

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

May 5, 2017

TO: Hamilton County Drainage Board

RE: William Krause Drain, Krause Drain Reconstruction Phase I

Attached are the petition, plans, schedule of assessments and drainage shed map, for the William Krause Drain Phase I. This petition was filed by the Town of Sheridan on December 15, 2016. The petition was referred to the Surveyor for report by the Drainage Board December 21, 2016. (See Hamilton County Drainage Board Minutes Book 17, page 237.) I have reviewed the petition and found it to be in proper form.

I have made a personal inspection of the land described in the petition. Upon doing so, I believe that the drain is practicable, will improve the public health, benefit a public highway and be of public utility; and that the costs, damages and expenses of the proposed drain will probably be less than the benefits accruing to the owners of land likely to be benefited.

The attached plans were prepared by Banning Engineering dated May 1, 2017, Project Number 11194KRUS. The plans were prepared for the Hamilton County Drainage Board.

The proposed project will improve the drainage in the southeastern portion of Sheridan. The drainage facilities will be placed in either existing street right of way or the existing drainage easement of the William Krause Drain, or new easement being purchased by the Drainage Board.

The William Krause Drain is an existing tiled drain on the south and southeast side of the Town of Sheridan consisting of the Main Arm, Arms 1, 2, 3 and 4 and the Jacob Boyer Arm.

The drain is located in Adams Township, Section 32, Township 20 North, Range 3 East and Section 5, Township 19 North, Range 3 East. The drain starts approximately 920-feet east of the intersection of Jarit Drive and East 2<sup>nd</sup> Street and runs generally south and west into the south and southeast portion of the Town of Sheridan.

## History

The original drain petition was by Joseph Furnas and established as the West Cicero Ditch in 1877. [See Hamilton County Drainage Board Minutes Book 4, page 129]. In 1892, George Symonds petitioned for the drain consisting of a main drain and six arms. [See Hamilton County Drainage Board Minutes Book 4, page 129]

Many of the arms became other drain through the years including the Benton-Hinesley Drain, the William Krause Drain, and the George Beam Drain. In 1919-1920, approximately 2,215 of the George Symonds Drain was tiled as part of the William Krause Drain. [See Hamilton County Drainage Board Minutes Book 4, page 130].

The Jacob Boyer Drain was constructed and attached to the William Krause drain in 1923.

The first noted significant repair on the William Krause Drain occurred in 1945.

In 1952 work was completed on the downstream headwall outlet. In 1952 the Town of Sheridan petitioned for a reconstruction/relocation of the drain along SR 47 near Park Avenue and Malott Street. 250-feet of the drain was relocated from the north side of SR47 to the south side of SR 47. This work added 100-feet to the drain. [Surveyor Report to the Drainage Board dated July 7, 1994]

The Jacob Boyer Drain and the William Krause Drain were officially separated from the George Symonds Drain and combined in to the William Krause Drain at the August 22, 1994 meeting of the Drainage Board. [See Hamilton County Drainage Board Minutes Book 3, pages 275-276] The William Krause Drain was placed on maintenance and classified as an Urban Drain at the August 22, 1994 meeting of the Drainage Board. [See Hamilton County Drainage Board Minutes Book 3, pages 275-276]

The Main Arm runs from where the tile discharges to the George Symonds Drain southwesterly crossing under SR 38 and then south to 8<sup>th</sup> Street to the Jacob Boyer Arm from the south/east. The Main Arm continues west along 8<sup>th</sup> Street to South Bailey Street where it then runs south along South Bailey Street to State 47 where it turns to the west.

At South Malott Avenue, the drain crosses to the south side of State Road 47 and then crosses back to the north side at South Park Avenue.

The drain then continues west to the alley between Main and Ohio Streets to the start of Arm 1.

The Main Arm consists of the following: 3,985-LF of 24" tile installed in 1920; 90-LF of 21" tile installed in 1953; 250-LF of 18" tile installed in 1953; 50-LF of 15" installed in 1953; 462-LF of 12-inch tile installed in 1920 and 478-LF of 8" tile installed in 1920.

Arm 1 stubs to the north from the Main Arm at the alley between Main and Ohio Streets a distance of 66-feet and is a 6-inch tile installed in 1920.

Arm 2 stubs to the north at the alley between Main and Georgia Streets a distance of 165-feet and is a 6-inch tile installed in 1920.

Arm 3 stubs to the south from the Main Arm on the west side of Georgia Street a distance of 660-feet and is an 8-inch tile installed in 1920.

Arm 4 stubs to the south a distance of 50-feet just east of Malott Avenue and is an 18-inch tile installed in 1920.

The Jacob Boyer Arm consists of 224-LF 12-inch, 26-LF 12-inch, 369-LF 10-inch, 162-LF 8-inch, 231-LF 8-inch, 48-inch 8-inch all installed in 1924. The total length of the arm is 1,060-feet.

### **Existing Condition**

A 2013 hydraulic study for the George Symonds and William Krause watershed by Banning Engineering identified that the hydraulic capacity of the 24" tile portion of the William Krause Drain is 10 cubic feet per second and is only adequate to convey the runoff from a 1% frequency storm event. The study identified that without significant upsizing or diversion, flooding in the area served by the Main Arm of the William Krause Drain generally between Fanning Street and Hudson Street and north of 8<sup>th</sup> Street to SR 38 would be expected to continue. This area experienced significant flooding on June 20, 2011 with water overtopping SR 38 near the Apostolic Faith Church.

### **Reconstruction Project**

This project will serve as an adequate outlet for the concurrent William Krause Drain, Sheridan Stormwater Improvements project. The Sheridan Stormwater Improvements project is funded by a grant from the Office of Community and Rural Affairs (OCRA) to alleviate the flooding potential for the area drained by the William Krause Drain west of SR 38.

The Krause Drain Reconstruction Phase I project starts at the new manhole on the southwest side of SR 38 set with the OCRA Grant project. This manhole is identified as Structure 106 on the Banning Construction Plans (Project 11194 KRUS dated May 1, 2017) for this project and is the same as Structure EX1 on the Banning Construction Plans (Project 11194 SH dated April 27, 2017) for the above mentioned OCRA Grant project. This structure is located at Sta. 30+50 of the William Krause 1920 Drain Description.

From Structure 106, the new tile follows the existing alignment with the existing 24" tile being replaced as 38"x 60" elliptical RCP a distance of 36-LF to a new manhole (Structure 105) on the east side of State Road 38. Thence continuing in the existing alignment with 72' LF of 48" RCP to Str. 104, Sta. 31+60 of the 1920 William Krause description. This structure being located on the south side of the existing building on the current Apostolic Faith Church, Inc. parcel. From there, the 48" tile runs easterly, south of the existing building on the current Apostolic Faith Church, Inc. parcel a distance of 40-LF to a new Manhole Str. 103; then 53-LF to a new Manhole Str.102; and then 191-LF to a new Manhole Str.101. This alignment will allow the portion of the existing 122-feet of 24" tile under the building on the current Apostolic Faith Church, Inc. parcel to be grouted full and abandoned (vacated) in place. The portion of the drain to be abandoned is that section between Stations 31+60 and Sta. 32+82 of the 1920 description of the William Krause Drain. At Sta. 32+82 Structure 107 will be placed as shown on Sheet C301 of the Banning plans.

At the new manhole, Structure 101, the drain turns north and runs 25-LF to an end section, Structure 100 where the drain discharges to the new open ditch. This segment consists of 25-LF of 54" RCP. At Structure 100 an 8' section of 36" RCP will be stubbed, Structure 101, to the south to accommodate storm water from a future phase of the project.

Once outletted on the current Phyllis A, Fox, Cynthia L Ogle and Frederick L. Fox Jr. property, the Main Arm will be reconstructed as a two stage open drain running along the west and north property lines of the property a distance of 2,312-LF to the existing headwall at the start of the George Symonds Drain. The open drain will be located to accommodate the footprint of the future regional detention facility on the Fox property. The portion of the existing 24" tile (318 feet) from the Apostolic Faith Church, Inc. parcel at Sta. 32+82 of the 1920 Krause description (Structure 107) will remain in place as regulated drain and will discharge to the new open drain at Sta. 36+00 of the 1920 Krause description. 59-Lf of the existing 24" tile will be removed when the new open drain is constructed (Sta. 36+00 to Sta. 36+59 of the 1920 description). The existing 24-inch tile that runs northeasterly across the Fox property east of the new open drain will remain a regulated drain and will discharge where the new open drain discharges to the George Symonds Drain. This is that portion of the 1920 Krause Drain between Sta. 36+59 to Sta. 53+15.

The slope of the two stage ditch is 0.15% with a shelf 1-foot from the ditch bottom. The two stage ditch will have a 4-foot bottom with two 4-foot shelves. At the curves in the two-stage ditch, the shelves are widened to 6-feet for a distance of 243-feet. The proposed two stage ditch and pipes are sized for the runoff from the 100-year critical duration series per the 2013 Hydraulic Study. The lower section of the new open ditch will be expanded into the proposed detention facility in a future phase.

This project is consistent with the February 2013 study completed for the William Krause and George Symonds Drains by Banning Engineering.

181 LF will be eliminated from the existing drain as outlined bellows:

1. 122-LF of the existing 24" tile installed in 1920 between Stations 31+58 and 32+80 will be grouted full and abandoned in place under the existing building on the current Apostolic Faith Church, Inc. parcel.
2. 59-LF of the existing 24" tile installed in 1920 between Stations 36+00 and 36+59 will be removed when the new open drain is constructed.

110-LF of the existing drain will be replaced with 108-LF of new drain as outlined below.

1. 110-LF of the existing 24" tile installed in 1920 tile between Stations 30+50 and 31+60 will be replaced with 36-Lf of 38"x60" elliptical RCP and 72-LF of 48" RCP.

2,629-LF will be added to the drain as outlined below.

1. 8-LF of 36" RCP
2. 40-LF of 48" RCP
3. 53-LF of 48" RCP
4. 191-LF of 48" RCP
5. 25-LF of 54" RCP
6. 2,312-LF of open drain

This project will add approximately 134-LF of tile and 2,312-LF of open drain.

A regulated drain easement is needed over the new tile and along the new open drain and will run on the following parcels:

1. Parcel # 02-01-32-03-05-019.000 and parcel 02-01-32-03-05-017.000. Apostolic Faith Church Inc.
2. Parcel # 01-01-32-00-00-021.000. Fox, Phyllis A, Cynthia L Ogle & Frederick L Fox Jr jt/rs

Over the new tile, the easement will be 30 feet in width (centered on the proposed tile). The Surveyor is of the opinion that a 30-foot width easement is adequate for future maintenance of this tile. Over the new open drain, the easement will include the width between the tops-of-bank and 75-feet from each top of bank.

The estimated cost of the project is as follows:

First Project					
Item No.	Description	Quantity	Unit	Unit Price	Total Amount
1	Two Stage Ditch Section "A"	2069	LFT	\$35.00	\$ 72,415.00
2	Two Stage Ditch Section "B"	243	LFT	\$45.00	\$ 10,935.00
3	Bulkheads and Breathers	3	EA	\$4,725.00	\$14,175.00
4	Grout and Fill Existing Pipe	14	CY	\$275.00	\$3,850.00
6	Rip-Rap Splash Pads	4	EA	\$200.00	\$800.00
7	36" RCP with Granular Backfill	8	LFT	\$80.00	\$640.00
8	48" RCP with Granular Backfill	228	LFT	\$140.00	\$31,920.00
9	48" RCP with Common Backfill	128	LFT	\$105.00	\$ 13,440.00
10	54" RCP with Common Backfill	25	LFT	\$120.00	\$3,000.00
11	54" RCP End Section	1	EA	\$3,500.00	\$3,500.00
12	48" Manhole with Casting	1	EA	\$3,000.00	\$ 3,000.00
13	72" Manhole with Casting	2	EA	\$6,000.00	\$ 12,000.00
14	84" Manhole with Casting	1	EA	\$6,750.00	\$ 6,750.00
15	96" Manhole with Casting	1	EA	\$7,500.00	\$ 7,500.00
16	24" X 24" Inlet with Casting	3	EA	\$2,000.00	\$6,000.00
17	24" Outlet	2	EA	\$4,725.00	\$9,450.00
18	10" Outlet	1	EA	\$2,250.00	\$2,250.00
19	Erosion Control Blanket	8762	SYS	\$2.50	\$21,905.00
20	Temporary Seeding	8.51	ACRE	\$1,500.00	\$12,765.00
21	Permanent Seeding	8.60	ACRE	\$2,500.00	\$21,500.00
22	Silt Fence	1490	LFT	\$2.00	\$2,980.00
23	Check Dam	1	LS	\$1,500.00	\$1,500.00
24	Construction Entrance	1	LS	\$3,000.00	\$3,000.00
25	Rip-Rap (Loose)	20	TONS	\$80.00	\$1,600.00
26	Traffic Control	1	LS	\$5,000.00	\$5,000.00
27	96" Manhole with Casting/INDOT	2	EA	\$10,000.00	\$20,000.00
28	38"x60" Elliptical Pipe	36	LFT	\$800.00	\$28,800.00
29	1.5" Surface; 4" Base; 9" Concrete' 6" Compacted #53 stone	1	LS	\$15,000.00	\$15,000.00
30	Concrete Cradle	1	EA	\$500.00	\$500.00
31	Sidewalk Repair	1	LS	\$1,750.00	\$1,750.00
32	Construction Engineering	1	LS	\$9,500.00	\$9,500.00
SUB TOTAL					\$347,425.00
15% Contingency					\$52,113.75
SUBTOTAL Construction					\$399,538.75
Professional Services [Engineering, Surveying, Geotechnical, Acquisition, Grant Preparation, Construction Staking, Construction Inspection, As-Built Documents]					\$161,843.13
GRAND TOTAL					\$561,381.88

The above cost estimate does not include the easements required on the Fox and Apostolic Church properties. The costs of the easements once obtained will become part of the cost of the overall project.

This project will be funded by the Town of Sheridan through a grant from the USDA.

The County has existing contracts for professional services for this project. These costs include the following:

1. Engineering Services: \$80,000.00
2. Fox Property Survey: \$13,050.00
3. Grant Application Assistance: \$11,576.25
4. Geotechnical investigation: \$9,206.88
5. Land Acquisition Professional Services: \$3,850.00
6. Court ordered appraisals on Fox property: \$7,500.00
7. Mendenhall Grant Administrations: \$8,000.00
8. Agricon, Inc. for exploratory excavations: \$1,160.00.

The County will incur the following costs for professional services for this project:

1. Construction Staking: \$7,500.00
2. Construction Inspection: \$20,000.00

The County will bid this project and administer the construction contract. The mechanism for reimbursement from the USDA Grant for the cost of construction and for professional services is being finalized. The portion of the project within the right of way for State Road 38 will be paid by INDOT as per IC-36-9-27-71. This is the portion between and including Structures 105 and 106. The cost for this work is estimated at \$92,632.50.

A new easement will be required across the property of the Apostolic Faith Church, Inc. This is for the new relocated tile described above downstream of Str. 104. Over the new tile, the easement will be 30-feet in width (centered on the proposed tile). The Surveyor is of the opinion that a 30-foot width easement is adequate for future maintenance of this tile and is allowed under IC 36-9-27-33(e). This easement has yet to be obtained.

The easement for the new open drain, across the Fox property is currently in litigation in the Hamilton County Circuit Court under Cause No. 29C01-1603-PL-002246. At this time the Report of Appraisers has been filed with the court and it is anticipated that the matter will be resolved prior to construction.

A permit is required from the Indiana Department of Transportation to install the pipe under State Road 38.

Parcels benefitted by this drain are currently assessed for the William Krause Drain. Therefore no changes in the current assessment shall be required.

I believe no damages will result to the landowners. Damages are set at zero (0).

I recommend that the Board set a hearing for this proposal for June 26, 2017.

Sincerely,

Kenton C. Ward, CFM  
Hamilton County Surveyor's Office

KCW/pll

*DWK*  
*William Krause*  
IN THE MATTER OF THE ~~THORPE CREEK DRAIN~~  
HAMILTON COUNTY DRAINAGE BOARD

FILED  
DEC 13 2016  
OFFICE OF HAMILTON COUNTY SURVEYOR

Come now the Town Council of the Town of Sheridan, Indiana who petition the Hamilton County Drainage Board as follows:

1. They are the duly elected Town Council of the Town of Sheridan, Indiana.
2. That in that capacity they are responsible for the drainage of public streets.
3. That they now desire that the William Krause regulated drain be reconstructed in Adams Township which involves 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> Streets and various other streets within the Town and various areas surrounding these streets in the drainage shed.
4. The names and address of each owner affected by the proposed public drainage are attached hereto, made a part hereof, and marked Exhibit "A", which area of land involved in the proposed drainage area is located in Section 32, Township 20 north, Range 3 east, Hamilton County, Indiana.
5. No other public lands or owners are located in the area which would affect improvement.
6. That the general route of the proposed drain is the construction of a regional detention facility between Stations 35+00 and 53+15 of the original William Krause Drain.
7. That in the opinion of the Petitioner, the costs, damages, and expenses of the proposed improvement will be less than the benefits which will result to the owners of the land to be benefited thereby.
8. That in the opinion of the Petitioner, the proposed improvement will benefit a public highway in the Town of Sheridan, Hamilton County, Indiana.
9. That the name of the attorney representing Petitioner in the drainage petition is Chou-il Lee, One Indiana Square, Suite 3500, Indianapolis, Indiana.
10. That Petitioners shall pay the cost of notice and all legal costs if the Petition is dismissed.
11. Petitioner shall post a bond, if required, to pay the cost of notice and all legal costs in the case the improvement is not established.

Town Council, Sheridan,  
Hamilton County, Indiana

BY: *David W. Kinkead*  
David Kinkead, President

BY: *[Signature]*  
Member

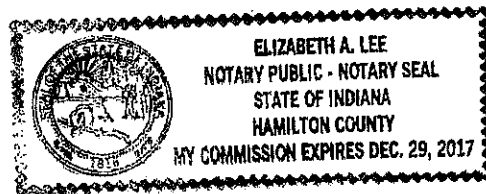
BY: *[Signature]*  
Member

BY: *[Signature]*  
Member

BY: *[Signature]*  
Member

Attest:

*Elizabeth A. Walden*  
Elizabeth A. Walden/Clerk – Treasurer of Sheridan, Indiana



STATE OF INDIANA     )  
                                  ) SS:  
COUNTY OF HAMILTON)

Subscribed and sworn to before me, A Notary Public this 8 day of December 2016.

*Elizabeth A. Lee*  
Notary Public of Hamilton County

My Commission Expires:

12-29-2017



FINDINGS AND ORDER

CONCERNING THE PARTIAL VACATION OF THE

William Krause Drain, Krause Drain Reconstruction Phase 1

Station 31+60 to Station 32+82

On this 26<sup>th</sup> day of June, 2017, the Hamilton County Drainage Board has held a hearing on the Maintenance Report and Schedule of Assessments of the William Krause Drain, Krause Drain Reconstruction Phase 1 (Station 31+60 to Station 32+82).

Evidence has been heard. Objections were presented and considered. The Board then adopted an order of action. The Board now finds that the costs of continued maintenance to the portion of the above drain exceed the benefits to the real estate benefited by the portion of the drain to be abandoned and issues this order vacating the above section of the William Krause Drain, Krause Drain Reconstruction Phase 1 (Station 31+60 to Station 32+82).

HAMILTON COUNTY DRAINAGE BOARD



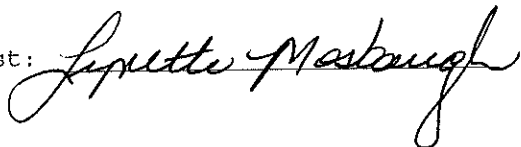
President



Member

Member

Attest:



STATE OF INDIANA        )  
                              ) ss:  
COUNTY OF HAMILTON    )

BEFORE THE HAMILTON COUNTY  
DRAINAGE BOARD  
NOBLESVILLE, INDIANA

IN THE MATTER OF THE  
RECONSTRUCTION OF THE  
*William Krause Drain, Krause Drain Reconstruction Phase 1*

FINDINGS AND ORDER FOR RECONSTRUCTION

The matter of the proposed Reconstruction of the *William Krause Drain, Krause Drain Reconstruction Phase 1* came before the Hamilton County Drainage Board for hearing on *June 26, 2017*, on the Reconstruction Report consisting of the report and the Schedule of Damages and Assessments. The Board also received and considered the written objection of an owner of certain lands affected by the proposed Reconstruction, said owner being:

Evidence was heard on the Reconstruction Report and on the aforementioned objections.

The Board, having considered the evidence and objections, and, upon motion duly made, seconded and unanimously carried, did find and determine that the costs, damages and expenses of the proposed Reconstruction will be less than the benefits accruing to the owners of all land benefited by the Reconstruction.

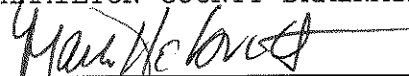
The Board having considered the evidence and objections, upon motion duly made, seconded and unanimously carried, did adopt the Schedule of Assessments as proposed, subject to amendment after inspection of the subject drain as it relates to the lands of any owners which may have been erroneously included or omitted from the Schedule of Assessments.

The Board further finds that it has jurisdiction of these proceedings and that all required notices have been duly given or published as required by law.

Wherefore, it is ORDERED, that the proposed Reconstruction of the *William Krause Drain, Krause Drain Reconstruction Phase 1* be and is hereby declared established.


Thereafter, the Board made inspection for the purpose of determining whether or not the lands of any owners had been erroneously included or excluded from the Schedule of Assessments. The Board finds on the basis of the reports and findings at this hearing as follows:

HAMILTON COUNTY DRAINAGE BOARD

  
\_\_\_\_\_  
PRESIDENT

  
\_\_\_\_\_  
Member

\_\_\_\_\_  
Member

ATTEST:   
Executive Secretary

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD  
IN THE MATTER OF

*William Krause Drain, Krause Drain Reconstruction Phase 1*

NOTICE

To Whom It May Concern and: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Notice is hereby given of the hearing of the Hamilton County Drainage Board concerning the reconstruction of the **William Krause Drain, Krause Drain Reconstruction Phase 1** on **June 26, 2017 at 9:00 A.M.** in Commissioners Court, Hamilton County Judicial Center, One Hamilton County Square, Noblesville, Indiana. Construction and maintenance reports of the Surveyor and the Schedule of Assessments proposed by the Drainage Board have been filed and are available for public inspection in the office of the Hamilton County Surveyor.

Hamilton County Drainage Board

Attest: Lynette Mosbaugh

ONE TIME ONLY

STATE OF INDIANA     )  
                          ) SS                 BEFORE THE HAMILTON  
                          )  
COUNTY OF HAMILTON )                 DRAINAGE BOARD

IN THE MATTER OF William Krause Drain, Krause Drain  
Reconstruction Phase 1

NOTICE

Notice is hereby given that the Hamilton County Drainage Board at its regular meeting June 26, 2017 adopted the reconstruction report of the Surveyor and the Amended Schedule of damages and assessments including annual assessment for periodic maintenance, finding that the costs, damages and expense of the proposed improvement would be less than the benefits which will result to the owner of lands benefited thereby.

The Board issued an order declaring the proposed improvement established. Such findings and order were marked filed and are available for inspection in the Office of the Hamilton County Surveyor.

If judicial review of the findings and order of the Board is not requested pursuant to Article VIII of the 1965 Indiana Drainage Code as amended within twenty (20) days from the date of publication of this notice, the findings and order shall become conclusive.

HAMILTON COUNTY DRAINAGE BOARD

BY: Mark Heirbrandt  
PRESIDENT

ATTEST: Lynette Mosbaugh  
SECRETARY



SURVEYOR'S OFFICE  
**Hamilton County**

*Kenton C. Ward, CFM*  
*Surveyor of Hamilton County*  
*Phone (317) 776-8495*  
*Fax (317) 776-9628*

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

To: Hamilton County Drainage Board

November 6, 2020

RE: William Krause Phase 1 Drain Reconstruction - Final Report

This is the inspector's final report on the William Krause Phase 1 Drain Reconstruction located in Section 32 of Township 20 North Range 3 East in Adams Township, Hamilton County, Indiana.

The Surveyor's Report for the William Krause Phase 1 Drain Reconstruction dated May 5, 2017 was presented to the Drainage Board and approved on June 26, 2017 (Hamilton County Drainage Board Minutes Book (Book) 17, Pages 384-391). The reconstruction cost estimate was \$561,381.88 including professional services (Engineering, Surveying, Acquisition, Grant Preparation, Construction Staking, Construction Inspection, As-Built Documents). The project was bid with two components, Base Bid and Alternate Bid. The contract was awarded to Midwest Paving for the amount of \$284,482.00 for the base bid and \$101,014.00 for the alternate bid for a total of \$385,496.00 on October 23, 2017 (Book 17 Pages 517-519).

William Krause Phase 1 Drain Reconstruction consisted of 2360 feet of open ditch, 8 feet of 36" RCP, 393 feet of 48" RCP, 26 feet of 54" RCP, 1-48" manhole with casting, 2-72" manholes with castings, 1-96" manhole with casting, 1-84" manhole with casting, 1-108" manhole with casting, sidewalk repair, asphalt repair for SR38 & church parking lot, traffic control, erosion control and final seeding.

There were 6 change orders on this project change order for additional work or field revisions on the project as allowed by IC 36-9-27-80.5. Those change orders are as follows:

**Change Order #1** was to change the open ditch from a two-stage ditch design to a standard ditch with a four (4) foot width bottom with 3to1 (3:1) side slopes. The change also allowed for the flow line of the ditch to be raised 0.5 feet. The change will result in an additional 567 cubic yards of soil to be moved. The contractor pro-rated the cost per-yard from the original bid the total of which calculates to a total cost of \$1,764.00 This design change is required due to poor soils which will not allow the installation of a low flow channel in the two-stage design. Change Order #1 was approved by the Board on February 26, 2018 (Book 18 Page 69).

Change Order #1

Change in open ditch configuration -----	\$1,764.00
Change Order #1 Total Midwest Paving -----	\$1,764.00

**Change Order #2** was to reduce the contract price of grouting and filling the existing pipe under the church building by \$506.25. The contract stated that the tile would be videotaped prior to being grouted. Fluid Waste Service was hired by the Hamilton County Surveyor's Office to locate and camera the tile for the contractor. Change Order #2 was approved by the Board on April 23, 2018 (Book 18 Page 129-130).

Change Order #2

Delete Midwest Paving Alternate Bid Item #1010 -----	-\$506.25
Fluid Waste Service - Camera & Locate Tile -----	\$506.25
Change Order #2 Total Midwest Paving -----	\$0.00

**Change Order #3** is for the removal of a tree, revising a manhole structure from 96-inch diameter to 108-inch diameter. Change Order #3 was approved by the Board on May 29, 2018 (Book 18 Page 169).

Change Order #3

Clearing of Tree -----	\$2,332.00
Water lines at church -----	\$2,719.04
Delete Manhole STR#101 - 96" -----	-\$10,000.00
Add Manhole STR#101- 108" -----	\$12,143.00
Change Order #3 Total Midwest Paving -----	\$7,194.04

**Change Order #4** was approved by the Board on August 27, 2018 (Book 18 Page 239-240).

Change Order #4

Delete 38" x 60" RCP 36' LF @ \$400 LF -----	-\$14,400.00
Add 36 LF of 48" RCP w/granular backfill -----	\$8,640.00
Delete 24" outlet -----	-\$4,000.00
Delete 10" outlet -----	-\$2,000.00
Delete 2 - 96" INDOT Manholes @ \$12,000.00ea Str # 105, 106 --	-\$24,000.00
72" Manhole Str #106-----	\$7,000.00
Add Str# 105 72" conflict structure-----	\$19,080.00
Delete Str# 105 72" conflict structure-----	-\$19,080.00
Additional depth in trench to lower storm line -----	\$22,760.00
Add 10 feet of silt fence @ \$1.25 per foot -----	\$12.50
Relocate Manholes #103, #104 Connect 18" & 6" pipes -----	\$15,661.84
Cap abandoned 15" & 24" Pipes -----	\$1,136.29
40 feet of 36" CMP @ \$125.00 per foot -----	\$5,000.00
Delivery/return fee 48" RCP -----	\$250.00
Change Order #4 Total Midwest Paving -----	\$16,060.63

**Change Order #5** is required because Calumet Paving was doing work on the west side of SR38 in the area of the sidewalk. It was decided that since Calumet's work was to be completed after the Midwest Paving work in the area it would be best for Calumet to complete the sidewalk repair. Change Order #5 was approved by the Board on December 10, 2018 (Book 18 Pages 325-326).

Change Order #5

Delete sidewalk repair -----	-\$2000.00
Change Order #5 Total Midwest Paving -----	-\$2000.00

**Change Order #6** is required to allow for reimbursement to the Town of Sheridan for payment that was made to Calumet Paving for sidewalk replacement and new the inlet structure work done on the west side of SR38. Change Order #5 was approved by the Board on December 17, 2018 (Book 18 Page 69).

Change Order #6

Change Order #6 - Town of Sheridan reimbursement -----	\$8,821.27
Change Order #6 Total -----	\$8,821.27

**Total Reconstruction Cost**

Contractor's Bid -----	\$385,496.00
Change Order #1 Total -----	\$1,764.00
Change Order #2 Total -----	-\$506.25
Change Order #3 Total -----	\$7,194.04
Change Order #4 Total -----	\$16,060.63
Change Order #5 Total -----	-\$2000.00
Midwest Paving Total -----	\$408,008.42
Fluid Waste Total -----	\$506.25
Town of Sheridan Total -----	\$ 8,821.27
Total Reconstruction Cost -----	\$417,335.94
Engineer's Estimate -----	\$399,538.75
Total Reconstruction Cost -----	\$417,335.94
Difference -----	-\$17,797.19

This project was funded by the Town of Sheridan through a grant from the USDA.

The original hearing the construction cost estimate was \$399,538.75. The actual cost was \$408,008.42 for Midwest Paving's contract; \$506.25 to Fluid Waste for camera inspection of a tile for Midwest; and \$8,821.27 to Town of Sheridan to reimburse them what they paid Calumet to do the sidewalk replacement and new inlet structure work. These 3 vendors were paid a total of \$417,335.94 for the actual construction cost.

The original report soft cost was estimated at \$161,843.13. It showed \$3,850 for land acquisition fees but no charges were received for those services because they were provided by the Hamilton County Highway Department. \$8,000 was designated for grant administration but \$3,000 of it was paid by the Town of Sheridan. The report had \$20,000 for inspection fees but we received no charge for those services because it was inspected by the Hamilton County Surveyor's Office.

Construction staking was listed at \$7,500 and those costs were a bid item and paid as Pay Request #1 to Midwest Paving. Removing these 4 items makes the actual soft cost \$127,493.13.

The construction cost totals \$417,335.94 and the soft cost items listed in the Phase I report total \$127,493.13 to make a total of \$544,829.07. INDOT is being assessed \$92,632.50 for their portion of the reconstruction. Settlement from INDOT's reconstruction assessment will be placed back into the Krause Phase 1-3-Town of Sheridan Project fund.

The breakdown of the actual cost is:

Phase I Construction Cost:	\$417,335.94
Engineering:	\$80,000.00
Fox Survey:	\$13,050.00
Grant Application Assistance:	\$11,576.25
Geotech:	\$9,206.88
Fox Appraisal:	\$7,500.00
Grant Administration:	\$5,000.00
<u>Exploratory – Agricon:</u>	<u>\$1,160.00</u>
Totals – Phase 1	\$544,829.07

The Drainage Board received \$2,205,265.00 from the Town of Sheridan on 06/13/2018 as payment for the Town's purchase of flow capacity in and into the William Krause Drain. The funds were received as part of the Stormwater Capacity Purchase Agreement entered into on the 11th day of June 2018 between the Department of Storm Water Management of the Town of Sheridan and the Hamilton County Drainage Board. All cost associated with the reconstruction of Williams Krause Phases 1, 2 & 3 are being deducted from these funds. Prior to receiving this funding \$3,625.00 was paid from the George Symonds #283 maintenance fund and \$151,028.13 was paid from the William Krause #267 maintenance fund for survey, design, engineering & easement purchases. I recommend that these maintenance funds be reimbursed at this time.

As stated above, this project was paid for by a USDA loan in the amount of \$2,205,265.00. The repayment of the maintenance funds for the Symons and Krause drains amounted to \$127,653.13. The total construction cost is \$417,335.94 and with the \$92,632.50 being repaid by INDOT the amount being taken from the loan funds is \$324,703.44. This leaves a total of \$1,753,068.43 to be utilized for Phase 2 and Phase 3 of the project.

Partial Pay Requests for this project submitted and paid as allowed in IC 36-9-27-81 are as follows:

	Date Requested	Date Paid	Billed	Retained	Paid
Pay Request #1	11/16/17	12/27/17	\$4,800.00	\$0.00	\$4,800.00
Pay Request #2	11/27/17	01/09/18	\$931.25	\$139.69	\$791.56
Pay Request #3	12/20/17	01/09/18	\$39,125.00	\$5,868.75	\$33,256.25
Pay Request #4	01/05/18	02/13/18	\$31,035.00	\$4,655.25	\$26,379.75
Pay Request #5	01/05/18	03/27/18	\$34,448.25	\$5,167.24	\$29,281.01
Pay Request #6	02/22/18	04/24/18	\$115,407.60	\$17,311.14	\$98,096.46
Pay Request #7	04/18/18	05/30/18	\$27,593.75	\$4,139.06	\$23,454.69
Pay Request #8	05/17/18	06/12/18	\$32,753.00	\$4,912.95	\$27,840.05
Pay Request #9	06/08/18	07/10/18	\$16,000.00	\$2,400.00	\$13,600.00
Pay Request #10	08/02/18	08/28/18	\$44,293.50	\$6,644.03	\$37,649.48
Pay Request #11	08/08/18	09/11/18	\$7,194.04	\$1,079.11	\$6,114.93
Pay Request #12	08/28/18	09/25/18	\$48,460.63	\$7,269.09	\$41,191.54
Pay Request #13	12/03/19	02/25/19	\$5,966.40	\$894.96	\$5,071.44



Retainage	12/04/19	02/25/19	\$60,481.26
Midwest Paving Totals:		\$408,008.42	\$408,008.42

Statement of All Incurred Expenses Paid signed by the contractor as required in IC 36-9-27-82(b) was received on December 4, 2019.

The engineering design, plans, construction staking and as-built (record) drawings were prepared by Banning Engineering. The as-built drawings are attached.

Upon review of the as-built drawings prepared by Banning Engineering dated 10-29-2020 it was found that the inverts of two manholes were installed incorrectly as was the slope of two sections of pipe. The inlet invert of structure #106 was installed at 930.88 and the outlet invert was installed at 930.98 resulting in a backward grade of 0.10 feet and the inlet invert of structure #102 was installed at 930.50 and the outlet invert was installed at 930.53 resulting in a backward grade of 0.03 feet. Additionally, the slope of the pipe between structure #106 and structure #104 was installed with a negative grade as was that between structure #103 and structure #102. Upon discussion with Joe Miller of Banning Engineering he believes although they are incorrect, these issues will not adversely affect the hydraulics of the storm system. He indicated this in a letter to this office dated July 30, 2020.

As of February 13, 2020, I hereby attest to and agree that the reconstruction was installed according to the specified plans and change orders and have approved such work under IC 36-9-27-82(a). All inspections have been completed. Final inspection was on August 5, 2019.

The performance bond for Midwest Paving for the project dated October 26, 2017, bond number 9267099 should be released by the Board.

I recommend the Board approve the reconstruction as complete and acceptable.

Respectfully,



Andrew Conover  
Inspector

# KRAUSE DRAIN RECONSTRUCTION PHASE 1

SEC. 32-T20N-R3W, HAMILTON COUNTY, ADAMS TOWNSHIP  
ZONED: AG-2

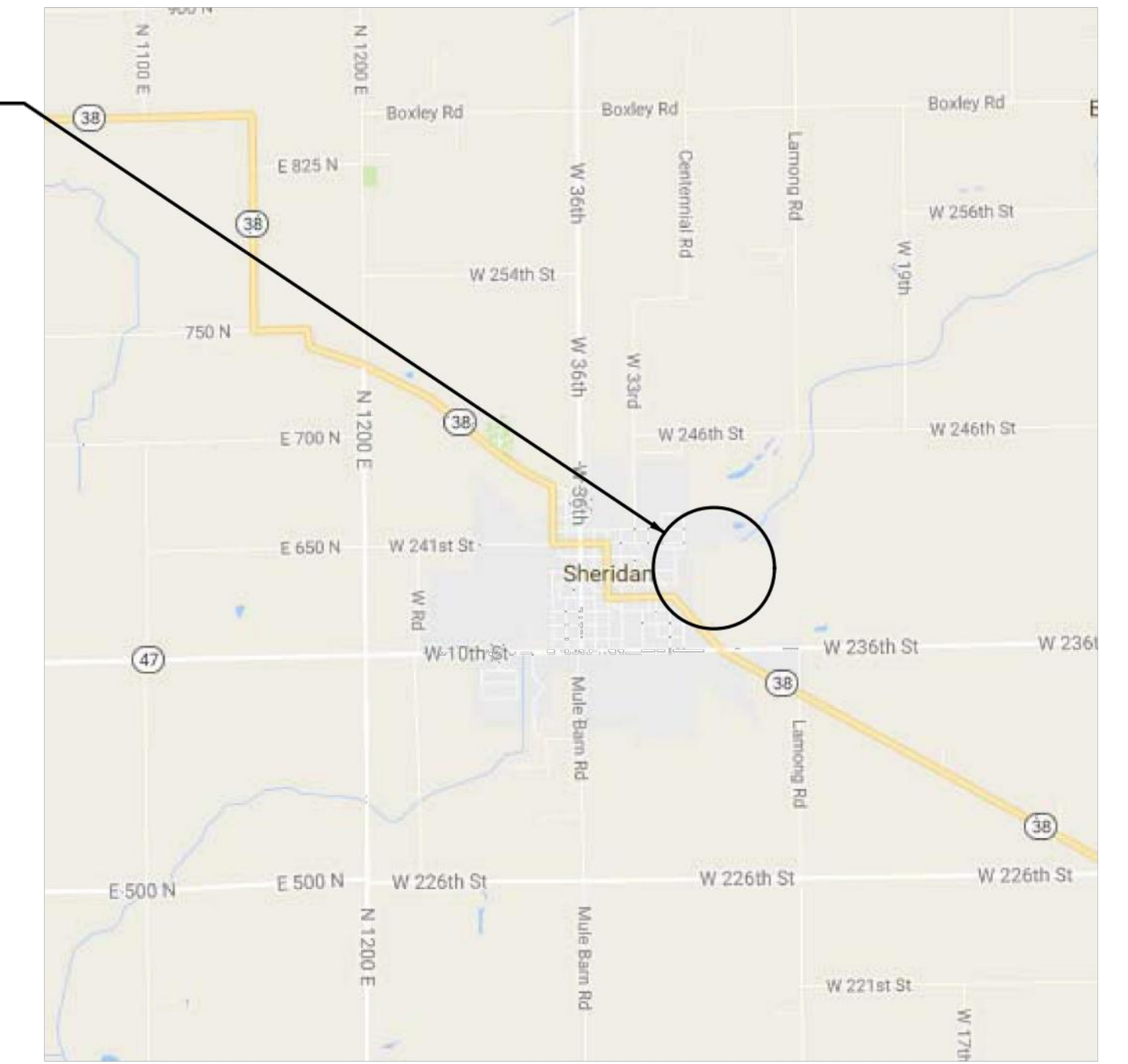
PROJECT LOCATION



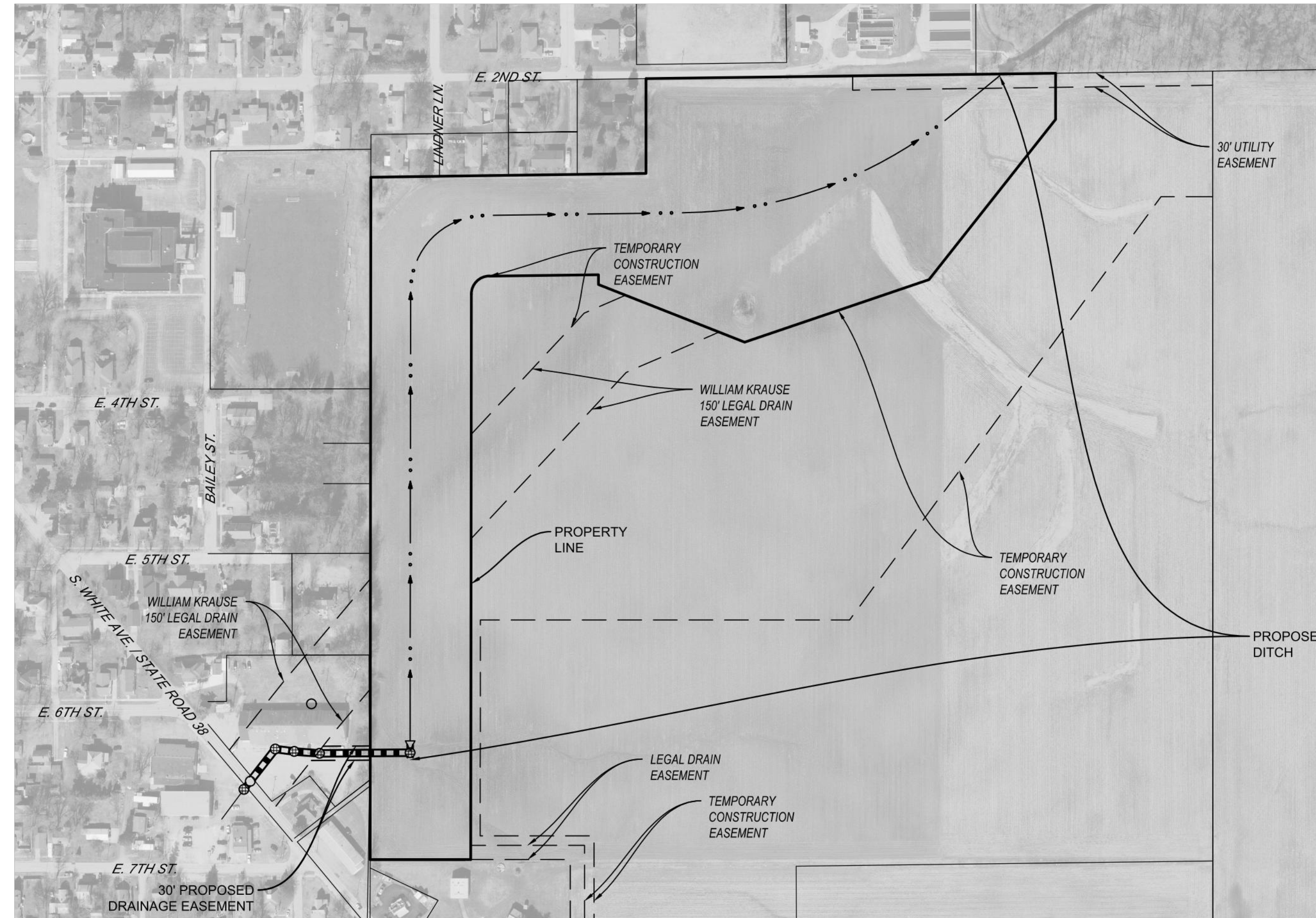
VICINITY MAP  
NO SCALE

PLANS PREPARED FOR:  
HAMILTON COUNTY DRAINAGE BOARD  
1 HAMILTON COUNTY SQUARE, SUITE 188  
NOBLESVILLE, INDIANA 46060  
PHONE: 317-776-9628  
CONTACT: KENTON WARD

PROJECT LOCATION



LOCATION MAP  
NO SCALE



SITE MAP  
SCALE: 1" = 200'

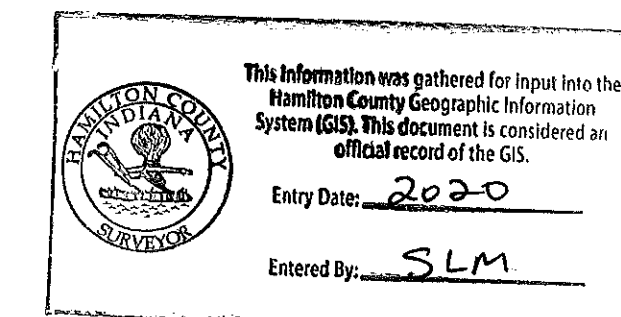
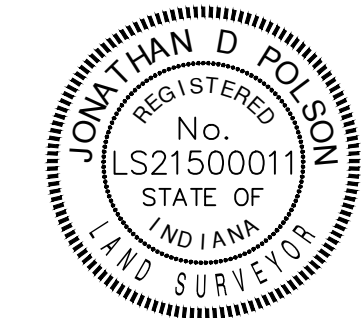
OPERATING AUTHORITIES

- |  |   |   |
|--|---|---|
| <b>GAS</b><br>VECTREN<br>18000 ALLISONVILLE ROAD<br>NOBLESVILLE, IN 46061<br>317-776-5534                                  | <b>ELECTRIC</b><br>DUKE ENERGY<br>390 N. MAIN STREET<br>MARTINSVILLE, IN 46151<br>765-349-4012                          | <b>WATER</b><br>TOWN OF SHERIDAN<br>WATER & SEWER UTILITIES<br>506 S. MAIN STREET<br>SHERIDAN, IN 46069<br>317-758-5293 |
| <b>SANITARY</b><br>TOWN OF SHERIDAN<br>WATER & SEWER UTILITIES<br>506 S. MAIN STREET<br>SHERIDAN, IN 46069<br>317-758-5293 | <b>STORM</b><br>TOWN OF SHERIDAN<br>WATER & SEWER UTILITIES<br>506 S. MAIN STREET<br>SHERIDAN, IN 46069<br>317-758-5293 | <b>TELEPHONE</b><br>AT&T<br>240 N. MERIDIAN STREET<br>INDIANAPOLIS, IN 46204<br>317-265-3050                            |
| <b>SCHOOL DISTRICT</b><br>SHERIDAN COMMUNITY SCHOOLS<br>24795 N. HINESLEY ROAD<br>SHERIDAN, IN 46069<br>317-758-4172       | <b>FIRE DEPARTMENT</b><br>SHERIDAN FIRE DEPARTMENT<br>506 S. MAIN STREET<br>SHERIDAN, IN 46069<br>317-758-4561          |   |

PLANS PREPARED BY:  
**BANNING ENGINEERING**  
853 COLUMBIA ROAD, SUITE #101  
PLAINFIELD, IN 46168  
BUS: (317) 707-3700, FAX: (317) 707-3800  
E-MAIL: [Banning@BanningEngineering.com](mailto:Banning@BanningEngineering.com)  
WEB: [www.BanningEngineering.com](http://www.BanningEngineering.com)  
CONTACT: JOSEPH L. MILLER

Certificate of Survey  
I hereby state that the record information provided herein is true and correct to the best of my knowledge and belief and was collected under my supervision with the field data completed on June 28, 2018 and revised on October 29, 2020. The record information pertains to the location and elevation of the sewer structures, the size and type of the sewer pipes, and the slope of said pipes between structures. The elevations on top of casting of the structures and their accompanying pipe inverts are accurate to within 0.05 feet and were gathered using a total station applying standard radial surveying techniques. The record locations of the subsurface drain laterals were located as marked by those responsible for construction of said sewer and are subject to the accuracy of the markings provided.

*Jonathan D. Polson* 10/29/20  
Jonathan D. Polson  
Registered Land Surveyor - LS21500011  
State of Indiana



SHEET INDEX	
SHEET NO	DESCRIPTION
C100	TITLE SHEET
C101	OVERALL PLAN
C300-C301	STORM SEWER PLAN AND PROFILE SHEETS
C400	EROSION CONTROL PLAN
C500-C502	MISCELLANEOUS DETAILS
C503	SOIL BORINGS

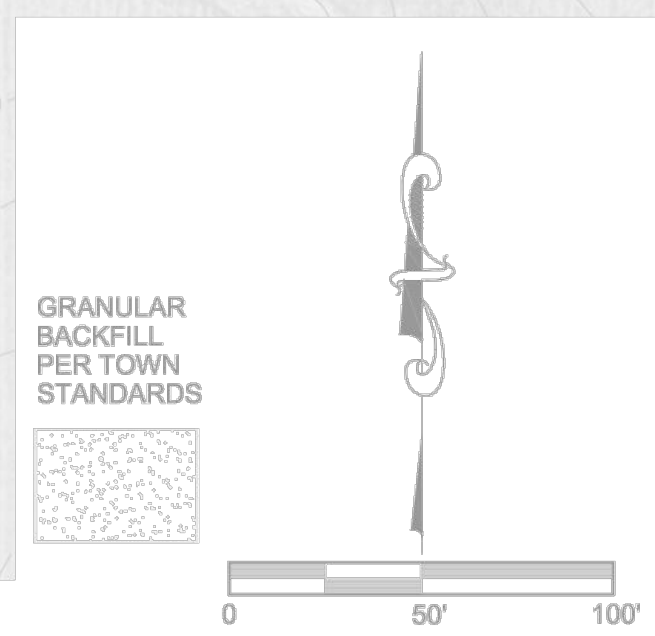
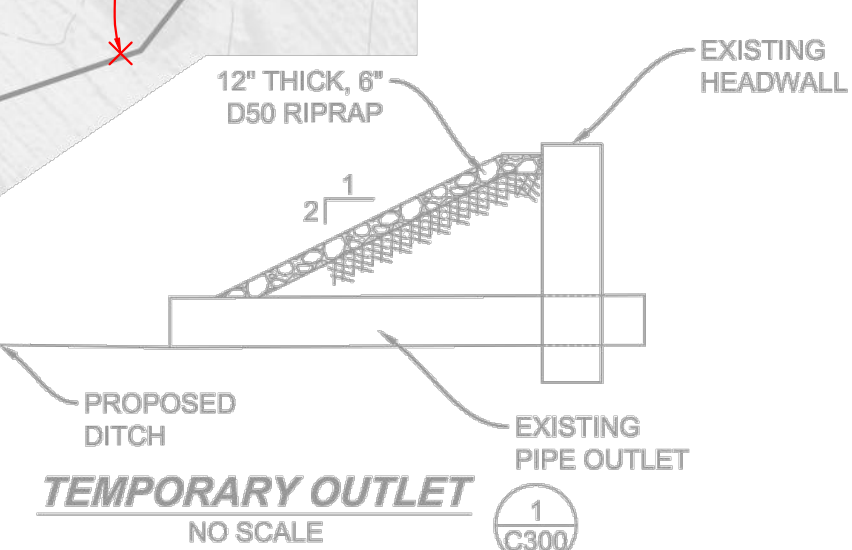
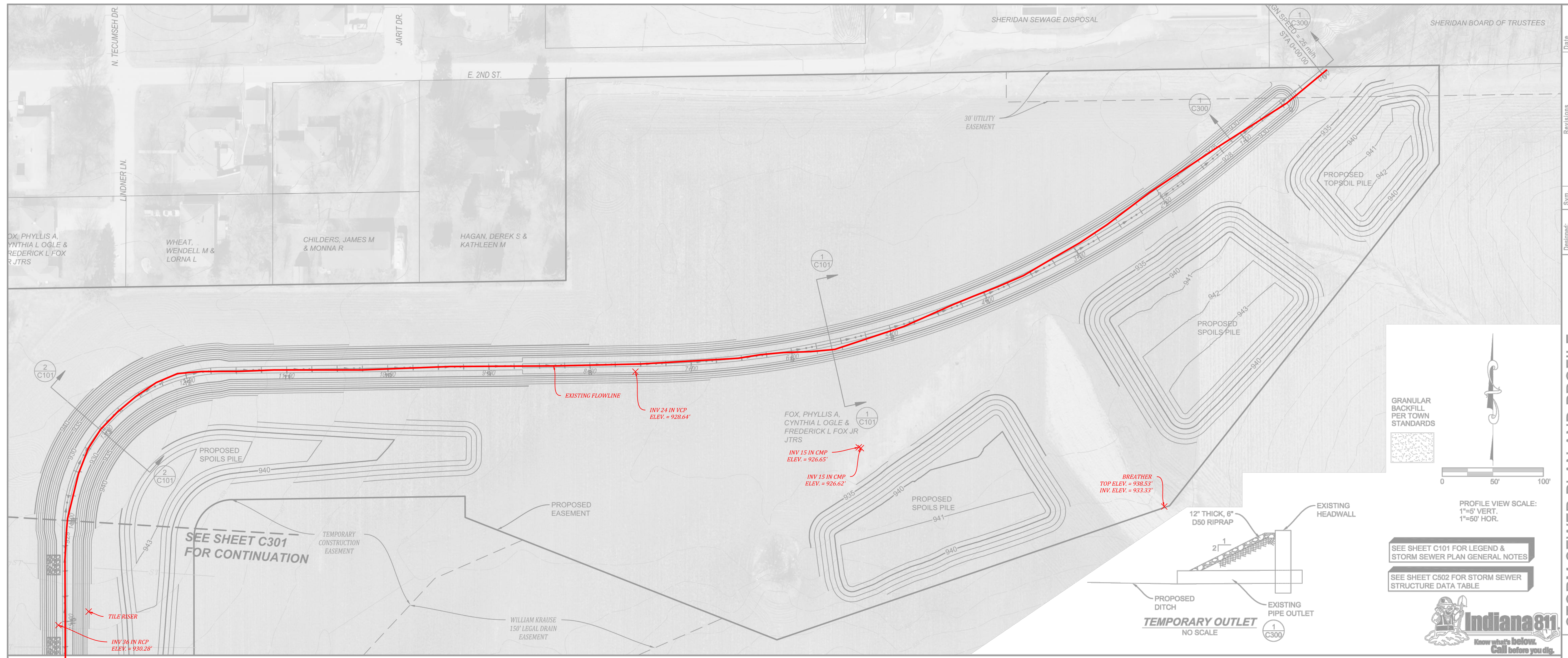
REVISIONS		
NUMBER	DESCRIPTION	DATE
▲	ALTERNATE INDOT PIPING	10-04-17

**RECORD DRAWING**

Date:	05-01-17
Project No:	11194KRUS
Sheet No:	C100



KRAUSE DRAIN RECONSTRUCTION PHASE 1 / PROJECT NO. 11194KRUS



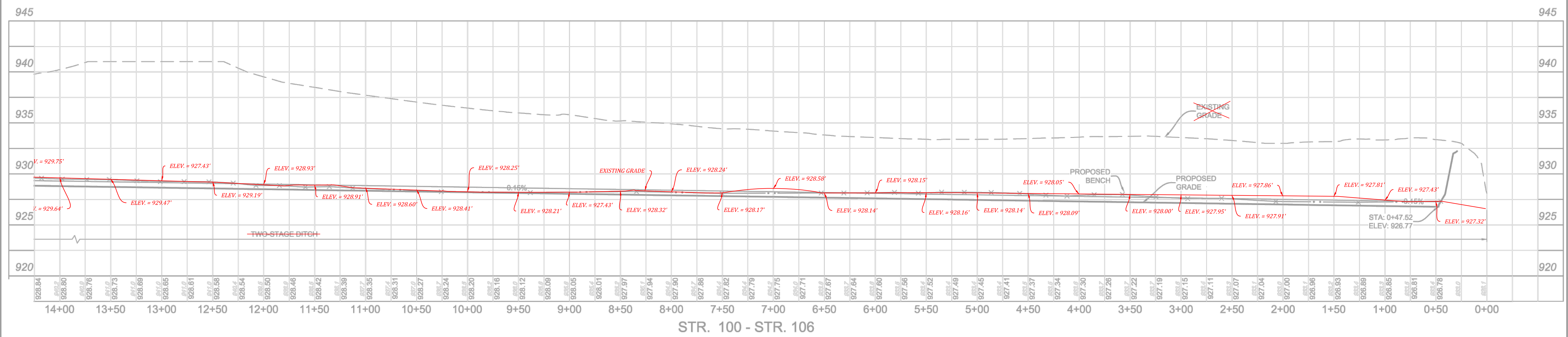
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1"=5' VERT.  
1"=50' HOR.

SEE SHEET C101 FOR LEGEND &  
STORM SEWER PLAN GENERAL NOTES

SEE SHEET C502 FOR STORM SEWER  
STRUCTURE DATA TABLE

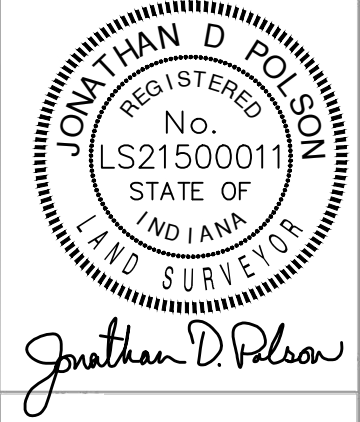


# RECORD DRAWING



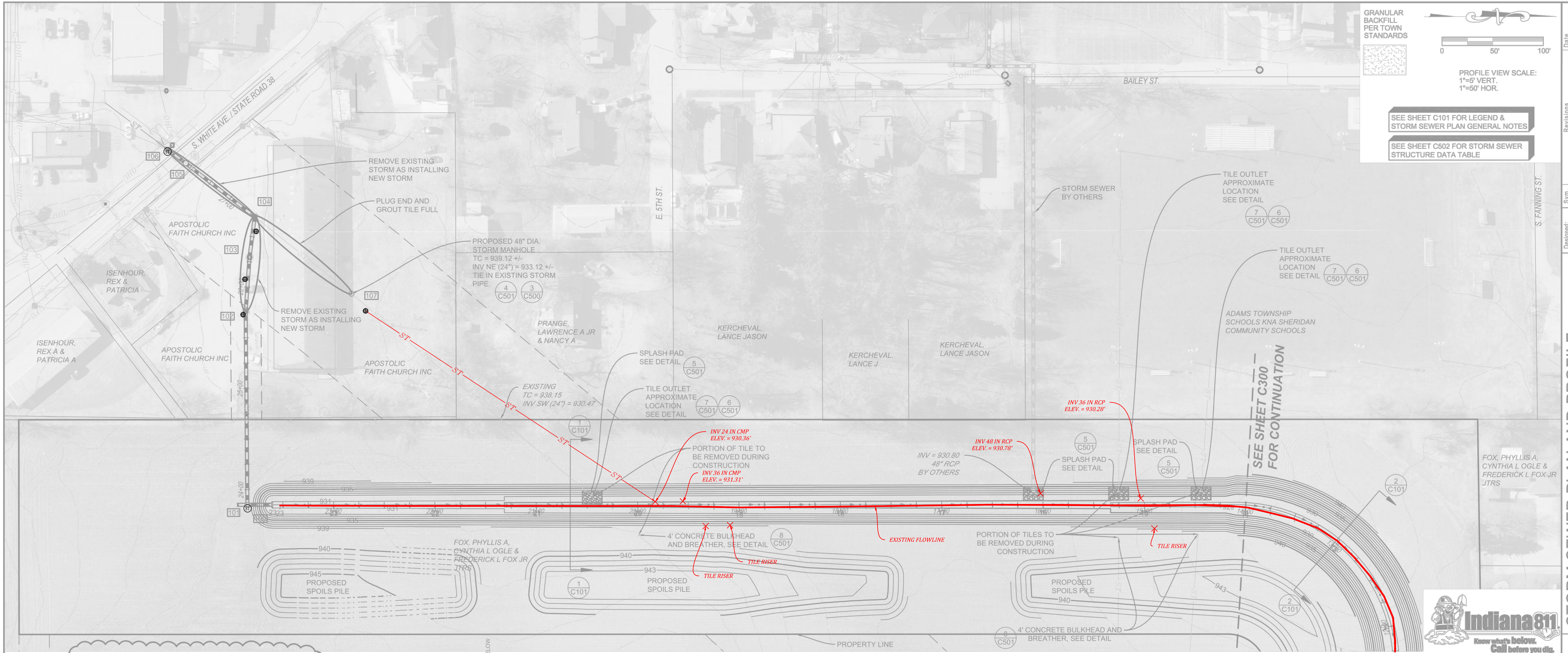
Date	10-03-17
Revisions	
Sym.	
Designed: J.M.	ALTERNATE INDOT PIPING
Drawn: T.M.F.	
Checked:	
Scale:	
As Shown	
Date:	05-01-17

**STORM SEWER PLAN AND PROFILE**  
**KRAUSE DRAIN RECONSTRUCTION PHASE 1**  
 ADAMS TOWNSHIP  
 SHERIDAN, INDIANA



**BANNING ENGINEERING**  
 853 COLUMBIA ROAD, SUITE #101  
 PLAINFIELD, IN 46168  
 BUS: (317) 707-3700, FAX: (317) 707-3800  
 E-MAIL: Banning@BanningEngineering.com  
 WEB: www.BanningEngineering.com

Project No: 11194KRUS  
 Sheet No:  
**C300**



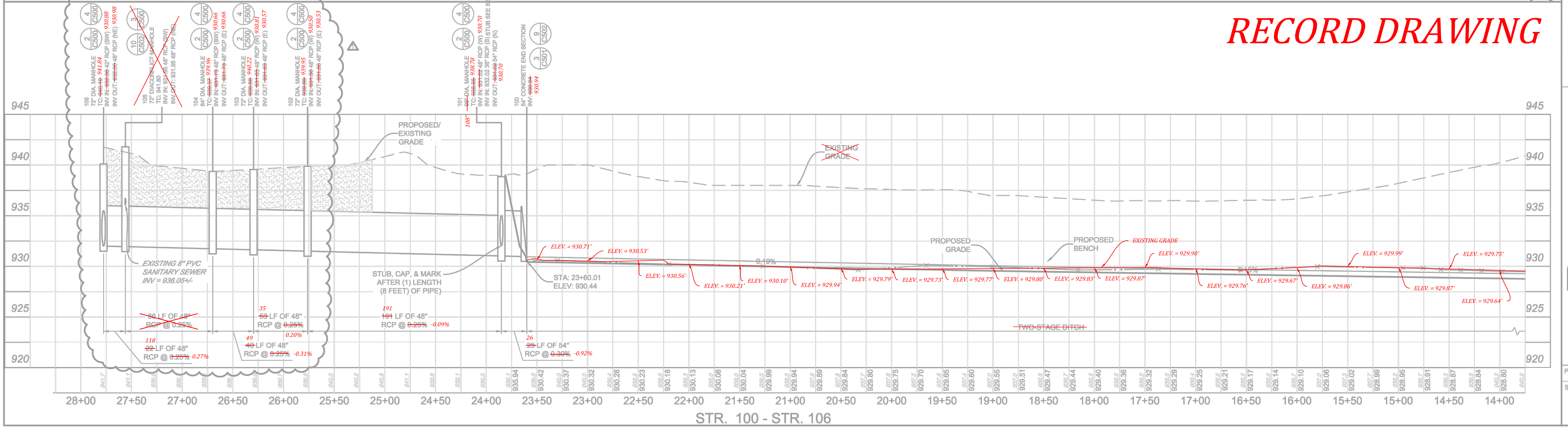
GRANULAR BACKFILL PER TOWN STANDARDS

PROFILE VIEW SCALE:  
1"=5' VERT.  
1"=50' HOR.

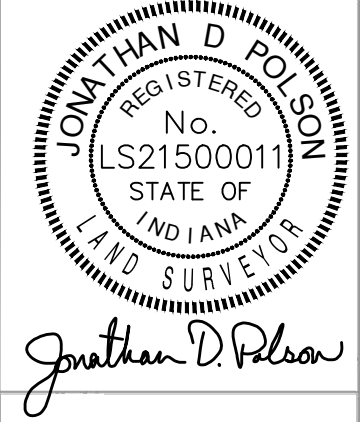
SEE SHEET C101 FOR LEGEND & STORM SEWER PLAN GENERAL NOTES

SEE SHEET C502 FOR STORM SEWER STRUCTURE DATA TABLE

Date	10-03-17
Revisions	ALTERNATE INDOT PIPING
Designed: JLM	Checked: TMF
Drawn: JLM	Scale: As Shown
As Shown	Date: 05-01-17



**RECORD DRAWING**



**BANNING ENGINEERING**  
853 COLUMBIA ROAD, SUITE #101  
PLAINFIELD, IN 46168  
BUS: (317) 707-3700, FAX: (317) 707-3800  
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WEB: www.BanningEngineering.com

Project No: 11194KRUS  
Sheet No: **C301**