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.

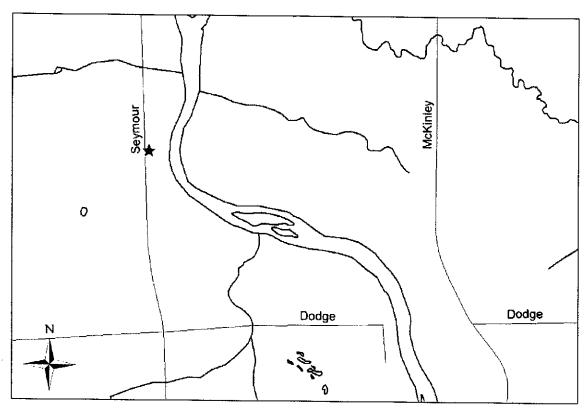
Design Parameters

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:

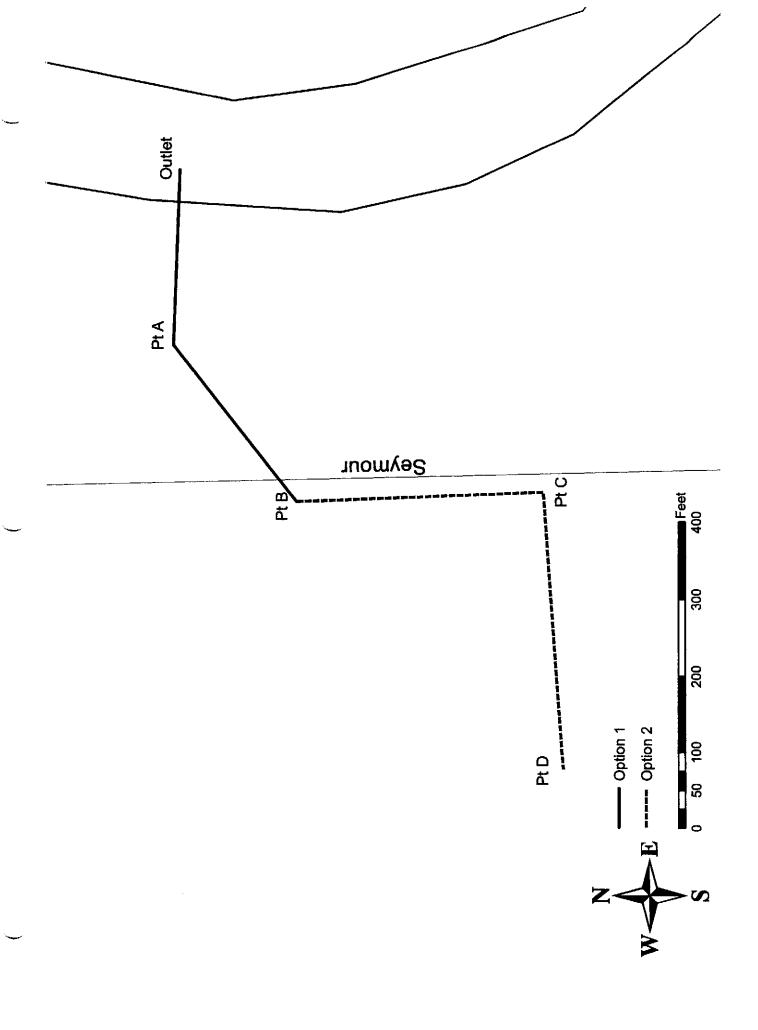
- Replace the existing storm sewer with a new 18-inch from the Flint River to the west side of Seymour Road.
- 2. Rebuild storm sewer system from Seymour Road downstream out letting to existing ravine. Abandon existing private storm tile.
 - A. Do the above work for either option 1 or 2 and extend the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

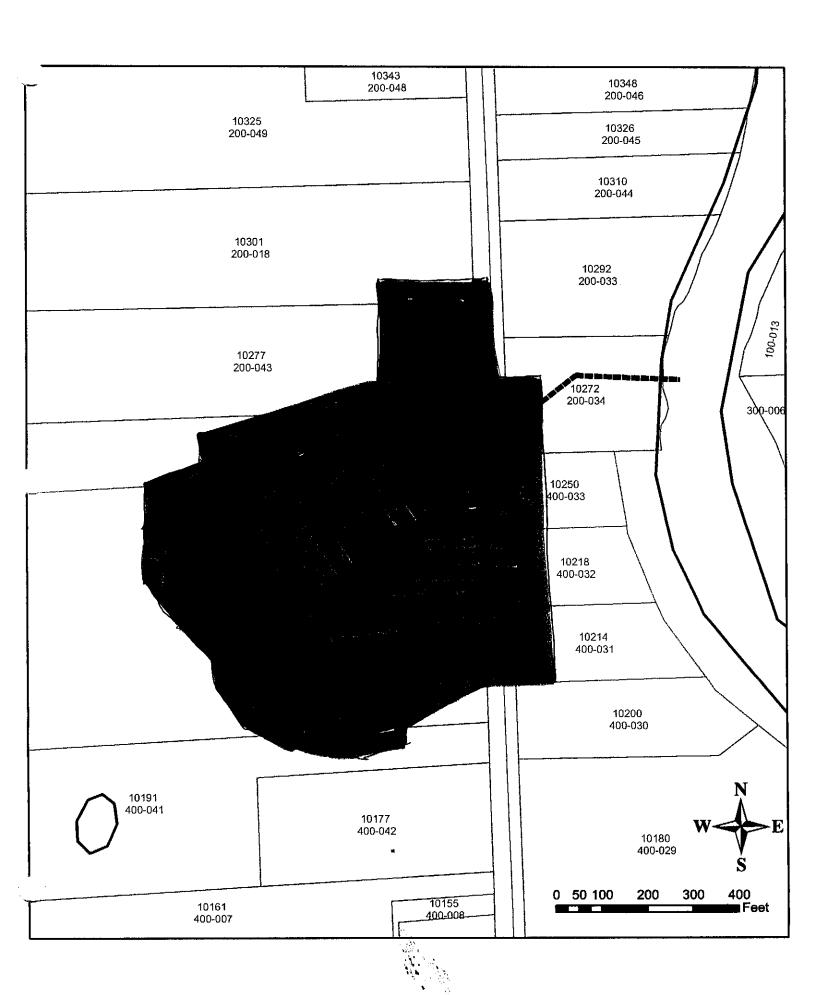


Location Map

	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

					-25year) nch					
		10.00			근두					
Seymour Road	0	12.88	0.70	53	2.40	10.30	18	1.0	60	11.45





Item	Opt	ion 1				•
18" RCP C76- III, TD1			Quantity	Unit	Unit Price	Amount
18" RCP C76- III, TD2	•	18" RCP C76- III, TD1	370	LF	\$39.00	
A Diameter Drainage Structure, Catch Basin 3 Each \$1,300.00 \$3,900.00 Plain Rip Rap 10 syd \$45.00 \$450.00 Chemical Fertilizer Nutrient (240 Ib/acre) 168 Lbs \$2.00 \$336.00 Chemical Fertilizer Nutrient (240 Ib/acre) 140 Lbs \$6.00 \$840.00 Mulch (2 ton/ Acre) 1.4 Ton \$500.00 \$700.00 Soil Erosion & Sedimentation Total		18" RCP C76- III, TD2	60	LF		
Plain Rip Rap	3)	4' Diameter Drainage Structure,				¥=1,0=0
Chemical Fertilizer Nutrient (240 lb/acre)	48	•				\$3,900.00
Ib/acre Class A Seeding (200 lbs/acre 140 Lbs	-	- •	10	syd	\$45.00	\$450.00
Class A Seeding (200 lbs/acre)	(د	•	168	l he	ድ ስ በስ	•
Mulch (2 ton/ Acre)	6)	•				
Soil Erosion & Sedimentation Control Measures 1 LS \$500.00 \$500.00 Total Total Total \$500.00 \$26,556.00						
Control Measures	-		1.4	1011	\$500.00	\$700.00
Total \$26,556.00	Ο,		. 1	LS	\$500.00	\$500 00
Selective Clearing and Grubbing existing ditch 330		· · · · · · · · · · · · · · · · · · ·	•		Ψ300.00	
Item		Total				\$20,550.00
1) Selective Clearing and Grubbing existing ditch 330 LF \$7.00 \$2,310.00 2) 18" RCP C76- Ill, TD1 40 LF \$39.00 \$1,560.00 3) 18" RCP C76- Ill, 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 \$16,656.00 Alternative A ltem Quantity Unit Unit Price Amount \$15" RCP C76 320 LF \$30.00 \$9,600.00 2) 12" RCP C76 320 LF \$30.00 \$9,600.00 2) 12" RCP C76 350 LF \$24.00 \$8,400.00 4' Diameter Drainage Structure, Catch Basin 2 Each \$1,300.00 \$2,600.00 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	Opt					
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4) Abandon Farm Tile 1 LS \$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 \$1 LS \$500.00 \$9,600.00 Alternative A Item Quantity Unit Unit Price \$9,600.00 \$9,600.00 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	3)	18" RCP C76- III, TD2	60	LF		
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7) Chemical Fertilizer Nutrient (240 b/acre)	6)	Plain Rip Rap	50	syd		
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Alternative A Item		Control Measures	1	LS	\$500.00	\$500.00
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				
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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	4)	Chemical Fertilizer Nutrient (240				
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6) Mulch (2 ton/ Acre) 0.62 TON \$500.00 \$310.00	-		62	Lbs		
	6)	•	0.62	TON	\$500.00	
		Total				

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