



Kenton C. Ward, CFM
Surveyor of Hamilton County
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Suite 188
One Hamilton County Square
Noblesville, Indiana 46060-2230

December 20, 2019

TO: Hamilton County Drainage Board

RE: F.M. Musselman Drain, W.S. Burnau Arm Reconstruction

This is a revised report for the reconstruction of the W.S. Burnau Arm of the F.M. Musselman Drain. On April 23, 2018 the Board had a hearing on my February 13, 2018 report (See Hamilton County Drainage Board Minutes Book 18, pages 110-126). At that meeting the Board tabled the hearing and asked that the project be reduced in scope. After many discussions, further surveying and various internal sketch designs, the redesign was sent to VS Engineering at the Board's June 24, 2019 meeting (See Hamilton County Drainage Board Minutes Book 18, pages 497-499). The revised plan was brought to the Board's September 23, 2019 meeting at which time the Board set bids for the revised plan for October 28, 2019 (see Hamilton County Drainage Board Minutes Book 19, pages 24-26). At the October 28, 2019 meeting the Board received one bid from Hoosier Pride Excavating in the amount of \$387,735.92. and referred the bid to the Surveyor's Office for review (see Hamilton County Drainage Board Minutes Book 19, page 40). At the November 12, 2019 meeting the Board set a continuation of the public hearing based on the Hoosier Pride bid for January 27, 2020 (see Hamilton County Drainage Board Minutes Book 19, pages 55-56).

The revised plan is greatly reduced in scope. The project as described below is an interim solution to a localized drainage problem in the upstream portion of the drainage shed. The project as described in my report dated February 13, 2018 is what is needed to address all of the current and future needs of the drainage shed.

The revised plan begins at a point approximately 730 feet north of the centerline of 191st Street as a grass waterway parallel to the existing Burnau tile drain. The waterway shall follow in a parallel line next to the tile in a southerly direction 720 feet, thence crossing under 191st Street and continuing south from 191st Street 275 feet to a linear detention/storage area to be located on the Roth property. The detention/storage area shall be 650 feet in length and have a bottom width of 10 feet with a 4:1 side slope with 682 feet of sub-surface drain (SSD).

At approximately Sta. 7+05 of the main Burnau Drain an overflow structure will be installed so as to allow overflow out of the main tile once it surcharges into the pond area on Roth. At approximately Sta. 10+30 of the main Burnau Drain, an inlet to the main drain from the detention/storage area shall be installed. This will consist of 20' of 8" tile.

Also to be constructed is the new Arm 2 of the original February 2018 report across the Roth Lot on Mallory Road, 3 Percent Holdings LLC and Ogle properties. This arm begins at approximately Sta. 7+05 of the main Burnau Drain and runs east 272 feet across the Roth Lot and under Mallory Road; thence south 327 feet parallel to Mallory Road; thence east 158 feet, thence south 87 feet across the 3 Percent Holdings LLC property (was Wampler property) and continuing 80 feet south onto the Ogle property. Arm 2 shall consist of 12" tile throughout. All construction shall be within existing regulated drain easements.

As outlined on page 8 in my February 2018 report there are soft costs associated with the project. These consists of engineering, appraisals and easements costs. These costs are as follows:

Engineering – original contract	\$49,250.00
Contract amendment	<u>\$21,100.00</u>
	\$70,350.00
Appraisals	\$ 2,400.00
Easements	<u>\$26,380.00</u>
Total soft costs	\$99,130.00

The construction costs for the project per the bid from Hoosier Pride plus 15% contingency is as follows:

Construction Bid	\$387,735.92
15% Contingency	<u>\$ 58,160.30</u>
	\$445,896.31

The costs for crossing 191st Street and Mallory Road shall be paid by the Hamilton County Highway Department as per IC 36-9-27-71. These costs including ancillary costs are \$111,247.34.

There are two options for assessing the costs for this work. Option 1 spreads the construction costs and soft costs over the entire Burnau Drainage Shed. Option 2 spread the soft costs over the entire Burnau Drainage Shed while spreading the construction costs over just the portion of the drainage shed that benefits from the reduced scope project.

The per acre costs for the project is as follows:

Option 1		\$1,170.88
Option 2	soft costs	\$ 267.58
	Construction costs	\$2,144.23

I also believe that no damages will result to landowners by the reconstruction of this drain. Therefore, damages shall be set at \$0.00.

Sincerely,

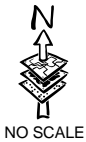
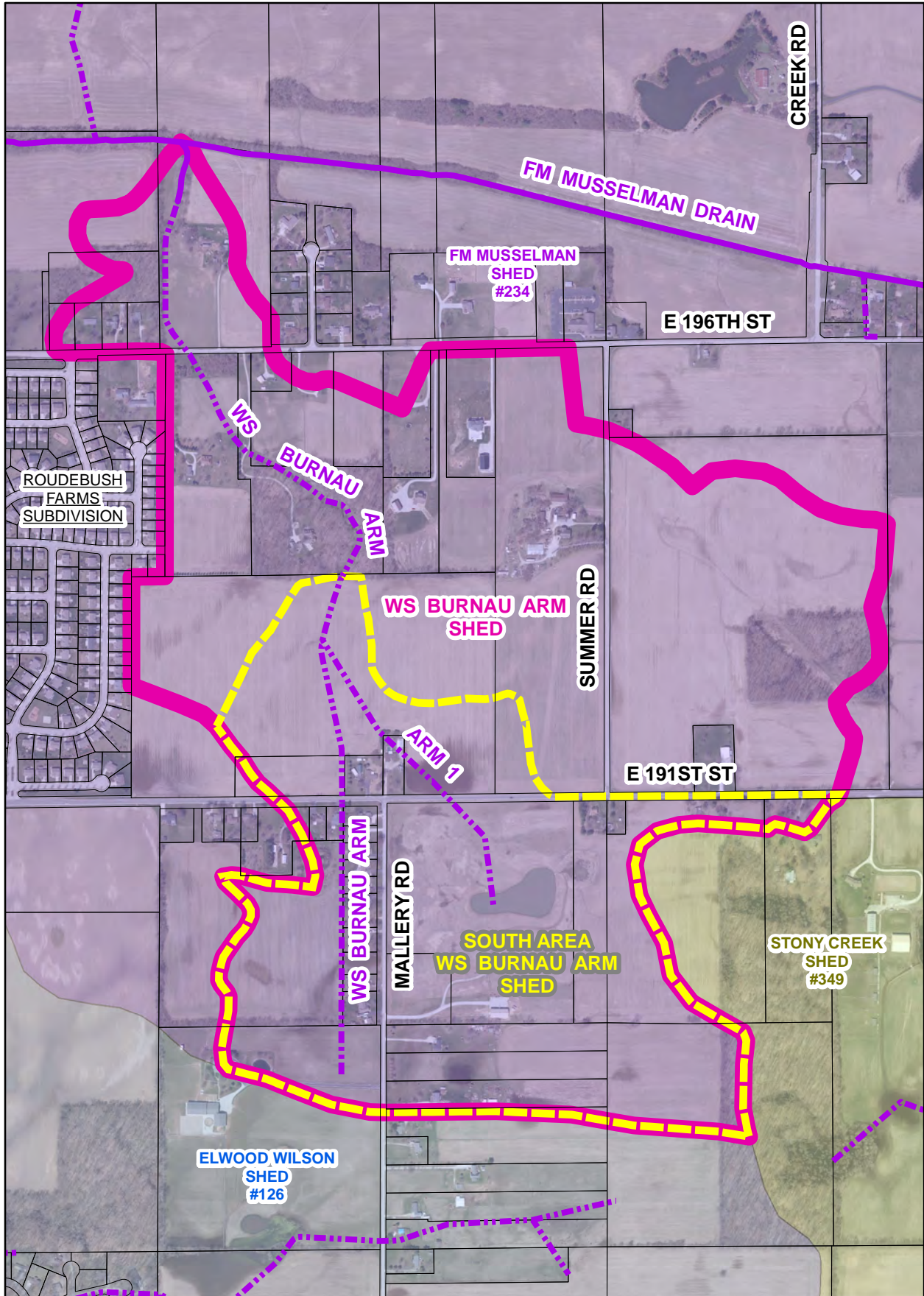


Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/pll



WS BURNAU ARM SHED

FM Musselman Drain #234



Printing Date: 12/24/2019
Prepared By: Darren Wilson, GISP
Hamilton County Surveyor's Office
One Hamilton County Square, Ste 188
Noblesville, IN 46060
317-776-8495

Proposed Sheds

-  PROPOSED WS BURNAU SHED
-  PROPOSED WS BURNAU SHED - SOUTH AREA

W.S. Burnau Arm to F.M. Musselman (Based on 10/28/19 Hoosier Pride Bid)

Original Reconstruction Hearing: 04/23/18	Construction cost estimate: \$1,643,018.80	Option 1 Bid \$387,735.92	Option 2
Continuation hearing based on revised plan: 01/27/20	Easement appraisal & purchases: \$28,780.00	15% Cont. \$58,160.39	Soft cost to all Burnau Esmnt&Eng. \$99,130.00
Option 1 = Construction & soft cost spread over entire Burnau.	VS Engineering services: \$49,250.00	Sub-Total: \$445,896.31	Construction to South shed
Option 2 = Construction cost spread over South Shed & soft cost spread over entire Burnau.	Total cost estimate: \$1,721,048.80	Easements: \$28,780.00	Hwy Const. \$111,247.34
Damages are set at zero.		VS Eng. \$49,250.00	South Shed: \$334,648.97
No change in current maintenance assessment.		VS Amdmnt2 \$21,100.00	Total Const. \$445,896.31
		Project Cost: \$545,026.31	Project Cost: \$545,026.31
		Co. Hwy LS: \$111,247.34	
		Assess to shed: \$433,778.97	

Reconstruction Funding

Maintenance Funds: \$100,000.00
County Highway Lump Sum: \$94,509.30
Assessed to Burnau Arm: \$1,526,540.74
Total funding: \$1,721,050.04

Parcel	Owner	Desc	Entire Ben	Original Rec Asmt	Option 1 Reduced Rate	Option 1 % of Total	Option 1 Option 1	Option 2A		Option 2B		Option 2	
								Soft Cost to all	South Area Ben	Const. to South	Option 2 Total	% of Total	
10-07-28-00-00-011.000	3 Percent Holdings LLC	S28 T19 R5 30.00AC	30.00	\$123,613.20	\$1,170.88	6.44%	\$35,126.40	\$8,027.40	30.00	\$2,144.23	\$72,354.30	13.28%	
10-07-28-00-00-012.000	3 Percent Holdings LLC	S28 T19 R5 4.00AC	4.00	\$16,481.76	\$4,683.52	0.86%	\$5,924.66	\$1,070.32	4.00	\$8,576.92	\$9,647.24	1.77%	
10-07-28-00-00-006.000	Adams, Barbara A Lvg Trust	S28 T19 R5 5.06AC	5.06	\$20,849.44	\$43,744.08	1.09%	\$4,753.78	\$1,086.38	2.66	\$5,703.66	\$1,353.96	0.25%	
10-07-28-00-00-007.000	Adams, Dennis & Michael TR of Barbara	S28 T19 R5 40.00AC	37.36	\$153,939.64	\$60,218.36	8.03%	\$6,193.96	\$9,996.80	24.89	\$53,369.88	\$67,131.52	2.88%	
10-07-28-00-00-005.001	Adams, Mike L	S28 T19 R5 6.15AC	4.06	\$16,729.00	\$3,547.78	0.87%	\$73,051.20	\$16,694.32	3.03	\$6,497.02	\$7,307.80	1.34%	
10-07-28-00-00-005.101	Adams, Mike L	S28 T19 R5 6.19AC	5.29	\$21,797.14	\$5,866.12	1.08%	\$597.16	\$136.48	0.51	\$1,093.56	\$1,340.58	0.26%	
10-07-28-00-00-007.001	Boyce Land Co Inc	S28 T19 R5 59.00AC	51.43	\$211,914.24	\$538.60	0.10%	\$1,229.42	\$123.10	0.46	\$986.36	\$1,109.46	0.20%	
10-07-28-00-00-008.000	Boyce Land Co Inc	S28 T19 R5 3.80AC	3.03	\$12,484.94	\$16,907.52	3.10%	\$538.60	\$3,863.86	0.46	\$986.36	\$280.96	0.05%	
12-07-27-00-00-015.000	Canterbury Estates	S27 T19 R5 77.68AC	62.39	\$257,074.26	\$538.60	0.10%	\$538.60	\$123.10	0.46	\$986.36	\$1,109.46	0.20%	
10-07-28-00-00-026.000	Clark, Joseph D	S28 T19 R5 Kentre Meadows 1st Lot 8	0.51	\$2,101.42	\$16,907.52	3.10%	\$538.60	\$123.10	0.46	\$986.36	\$1,109.46	0.20%	
10-07-28-00-00-006.002	Cook, Paul & Jaclyn R	S28 T19 R5 5.01AC	5.01	\$20,643.40	\$4,051.24	0.74%	\$4,051.24	\$925.84	0.46	\$925.84	\$925.84	0.17%	
10-07-28-00-00-023.000	Dent, Jeffrey T & Lori L h&w	S28 T19 R5 Kentre Meadows 1st Lot 11	0.46	\$1,895.40	\$5,877.82	1.08%	\$29,892.58	\$1,343.26	15.60	\$33,450.00	\$40,281.32	7.39%	
10-07-21-00-00-032.000	Derival, Robert R	S21 T19 R5 1.05AC	1.05	\$4,326.46	\$111,247.34	20.41%	\$111,247.34	\$6,831.32	0.46	\$986.36	\$111,247.34	20.41%	
10-07-28-00-00-024.000	Fowler, Fredrick D & Diana L	S28 T19 R5 Kentre Meadows 1st Lot 10	0.46	\$1,895.40	\$538.60	0.10%	\$538.60	\$123.10	0.46	\$986.36	\$1,109.46	0.20%	
10-07-28-00-00-005.000	Goodwin, Donald L & Wanda D	S28 T19 R5 14.44AC	14.44	\$59,499.16	\$29,892.58	5.48%	\$29,892.58	\$3,863.86	0.46	\$986.36	\$3,863.86	0.71%	
10-07-28-00-00-025.000	Grace Enterprises LLC	S28 T19 R5 Kentre Meadows 1st Lot 9	0.46	\$1,895.40	\$538.60	0.10%	\$538.60	\$123.10	0.46	\$986.36	\$1,109.46	0.20%	
10-07-28-00-00-006.001	Graves, Bradley J & Theresa L	S28 T19 R5 5.00AC	3.46	\$14,256.72	\$4,051.24	0.74%	\$4,051.24	\$925.84	0.46	\$925.84	\$925.84	0.17%	
10-07-28-00-00-006.003	Gustin, Christian R & Andrea R h&w	S28 T19 R5 5.02AC	5.02	\$20,684.62	\$5,877.82	1.08%	\$5,877.82	\$1,343.26	15.60	\$33,450.00	\$40,281.32	7.39%	
99-99-99-99-99-999.001	Hamilton County Highway Department	S21,27 & 28 T19 R5	25.53	\$105,194.84	\$111,247.34	20.41%	\$111,247.34	\$6,831.32	0.46	\$986.36	\$111,247.34	20.41%	
99-99-99-99-99-999.001	Hamilton County Highway Department	S21,27 & 28 T19 R5 - Lump Sum	n/a	\$94,509.30	\$111,247.34	20.41%	\$111,247.34	\$6,831.32	0.46	\$986.36	\$111,247.34	20.41%	
10-07-28-00-00-027.000	Hazelwood, Alfred L & Carol A	S28 T19 R5 Kentre Meadows 2nd Lot 7	0.46	\$1,895.40	\$538.60	0.10%	\$538.60	\$123.10	0.46	\$986.36	\$1,109.46	0.20%	
10-07-28-00-00-010.000	Kopczynski, Deborah & Eugene	S28 T19 R5 1.00AC	1.00	\$4,120.44	\$1,170.88	0.21%	\$1,170.88	\$267.58	1.00	\$2,144.24	\$2,411.82	0.44%	
10-07-28-00-00-005.002	Latty, Michael D & Cynthia R	S28 T19 R5 12.22AC	12.22	\$50,351.78	\$14,308.16	2.63%	\$14,308.16	\$3,269.84	0.48	\$1,029.24	\$3,269.84	0.60%	
10-07-28-00-00-035.001	Martin, Miranda S	S28 T19 R5 3.00AC	0.48	\$1,977.82	\$562.02	0.10%	\$562.02	\$128.44	0.48	\$1,029.24	\$1,157.68	0.21%	

Parcel	Owner	Desc	Entire Ben	Original Rec Asmt	Option 1		Option 2A		Option 2B		Option 2	
					\$1,170.88	% of Total	Soft Cost to all	South Area Ben	Const. to South	Option 2 Total	% of Total	
												Reduced Rate
				\$4,120.44	\$267.58	\$2,144.23	\$267.58	\$267.58	\$267.58	\$267.58	\$267.58	\$267.58
10-07-21-00-00-031.000	May, Rene & Terry	S21 T19 R5 4.40Ac	2.32	\$9,559.42	\$2,716.44	0.50%	\$620.80	\$620.80	\$620.80	\$620.80	\$620.80	0.11%
10-07-21-00-00-031.001	May, Rene & Terry A	S21 T19 R5 1.00Ac	1.00	\$4,120.44	\$1,170.88	0.21%	\$267.58	\$267.58	\$267.58	\$267.58	\$267.58	0.05%
10-07-28-00-00-016.000	Mclane, Michael J & Marshelia A	S28 T19 R5 Kentre Meadows 2nd Lot 18,19	0.92	\$3,790.80	\$1,077.22	0.20%	\$246.18	\$246.18	\$1,972.70	\$2,218.88	\$2,218.88	0.41%
10-07-28-00-00-009.000	Morgan, Ronald L & Barbara A	S28 T19 R5 1.30Ac	1.30	\$5,356.58	\$1,522.14	0.28%	\$347.86	\$347.86	\$2,787.50	\$3,135.36	\$3,135.36	0.58%
10-07-21-00-00-027.000	Murdock, Family Trust	S21 T19 R5 18.23Ac	12.38	\$51,011.06	\$14,495.50	2.66%	\$3,312.64	\$3,312.64	\$3,312.64	\$3,312.64	\$3,312.64	0.61%
12-07-27-00-00-001.000	Murdock, Larry C & Sue Ann	S27 T19 R5 0.54Ac	0.05	\$206.02	\$58.54	0.01%	\$13.38	\$13.38	\$13.38	\$13.38	\$13.38	0.01%
10-07-28-00-00-017.000	Ogden, Melvin R & Karen E h&w	S28 T19 R5 Kentre Meadows 2nd Lot 17	0.46	\$1,895.40	\$538.60	0.10%	\$123.10	\$123.10	\$986.36	\$1,109.46	\$1,109.46	0.20%
10-07-28-00-00-014.003	Ogle, Jeffrey A & Mary A	S28 T19 R5 5.00Ac	5.00	\$20,602.20	\$5,854.40	1.07%	\$1,337.90	\$1,337.90	\$10,721.16	\$12,059.06	\$12,059.06	2.21%
12-07-27-00-00-014.000	Parker, Steven & Holli h&w	S27 T19 R5 27.44Ac	10.44	\$43,017.40	\$12,224.00	2.24%	\$2,793.54	\$2,793.54	\$22,385.76	\$25,179.30	\$25,179.30	4.62%
10-07-28-00-00-021.000	Peterson, Susan C	S28 T19 R5 Kentre Meadows 1st Lot 13,14	0.92	\$3,790.80	\$1,077.22	0.20%	\$246.18	\$246.18	\$1,972.70	\$2,218.88	\$2,218.88	0.41%
10-07-21-00-00-029.000	Promise Road WEG LLC	S21 T19 R5 29.08Ac	3.35	\$13,803.48	\$3,922.46	0.72%	\$896.40	\$896.40	\$896.40	\$896.40	\$896.40	0.16%
10-07-21-00-00-033.000	Puckett, Patrick C & Dedra T/E	S21 T19 R5 1.00Ac	0.62	\$2,554.68	\$725.96	0.13%	\$165.90	\$165.90	\$165.90	\$165.90	\$165.90	0.03%
10-07-21-00-00-030.000	Ragsdale, Sondra	S21 T19 R5 1.20Ac	1.20	\$4,944.54	\$1,405.06	0.26%	\$321.10	\$321.10	\$321.10	\$321.10	\$321.10	0.06%
10-07-28-00-00-018.000	Roth, Mark R	S28 T19 R5 Kentre Meadows 2nd Lot 16	0.60	\$2,472.26	\$702.54	0.13%	\$160.56	\$160.56	\$1,286.54	\$1,447.10	\$1,447.10	0.27%
10-07-28-00-00-035.000	Roth, Mark R	S28 T19 R5 26.04Ac	13.87	\$57,150.50	\$16,240.12	2.98%	\$3,711.34	\$3,711.34	\$29,740.48	\$33,451.82	\$33,451.82	6.14%
10-07-28-00-00-011.001	Roudebush, Michael E & Pati A	S28 T19 R5 6.00Ac	6.00	\$24,722.64	\$7,025.28	1.29%	\$1,605.48	\$1,605.48	\$12,865.38	\$14,470.86	\$14,470.86	2.66%
12-07-27-00-00-014.001	Roudebush, Michael E & Pati A	S27 T19 R5 0.56Ac	0.56	\$2,307.46	\$655.70	0.12%	\$149.84	\$149.84	\$1,200.78	\$1,350.62	\$1,350.62	0.25%
10-07-28-00-00-019.000	Rusher, Karon	S28 T19 R5 Kentre Meadows 1st Lot 15	0.67	\$2,760.70	\$784.50	0.14%	\$179.28	\$179.28	\$1,436.64	\$1,615.92	\$1,615.92	0.30%
10-07-28-00-00-022.000	Smith, Rex A & Vicky Lynn Smith	S28 T19 R5 Kentre Meadows 1st Lot 12	0.46	\$1,895.40	\$538.60	0.10%	\$123.10	\$123.10	\$986.36	\$1,109.46	\$1,109.46	0.20%
10-07-28-00-00-015.000	Spear, Brian & Stephanie h&w	S28 T19 R5 40.00Ac	8.00	\$32,963.52	\$9,367.04	1.72%	\$2,140.64	\$2,140.64	\$12,865.38	\$15,006.02	\$15,006.02	2.75%
12-07-27-00-00-013.000	Stomberg, Dwight William & Irene Schaf	S27 T19 R5 12.00Ac	3.00	\$12,361.32	\$3,512.64	0.64%	\$802.74	\$802.74	\$6,432.70	\$7,235.44	\$7,235.44	1.33%
12-07-27-00-00-015.001	Wende, Pamela Sue & Boyd L Crecelius	S27 T19 R5 2.32Ac	2.32	\$9,559.42	\$2,716.44	0.50%	\$620.80	\$620.80	\$630.80	\$630.80	\$630.80	0.11%
10-07-28-00-00-013.000	Wethington, Ellen J & Ivan O Roudebush	S28 T19 R5 5.00Ac	5.00	\$20,602.20	\$5,854.40	1.07%	\$1,337.90	\$1,337.90	\$10,721.16	\$12,059.06	\$12,059.06	2.21%
10-07-28-00-00-014.000	Wethington, Ellen J & Ivan O Roudebush	S28 T19 R5 9.00Ac	0.40	\$1,648.18	\$468.36	0.09%	\$107.04	\$107.04	\$857.70	\$964.74	\$964.74	0.18%
12-07-27-00-00-012.000	Wethington, Ellen J & Ivan O Roudebush	S27 T19 R5 40.00Ac	11.00	\$45,324.84	\$12,879.68	2.36%	\$2,943.38	\$2,943.38	\$23,586.54	\$26,529.92	\$26,529.92	4.87%
10-07-28-00-00-014.004	Wethington, Gene E & Denise L	S28 T19 R5 5.00Ac	5.00	\$20,602.20	\$5,854.40	1.07%	\$1,337.90	\$1,337.90	\$10,721.16	\$12,059.06	\$12,059.06	2.21%
10-07-28-00-00-028.000	Williams, Stephen L & Patricia	S28 T19 R5 Kentre Meadows 2nd Lot 6	0.46	\$1,895.40	\$538.60	0.10%	\$123.10	\$123.10	\$986.36	\$1,109.46	\$1,109.46	0.20%
Totals: 50 Parcels			370.48	\$1,621,050.04	\$545,035.16	100.00%	\$99,133.28	\$99,133.28	\$445,897.54	\$545,030.82	\$545,030.82	100.00%

Parcels: 50

50 Parcels

32 Parcels

50 Parcels