

Drain: F M MUSSELMAN **Drain #:** 234
Improvement/Arm: RECONSTRUCTION/EXTENSION
Operator: J. LIVINGSTON **Date:** 4-27-04
Drain Classification: Urban/Rural **Year Installed:** 1995

GIS Drain Input Checklist

- Pull Source Documents for Scanning JL
- Digitize & Attribute Tile Drains _____
- Digitize & Attribute Storm Drains _____
- Digitize & Attribute SSD _____
- Digitize & Attribute Open Ditch JL
- Stamp Plans _____
- Sum drain lengths & Validate _____
- Enter Improvements into Posse JL
- Enter Drain Age into Posse JL
- Sum drain length for Watershed in Posse JL
- Check Database entries for errors JL

Gasb 34 Footages for Historical Cost
Drain Length Log

Drain-Improvement: F M MUSSELMAN - RECONSTRUCTION / EXTENSIONAL

						If Applicable	
Drain Type:	Size:	Length	Length (DB Query)	Length Reconcile	Price:	Cost:	
RECONSTRUCTION		0'					
	DREDGING 12,100'						
	CLEARING 11.3 ACRES						
	SEDIMENT TRAPS						
	VARIOUS OUTLE STRUCTURES						
	SEEDING, ETC.						
						<u>143,505.⁴²</u>	
EXTENSION	OPEN DITCH	—	2200'	2200'		43,010. ⁴²	
Sum:			<u>2200'</u>	<u>2200'</u>		<u>\$186,515.⁴²</u>	

Final Report: _____

Comments:



SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor

Suite 146

776-8495

One Hamilton County Square

Noblesville, Indiana 46060-2239, ~~April 26, 1994~~

TO: Hamilton County Drainage Board

RE: F. M. Musselman Drainage Area

Attached are plans, specifications, drain map, drainage shed map and schedule of assessments for the reconstruction of the F. M. Musselman Drainage Area. The drainage area covers portions of Noblesville and Wayne Townships and consists of the F. M. Musselman main ditch, Arm 1 and Arm 2; W.S. Burnau-main drain and Arm #1; E. G. Barker Drain; and the Thomas Huggins Drain.

The F. M. Musselman Ditch was requested for Classification on March 12, 1975 by Gregg A. Bechtold and July 23, 1975 by Ralph Musselman and Roy Flanders. This drain was listed on the 1993 Drain Classification List as number seven (#7) and on the proposed 1994 Drain Classification as number two (#2). A petition for this proposed reconstruction has not been submitted.

The E. G. Barker Drain, also known as the George Barker Drain, was constructed through the Hamilton County Commissioner's Court between 1911 and 1913 at a cost of \$70.00. The drain consists of 2,237 feet of tile.

The Thomas Huggins Drain was constructed through the Hamilton County Commissioner's Court in 1904. The original drain consisted of 400 feet of tile and was constructed at a cost of \$109.00. The drain was reconstructed in 1982, due to the construction of an residence over the top of the drain. The relocation was done at the expense of the property owner. The drain now consists of approximately 425 feet of tile.

The original construction reports and other information for the W. S. Burnau Drain can not be found. Information concerning this drain has been drawn from other resources for its repair and

maps, such as the 1932 drain map. The drain consists of a main drain and an arm. The main drain consists of approximately 5000 feet of tile and 350 feet of open ditch. The arm consists of approximately 200 feet of tile. The approximate total length is 7,350 feet. The drain was repaired as part of the S. H. Scarce Drain in 1915, 1916 and 1924. In 1922 and 1949 repairs to the Burnau were at a cost of \$98.73 and \$113.00 respectively.

The F. M. Musselman Ditch began in 1882 as the Issaac Miesse or the Miesse and Teeters or the Miesse Drainage Company, which was petitioned through the Circuit Court. This ditch followed the course of a stream known as Dry Branch and consisted of 19,500 feet of open ditch, constructed at a cost of \$1,834.89. Sometime prior to 1898, the upper portion of the ditch was tiled between STA 0 and STA 71. The drain was later repaired in 1898 and 1906 between STA 71 and STA 193. In 1908 the drain was reconstructed through the Hamilton County Circuit Court under the name of F. M. Musselman Drain. The drain consisted of a main drain, being practically the same as the Miesse Drain, with a length of 15,376 feet of tile and 4,024 feet of open ditch with a total length of 19,300 feet. Arm #1 consisted of 1,900 feet of tile and Arm #2 consisted of 955 feet of tile. The drain was 22,155 feet in length and cost \$6,566.45 to construct. In 1915 the drain was repaired between STA 155+82 to STA 180+00 as the C. H. Scarce Drain by tiling this portion of the F. M. Musselman open ditch. In 1928-1929 the F. M. Musselman was again reconstructed by dredging the open ditch between STA 31+24 and STA 180+00 at a cost of \$7,941.23. In 1990, Arm #2 of the Musselman Drain was reconstructed at a cost of \$14,847.00. The reconstruction replaced the original arm with 885 feet of tile.

The attached plans and specification for the reconstruction were prepared by the Hamilton County Soil and Water Conservation District. The cost estimate for the work is as follows:

COST ESTIMATE

MAIN CHANNEL

1.	CLEARING-12.3 acres at \$3,000.00/acre	\$ 36,900.00
2.	JUNK PILES-dispose	3,000.00
3.	CHANNEL DREDGING-12,100 feet @ \$2.50/foot	30,000.00
4.	TILE OUTLETS (many under water)	
	18" CMP 20 foot section with animal guards-1	350.00
	8" CMP 20 foot section with animal guard-1	200.00
	Estimated need for the project	5,000.00
5.	SEDIMENT TRAPS 7 @ \$270.00/each	1,890.00
6.	REMOVE EXISTING PIPE CROSSING at STA 44+50	500.00
7.	INSTALL PIPE CROSSING at STA 90+70	
	Remove existing crossing	1,000.00

	Purchase 7'x 38' Tank Car Pipe	3,500.00
	Install two (2) pipes per plan	1,000.00
	Install Rip Rap and Gravel Drive	500.00
8.	INSTALL FARM CROSSING at STA 118+75	8,500.00
9.	CLEAN OUT UNDER TWO(2)COUNTY BRIDGES @ \$300.00 each	600.00
10.	INSTALL SURFACE PIPES PER detail and schedule five (5) @ \$850.00/each	4,250.00
11.	INSTALL EROSION CONTROL STRUCTURES	
	STR #1 Pipe w/canopy inlet	900.00
	STR #2 Pipe w/canopy inlet	900.00
	STR #3 Rock Chute	2,500.00
	STR #4 Rock Chute	2,500.00
	STR #5 Pipe w/drop inlet	2,500.00
12.	SEEDING AND FERTILIZATION 16.5 acres @ \$1000.00/acre	16,500.00
		<hr/>
		\$125,740.00

MAIN TILE

1.	REPAIR 24" TILE HOLE	50.00
2.	REPAIR JUNCTION BOX PER PLAN	400.00
3.	INSTALL 12" CONCRETE TILE, 250 FT @ \$6.00/FT	1,500.00
4.	CRUSH ABANDONED TILE	300.00
5.	REPAIR TILE HOLES IN 12" TILE, 60FT @ \$6.00FT	360.00
6.	INSTALL SIX (6") INCH PLASTIC TILE 50 FT @ \$2.00/FT	100.00
7.	INSTALL EIGHT (8") INCH CMP TILE OUTLET W/ANIMAL GUARD	250.00
8.	INSTALL ANIMAL GUARD ON EXISTING 15" CMP	40.00
		<hr/>
		\$ 3,000.00

BARNAU DRAIN

1.	Uncover tile outlet and install 21" CMP w/a.g.	500.00
2.	Repair small tile holes in the 15" or 16" tile 20 feet @ \$8.00/ft	160.00
3.	Repair large tile holes at corner of woods Repair 15" or 16" concrete tile 25' @ \$8.00/ft	200.00
	Install 16"x10" tee	40.00
	Install 10" tile, 10ft @ \$4.00/ft	40.00
	Fill in gully and tile hole and regrade swale 100ft @ \$3.00/ft	300.00
4.	Clearing as specified, 1 acre @ \$3,000.00/ac	3,000.00
5.	Repair 12" tile hole in woods, 25ft @ \$6.00/ft	150.00
6.	Install tile breathers, 2 @ \$100.00/each	200.00
7.	Seed and fertilize disturbed areas, 1.1 acres @ \$1000.000 /acre	1,100.00
		<hr/>
		\$ 5,690.00

THOMAS HUGGINS DRAIN

1. Clean out open ditch outlet, 30ft @ \$2.00/ft	60.00
2. Install animal guard on outlet pipe	30.00
3. Seed and fertilize disturbed areas, 0.1 acre at \$1000.00	100.00
	\$ 190.00

ARM #1

1. Clearing per plan, 0.1 acre at \$3,000.00/ac	300.00
2. Repair tile holes-10" or 12" tile 25ft @ \$6.00/ft	150.00
3. Install tile breathers, 1 @ \$100.00/each	100.00
	\$ 550.00

In order to reduce the reconstruction assessment to a more reasonable amount, I recommend the work outlined for the main tile, Arm #1, Burnau and Thomas Huggins be done as maintenance. In so doing the cost estimate for the reconstruction work is as follows:

Reconstruction Cost	\$125,740.00
10% Cont.	12,574.00
TOTAL	\$138,314.00

Upon review of the proposed project I do not believe any damages will result to land owners by this project. Therefore, damages for each tract shall be set at \$0.00.

The drainage shed for this drain consists of 2,862.50 acres. I have reviewed the drainage shed for the proposed reconstruction and upon considering each parcel individually, I believe that each parcel will have equal benefits as provided by the drain. I recommend the Board assess each tract \$37.00 per acre with a minimum assessment of \$250.00 per tract.

The proposal will extend the existing regulated drain approximately 2200 feet. The extension will be that portion of existing natural channel

from STATION 196 of the Meisse description to the drains intersection with White River. I am recommending this so that the entire length of the drain will be protected as regulated drain and so that work which may need to be done on this section can be accomplished. In extending the drain, additional or new easement will be placed on part of the following tracts.

07-20-04-01-019.000	Dillinger, Steven And Judy
07-20-00-00-038.000	Waterway Holding
07-20-00-00-039.001	Precedent Partners
07-21-00-00-036.000	Shell, John & Brenda TO: MWS, Inc.
07-21-00-00-037.000	Waterway Holding
07-21-00-00-039.000	Helton, Elmer & Amy
07-21-00-00-041.000	Waterway Holding
07-21-00-01-001.000	Allison, Michael S. & Marsha S.

Not shown on the plans, but shall be considered as part of the reconstruction plans is the placement of 20' filter strips along both sides of the drain. THESE shall be installed by the contractor as part of the leveling and seeding of the spoil. These shall be maintained annually as part of the maintenance program as per IC 6-1.1-6.7.

I recommend the Board place the F. M. Musselman Drainage Area on a maintenance program as set out in IC 36-9-27-38. This will include maintenance for the E.M. Musselman, E.G. Barker, W.S. Burnau Drains and the Thomas Huggins Drain.

The nature of maintenance work which may be required is as follows:

- A. Removal and/or prevention of brush within the drainage easement.
- B. Re-excavating of open ditch to original grade line
- C. Installation and/or repair of surface water structures as

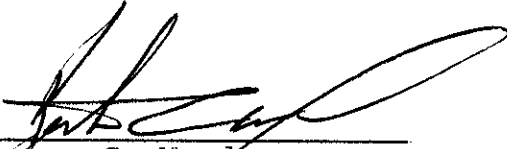
- might be required
- D. Bank erosion protection and/or seeding as might be required
 - E. Repair of private tile outlet ends as might be required
 - F. Repair of regulated tile outlet at drain ends
 - G. Replacement of broken tile on the regulated drain
 - H. Cleaning and/or repair of existing catch basins as might be required
 - I. Installation of catch basins or inlets as may be required
 - J. Removal of debris and/or blockage from the existing tile drain
 - K. Installation and/or repair of breather pipes
 - L. Removal of debris and/or blockage from the existing open drain
 - M. Maintain grass filter strips
 - N. Any other repairs necessary to restore the drain to its original intended condition and use.

The frequency with which maintenance work should be performed is annually as required by the condition of the drain.

I have reviewed the plans and drainage shed and believe that the drain will benefit each tract equally for the purpose of maintenance. Therefore, I recommend each tract within the drainage shed be assessed for maintenance equally at a rate of \$3.00 per acre with a minimum assessment set at \$25.00 per tract. The annual maintenance collection will be \$12,019.36.

At this time the F.M. Musselman Drain-Arm #2 is on a maintenance program. The assessment for this arm is \$5.00 per acre with a \$25.00 minimum. The total assessment is \$1,048.28 and the fund currently has a balance of \$333.86, which does not include the 1994 collections nor any work orders which may be pending completion. The cost of maintenance for this Arm #2 shall be paid from fund now established until the fund is depleted. At that time the cost of work should be paid from the maintenance fund established for the F. M. Musselman Drainage Area. The collections for this arm should be discontinued beginning in 1995.

I recommend the Board set a hearing for this proposed reconstruction and maintenance project for June 1994.



Kenton C. Ward
Hamilton County Surveyor

KCW/no



SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor Suite 146
 776-8495 One Hamilton County Square
 Noblesville, Indiana 46060-2230

February 13, 1995

To: Hamilton County Drainage Board

Re: F.M. Musselman Drainage Area

Attached are plans, specifications, drain map, drainage shed map and schedule of assessments for the reconstruction of the F.M. Musselman Drainage Area. The drainage area covers portions of Noblesville and Wayne Townships and consists of the F.M. Musselman main ditch, Arm 1 and Arm 2; W.S. Burnau main drain and Arm 1; E.G. Barker Drain; and the Thomas Huggins Drain.

A hearing was held for this matter on June 27, 1994 (See Ditch Record Book 3, page 257) covering my original reconstruction report dated April 26, 1994. At that time the drain was placed on maintenance and the reconstruction was tabled until March 1995.

The attached plans and specifications for the reconstruction were prepared by the Hamilton County Soil & Water Conservation District. The cost estimate for the work is as follows:

MAIN CHANNEL

1. Clearing 12.3 acres at \$3,000/acre	\$36,900.00
2. Junk Piles - dispose	3,000.00
3. Channel dredging - 12,100' at \$4.25/foot	51,425.00
4. Tile outlets (many under water)	
18" CMP 20' section with animal guard-1	350.00
3" CMP 20' section with animal guard-1	200.00
Estimated need for the project	5,000.00
5. Sediment traps 7 @ \$270/each	1,890.00
6. Remove existing pipe crossing at Sta. 44+50	1,000.00
7. Install pipe crossing at Sta. 90+70	
Remove existing crossing	1,000.00
Purchase 7'x38' tank car pipe	3,500.00
Install two (2) pipes per plan	1,000.00
Install riprap and gravel drive	500.00
8. Install farm crossing at Sta. 118+75	8,500.00
9. Clean out under the County Bridges-2 @\$300/each	600.00
10. Install surface pipes per detail and schedule	
5 at \$1,000/each	5,000.00
11. Install erosion control structures	
Str. 1 Pipe w/canopy inlet	900.00
Str. 2 Pipe w/canopy inlet	900.00
Str. 3 Rock Chute	2,500.00
Str. 4 Rock Chute	2,500.00
Str. 5 Pipe w/Drop inlet	2,500.00
Str. 6 Pipe w/Drop inlet	2,500.00
12. Seeding & fertilization - 16.5 acres @\$1000/ac	16,500.00
	148,165.00
	24,816.50
	\$162,981.50

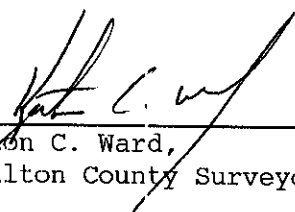
Please note that the work proposed on the main tile, Arm 1; Burnau and Thomas Huggins, with will be or has been done under maintenance per my April 26, 1994 report.

Not shown on the plans, but shall be considered as part of the reconstruction plans is the placement of ^{two} 20' filter strips along both sides of the drain. These shall be installed by the contractor as part of the leveling and seeding of the spoil. These shall be maintained annually as part of the maintenance program as per IC 6-1.1-6.7.

Upon review of the proposed project I do not believe any damages will result to land owners by this project. Therefore, damages for each tract shall be set at \$0.00.

The drainage shed for this drain consists of 2,913.33 acres and 224 lots. I have reviewed the drainage shed for the proposed reconstruction and upon considering each parcel individually, I believe that each parcel will have equal benefits as provided by the drain. I recommend the Board assess each tract \$35.56 per acre with a minimum assessment of \$200.00 per tract. The assessment for the original reconstruction report was \$37.00 per acre with a \$250.00 minimum assessment per tract.

I recommend the Board set a March 1995 hearing for this proposal.



Kenton C. Ward,
Hamilton County Surveyor

KCW/jh

TO: Kent Ward
Hamilton County Surveyor

May 1, 1997

RE: F. M. Musselman Reconstruction Project

FINAL INSPECTION REPORT

Please regard this letter as the final inspector's report on the F. M. Musselman Regulated Drain, Loacated in Section 21,22,&23 , Township 19 North , Range 5 East, in Noblesville& Wayne Townships of Hamilton County. As of the date of this letter I do hereby attest to and agree that the designed plans and additional change orders have been built. All grade checks have been completed by James V. Wyant and Frank Mills of the Surveyors Office. All other inspections have been performed by myself. Their were 4 change order items or additional to this project.

Change Order #1 dated--7-8-96	approved by board --7-8-96
45' of 6" plastic pipe-----	\$205.65
1-6" CMP w/animal guard-----	\$162.00
14.99yards rip rap at \$25.00 per yd.-----	\$374.75
1hr. laborer-saw at \$18.37-----	\$ 18.37
54 yd. fill dirt at \$10.00 per yd.-----	\$540.00
3hr. Supervisor at \$25.00 perhr.-----	\$ 75.00
1hr. 580L backhoe/loader at \$60.00 per hr.-----	\$ 60.00
2.5hr. 170B Excavator at \$115.00 per hr.-----	<u>\$287.00</u>
Sub Total=	\$1386.27

14.8yds. rip rap installed at Sta. 16+50 -----	\$370.00
31.34yds. rip rap installed at Sta. 26+25-----	\$783.50
47.14yds. rip rap installed at Sta. 118+75-----	<u>\$1178.50</u>
Sub Total=	\$2332.00
Total=	\$3718.27

Change Order #2 dated--7-31-96	approved by board--8-26-96
130' of 6" plastic tile at \$4.75 per ft.-----	\$594.10
280' of 15" concrete tile at \$7.75 per ft.-----	\$2170.00
110' of 12" concrete tile at \$7.35 per ft.-----	\$808.50
10' of 8" CMP at \$9.10 per ft.-----	\$91.00
10' of 15" CMP at \$11.00 per ft.-----	\$110.00
1-8" animal guard -----	\$9.46
1-15" animal guard-----	\$23.50
10.2 yds. of gravel fill-----	<u>\$255.00</u>
Total=	\$4061.56

Change Order #3 dated --9-30-96 approved by board 10-28-96
 (1)- 12'gate (1)- lock & 3' of chain-----\$60.65

Change Order #4 dated--12-12-96 approved by board 12-23-96
 replacement of tile under 206th & Olio Rd.-----\$11,500.00

Bid cost-----\$121,730.00
 Change Order #1-----\$ 3,718.27
 Change Order #2-----\$ 4,061.56
 Change Order #3-----\$ 60.65
 Change Order #4-----\$ 11,500.00
 Additional Outlet Pipes-----\$ 1,866.00
 Additional Tile-----\$ 367.94
 IDNR Fee-----\$ 50.00
 Total= \$143,354.42

Certified amount dated--9-25-95-----\$144,911.78

Claim #1---submitted ---1-5-96-----\$ 12,280.00 pd. 2-2-96
 Claim #2---submitted---1-31-96-----\$ 9,600.00 pd. 3-4-96
 Claim #3---submitted---3-20-96-----\$ 14,400.00 pd. 5-3-96
 Claim #4---submitted---4-4-96-----\$ 7,500.00 pd. 5-3-96
 Claim #5---submitted---5-1-96-----\$ 7,800.00 pd. 6-7-96
 Claim #6---submitted---6-6-96-----\$ 10,700.00 pd. 7-5-96
 Claim #7---submitted---7-3-96-----\$ 31,839.94 pd. 8-27-96
 Claim #8---submitted---7-3-96-----\$ 6,500.00 pd. 8-27-96
 Claim #9---submitted---8-1-96-----\$ 12,175.00 pd. 9-10-96
 under payment for clearing---submitted--9-6-96-----\$ 120.00 pd. 9-24-96
 Claim #10-submitted---9-6-96-----\$ 3,718.27 pd. 9-24-96
 " "-----\$ 4,061.56 pd. 9-24-96
 Claim #11-submitted---10-1-96-----\$ 3,200.00 pd. 10-29-96
 Claim #12-submitted---11-1-96-----\$ 60.65 pd. 12-10-96
 Claim #13-submitted---2-3-97-----\$ 11,500.00 pd. 2-11-97
 IDNR fee-----\$ 50.00
 Total= \$ 135,505.42

\$ 135,505.42
 Burrow's Bridge (deleted from contract)-----+\$ 7,600.00
 15" CMP w/animal guard (deleted from contract)-----+\$ 249.00
 \$ 143,354.42

Certified amount-----\$144,911.78
 Final Cost-----\$143,505.42
 Balance = 1,406.36

My recommendation is to place balance in the maintenance fund. This will help pay for items not covered by the reconstruction.

Sincerely,

Stephen Baitz