

SURVEYOR'S OFFICE

Hamilton County

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Suite 146

One Hamilton County Square

Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

Date: July 10, 2000

Re: Hinshaw & Henley Reconstruction/Maintenance

Attached are plans, specifications, drain map, drainage-shed map, and schedule of assessments for the reconstruction of the Hinshaw & Henley Regulated Drain. The Hinshaw & Henley Regulated Drain is listed as number 6 as a Drain in Need of Reconstruction on the 2000 Drain Classification List. The drainage area is located in Clay and Washington Townships in Hamilton County and benefits properties in sections 15-18-3, 16-18-3 and 22-18-3 with total watershed acreage of 375.56 acres.

Upon completion of the Hinshaw Henley reconstruction, the allowable per acre release rate for the watershed north of 146th Street will be 0.11 CFS per acre. All future development projects located north of 146th Street within the Hinshaw-Henley Regulated Drain watershed shall have an allowable discharge rate of 0.11 cfs per acre."

The reconstruction project shall begin at station 4+30, which corresponds with station 43+95 of the original drain. The tile reconstruction will consist of 1064 lineal feet of 36" reinforced concrete pipe. The new 36" RCP will connect to the existing 36" tile at station 4+30, then continue to station 10+55 where it will connect to structure No#11. The 36" RCP will then exit structure No#11 and continue to station 14+90, which corresponds with station 54+55 of the original drain, with station 14+90 being the outlet of the drainage system. The cost estimate for this work shall be as follows:

Fence repair - 1 @ \$2,800.00	\$2,800.00
Clearing of Right-of-way - \$1,680.00	\$1,680.00
Traffic control - \$1,125.00	\$1,125.00
Seeding 20 ft filter strip - 2364 Sq. yards @ \$1.00 per yard	\$2364.00
Mulch seeding 8800 Sq. yards @ \$0.34 per yard	\$2,992.00

Armor Ditch Bank - 1 @ \$3,500.00	\$3,500.00
Manhole Structure- 1 @ \$1,250.00	\$1,250.00
36" Reinforced Concrete Pipe 1064 feet @ \$40.00 per foot	\$42,560.00
36" end section for 36" RCP 1 each @ \$155.00	\$155.00
Concrete tile 8" - undistributed 100 feet @ \$8.00	\$800.00
Concrete tile 10" - undistributed 100 feet @ \$10.00	\$1,000.00
Concrete tile 12" - undistributed 100 feet @ \$12.00	\$1,200.00
Concrete tile 15" - undistributed 100 feet @ \$15.00	\$1,500.00
	Sub Total
	\$62,926.00
	+ 15 % contingencies
	\$9,438.90
	<hr/>
	Total
	\$72,364.90

The Hinshaw & Henley Regulated Drain is a tributary to the Osborne & Collins Drain. Records indicate that it was originally petitioned through The Hamilton County Commissioners Court in 1908, and consisted of the Main Ditch and an Arm #1. The main ditch consists of one row of 10" tile from station 0 to station 6+15, one row of 14" tile from Station 6+15 to station 17+50, one row of 15" tile from station 17+50 to station 39+50 to station 54+23, and one row of 16 inch sewer tile from station 54+23 to station 54+33, station 54+33 being the terminus of the tile portion of the ditch. An 18" wide bottom open ditch from station 54+33 to station 65+00 where it terminated in Williams Creek, now know as the Osborne & Collins Drain. Arm #1 consisted of two rows of 8" tile from station 0 to station 16+00 or teminus in Main Ditch at station 6 +15 of the said Main ditch. Arm #1 was previously known as the John Ortwine Ditch and made part of the Hinshaw & Henley Regulated Drain in 1908.

The legal description for the Hinshaw & Henley Regulated Drain Main Ditch is as follows:

Begin about sixty (60) rods south and 164 feet west of the north west corner of the east half of the southeast quarter of section sixteen (16), township eighteen (18) north, range three (3) east, run thence south 85 degrees east 900 feet, thence south 65 degrees east 200 feet, thence south 10 degrees east 240 feet, thence east 2 degrees north 960 feet, thence south 56 degrees east 400 feet, thence south 15 degrees east 800 feet, thence south 55 degrees east 500 feet, thence south 64 degrees east 500 feet, thence south 73 degrees east 200 feet, thence south 68 degrees east 633 feet, to point where the ditch enters an open drain known as Williams Creek.

The legal description for the Hinshaw & Henley Regulated Drain Arm # 1 is as follows:

Beginning 15 rods north of the south west corner of the east half of the north east quarter of section sixteen (16), township eighteen (18) north, range three (3) east, run thence south 900 feet, thence south 39 degrees east 700 feet, terminating at the Main ditch at station 6+15 of said Main ditch.

I have reviewed the drainage shed for the Hinshaw & Henley Drain of 375.56 acres and upon considering each parcel individually, I believe that each parcel within the drainage shed, with two exceptions, will have equal benefits as provided by the drain. Therefore I recommend each tract with the exception of the Hamilton County Highway and Westchase, be assessed on the same basis equally. I also believe that no damages will result to landowners by the reconstruction of this drain. I recommend a reconstruction assessment of \$150.00 per acre with a minimum assessment of \$150.00. The Hamilton County Highway will receive the additional benefit of alleviating flooding of the road under certain storm events, due to this additional benefit they will pay an assessment of \$10,000.00. The Westchase Subdivision will receive an additional benefit of downstream improvements, due to this additional benefit they will pay an assessment of \$10,000.00.

From station 0+00 to station 39+50 of the original drain no reconstruction work is to be done (the entire portion of the drain which is north of 146th Street). Because the drain is to be placed on maintenance any repairs that may need to be done within this portion can be done under the maintenance program.

I believe that the proposed drain meets the requirements for Urban Drain Classification as set out in IC 36-9-27-67 to 69. Therefore, the Hinshaw & Henley Drain shall be designated as an Urban Drain.

I recommend the Board place the Hinshaw & Henley Drain drainage area on a maintenance program as set out in IC 36-9-27-38. This drainage area is not presently under a maintenance program.

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

- a. Removal and/or prevention of brush within the drainage easement by hand, mechanical or spray methods.
- b. Installation and /or repair of surface water structure as might be required.
- c. Bank erosion protection and/or seeding as might be required.
- d. Repair of regulated tile outlet at drain end.
- e. Cleaning and/or repair of existing catch basins as might be required.
- f. Installation of catch basins or inlets as may be required.
- g. Removal of debris and/or blockage from the existing tile drain including jetting or video work.
- h. Installation and/or repair of breather pipes.
- i. Removal of debris and/or blockage from the existing tile drain.
- j. Maintain grass filter strips.
- k. Any other repairs necessary to restore the drain to it's original intended condition.

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

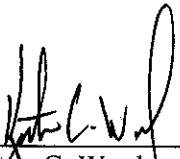
I have reviewed the plans and drain map and believe, as set out in IC 36-9-27-69, that all tracts within the drainage shed of the Hinshaw & Henley Drain will benefit. I recommend the following maintenance assessment to be adopted by the board:

1. Maintenance assessment for roads and streets be set at \$10.00 per acre.
2. Maintenance assessment for agricultural tracts be set at \$3.00 per acre - \$15.00 minimum.
3. Maintenance assessment for non-platted residential tracts be set at \$3.00 per acre with a \$15.00 minimum.
4. Maintenance assessment for commercial tracts be set at \$10.00 per acre with a \$50.00 minimum.
5. Maintenance assessment for platted lots in subdivisions whose drainage systems will not be part of the regulated drain (those systems maintained by the City of Carmel) shall be set at \$25.00 per lot - \$25.00 minimum. Common areas within subdivisions whose drainage systems will not be part of the regulated drain (those systems maintained by the City of Carmel) shall be set at \$5.00 per acre with a \$25.00 minimum.
6. Maintenance assessments for platted lots within a subdivision whose drainage system will be part of the regulated drain shall be set at \$45.00 per lot - \$45.00 minimum. Common areas within regulated drain subdivisions shall be set at \$10.00 per acre with a \$45.00 minimum.

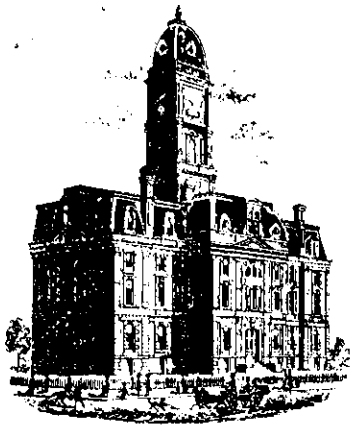
The annual maintenance collection will be \$1,404.56.

Parcels assessed for this drain will also be assessed for the Osborn-Collins or Williams Creek Drain at sometime in the future.

I recommend that the Board set a hearing for this reconstruction for August 28, 2000



Kenton C. Ward
Hamilton County Surveyor



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Suite 188
 One Hamilton County Square
 Noblesville, Indiana 46060-2230

To: Hamilton County Drainage Board

March 11, 2002

Re: Hinshaw Henley Reconstruction Project
 Final Inspection Report

FINAL REPORT

Please regard this letter as the inspector's final report on the Hinshaw Henley Regulated Drain Reconstruction, located in Sections 15, 16, & 22, Township 18 North, Range 3 East, Clay and Washington Townships in Hamilton County, Indiana.

The Date of the Surveyor's Report for the Hinshaw Henley was July 10, 2000. The Reconstruction Hearing was held on August 28, 2000.

As of September 24, 2001, I hereby attest to and agree that the reconstruction was installed according to the specified plans and change orders. All inspections have been completed. The Hamilton County Drainage Board awarded the contract on September 25, 2000 to Sweeny Construction Corp.

Final inspection was on July 9, 2001. The contractors claim for retainage was paid on September 11, 2001.

Statement of All Incurred Expenses Paid signed by the contractor has been received.

There were a total of four change orders for additional work or field revisions on the project.

Change Order #1

Approved by the Hamilton County Drainage Board November 27th, 2000

Re: Hinshaw Henley Reconstruction

Item: Change Order #1

1. An additional manhole structure has been added for realignment purposes.

Manhole structure----- \$ 2,422.00

Change Order #1 Total ----- \$2422.00

Contractor's Bid -----	\$62,278.00
Change Order #1 -----	\$2,422.00
Total Reconstruction Cost -----	\$64,700.00
Engineer's Estimate -----	\$72,364.90
Total Reconstruction Cost -----	\$64,700.00
Difference -----	\$7,664.90

Change Order #2

Approved by the Hamilton County Drainage Board December 26th, 2000

Re: Hinshaw Henley Reconstruction

Item: Change Order #2

A. An additional manhole structure has been added for realignment at the outlet.

Manhole structure ----- \$2,070.00

B. A waterline encountered on the McDavitt property required lowering and relocating.

Waterline lowering & relocation ----- \$424.50

Change Order #2 Total ----- \$2,494.50

Contractor's Bid -----	\$62,278.00
Change Order # 1 -----	\$2,422.00
Change Order # 2 -----	\$2,494.50
Total Reconstruction Cost -----	\$67,194.50

Engineer's Estimate -----	\$72,364.90
Total Reconstruction Cost -----	\$67,194.50
Difference -----	\$5170.40

Change Order #3

Approved by the Hamilton County Drainage Board February 12, 2001

Re: Hinshaw Henley Reconstruction

Item: Change Order #3

A. Additional fencing on the McDavitt property required for horse pasture during construction.

Additional fencing ----- \$352.00

B. 44 feet of 36" RCP required due to realignment.

44 feet of 36" RCP @ \$48.50 per foot ----- \$2134.00

Change Order #3 Total -----	\$2486.00
Contractor's Bid -----	\$62,278.00
Change Order # 1 -----	\$2,422.00
Change Order # 2 -----	\$2,494.50
Change Order # 3 -----	\$2486.00
Total Reconstruction Cost -----	\$69,680.50
Engineer's Estimate -----	\$72,364.90
Total Reconstruction Cost -----	<u>\$69,680.50</u>
Difference -----	\$2,683.50

Change Order #4

The Hamilton County Drainage Board on April 23, 2001, authorized Change Order #4 to address problems with standing water on this project. A motion was made by The Board to remedy the problem as quickly as possible regardless of the cost. The reconstruction had repaired numerous holes in the tile system that had let surface water into the drain tile system. No allowance had been made for this water to enter the new drain tile, which was constructed of sealed reinforced concrete pipe. At the recommendation of the staff engineer of the Hamilton County Surveyor's Office, 6" perforated drain tiles bedded in stone were installed parallel to the reinforced concrete pipe. This work was done on a time and materials basis based on prices from the supplemental bids on the original contract.

The following is an itemized listing of the daily-itemized billing of the time and materials for the additional work.

4/25/01 (Move in Case 580SK backhoe and supplies, layout project, core-drill manholes, remove and replace temporary fence.)

8 hrs Foreman @ \$45.00/hr	\$360.00
8 hrs Laborer @ \$24.50/hr	\$196.00
500 lin. Ft. 6" perforated pipe @ .78/lf	\$390.00
61.39 ton #8 gravel @ \$10.79/ton	\$659.94
Core-drill holes in existing manholes	\$180.00
8 hrs boom truck w/trailer @ \$50.00/hr	\$400.00
1 roll safety fence @ \$38.24/ea	\$38.24
2 bags Sand mix @ \$6.28/bag	\$12.56
15 ea concrete brick @ .40/ea	\$6.00
1 roll farm fence @ 83.99/roll	\$83.99
18 ea T-posts @ \$2.82/ea	\$50.86

4/26/01 (Install 100' - 6" perf. Pipe, excavate 200' of ditch, move-in Case 580K backhoe, stone box, remove and replace temporary fence.)

8 hrs Foreman @ \$45.00/hr	\$360.00
8 hrs Laborer @ \$24.50/hr	\$196.00
8 hrs Case 580SK backhoe @ \$65.00/hr	\$520.00

8 hrs Case 580K backhoe @ \$65.00/hr	\$520.00
1 day laser @ \$75.00/day	\$75.00
6.5 hrs boom truck w/trailer @ \$50.00/hr	\$325.00
1 day stone box @ \$125.00/day	\$125.00

4/27/01 (Install 136' - 6" perf. Pipe, remove and replace temporary fence.)

8 hrs Foreman @ \$45.00/hr	\$360.00
8 hrs Laborer @ \$24.50/hr	\$196.00
6 hrs Case 980 Excavator @ \$96.00/hrs	\$570.00
8 hrs Case 580SK backhoe @ \$65.00/hr	\$520.00
8 hrs Case 580K backhoe @ \$65.00/hr	\$520.00
60.80 ton #8 gravel @ \$10.75/ton	\$653.60
1 day laser @ \$75.00/day	\$75.00
1 day stone box @ \$125.00/day	\$125.00

4/30/01 (Install 220' - 6" perf. pipe, remove temporary fence.)

8 hrs Foreman @ \$45.00/hr	\$360.00
8 hrs Laborer @ \$24.50/hr	\$196.00
8 hrs Case 580SK backhoe @ \$65.00/hr	\$520.00
8 hrs Case 580K backhoe @ \$65.00/hr	\$520.00
1 day laser @ \$75.00/day	\$75.00
1 day stone box @ \$125.00/day	\$125.00

5/1/01 (Backfill pipe, replace temporary fence.)

6.5 hrs Foreman @ \$45.00/hr	\$292.50
6.5 hrs Laborer @ \$24.50/hr	\$159.25
6.5 hrs Case 580SK backhoe @ \$65.00/hr	\$422.50
6.5 hrs Case 580K backhoe @ \$65.00/hr	\$422.50
15.53 ton #8 gravel @ \$10.75/ton	\$166.95

5/2/01 (Move out backhoes, stone box.)

7.5 hrs boom truck/trailer @\$50.00/hr	<u>\$375.00</u>
Total	\$11,152.79

The following claims have been paid to the contractor or suppliers:

Claim #1	\$39,877.00
15% Retainage withheld	<u>\$5,981.55</u>
Check amount paid on 12/12/00-----	\$33,895.45
 Claim #2	 \$21649.50
15% Retainage withheld	<u>\$3,247.43</u>
Check amount paid on 01/09/01-----	\$18,402.07
 Claim #3	 \$5,612.00
15% Retainage withheld	<u>\$841.80</u>
Check amount paid on 02/27/01-----	\$4,770.20

Claim #4	\$14,360.05
15% Retainage withheld	<u>\$2,154.00</u>
Check amount paid on 07/24/01-----	\$12,206.05
Claim #5	
Retainage withheld on Claims #1, #2, #3, #4	<u>\$12,224.78</u>
Check amount paid on 09/1/01-----	\$12,224.78
Claim #1 -----	\$33,895.45
Claim #2 -----	\$18,402.07
Claim #3 -----	\$4,770.20
Claim #4 -----	\$12,206.05
McQueary Lumber (4 Cedar Fenceposts) -----	\$40.00
Claim #5 -----	<u>\$12,224.78</u>
Total Claims -----	<u>\$81,538.55</u>

Engineer's Estimate -----	\$72,364.90
Total Reconstruction Cost -----	<u>\$81,538.55</u>
Difference -----	-<u>\$9,173.65</u>

Reconstruction Assessment	\$72,692.00
Total Reconstruction Cost	<u>\$81,538.55</u>
Deficit Reconstruction Funds	-<u>\$8,846.55</u>

Due to the method used to calculate the reconstruction assessment a surplus of \$327.10 exists between the reconstruction assessment of \$72,692.00 and the Engineer's Estimate of \$72,364.90.

The cost of Change Order #4 has caused the project to exceed the amount of the reconstruction assessment. The deficit total is \$8,846.55. Per IC 36-9-27-80.5 the amount of a contract plus the amount of all change orders to the contract cannot exceed 20% the estimated reconstruction costs. This reconstruction project exceeded the original estimate by 12%.

Two options that may be used to reimburse the general drainage improvement fund for the costs that have exceeded the assessed reconstruction amount. Option #1 is to reassess the entire watershed for the additional funds. I believe this can be accomplished without hearing. Option #2 is to reimburse the general drainage improvement fund with funds from future assessments the maintenance fund for the drain utilizing IC 36-9-27-45.5

Respectfully,



Andrew Conover
Inspector
Hamilton County Surveyor's Office