

## Flint River, Briggs Branch of

### Summary

The purpose of this report is to develop a solution to drainage problems presently occurring at 10272 Seymour. The study area is located in section 28 of Montrose, either side of Seymour Road north of Dodge Road.

Presently there is a drainage problem on the east side of Seymour Road. The existing drainage system is a private tile that according to the owner of 10272, was built in the 1930's by some government agency. There are no records of this storm tile being dedicated to any agency. The private tile drains Seymour Road to the east out letting to the Flint River. The property owner has expressed concern about 3 washouts along Seymour Road and 2 more on his property. The washouts were visually confirmed. The property owner also expressed concern about standing water on the property on the west side of Seymour Road.

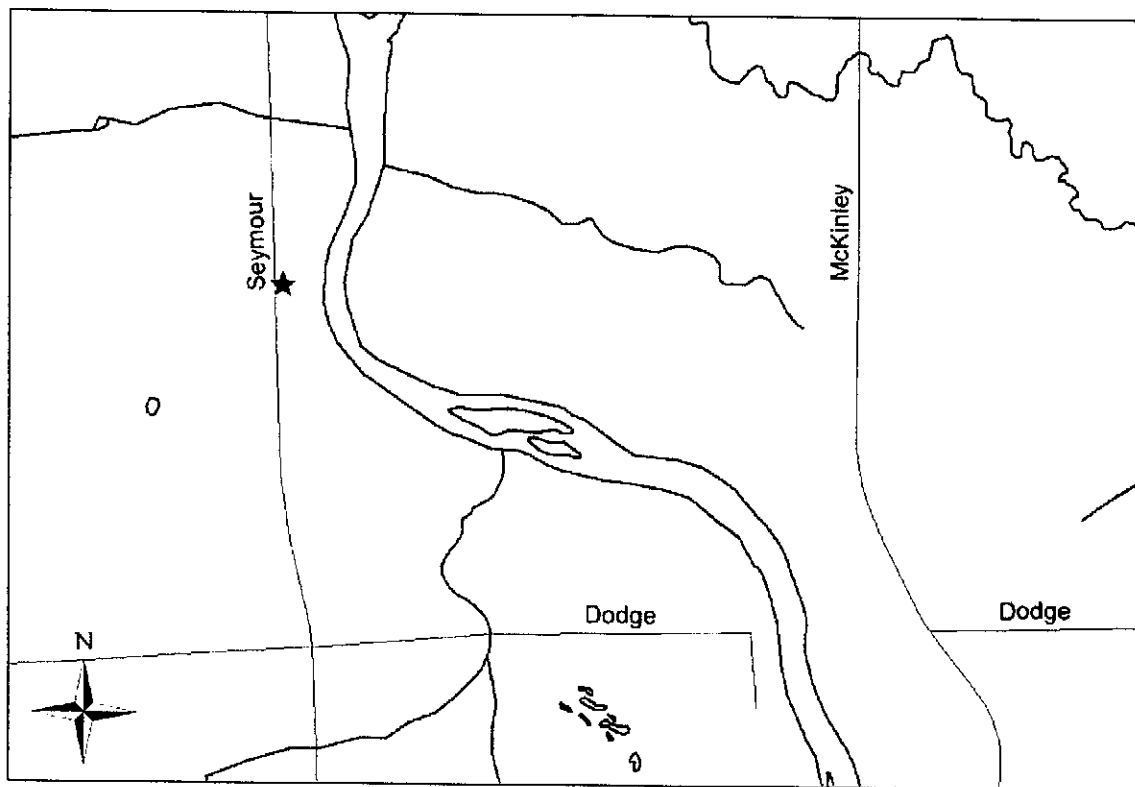
### Design Parameters

The contributing drainage area is less than 20 Acres. The Genesee County Drain Commissioner's Office design standard for the proposed ditch and/or pipe must pass the 10-year flow. Road crossings must pass the 25-year flow. The correct size to replace this storm sewer system would be an eighteen (18) inch pipe.

### Options

There are two options to correct this water problem on the east side of Seymour and 1 alternative to address the water on the west side of Seymour:

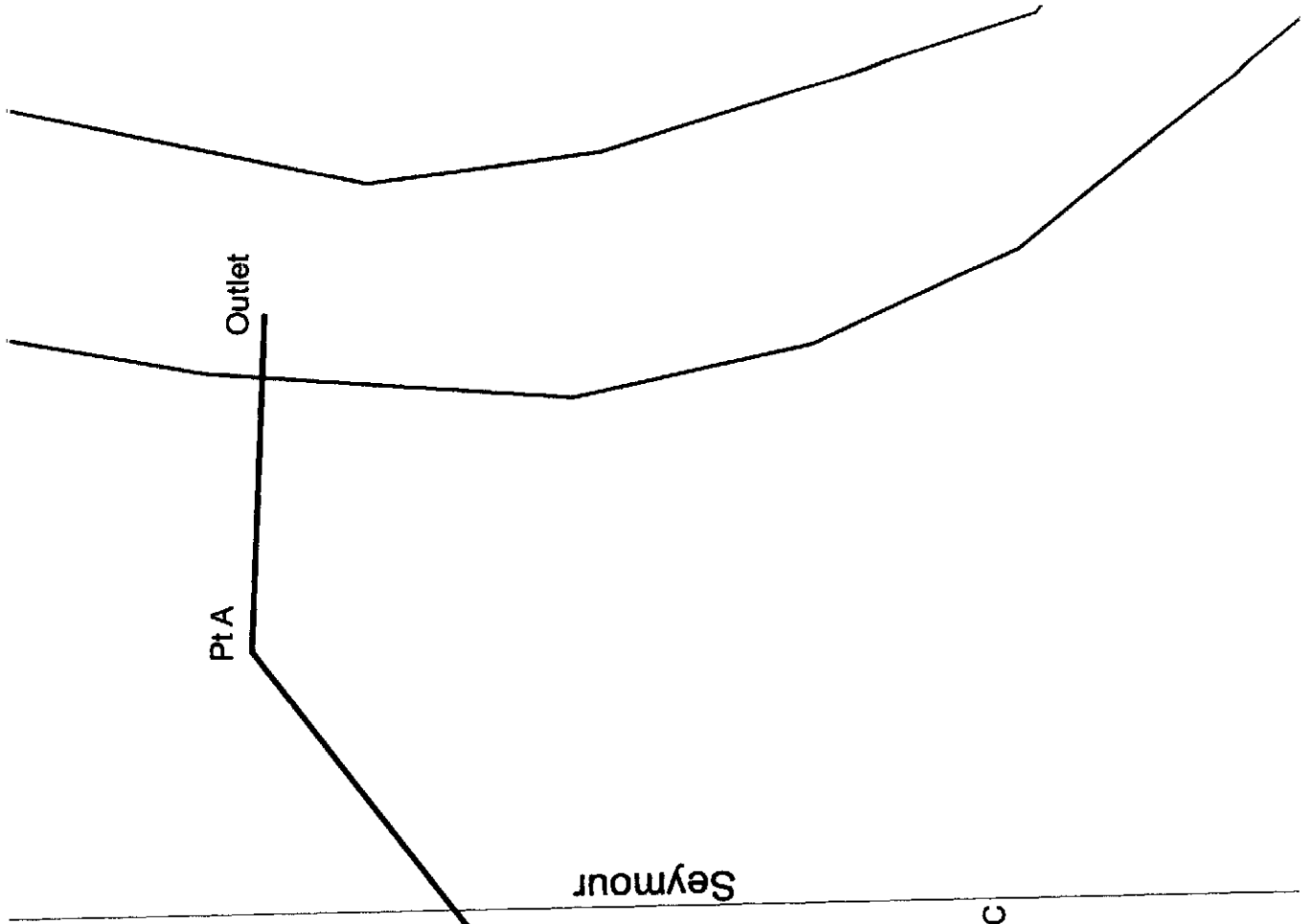
1. Replace the existing storm sewer with a new 18-inch from the Flint River to the west side of Seymour Road.
2. Rebuild storm sewer system from Seymour Road downstream out letting to existing ravine. Abandon existing private storm tile.
  - A. Do the above work for either option 1 or 2 and extend the storm south /west from Seymour Road to pick up the water on parcels 10209 and 10237.



Location Map

	Area (A) -acre	Total Area -acre	Runoff Coefficient (C)	Time Concentration (Tc) - minutes	Rainfall Intensity (I-10year) -inch	Flow (Q) -cfs	Pipe Diameter -inch	Pipe Slope	Pipe Distance -feet	Pipe Capacity -cfs
Pt D to Pt C	6.35	6.35	0.25	50	2.15	3.41	12	0.8	350	3.48
Pt C to Pt B	0.24	6.59	0.7	52	2.11	3.70	15	0.5	320	4.98
Pt B to Pt A	6.29	12.88	0.4	53	2.09	8.97	18	0.8	200	10.24
Pt A to Outlet	2.34	15.22	0.5	54	2.08	11.32	18	1.0	230	11.45

					(I-25year) -inch					
Seymour Road	0	12.88	0.70	53	2.40	10.30	18	1.0	60	11.45



Seymour

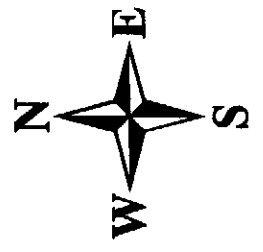
Outlet

Pt A

Pt B

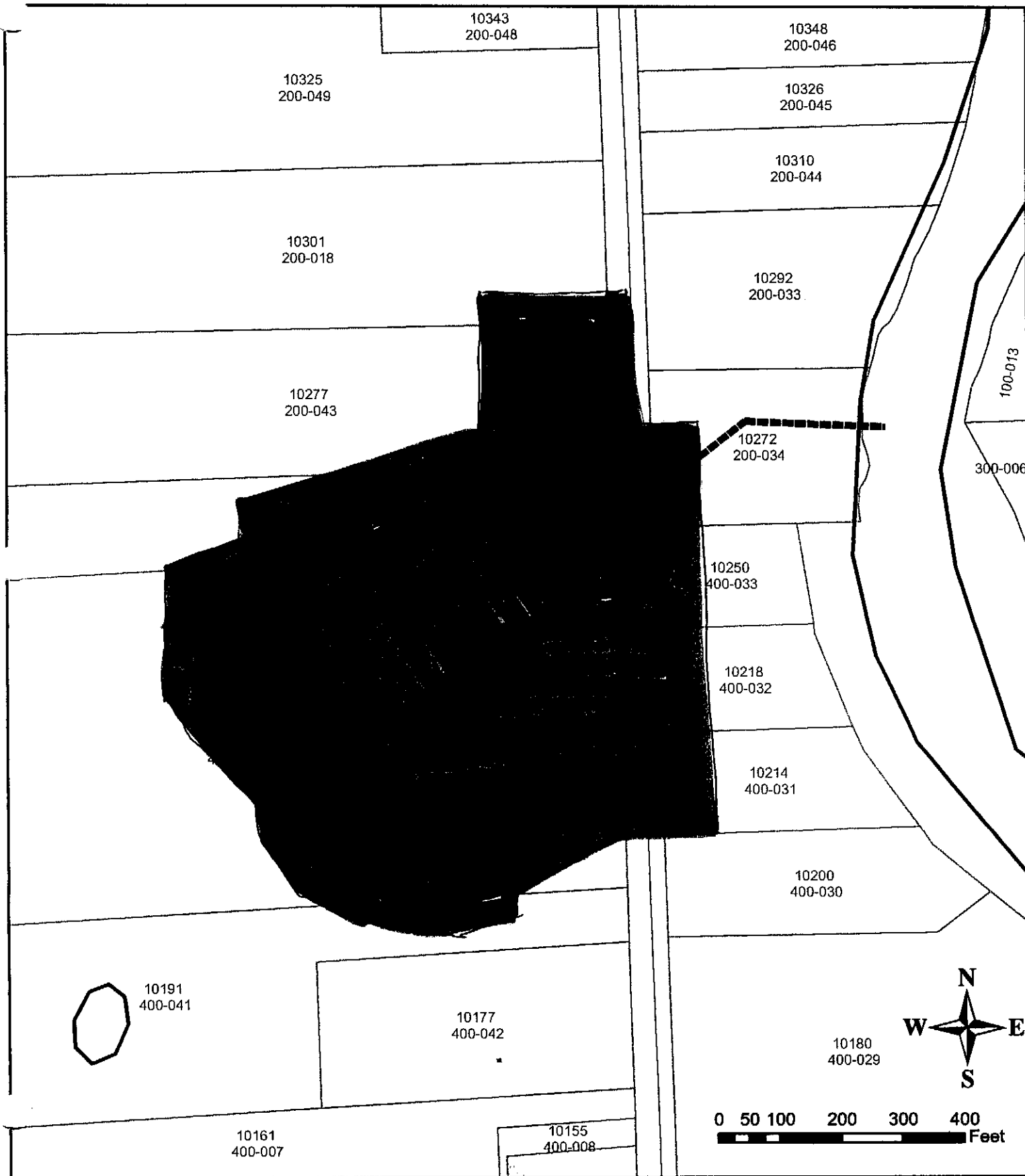
Pt C

Pt D



- Option 1 (solid line)
- Option 2 (dashed line)





### Option 1

Item	Quantity	Unit	Unit Price	Amount
1) 18" RCP C76- III, TD1	370	LF	\$39.00	\$14,430.00
2) 18" RCP C76- III, TD2	60	LF	\$90.00	\$5,400.00
3) 4' Diameter Drainage Structure, Catch Basin	3	Each	\$1,300.00	\$3,900.00
4) Plain Rip Rap	10	syd	\$45.00	\$450.00
5) Chemical Fertilizer Nutrient (240 lb/acre)	168	Lbs	\$2.00	\$336.00
6) Class A Seeding (200 lbs/acre)	140	Lbs	\$6.00	\$840.00
7) Mulch (2 ton/ Acre)	1.4	Ton	\$500.00	\$700.00
8) Soil Erosion & Sedimentation Control Measures	1	LS	\$500.00	\$500.00
Total				\$26,556.00

### Option 2

Item	Quantity	Unit	Unit Price	Amount
1) Selective Clearing and Grubbing existing ditch	330	LF	\$7.00	\$2,310.00
2) 18" RCP C76- III, TD1	40	LF	\$39.00	\$1,560.00
3) 18" RCP C76- III, TD2	60	LF	\$90.00	\$5,400.00
4) Abandon Farm Tile	1	LS	\$1,500.00	\$1,500.00
5) 4' Diameter Drainage Structure, Catch Basin	2	Each	\$1,300.00	\$2,600.00
6) Plain Rip Rap	50	syd	\$45.00	\$2,250.00
7) Chemical Fertilizer Nutrient (240 lb/acre)	48	Lbs	\$2.00	\$96.00
8) Class A Seeding (200 lbs/acre)	40	Lbs	\$6.00	\$240.00
9) Mulch (2 ton/ Acre)	0.4	TON	\$500.00	\$200.00
10) Soil Erosion & Sedimentation Control Measures	1	LS	\$500.00	\$500.00
Total				\$16,656.00

### Alternative A

Item	Quantity	Unit	Unit Price	Amount
1) 15" RCP C76	320	LF	\$30.00	\$9,600.00
2) 12" RCP C76	350	LF	\$24.00	\$8,400.00
3) 4' Diameter Drainage Structure, Catch Basin	2	Each	\$1,300.00	\$2,600.00
4) Chemical Fertilizer Nutrient (240 lb/acre)	75	Lbs	\$2.00	\$150.00
5) Class A Seeding (200 lbs/acre)	62	Lbs	\$6.00	\$372.00
6) Mulch (2 ton/ Acre)	0.62	TON	\$500.00	\$310.00
Total				\$21,432.00

Cost estimates are for construction only. Other expenses such as engineering, easement acquisition, and contingencies are not included.