

MICHIGAN

STATE HIGHWAY DEPARTMENT

LANSING 13

CHARLES M. ZIEGLER
STATE HIGHWAY COMMISSIONER

169

INTEROFFICE COMMUNICATION February 19, 1952

TO: W. W. McLaughlin
Testing and Research Engineer

SUBJECT: Research Lab. Report No.169 (Supplement No.3 to Report No.117)
Research Project 48 9-41 -- Investigation of Slippery Con-
ditions on US-2 Stone Sand Concrete Pavement

This is a summary of accidents reported by State Police which have occurred on concrete pavement projects containing stone sand, located on US-2 between US-41 and St. Ignace, and also on US-41, for the period from April 4 to October 6, 1951.

In all cases, the accidents reported have been due to skidding on wet surfaces. The summary in Table I contains pertinent data relative to the accidents. Where more than one car was involved in an accident, the same complaint number appears for every car concerned in order to present data on each unit. Four accidents reported in Table I occurred on areas covered with bituminous non-skid surface treatment which was put down as an early attempt to cover the stone sand concrete surface to stop skidding accidents. Contracts for bituminous concrete resurfacing over these areas have been let and will be completed in 1952.

Figure 1 shows the skidding accident experience by red arrows and the locations of bituminous concrete surfacing placed in 1949, 1950 and 1951 by green line. Also, the uncompleted sections of bituminous concrete surfacing under contract but not completed are shown by blue line. We understand that these sections will be completed in 1952. The accidents appearing on the bituminous concrete resurfaced sections have occurred prior to the resurfacing.

Table II presents a summary of property damage and personal injury resulting from the reported accidents on US-2 for the years 1948, 1949, 1950 and 1951. This table also shows the traffic carried daily over US-2.

According to State Police records, the areas resurfaced with bituminous concrete have been free of accidents due to skidding. Note in Figure 1 that the bad stretch of highway between Blaney Park and Gulliver's Corners was entirely free of accidents during the period covered by this report.

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TABLE 1
SUMMARY OF SKIDDING ACCIDENTS ON US-2
BETWEEN US-41 AND ST. IGNACE
FROM MARCH TO NOVEMBER 1951

Complaint No.	Date	County	Township	Route	Location	Residence of Driver	Speed	Project No.	Constr. Date	Pavement		
										Type	Cond.	Align.
85-236-51 85-236-51 85-236-51	4-7-51	Delta	Nahma	US-2	100 yds. west from intersection Co. rd. 497	Sault Ste. Marie Sault Ste. Marie Detroit	0 15 20	21-28-06	1937	A	W	S
84-252-51 84-184-51 84-184-51 84-184-51 84-227-51	4-12-51 4-28-51	Delta	Sanign	US-2	0.3 miles east of County Rd. 511	Nahma Escanaba Escanaba	45 40 40 10 60	21-28-04	1937	A	W	S
85-361-51	5-26-51	Delta	Sanign	US-2	0.5 miles west of Co. Rd. J-422	Vancouver B.C. Newberry Mt. Pleasant	60	21-29-07	1936	A	W	S
85-407-51 85-407-51	6-3-51	Delta	Wells	US-2	0.6 miles south of Co. Rd. 517	Escanaba Escanaba	50 40 55	21-28-04	1937	A	W	S
85-498-51 85-498-51 85-499-51 85-499-51	7-1-51	Delta	Nahma	US-2	0.1 miles east of Ogontz River Bridge	Chicago Ill. Unknown Gladstone Perkins	40 50 7	21-28-06	1937	A	W	C
84-387-51	7-16-51	Delta	Garden	US-2	0.3 miles west of Cooks Junction	Detroit	50	21-29-010	1949	B	W	C
84-468-51	8-13-51	Delta	Nahma	US-2	0.2 miles west of Isabella	Ironwood	55	21-29-07	1936	A	W	S
85-636-51 85-636-51	8-6-51	Delta	Nahma	US-2	2.0 miles east of Fed. Forest Hwy. 13	Manistique Chicago Ill.	20 50	21-29-07	1936	A	W	S
85-683-51	8-20-51	Delta	Nahma	US-2	300' east of Ogontz River Bridge	Duluth, Minn.	40	21-28-06	1937	A	W	S
85-712-51	8-31-51	Delta	Nahma	US-2	300' east of Co. Rd. L7 of St. Jacques	Roseville	50	21-28-06	1937	A	W	S
85-716-51 85-716-51 85-716-51 85-716-51	8-31-51	Delta	Nahma	US-2	150' west of Co. Rd. L7 at St. Jacques	Chicago Ill. Winnipeg Can. Gladstone Minneapolis Minn.	40 20 40 25	21-28-06	1937	A	W	S
85-768-51	9-15-51	Delta	Masonville	US-41	200' north of intersection with US-2	Huntsing	40	21-25-04	1938	A	W	S
85-795-51	9-22-51	Delta	Nahma	US-2	0.3 miles west of Co. Rd. 497	Flint	55	21-28-06	1937	A	W	S
85-807-51 85-807-51	9-26-51	Delta	Brampton	US-2	0.8 miles east of Gladstone city limits	Manistique Green Bay Wis.	0 5	21-20-05	1934	A	W	S
85-828-51	10-3-51	Delta	Masonville	US-41	1.7 miles north of intersection with US-2	Forest Lake	Un.	21-25-01	1938	A	W	S
84-218-51	5-15-51	Schoolcraft	Manistique	US-2	2.5 miles east of Schoolcraft Co. airport	Engadine	45	75-31-07	1941	A	W	S
84-222-51	5-16-51	Schoolcraft	Thompson	US-2	0.7 miles east of M-149	Jonesville Wis.	25	75-30-07	1936	A	W	S
84-226-51 84-226-51	5-18-51	Schoolcraft	Manistique	US-2	100 yds. east of west city limits Manistique	Manistique Milwaukee Wis.	10 65	75-30-02	1935	A	W	S
84-248-51 84-248-51	5-27-51	Schoolcraft	Manistique	US-2	US-2 at River Road	LaCrosse, Wis. Manistique	50 15	75-31-07	1941	A	W	S
84-262-51	6-2-51	Schoolcraft	Manistique	US-2	8 miles east of Manistique	Detroit	50	75-31-07	1941	A	W	S
84-263-51	6-2-51	Schoolcraft	Manistique	US-2	0.6 miles east of west city limits Manistique	Manistique	50	75-30-02	1935	A	W	C
84-356-51	7-7-51	Schoolcraft	Thompson	US-2	0.6 miles east of Thompson	Detroit	50	75-30-09	1949	B	W	S
84-358-51	7-7-51	Schoolcraft	Thompson	US-2	0.6 miles east of Thompson	Bluffton Ohio	50	75-30-09	1949	B	W	S
84-404-51 84-404-51	7-21-51	Schoolcraft	Manistique	US-2	3.0 miles east of Manistique city limits	Huskegon Iron River	40 40	75-31-07	1941	A	W	S
84-469-51	8-13-51	Schoolcraft	Inwood	US-2	2.5 miles west of Thompson	Albion	55	75-30-09	1949	B	W	S
84-470-51 84-470-51	8-13-51	Schoolcraft	Manistique	US-2	Duck Inn Rd. at the Marblehead	Detroit Farmington	25 10	75-31-07	1941	A	W	S
84-490-51 84-490-51	8-21-51	Schoolcraft	Mueller	US-2	at Junction with M-77	Grand Rapids Lowell	65 40	75-24-04	1943	A	W	S
84-505-51	8-26-51	Schoolcraft	Doyle	US-2	2 miles west of Gulliver	Flint	50	75-31-08	1941	A	W	S
84-530-51 84-530-51	8-30-51	Schoolcraft	Manistique	US-2	7 miles east of Manistique	Blaney Park Manistique	40 20	75-31-07	1941	A	W	S
84-568-51	9-14-51	Schoolcraft	Manistique	US-2	5 miles east of Manistique	Vancouver, B.C.	30	75-31-07	1941	A	W	S
84-593-51 84-593-51	9-21-51	Schoolcraft	Manistique	US-2	2 miles east of Manistique	Germfak Gulliver	10 40	75-6-04	1930	D	W	C
84-621-51 84-621-51	10-5-51	Schoolcraft	Manistique	US-2	0.5 miles west of Marblehead Dairy	Detroit Escanaba	45 50	75-31-07	1941	A	W	C
83-351-51	7-1-51	Mackinac	Horan	US-2	4.1 miles west of St. Ignace	St. Ignace	60	49-28-02	1936	C	W	S
82-411-51	8-6-51	Mackinac	Garfield	US-2	0.5 miles west of Naubinway	Flint	50	49-30-05	1941	A	W	S
82-412-51 82-412-51	8-6-51	Mackinac	Garfield	US-2	Valliers Store drive at Naubinway	Detroit Pontiac	45 35	49-30-05	1941	A	W	S
82-554-51	10-6-51	Mackinac	Hudson	US-2	0.25 miles west of Hog Island Creek	Wolf Lake	35	49-30-07	1941	C	W	S

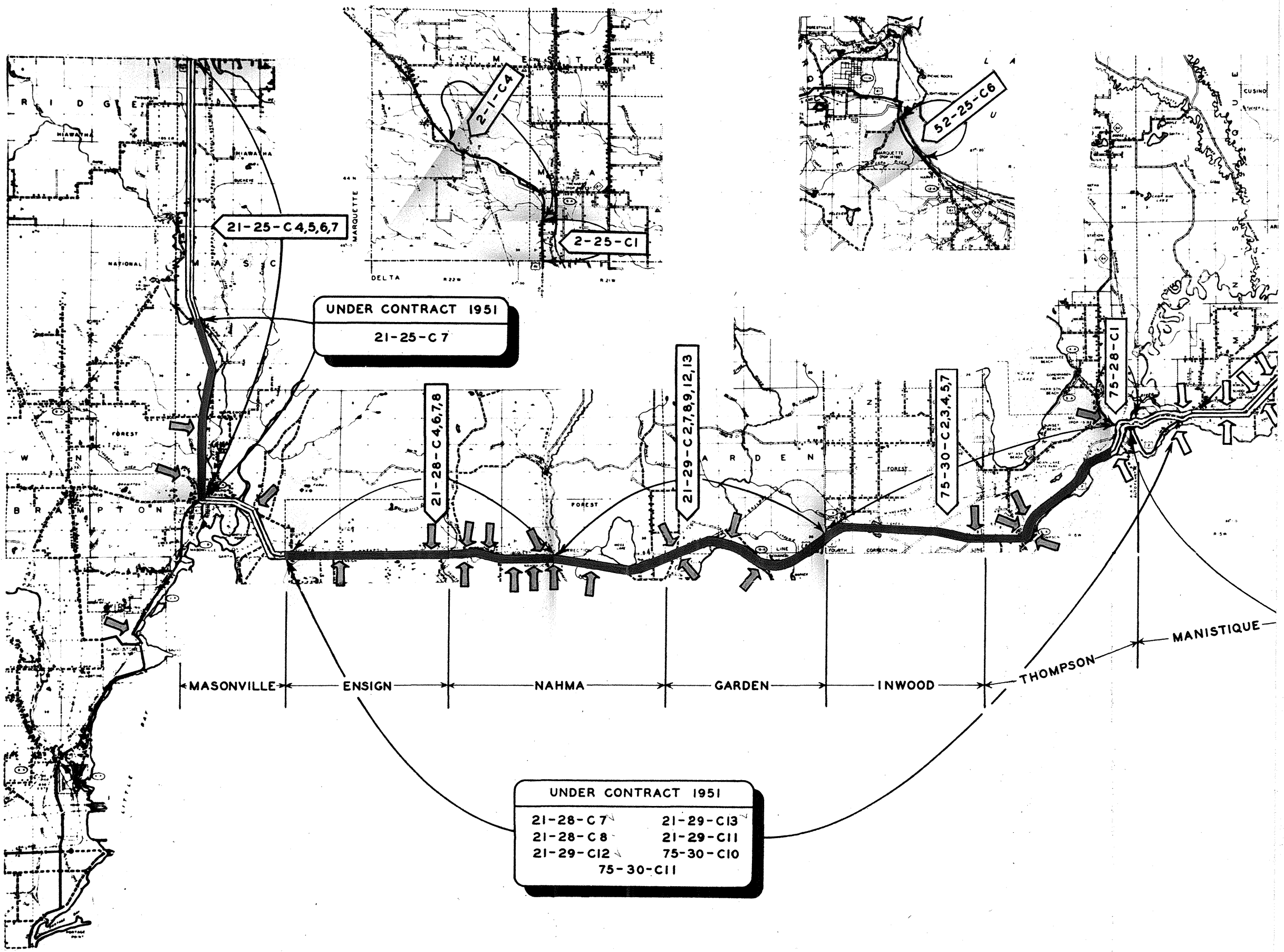
A - Inland Coarse Aggregate and Stone Sand E - Dry
C - Natural Aggregate H - Wet
D - Limestone Coarse Aggregate - Natural Sand S - Straight
B - Bituminous Non-Skid Surface Treatment C - Curve

TABLE II

SUMMARY OF PROPERTY DAMAGE AND PERSONAL INJURIES RESULTING FROM ACCIDENTS ON US-2
(Based on State Police accident reports)

	CARS INVOLVED			
	1948 July 25 to Dec. 5 4-month Period	1949 May 17 to Oct. 31 5-1/2-month Period	1950 May 7 to Dec. 4 7-month Period	1951 April 4 to Oct. 6 6-month Period
Number of cars	27	64	87	60
Low per car	\$50	\$20	\$25	\$10
High per car	\$600	\$900	\$800	\$700
Average per car	\$201	\$230	\$295	\$230.50
Total property damage	\$5440	\$14755	\$25670	\$13830
On a monthly basis	\$1380	\$2862	\$3667	\$2305
	PERSONS INVOLVED			
Number injured	15	29	37	42
Number hospitalized	11	21	34	23
Not hospitalized	1	7	2	18
Number deaths	1	1	1	1
Average daily traffic	1422	1580	1659	1800

Total vehicles



21-25-C4,5,6,7

2-1-C4

2-25-C1

52-25-C6

UNDER CONTRACT 1951
21-25-C7

21-28-C4,6,7,8

21-29-C2,7,8,9,12,13

75-30-C2,3,4,5,7

75-28-C1

MASONVILLE

ENSIGN

NAHMA

GARDEN

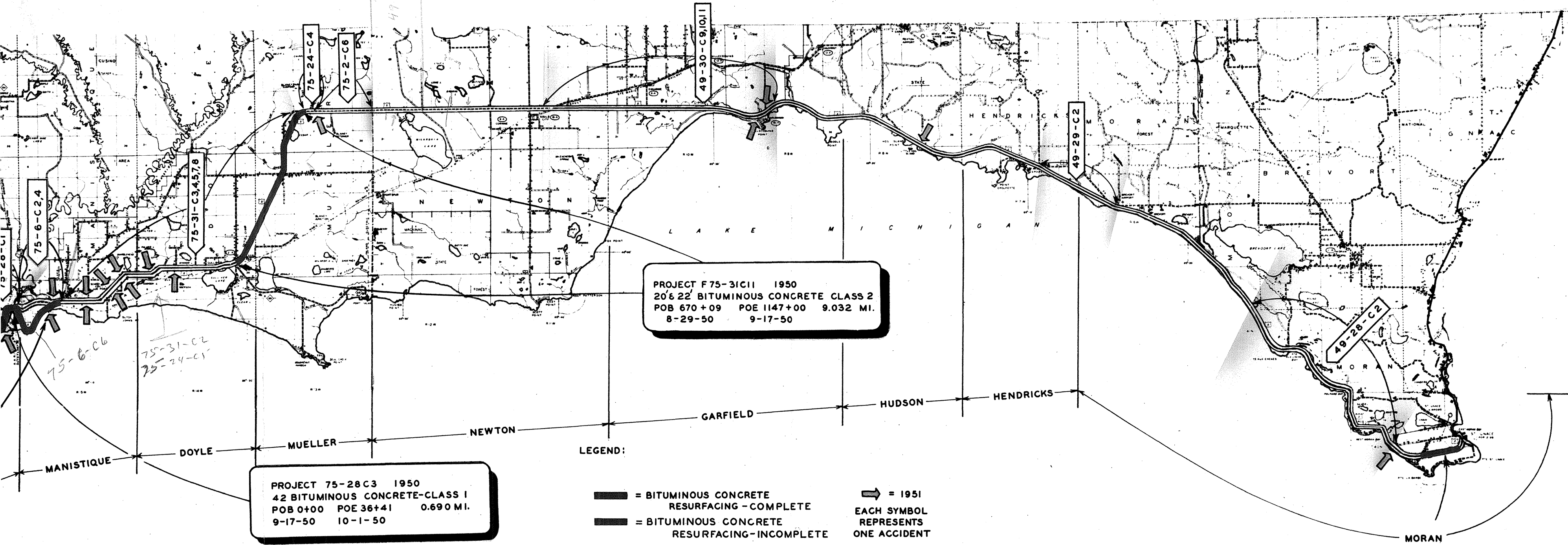
INWOOD

THOMPSON

MANISTIQUE

UNDER CONTRACT 1951

21-28-C7	21-29-C13
21-28-C8	21-29-C11
21-29-C12	75-30-C10
75-30-C11	



PROJECT F 75-31C11 1950
 20' & 22' BITUMINOUS CONCRETE CLASS 2
 POB 670+09 POE 1147+00 9.032 MI.
 8-29-50 9-17-50

PROJECT 75-28C3 1950
 42 BITUMINOUS CONCRETE-CLASS I
 POB 0+00 POE 36+41 0.690 MI.
 9-17-50 10-1-50

LEGEND:
 [Thick line symbol] = BITUMINOUS CONCRETE RESURFACING - COMPLETE
 [Thin line symbol] = BITUMINOUS CONCRETE RESURFACING - INCOMPLETE
 [Arrow symbol] = 1951
 EACH SYMBOL REPRESENTS ONE ACCIDENT

PROJECT M 49-42C2 1949
 BITUMINOUS CONCRETE RESURFACING
 POB 841+50 POE 874+23
 POB 944+65 POE 985+48
 1.4 MI.

SLIPPERY PAVEMENT CONDITION INVESTIGATION
STONE SAND CONCRETE PROJECTS
US-2 AND US-41 IN U.P.
ACCIDENT EXPERIENCE 1951