausler joins the Drains Division
- **1981:** major rewrite of Drain Code introduced and failed to get out of the House.
- **1982:** Mike Gregg authors master thesis "Land Drainage in Michigan: An institutional Analysis" hundreds of copies produced



# THE 1980'S CONT'D

- **1985:** Harry Mikan retires, Mike Gregg appointed manager of the intercounty drain program now part of the Michigan Department of Agriculture's Farmland Division
- **1986:** Wayne County eliminates elected drain commissioner
  - The story
- **1987:** Mike Gregg gets first cell phone



# THE 1990'S

- Milk River CSO Retention Treatment Basin and channel upgrades
- Environmental Code Commission created by Gov. Engler
- **1994:** Natural Resource and Environmental Protection Act (NREPA)
- Drain Code narrowly escapes being in NREPA, MACDC agrees to form Statute Review Committee to develop Code revisions
- MDARD partnered with MACDC and helped fund and provide staff support to a several year effort involving multiple stakeholders, public informational meetings and legislative committees
- **1998:** Major rewrite of Drain Code introduced, after two years of hearings died in the House





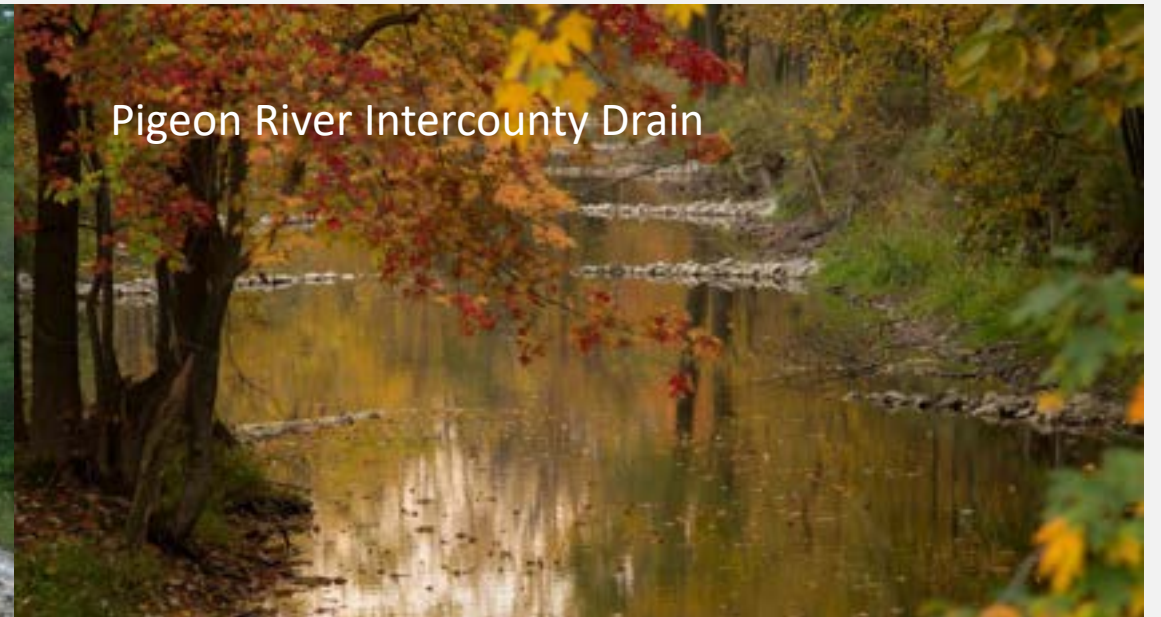
# THE 21<sup>ST</sup> CENTURY

- 1999 Peggy Snyder joins intercounty drain staff – 24th year!
- **2000:** reintroduction of comprehensive Drain Code rewrite
- MDARD/MACDC partnership continues to invest considerable time and effort into legislative process, committee hearings
- **2002:** after passage in the House, the vote in the Senate failed, the “perfect was the enemy of the good”
- Multiple Intercounty projects continued increased focus on maintenance and more sustainable channel design and post construction restoration
- “Water Resources Commissioner” added



# 2000 - 2010

- Increased emphasis on retention/detention
- Storm water rules
- River restoration and stabilization, cross vanes and J hooks



# 2000 – 2010 CONT'D

- **2008:** The “Great Recession” Intercounty drain program “defunded” staff reassigned
- **2009:** Chapter 21 petition to establish the Oakland Macomb Interceptor
  - Settlement of federal lawsuit between the suburbs and the City of Detroit regarding sewage rates
  - Serves 23 public corporations with a population of over 800,000
  - 22 miles of tunnel over 12 feet in diameter and a 100 feet deep, including rehabilitation of the Northeast Sanitary Pump Station in the City of Detroit and almost 7 miles of 16-foot interceptor downstream into the City
  - Originally constructed in the 1960’s and operated by DWSD, neglected and corroded by H<sub>2</sub>S
  - Still under reconstruction over \$275 million to date, completion in 2025



# 2010 OMID CONSTRUCTION BEGINS



Oakland Macomb Interceptor  
Access shaft construction



Oakland Macomb Interceptor  
Access shaft excavation



Oakland Macomb Interceptor  
Tunnel opening



Oakland Macomb Interceptor Sewer  
22 mile long, 12.5' Tunnel - 105' deep



Mike & Brady in a 16' Quake Wrap section made in Hastings, Michigan

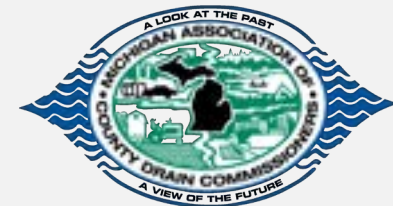
## OMID tunnel lining products



12-foot Hobas pipe made in Texas.  
Mike, Director Clover-Adams and Brady

# 2010 - 2020

- Significant Drain Code amendments
  - Sec. 196 maintenance
  - Sec. 135 & 197 drain district revisions & adding a county
  - Intercounty petitioner requirements same a county drains
- **2009:** Jeff Friedle, P.E retires; 2010 Karl Hausler retires
- **2011:** Brady Harrington, P.E. former Eaton Co. drain commissioner joins Intercounty Drain Staff
- Dozens of significant projects begin
- **2014:** Michigan Department of Environment, Great Lakes, and Energy (formerly DEQ) petitions Milk River Pump Station Rehabilitation – completed 2023
  - \$8.8 million Misteguay Creek 2010 petition – completed 2023
  - Multiple OMID project contracts ongoing - \$160 million +
  - Several hundred petitions & expanded maintenance



# MILK RIVER PUMP STATION RETENTION TREATMENT FACILITY



# 2010 – 2020 CONT'D

- **2018:** Intercounty file/plan scanning project begins contract with State Archivist
- **2019:** GIS mapping contract with Spicer Group starts
- **2019:** 500 drainage board meetings
- **2020:** COVID-19, drains designated critical infrastructure
- OMA requirements for in-person meetings suspended
  - 100's of “Virtual” meetings
  - Staff working from home, projects stalled



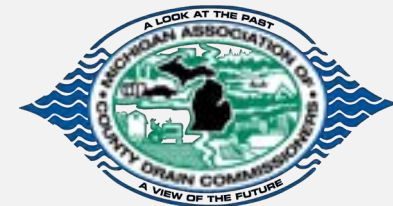
# 2020 TO PRESENT

- **2021:** Joy Myers joins intercounty program staff
- **2021:** Tulip Intercounty (Allegan & Ottawa) US 31 project with Michigan Department of Transportation near City of Holland



# 2020 TO PRESENT CONT'D

- **2022:** Joe Brezvai former Lenawee deputy joins program staff
  - Additional \$100 million in OMID projects authorized
- **2023:** Drain board meetings and project levels restored to pre- COVID-19 levels
  - Misteguay Creek and Milk River projects completed
  - OMID projects continue
  - Chapter 22 rewrite introduced
  - 2023 Director Dr. Tim Boring appointed, 25<sup>th</sup> since Intercounty Drain responsibility was established





Mike inspecting one of the OMID construction sites  
July 2023



Misteguay Creek Dam Structure No. 4



Misteguay Creek drain board  
inspecting 2022 channel improvements

# 2023 AND BEYOND

- Intercounty Drain Program goals:
  - Maintain and invest in the partnership with commissioners, their staff, and MACDC associate members
  - Continue to assist in partnerships with state and federal agencies
  - Complete digitizing of intercounty drain records and continue building the GIS system
  - Continue to find ways to improve the delivery of program responsibilities and the process of governing
  - To support the application of water management alternatives, new technologies and engineering solutions



# 2023 AND BEYOND CONT'D

## Mike's Vision

- Climate change impacts to rainfall patterns and intensity a HUGE challenge: the “old ways” aren't good enough!
  - Agricultural water table management – nothing new but more critical
  - Urban flooding of roads and basements will be less tolerated
  - Water quality improvements will be demanded and ways to finance it required
  - Green infrastructure alternatives needed – can't afford to continue to build bigger drains



# 2023 AND BEYOND CONT'D

## Mike's vision continued:

- Better tools for watershed management and equitable funding are part of the solution
- Comprehensive statewide inventory of drainage infrastructure needed
- Permanent & universal archive of all county and intercounty drain documents and records needs to established
- MACDC needs to establish an archivist



# 2023 AND BEYOND CONT'D

“I can’t think of any other entity (intercounty drain drainage boards) where a state official and two or more local officials can independently make enormously consequential decisions that impact the public, critical infrastructure, and the environment.”

**Brad Deacon, MDARD Director of Legal Affairs and Emergency Management**



# QUESTIONS?



Intercounty Drains come in all sizes and condition of open channel and pipe drains

# MDARD CONTACT



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**Intercounty Drain Program Manager**

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