



August 20, 2012

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

Re: Miller Carson Drain Reconstruction – State Rd 19 Crossing @ Tishner Property

On May 14, 2012 the Hamilton County Drainage Board held a public meeting on the Miller-Carson Regulated Drain Reconstruction located within the Town of Atlanta (See Hamilton County Drainage Board Minutes Book 14, Pages 152 to 160).

The Hamilton County Surveyor's Office received one written objection to the project from Larry and Laura Tishner, 8301 E. 286th Street, Atlanta, Indiana, 46031, Parcel No. 03-02-12-00-00-004.001 dated May 7, 2012. Mr. Tishner appeared before the Hamilton County Drainage Board to object to the project. He stated that the increased pipe size (27" to 60" RCP) that outlets upstream of his home into the Miller-Carson open drain will probably flood his house. Mr. Tishner asked that we look closely at this project because the water backs up now waiting to go thru an existing culvert under S.R. 19. Mr. Tishner said he wasn't against the project but felt the S.R.19 box culvert should be bigger to allow more water to pass under S.R. 19.

The Hamilton County Drainage Board approved the project asking the County Surveyor to proceed with a flood analysis on both the existing condition and the proposed upsizing to the Miller-Carson Regulated Drain.

On June 11th, 2012, the Hamilton County Drainage Board approved a contract with Christopher Burke Engineering to prepare a flood study on the Tishner property (see Hamilton County Drainage Board Minutes Book 14, page 179). The County Surveyor's staff performed the field survey for Burke.

Mr. Siavash Beik presented his report to the Hamilton County Drainage Board on July 9, 2012. Mr. Tishner, Mr. Abe Evans and Walter Evans and Ron Buel from the Indiana Department of Transportation (INDOT) were present (see Hamilton County Drainage Board Minutes Book 14, pages 179).

Hydraulics

Existing Q = 24 cfs in a 100 year storm event. Proposed Q-60" flowing full = 119 cfs in a 100 year storm event.

The impact of the upsizing will raise the water elevation about three (3) feet. See attached Drainage analysis dated July 6, 2012 by Christopher B. Burke Engineering. Burke recommends two (2) options to increase the culvert at S.R. 19, downstream of the Tishner property.

Option 1 - Install an additional 66 inch diameter RCP next to the existing box culvert. The engineers estimate is given below and the total cost is \$234,500.00.

Preliminary Opinion of Probable Cost

Install Additional 66-Inch Diameter RCP Culvert

Line	Description	Estimated Quantities	Units	Unit Price	Estimated Cost (Rounded)
1	Professional Services				
2	Engineering Design and Project Management	1	LS	\$ 25,000	\$ 25,000
3	Topo Survey	1	LS	\$ 4,000	\$ 4,000
4	Geotechnical Engineering Investigation	1	LS	\$ 4,000	\$ 4,000
5	Estimated Professional Services Costs				\$ 33,000
6	66-Inch Culvert Installation				
7	Selective Demolition and Clearing	1	LS	\$ 5,000	\$ 5,000
8	Dewatering	1	LS	\$ 3,000	\$ 3,000
9	Prepare Jacking Pits	1	LS	\$ 10,000	\$ 10,000
10	Jack 66-Inch Diameter Class V Concrete Pipe	70	LF	\$ 1,000	\$ 70,000
11	Reinforced Concrete Headwalls	2	EA	\$ 15,000	\$ 30,000
12	Channel Excavation and Grading for culvert	1	LS	\$ 5,000	\$ 5,000
13	Site Restoration	1	LS	\$ 5,000	\$ 5,000
14	Construction Surveying	1	LS	\$ 2,000	\$ 2,000
15	Erosion and Sediment Control	1	LS	\$ 12,000	\$ 12,000
16	Maintenance of Traffic	1	LS	\$ 3,000	\$ 3,000
17	Mobilization/Demobilization & Administration	1	CY	\$ 10,000	\$ 10,000
18	Estimated 66-Inch Culvert Installation Cost				\$155,000
19	Construction Contingencies				
20	Construction Contingencies (30%)	1	LS	\$ 46,500	\$ 46,500
21	Estimated Construction Contingencies				\$ 46,500
22					
23	Estimated Construction Cost				\$203,500
24					
25	Estimated Total Cost				\$234,500

Notes and Assumptions

- Gen. This estimate assumes that a steel casting pipe is NOT required.
- Gen. Permitting from IDNR and IDEM is not anticipated due to the watershed size and area of disturbance. An site investigation is recommended to determine potential permitting considerations.
- Gen. All costs are estimates based on the engineer’s knowledge of common construction methods and Materials. Christopher B. Burke Engineering, LLC does not guarantee that the actual bid price will not vary form the costs used with this estimate.
- Gen. All costs are in 2012 dollars.
- Gen. Estimated costs have been rounded.
- Gen. This estimate does not include unforeseen cost increase that may result from shortages in fuel and Materials as a result of natural or man- made disasters.

Gen. This estimate does not include land acquisition, easements, or utility relocation/coordination.

Option 2 – Install an additional 5 x 5 reinforced concrete box next to the existing box culvert.

The Engineers estimate is given below and the total cost is \$233,000.00.

Preliminary Opinion of Probable Cost

Install Additional 5-ft by 5 ft RCP Box Culvert

Line	Description	Estimated Quantities	Units	Unit Price	Estimated Cost (Rounded)
1	Professional Services				
2	Engineering Design and Project Management	1	LS	\$ 30,000	\$ 30,000
3	Topo Survey	1	LS	\$ 5,000	\$ 5,000
4	Geotechnical Engineering Investigation	1	LS	\$ 4,000	\$ 4,000
5	Estimated Professional Services Costs				\$ 39,000
6	5-ft x 5-ft Culvert Installation				
7	Clearing & Grubbing	1	LS	\$ 5,000	\$ 5,000
8	Remove and Reinstall Guardrail	45	LF	\$ 30	\$ 1,400
9	Asphalt Pavement Removal	100	SY	\$ 12	\$ 1,200
10	Remove and Reinstall Riprap	1	LS	\$ 3,000	\$ 3,000
11	Excavation for Culvert installation	500	CY	\$ 10	\$ 5,000
12	Dewatering	1	LS	\$ 5,000	\$ 5,000
13	5ft x 5ft Reinforced Concrete Box Culvert	70	LF	\$ 400	\$ 28,000
14	Reinforced Concrete Headwalls	2	EA	\$ 15,000	\$ 30,000
15	Grading for New Culvert	1	LS	\$ 3,000	\$ 3,000
16	Stone Backfill and Bedding material – Place & Compact	250	CY	\$ 25	\$ 6,300
17	Regular Backfill – Place & Compact	150	CY	\$ 10	\$ 1,500
18	Haul Spoil Material from Site	350	CY	\$ 5	\$ 1,800
19	Asphalt Pavement	1	LS	\$ 4,000	\$ 4,000
20	Site Restoration	1	LS	\$ 5,000	\$ 5,000
21	Construction Surveying	1	LS	\$ 4,000	\$ 4,000
22	Erosion and Sediment Control	1	LS	\$15,000	\$ 15,000
23	Maintenance of Traffic	1	LS	\$20,000	\$ 20,000
24	Mobilization/Demobilization & Administration	1	CY	\$10,000	\$ 10,000
25	Estimated 5-ft x 5-ft Culvert Installation Cost				\$149,200
26	Construction Contingencies				
27	Construction Contingencies (30%)	1	LS	\$44,800	\$ 44,800
28	Estimated Construction Contingencies				\$ 44,800
29					
30	Estimated Construction Cost				\$194,000
31	Estimated Total Cost				\$ 233,000
32					

Notes and Assumptions

Gen. This estimate assumes that a steel casting pipe is NOT required.

Gen. Permitting from IDNR and IDEM is not anticipated due to the watershed size and area of disturbance. An site investigation is recommended to determine potential permitting considerations.

Gen. All costs are estimates based on the engineer’s knowledge of common construction methods and Materials. Christopher B. Burke Engineering, LLC does not guarantee that the actual bid price will not vary from the costs used with this estimate.

- Gen. All costs are in 2012 dollars.
- Gen. Estimated costs have been rounded.
- Gen. This estimate does not include unforeseen cost increase that may result from shortages in fuel and Materials as a result of natural or man-made disasters.
- Gen. This estimate does not include land acquisition, easements, or utility relocation/coordination.

Mr. Evans spoke on behalf of INDOT. He asked to have their hydrologist Crystal Weaver look at the project from a hydraulics standpoint. Mr. Evans said INDOT will have to determine if this project is funded out of their maintenance budget or out of their capitol improvements budget.

On August 13, 2012 Mr. Tishner and Mr. Watkins addressed the Drainage Board. They had concerns that the new 60 inch RCP was being installed and INDOT had not addressed their flooding concerns and the existing crossing at S.R. 19 was undersized to take the flow. At that time the Board set the hearing date for a new structure under S.R.19 for September 26, 2012.

The Hamilton County Surveyor's Office recommends going forward with the additional 66" steel directional bore for a total cost of \$234,500.00. This work will begin at the west right of way line of S.R. 19, Sta 48+00 of the Miller- Carson Drain, and extend across the S.R.19 right of way to the east line of said right of way. All of the work will be performed within INDOT right of way and existing regulated drainage easement for the Miller- Carson Drain.

In addition to the new structure under S.R. 19 will be bank armoring and ditch clean out of obstructions for a distance of six hundred seven (607) feet downstream from the S.R. 19 right of way. This work will be done on parcel 03-02-12-00-00-005.00 owned by Waltz Ena Farms LLC. This is the same length of regulated open ditch cleared and cleaned with the 1981 reconstruction of the Miller-Carson Drain.

Although mapped as regulated drain at the time, during the 2005 mapping project the map was changed to show the drain stopping at the west right of way of S.R. 19. I believe that even if the map was incorrect prior 1981, the fact the Board at the time included this portion as part of the reconstruction in 1981 that this section is indeed part of the regulated drain.

The cost for the additional 66" steel directional bore under S.R. 19 will be a special assessment of \$234,500.00 to the Indiana Department of Transportation per IC 36-9-27-71.

No additional easements are required for the project. I believe no damages will result to the landowners. Damages are set at zero (0).

A hearing for this item has been set by the Board for September 26, 2012.

Sincerely,



Christie Kallio, P.E.
Hamilton County Surveyor's Office

CK/pll

STATE OF INDIANA)
) ss:
COUNTY OF HAMILTON)

BEFORE THE HAMILTON COUNTY
DRAINAGE BOARD
NOBLESVILLE, INDIANA

IN THE MATTER OF THE
RECONSTRUCTION OF THE
**Miller-Carson Drain Reconstruction - S.R. 19 Crossing @ Tishner
Property**

FINDINGS AND ORDER FOR RECONSTRUCTION

The matter of the proposed Reconstruction of the **Miller-Carson Drain Reconstruction - S.R. 19 Crossing @ Tishner Property** came before the Hamilton County Drainage Board for hearing on **September 26, 2012**, 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 **Miller-Carson Drain Reconstruction - S.R. 19 Crossing @ Tishner Property** 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:

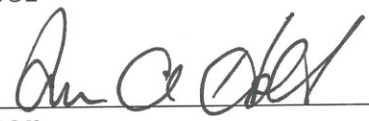
HAMILTON COUNTY DRAINAGE BOARD



PRESIDENT



Member



Member

ATTEST:


Executive Secretary



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Greenfield District
32 South Broadway
Greenfield, IN 46140

PHONE: (317) 462-7751
FAX: (317) 467-3955

Mitchell E. Daniels, Jr., Governor
Michael B. Cline, Commissioner

Hamilton County Drainage Board
1 Hamilton County Sq. Suite 188
Noblesville, IN 46060

September 20, 2012



To Whom it May Concern:

The Indiana Department of Transportation(INDOT) is objecting to their assessment of \$233,000 of the Miller-Carson Drain Reconstruction-State Road 19 crossing at Tishner property.

The basis of objection is that the current INDOT 5'X6'(vertical X span) culvert is adequate in most stormwater events. At this time, INDOT's hydraulic staff is requesting more time to study CBBEL's report to determine whether this hydraulic information warrants the construction of an any additional pipe or culvert. If our hydraulic staff determines that an additional pipe and/or culvert is needed, INDOT can either plan this project with the possibility of receiving federal funds or at least look at doing the project more swiftly with discretionary funds. With the latter option, INDOT would look at either getting quotes for the work or to use a Quality Purchase Agreement(QPA).

At this time, we request that this assessment be tabled until more information can be gathered and to provide Hamilton County with the best solution to a potential drainage problem.

Sincerely,

Walter Evans, P.E.
Maintenance Field Engineer, HE2
Indiana Department of Transportation
32 S. Broadway
Greenfield, IN 46140
wevans@indot.in.gov
(317) 467-3943 office
(317) 439-7254 cell



INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

100 North Senate Avenue
Room N642
Indianapolis, Indiana 46204

PHONE: (317) 232-5228
FAX: (317) 233-4929

Mitchell E. Daniels, Jr., Governor
Michael B. Cline, Commissioner

September 25, 2012

MEMORANDUM

TO: Walter Evans, PE
Greenfield District Field Engineer
32 South Broadway Street
Greenfield, IN 46140

FROM: John Bartolo, P.E.
Senior Hydraulics Engineer

SUBJECT: Miller-Carson Drain Reconstruction
DES #: n. a.
Location: Hamilton County

This office has not been able to fully execute an analysis of the hydraulics for the Miller-Carson Drain Reconstruction Project as provided by CBBEL on September 18, 2012. A surprising element of the review so far presents a serious problem for Hamilton County residents immediately south and west of Atlanta and SR 19. The proposed culvert increase seems to imply that the flood elevation would increase by approximately 3 feet, which would initially appear to be in direct conflict with State and Federal regulations regarding increasing backwater and/or flood elevations.

Secondly, with the inability to complete a hydraulic review, the estimation of peak discharge and resultant flow elevations has not been determined to be compatible to the expected watershed discharge. At this time we cannot concur with the discharge estimation for this location.

Finally, with the statement of such a substantial flood level increase with one structure size increase, and an additional structure size increase at the southerly culvert crossing of SR 19, the State may be placed in a precarious situation of contributing to further flood increases and damages progressing downstream of SR 19. There does not seem to have been any breaches or road overtopping of SR 19 at either location in recent history, which further questions the discharge estimation at either SR 19 culvert crossing location.

Therefore, until further review and documentation is presented, we cannot concur with the proposed reconstruction at this time.

If you have any questions or comments, please contact me at (317) 232-5228.

JJB

cc: file

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD
IN THE MATTER OF

Miller-Carson Drain, S. R. 19 Crossing @ Tishner Property

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 **Miller-Carson Drain, S.R. 19 Crossing @ Tishner Property** on **September 26, 2012** at **9:15 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 **Miller-Carson Drain Reconstruction, S.R.
19 Crossing @ Tishner Property**

NOTICE

Notice is hereby given that the Hamilton County Drainage Board at its regular meeting **September 26, 2012** 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.

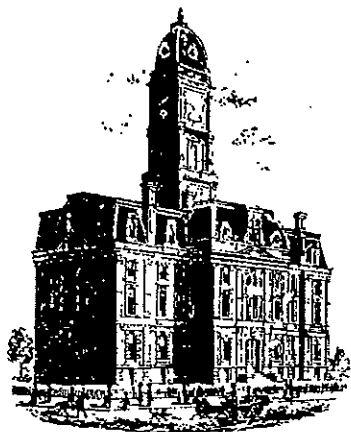
The Board issued an order declaring the proposed improvement established. Such findings and order were marked filed and are available for inspection in the Office of the Hamilton County Surveyor.

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: Steven C. Dillinger
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

July 22, 2013

Re: Whisler Brenner Drain Crossing
 State Road 19
 Final Inspection Report

FINAL INSPECTION REPORT

This is the inspector's final report on the Whisler Brenner Drain Crossing under State Road 19 in Section 12, Township 20 North, Range 4 East, in Jackson Township, Hamilton County, Indiana. The Whisler Brenner Drain Crossing und State Road SR19 consists of 80 feet of 60" diameter 3/4" thick wall steel pipe and 180 feet of open channel improvements.

The hearing for the Whisler Brenner SR19 crossing was held on September 26, 2012 (D.B. 14, Page 300). The Engineer's Estimate for the project was \$234,500.00 (D.B. 14, Page 293).

Christopher Burke Engineering was awarded a contract for Professional Services to design the Whisler Brenner SR 19 crossing on October 10, 2012 (D.B. 12 Page 332). The amount of the contract was \$32,700.00.

The Hamilton County Drainage Board awarded the construction contract to R.L.Vuckson Excavating in the amount of \$194,935.00 for the installation of the Whisler Brenner SR19 crossing on March 25, 2013 (D.B. 14, Page 533).

There was (1) Change Order for field revisions on the project as allowed by IC 36-9-27-80.5.

Change Order #1

The stone temporary construction entrance on the plans for the State Road 19 crossing on the Whisler Brenner Drain was not needed on the project. However, additional rip-rap was needed on the project so the additional stone rip-rap was substituted for stone that was bid for the temporary construction entrance.

Change Order #1 -----	\$-(690.00)
Contractor's Bid – R.L. Vuckson Excavating -----	\$194,935.00
Cost decrease from Change Order #1 -----	-\$-(690.00)
Revised Reconstruction Cost – R.L. Vuckson Excavating -----	\$194,245.00

Final inspection and approval was on June 25, 2013. The 60 day waiting period for release of retainage concludes on August 24, 2013.

Certificate of Completion and Compliance was received from Vuckson Excavating on July 10, 2013, signed by Richard L. Vuckson.

The Statement of All Incurred Expenses Paid signed by the contractor as required in IC 36-9-27-82(b) was received on July 25, 2013. The contractors claim for release of retainage (Partial Pay Request #4) was submitted on June 28, 2013.

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

Pay Request #1 submitted 5-3-2013	Claim Paid 5-29-2013	\$55,239.37
Pay Request #2 submitted 5-17-2013	Claim Paid 6-11-2013	\$91,766.00
Pay Request #3 submitted 6-28-2013	Claim Paid 7-23-2013	\$18,102.87
Pay Request #4 submitted 6-28-2013	(retainage) Pending	\$29,136.76
Total – Vuckson Excavating		\$194,245.00
Vuckson Excavating Total		\$194,245.00
Christopher Burke Engineering Total		\$32,691.45
Project Total		\$226,936.45
Engineer's Estimate		\$234,500.00
Project Total		\$226,936.45
Difference		\$7,563.55

Per IC 36-9-27-71 the Indiana Department of Transportation shall pay the cost of this crossing. The Indiana Department of Transportation will be assessed \$226,936.45 for this project.

As of the date of this report, I hereby attest to and agree that the reconstruction have been installed according to the specified plans. All inspections have been completed.

I recommend the Board approve the construction as complete and acceptable. I also recommend that the Board release the surety provided by the contractor per IC 36-9-27-78

Submitted by:



Andrew D. Conover
Inspector

TO: HAMILTON COUNTY DRAINAGE BOARD

RE:

As Contractor on the contract awarded on MARCH 25, 2013
for the WHISLER BREWER DRAIN Drain, I hereby notify
the Hamilton County Drainage Board that all expenses incurred
for labor and materials have been paid in full.

The foregoing is true under the penalties of perjury.

BY: RICHARD L. VUCKSON
Contractor-Print
[Signature]
Contractor-Signature

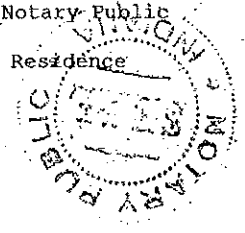
STATE OF INDIANA, HAMILTON COUNTY, ss:

Subscribed and sworn to before me, the undersigned, a Notary
Public in and for said County this 25 day
of July 2013.

Witness my hand and official seal.

My Commission expires June 29, 2017 [Signature] Notary Public

Washington County of Residence



CERTIFICATE OF COMPLETION AND COMPLIANCE

To: Hamilton County Surveyor

Re: WHISTLER - BRENNER CROSSING - SR 19

I hereby certify that:

1. I am a Registered Land Surveyor or Engineer in the State of Indiana.
2. I am familiar with the plans and specifications for the above referenced subdivision.
3. I have personally observed and supervised the completion of the drainage facilities for the above referenced subdivision.
4. The drainage facilities within the above referenced subdivision to the best of my knowledge, information and belief have been installed and completed in conformity with all plans and specifications.

Signature: Keith M Buck Date: 7/10/13

Type or Print Name: KEITH M. BUCK

Business Address: 115 WEST WASHINGTON ST, SUITE 1368 SOUTH
INDIANAPOLIS, IN 46204

Telephone Number: 317-266-8000

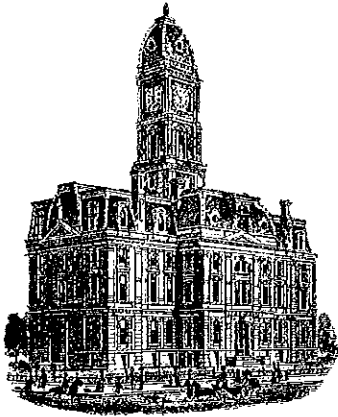
SEAL

INDIANA REGISTRATION NUMBER

NO. 10302164



KCW



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 8, 2013

Re: Miller-Carson, Whistler Brenner – SR 19 Crossing at Tishner Property

Attached are as-builts, certificate of completion & compliance, and other information for SR 19 Crossing at Tishner Property. An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction, changes were made to the drain, which will alter the plans submitted with my report for this drain-dated August 20, 2012. The report was approved by the Board at the hearing held September 26, 2012. (See Drainage Board Minutes Book 14, Pages 231-233)

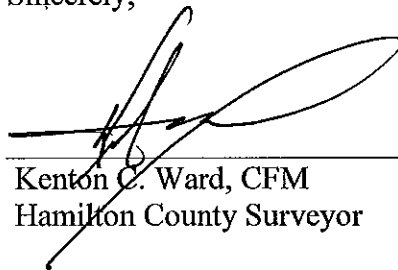
The changes are as follows:

The 60" Steel Pipe bored under SR 19 was 80 feet in length. The report listed a 66" Steel Pipe. There was 636 feet of open ditch regulated and repaired at the outlet of the steel pipe. The length of the drain due to the changes described above is now **716 feet**.

The work was done within existing drainage easement and road right of way. The project will be paid for by INDOT through drainage assessments as per IC 36-9-27-1. Per the drainage inspectors final report dated July 22, 2013 all work was completed and acceptable.

I recommend the Board approve the drain's construction as complete and acceptable.

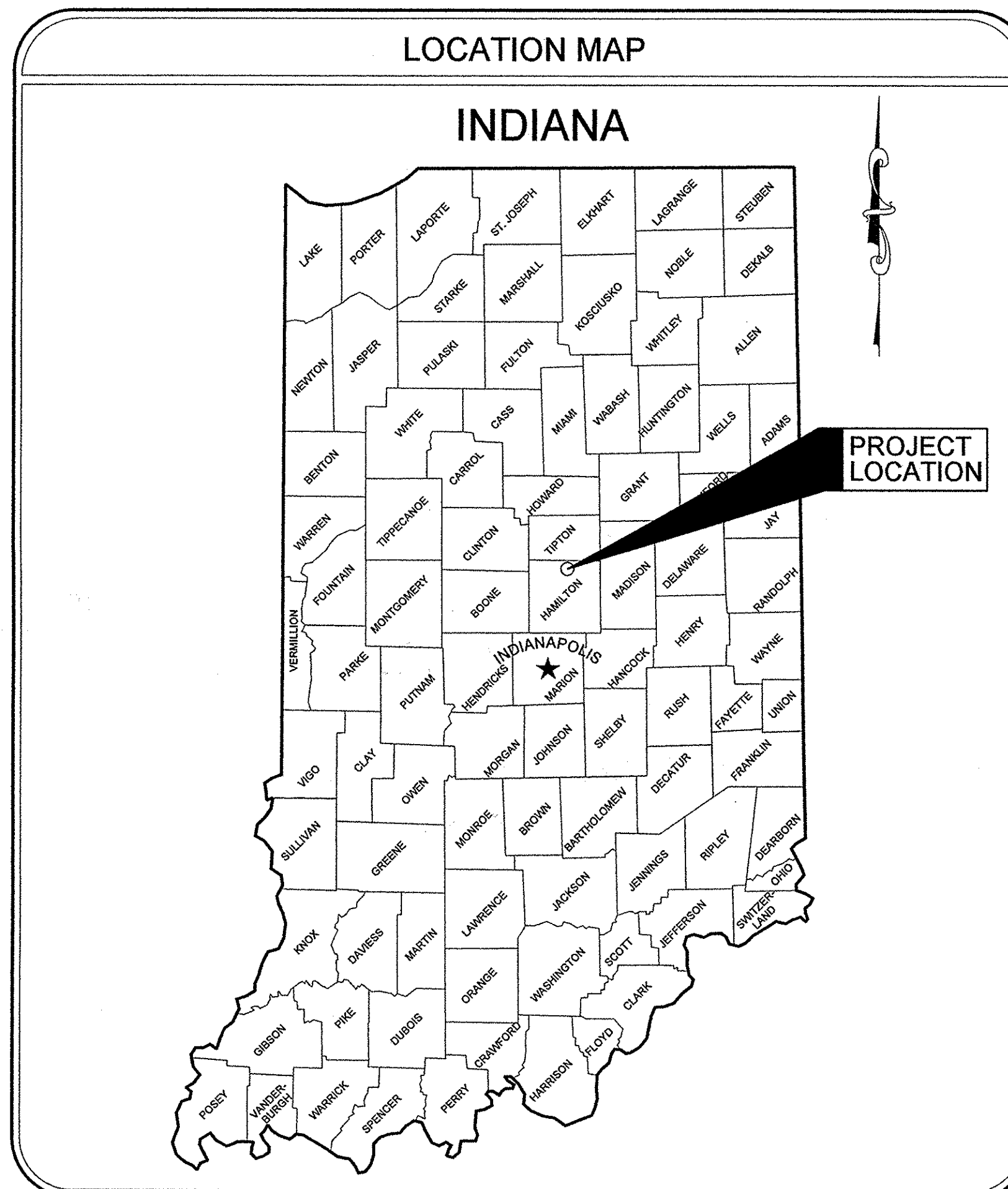
Sincerely,


Kenton C. Ward, CFM
Hamilton County Surveyor

KCW/slm

WHISTLER DRAIN 60" CULVERT BORE UNDER S.R. 19

HAMILTON COUNTY, INDIANA

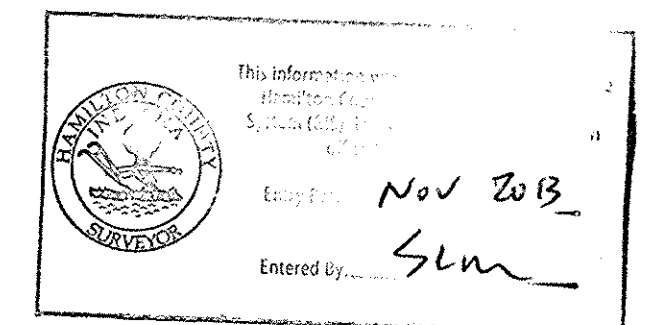


SHEET INDEX		
SHEET No.	DRAWING No.	TITLE
1	TS1	TITLE SHEET
2	EX1	EXISTING CONDITIONS & GENERAL NOTES
3	PP1	PLAN & PROFILE - PROPOSED PIPE & DITCH
4	MD1	MISCELLANEOUS DETAILS
5	EC1	EROSION CONTROL DETAILS

HAMILTON COUNTY DRAINAGE BOARD

Christine Altman, President
 Mark Heirbrandt, Vice President
 Steven C. Dillinger, Member
 Don Silvey, Alternate
 Jerry Rulon, Alternate
 Steven A. Holt, Alternate
 Mark Heirbrandt, Big Cicero Creek Board Member
 Michael Howard, Attorney
 Kenton C. Ward, Surveyor
 Lynette Mosbaugh, Executive Secretary

AS-BUILT PLANS
Christie Kallio P.E.



PREPARED BY:

CB CHRISTOPHER B. BURKE ENGINEERING, LLC
 PNC Center, Suite 1368 South
 115 West Washington Street
 Indianapolis, Indiana 46204
 Phone: (317) 266-8000 FAX: (317) 632-3306

PREPARED FOR:

HAMILTON COUNTY DRAINAGE BOARD
 1 HAMILTON COUNTY SQUARE
 SUITE 188
 NOBLESVILLE, IN 46060



INDIANA STATE LAW (IC8-1-26) REQUIRES THAT ANYONE ENGAGED IN EXCAVATION USING MECHANIZED EQUIPMENT MUST CALL AT LEAST TWO (2) FULL WORKING DAYS PRIOR TO THE START OF THEIR PROJECT. INDIANA UNDERGROUND PLANT PROTECTION SERVICE (IUPPS) OFFERS A ONE-POINT CONTACT TO REACH MEMBER UTILITIES TO NOTIFY THEM OF YOUR PROPOSED EXCAVATION. VISIT IUPPS.ORG

CERTIFIED:

KEITH M. BUCK
 REGISTERED
 No. 10302164
 STATE OF INDIANA
 PROFESSIONAL ENGINEER

Keith M. Buck
 ENGINEER
 February 4, 2013
 DATE

KEITH M. BUCK, P.E.
 INDIANA REGISTRATION No. 10302164
 EXPIRATION DATE: 7/3/2014

WHISTLER DRAIN
 60" CULVERT BORE UNDER S.R. 19
 HAMILTON COUNTY, INDIANA

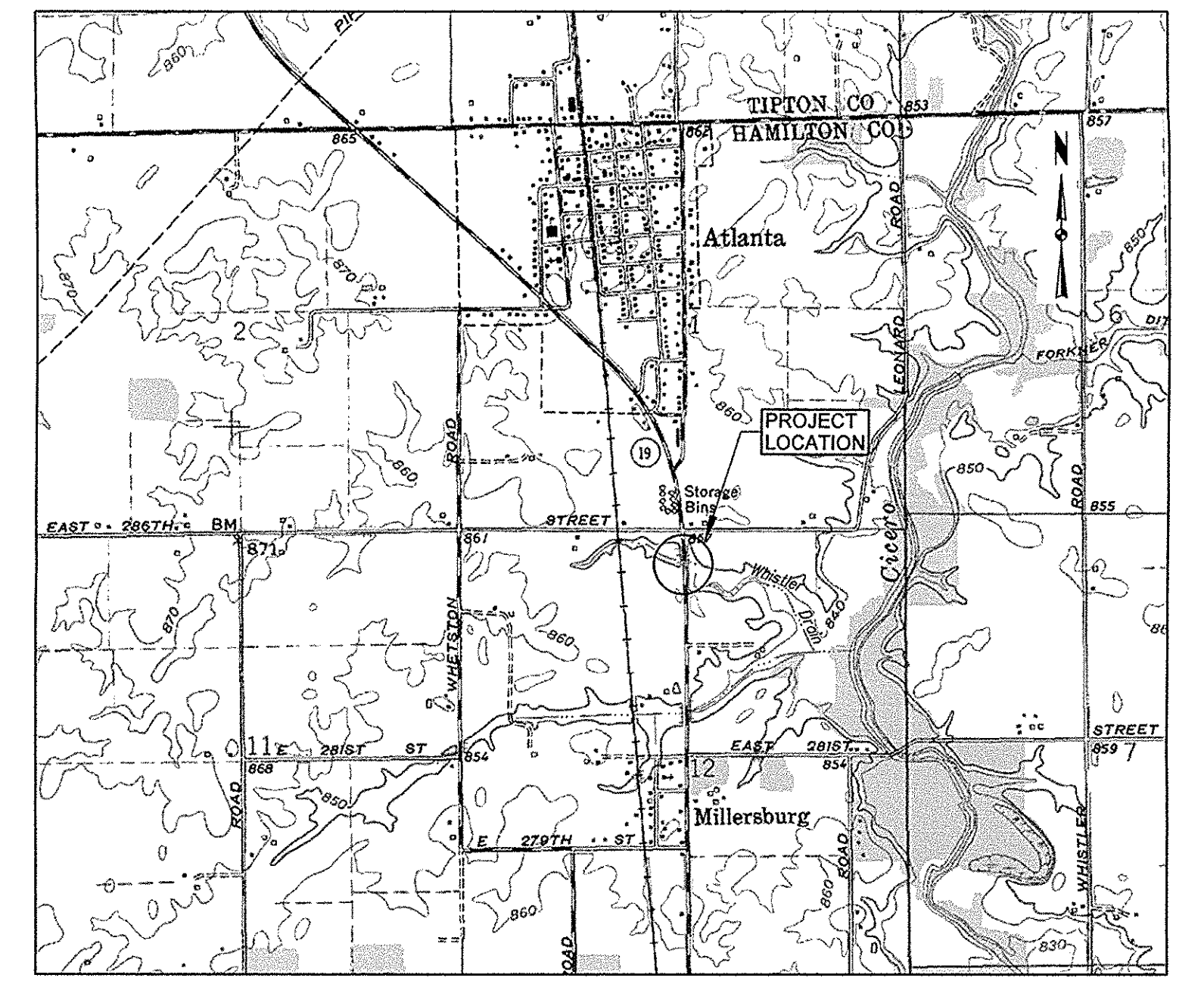
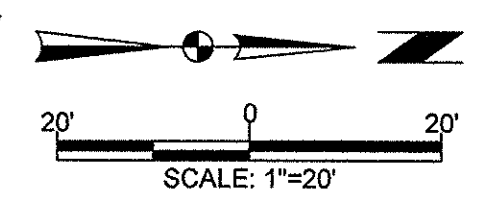
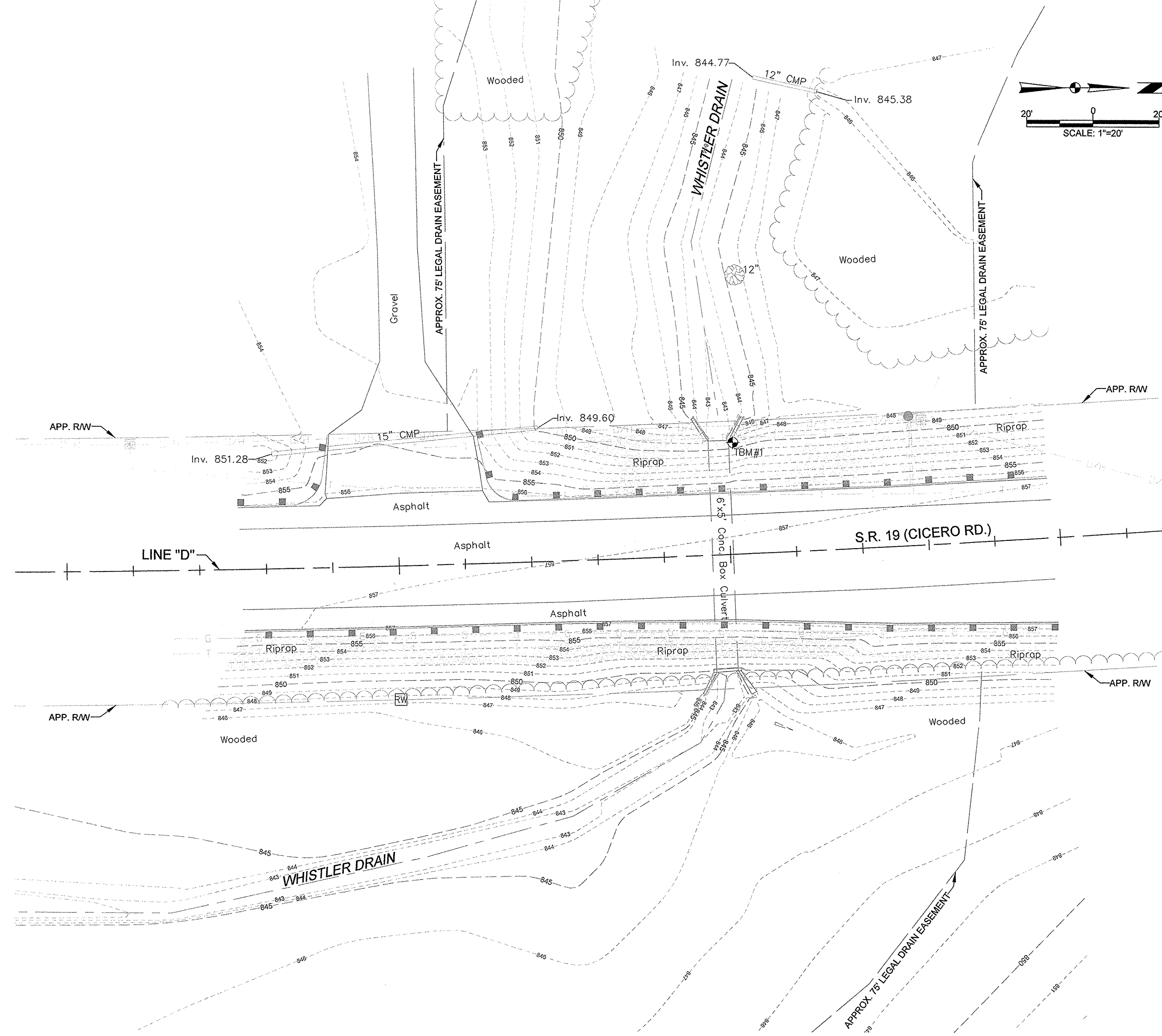
January 2013
 Project No. 19.R120467.00000

626+00

627+00

628+00

629+00



VICINITY MAP
NOT TO SCALE

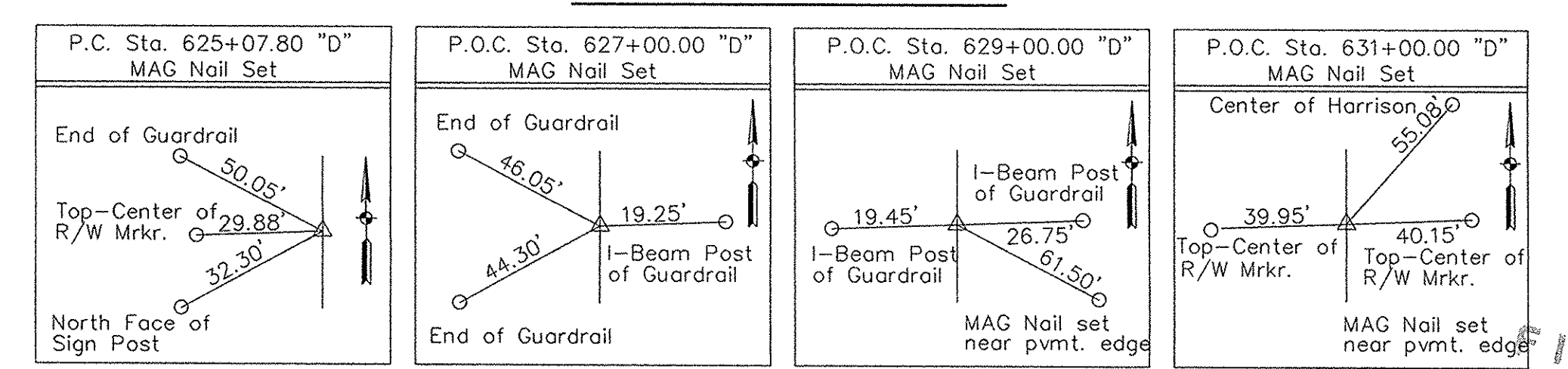
BENCHMARK INFO

- TBM#1
Cut square at northeast corner and on top of headwall.
Elev=849.69'
N: 1805166.01
E: 228678.03
- TBM#2
Pole barn nail in west face of Pwp#58-099.
Elev=857.40'
N: 1805461.86
E: 228731.95
- TBM#3
Pole barn nail in east face of Pwp.
Elev=858.40'
N: 1804734.06
E: 228679.48

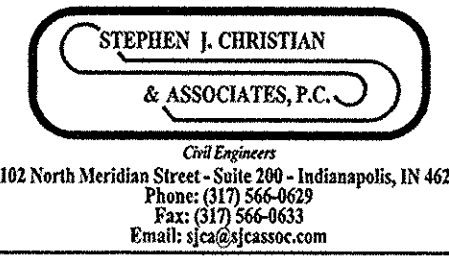
ALIGNMENT DATA - LINE "D"

Element	Point	Station	Northing	Easting	Radius	Length	Delta	Direction
Tangent	PCB	622+00.00	1783486.51	228717.47				
Arc	PC	625+07.80	1804873.31	228718.05		307.80'		N 0°06'24" E
Arc	PI	631+73.34	1805538.85	228719.29	6072.92'	1325.79'	12°30'30"	Left
Arc	PT	638+33.59	1806188.86	228576.35				
Tangent	PCE	641+00.00	1806449.05	228519.14		266.41'		N 12°24'06" W

REFERENCE POINTS



SURVEY PROVIDED BY:



CHRISTOPHER B. BURKE ENGINEERING, LLC
 PNC Center, Suite 1368 South
 115 West Washington Street
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

PROJECT:
WHISTLER DRAIN
60" CULVERT BORE
UNDER S.R. 19
 HAMILTON COUNTY, INDIANA

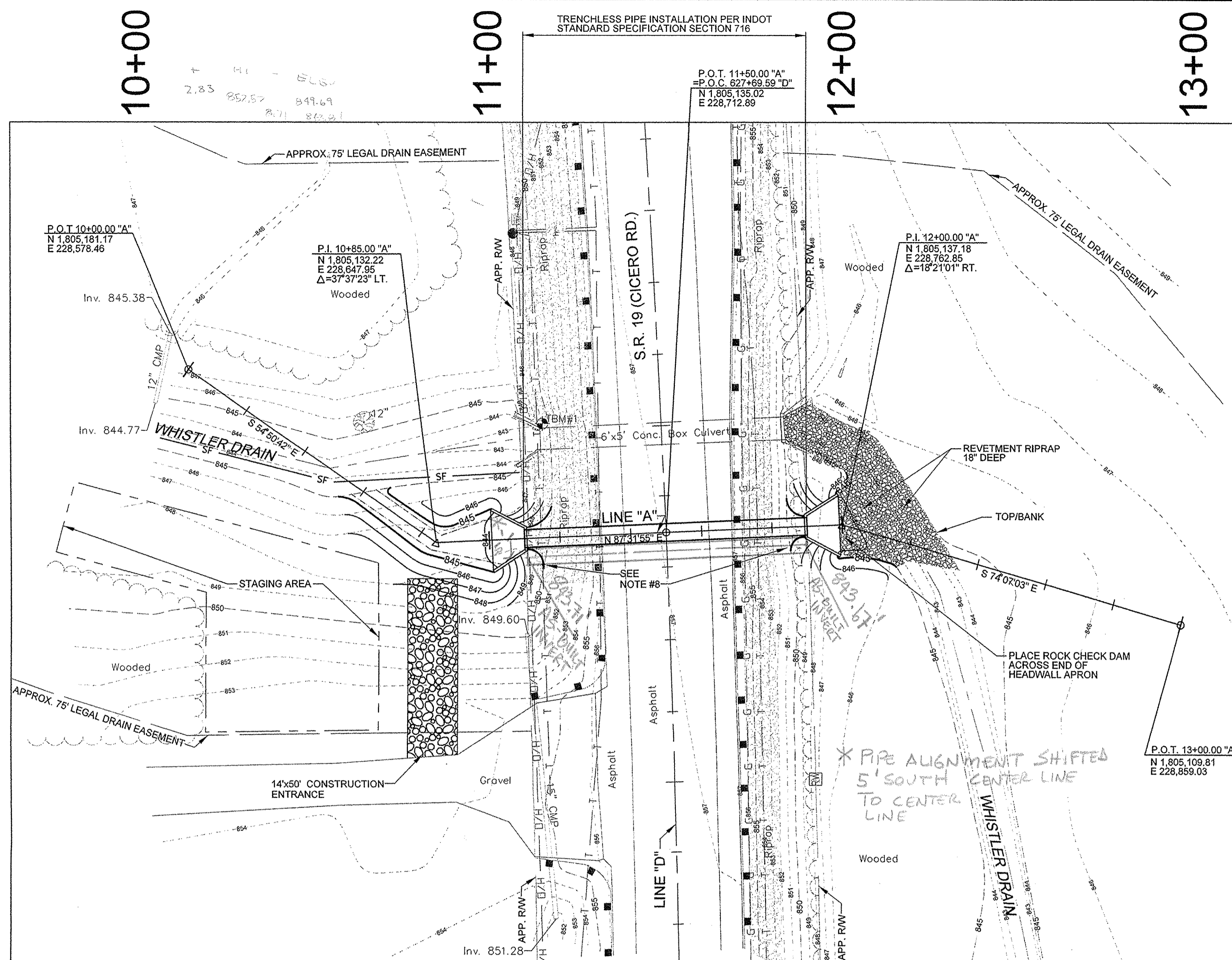
NO.	DATE	DESCRIPTION	BY
A	2-1-13	50% PLANS	BWM
NO.	DATE	NATURE OF REVISION	CHKD.
FILE NAME	P:\2012\12-0467\Work Hub\Design\12-0467_EX1.dgn		

DSGN. KMB
 DWN. JSS
 CHKD. BWM
 SCALE: AS NOTED
 DATE: 2/1/2013

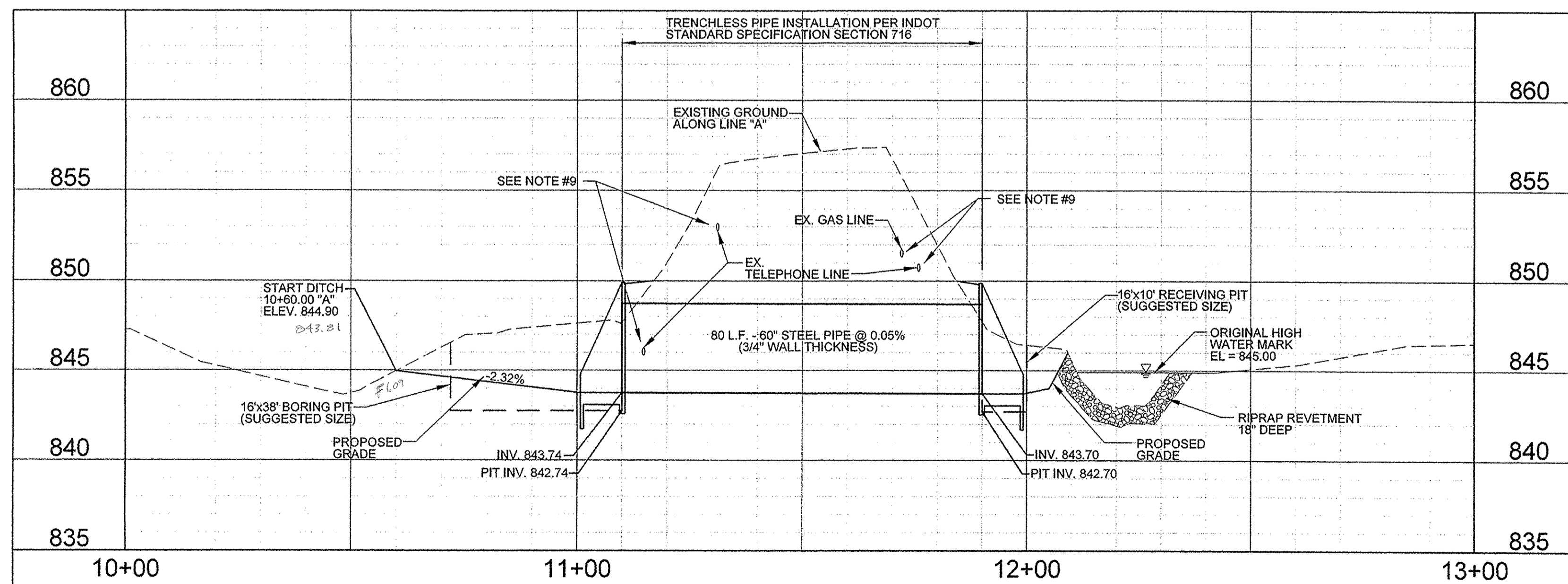
TITLE: **EXISTING CONDITIONS**

PROJECT NO. 12-0467
 SHEET 2 OF 5
 DRAWING NO. **EX1**

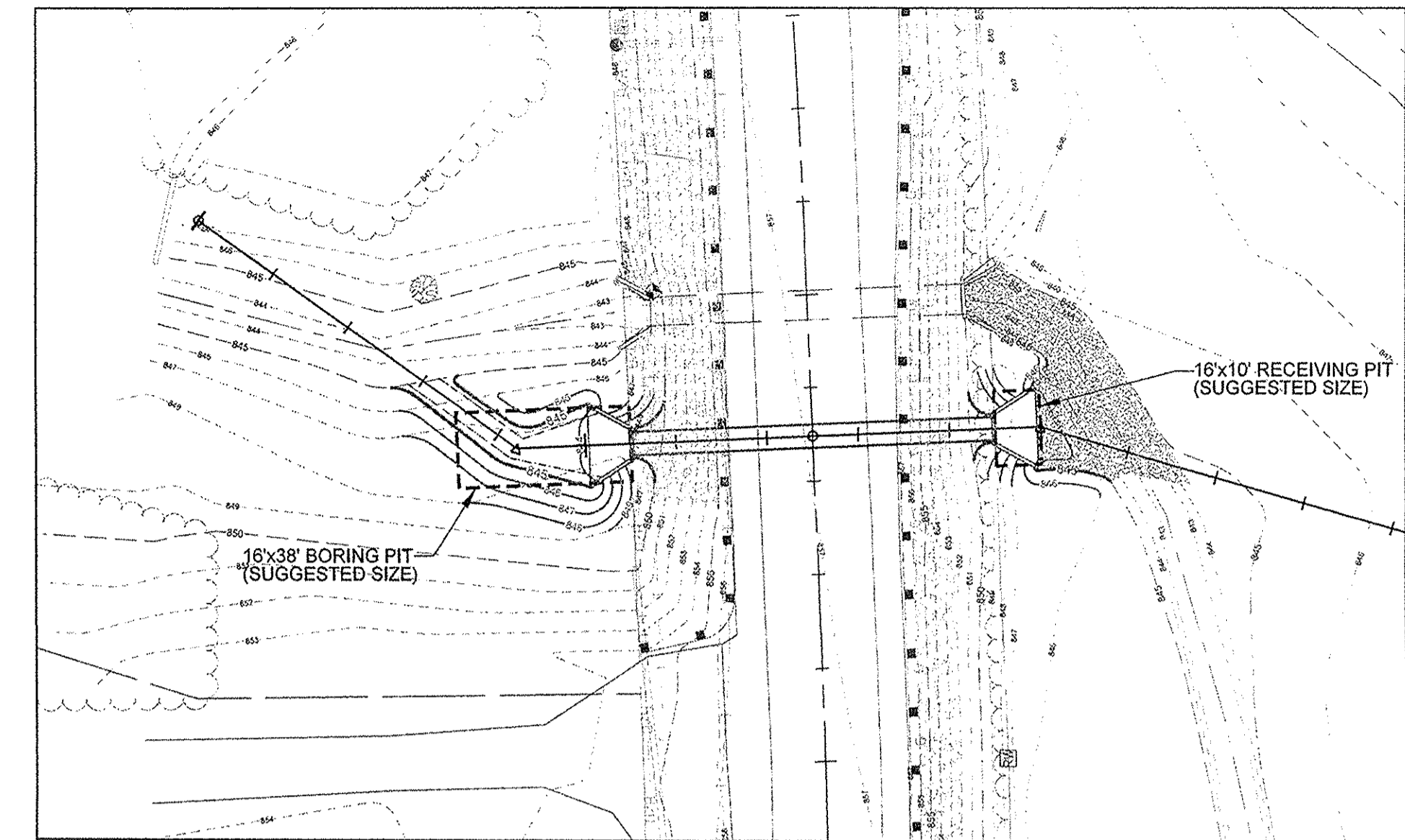
This copy is from the Digital Archive of the Hamilton County Surveyor's Office, Noblesville, IN 46060



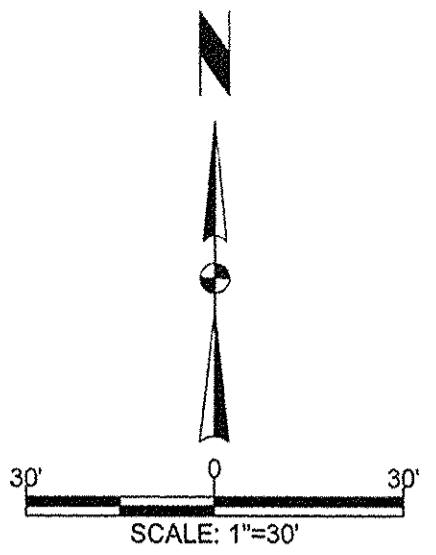
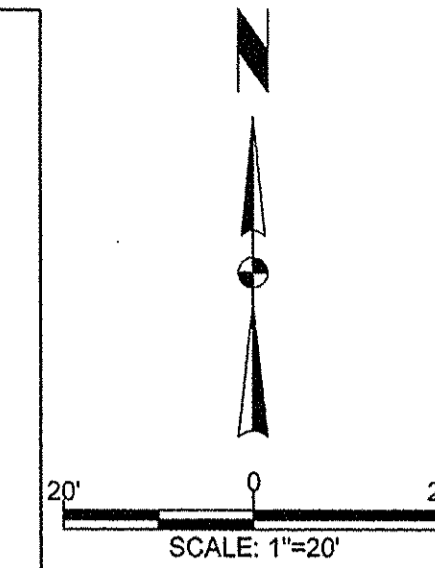
DITCH CONSTRUCTION / CULVERT INSTALLATION - PLAN VIEW



DITCH CONSTRUCTION / CULVERT INSTALLATION - PROFILE VIEW



BORING / RECEIVING PITS - PLAN VIEW



This information was gathered for input into the Hamilton County Geographic Information System (GIS). This document is considered an official record of the GIS.
 Entry Date: Nov 2013
 Entered By: SLM

GENERAL NOTES

- PIPE SHALL BE INSTALLED USING TRENCHLESS PIPE INSTALLATION PER INDOT STANDARD SPECIFICATION SECTION 716. NO OPEN EXCAVATION.
- ALL WORK SHALL REMAIN INSIDE 75' LEGAL DRAIN EASEMENT, OR INDOT R/W, ON SOUTH SIDE OF STREAM.
- CARE SHALL BE TAKEN TO ENSURE NO EXCAVATED MATERIAL ENTERS THE STREAM. APPROPRIATE EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED.
- STAGING AREA SHOWN IS APPROXIMATE.
- ALL SURFACES DISTURBED BY CONSTRUCTION SHALL BE RETURNED TO ORIGINAL CONDITION.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY MAINTENANCE OF TRAFFIC MEASURES. SUBMIT WRITTEN MAINTENANCE OF TRAFFIC PLAN TO ENGINEER FOR REVIEW PRIOR TO STARTING CONSTRUCTION.
- NO TREES ON THE WEST SIDE OF S.R. 19 SHALL BE REMOVED OR DAMAGED DURING CONSTRUCTION. PROTECT AS NECESSARY.
- SLOPE ALONG WING WALL SHALL BE 2:1. TRANSITION TO 3:1 DITCH SLOPE AS SHOWN. 2:1 SLOPE AREA AND TRANSITION AREA SHALL BE RIPRAP. 3:1 SLOPE AREA SHALL BE GRASS.
- EXISTING UTILITIES LOCATED HORIZONTALLY BY FIELD SURVEY. VERTICAL LOCATIONS ESTABLISHED BY STANDARD BURY DEPTHS. COORDINATION WITH UTILITY COMPANIES REQUIRED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES PRIOR TO CONSTRUCTION TO MOVE CONFLICTING UTILITIES.

CHRISTOPHER B. BURKE ENGINEERING, LLC
 PNC Center, Suite 1368 South
 115 West Washington Street
 Indianapolis, Indiana 46204
 (317) 266-8000 FAX: (317) 632-3306

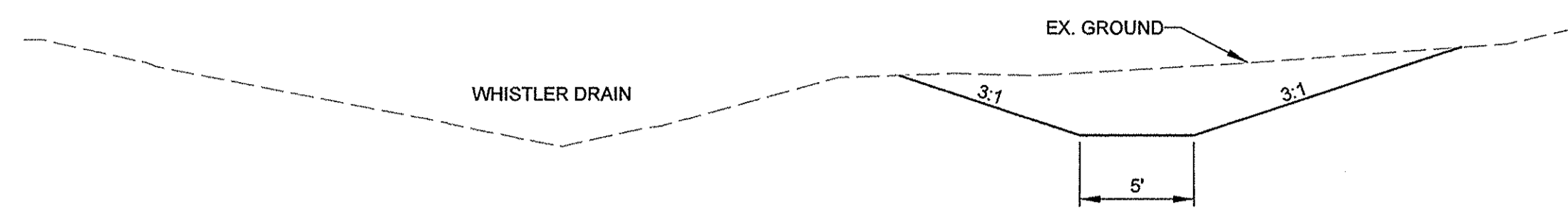
PROJECT: **WHISTLER DRAIN
 60" CULVERT BORE
 UNDER S.R. 19**
 HAMILTON COUNTY, INDIANA

NO.	DATE	ISSUED FOR BIDS	NATURE OF REVISION	B/M	CHKD.
A	2-15-13	ISSUED FOR BIDS			
FILE NAME: P:\201212-0467\Work Hub\Design\12-0467_PP1.dgn					

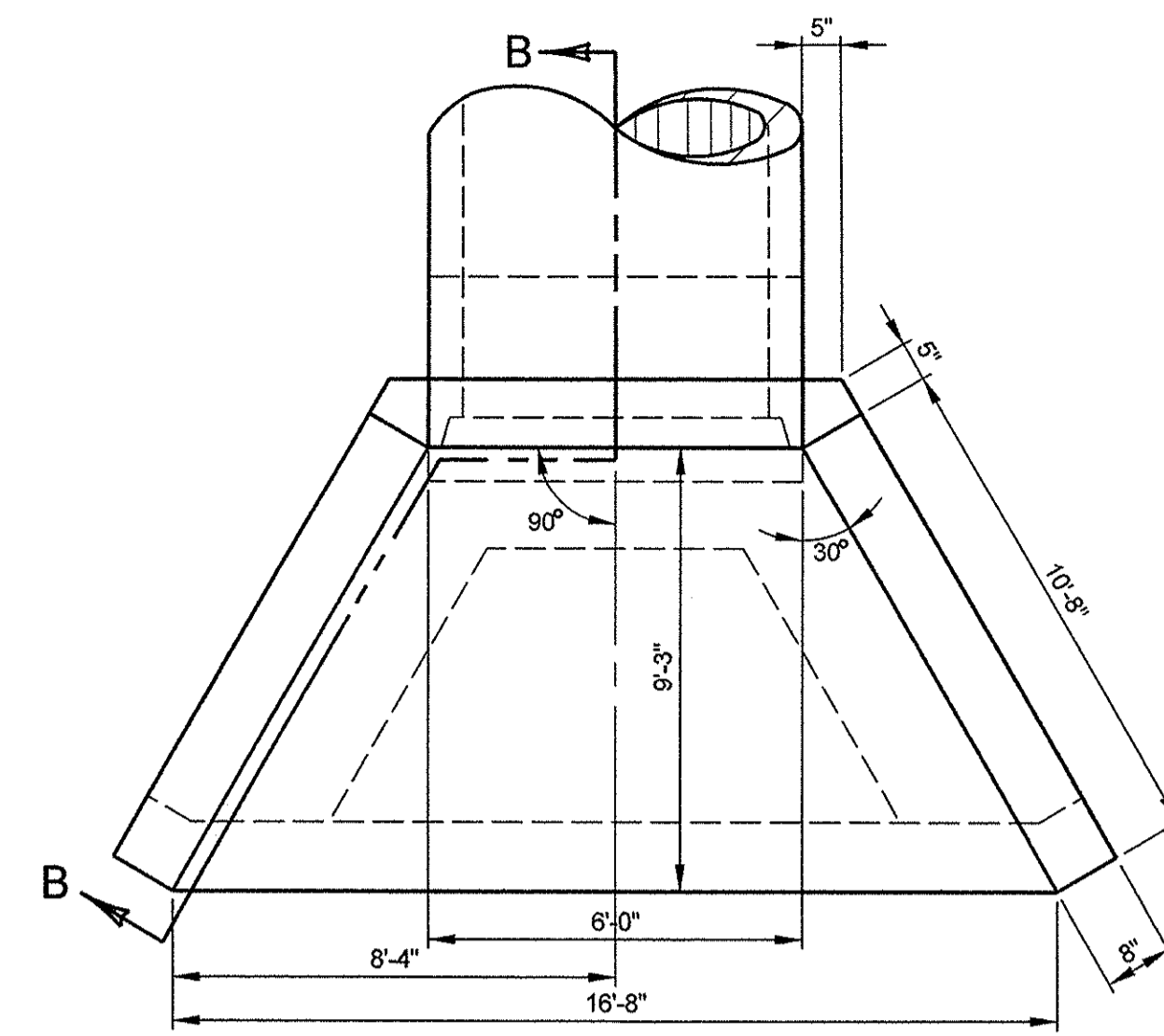
Keith M. Buck
 CERTIFIED PROFESSIONAL ENGINEER
 REGISTERED
 No. 10302164
 STATE OF INDIANA
 PROFESSIONAL ENGINEER

TITLE: **PLAN AND PROFILE
 PROPOSED PIPE & DITCH**

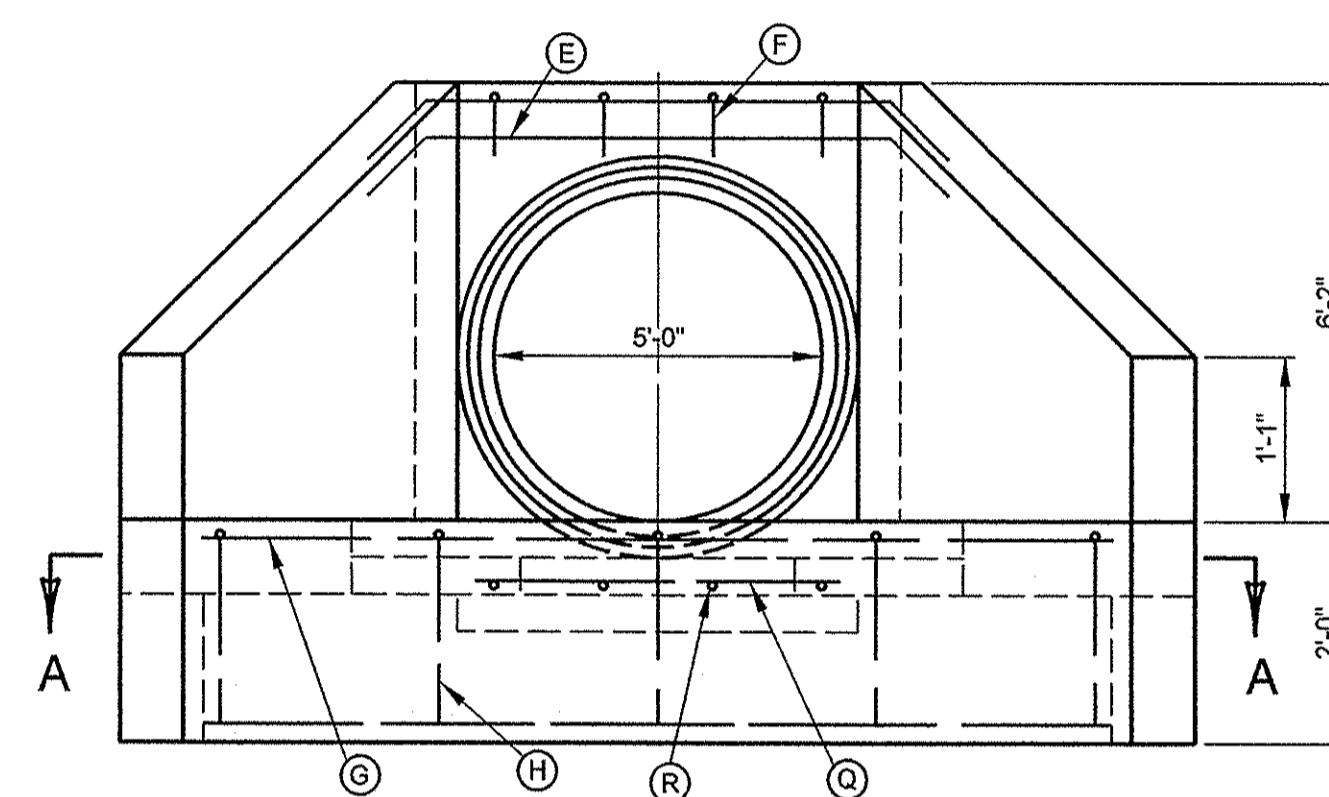
PROJECT NO. 12-0467
 SHEET 3 OF 5
 DRAWING NO. **PP1**



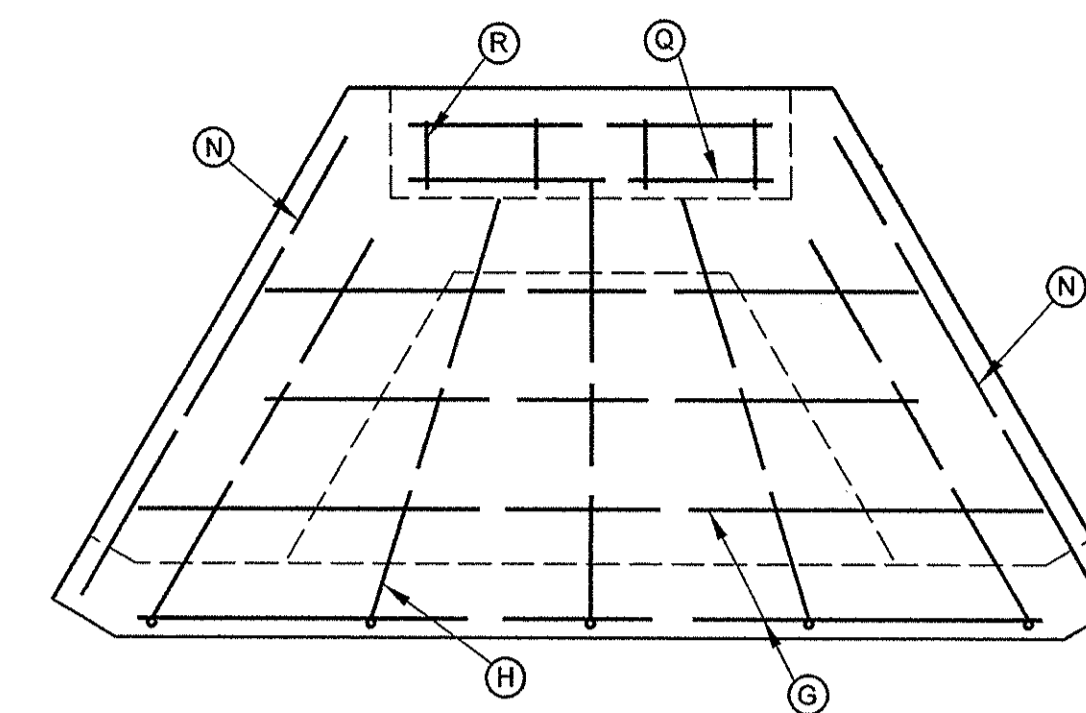
TYPICAL CROSS SECTION
NOT TO SCALE



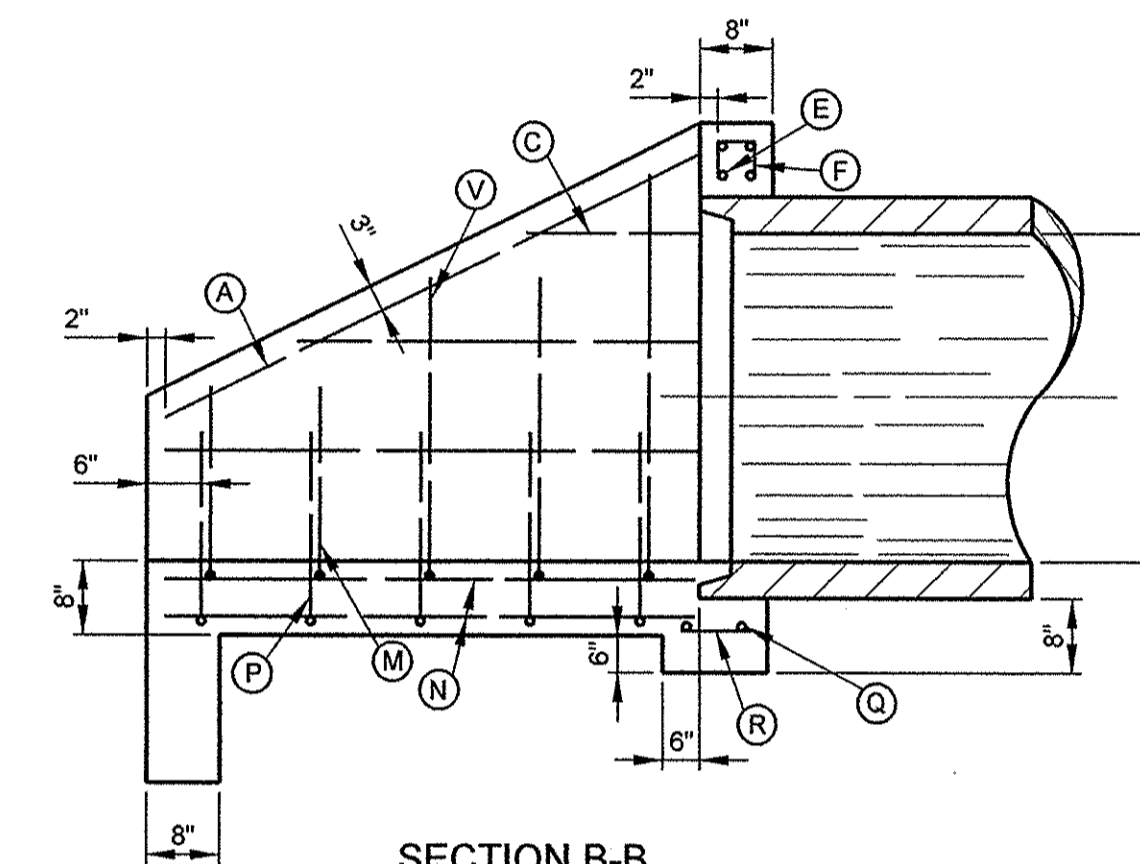
PLAN VIEW



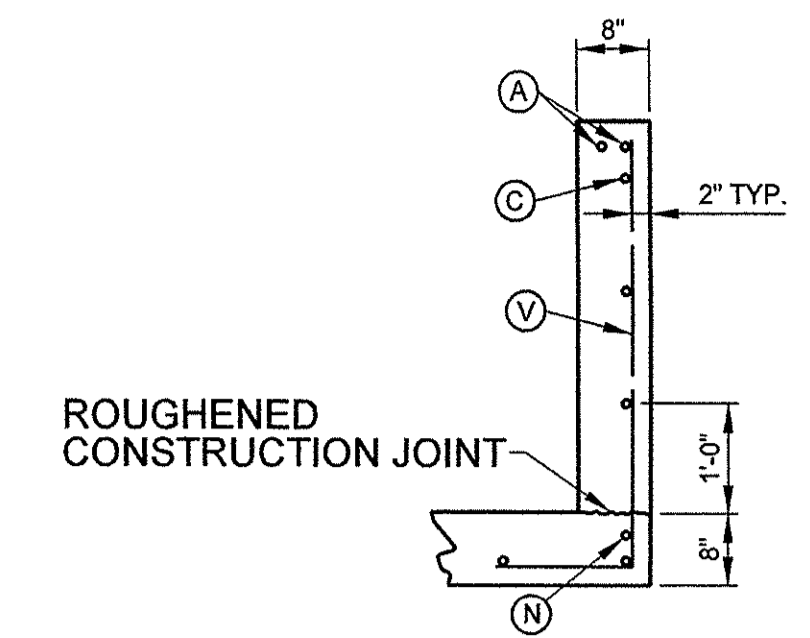
FRONT ELEVATION



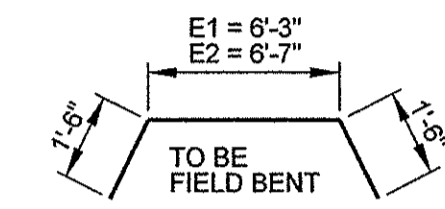
SECTION A-A



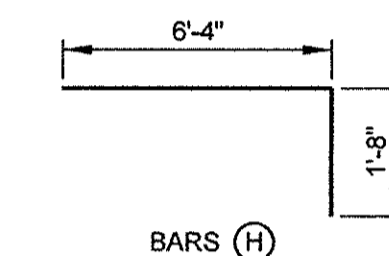
SECTION B-B



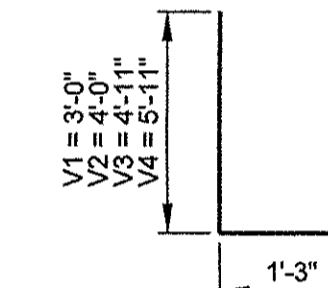
WING SECTION
30" TO 60" CIRCULAR PIPE



BARS (E)



BARS (H)



BARS (V)

TYPICAL HEADWALL DETAIL

NOT TO SCALE

- DIMENSIONS FROM FACE OF CONCRETE TO STEEL SHALL BE 2" CLEAR DISTANCE.
- ALL BARS SHALL BE #4 BARS, SPACED 1'-0" O.C., UNLESS NOTED OTHERWISE. SEE NOTE #3.
- BARS A & E, SHALL BE #5 BARS, SPACED 1'-0" O.C. BAR H SHALL BE EVENLY SPACED.
- WING WALL BARS ARE PLACED IN ORDER OF INCREASING LENGTHS, BEGINNING AT THE END OF EACH WING.
- APRON BETWEEN WINGS SHALL BE SLOPED IN DIRECTION OF FLOW AS SHOWN ON THE PLANS. FRONT FACE OF HEADWALL AND ENDS OF WINGS SHALL REMAIN VERTICAL.
- DETAIL ADAPTED FROM KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD DRAWING NO. RDH-110-02.

M A R K	S I Z E	NO.	LENGTH	K
A	5	4	8'-4"	
C1	4	2	2'-1"	
C2	4	2	4'-2"	
C3	4	2	6'-3"	
C4	4	4	7'-7"	
E1	5	2	9'-3"	6'-3"
E2	5	2	9'-7"	6'-7"
F	4	6	1'-3"	0'-4"
G1	4	2	6'-6"	
G2	4	3	10'-0"	
G3	4	3	12'-4"	
H	4	7	8'-0"	6'-0"
N	4	6	7'-7"	
Q	4	2	5'-8"	
R	4	6	0'-10"	
V1	5	4	4'-3"	3'-0"
V2	5	4	5'-3"	4'-0"
V3	5	4	6'-2"	4'-11"
V4	5	4	7'-2"	5'-11"

REINFORCEMENT STEEL TABLE

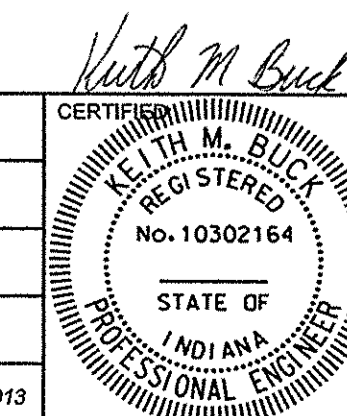
- NUMBER OF BARS IN ONE HEADWALL.
- DIMENSIONS ARE O. TO O. OF BARS.
- ALL BARS ARE STRAIGHT EXCEPT BARS E, H AND V.

FILED
FEB 19 2013

CHRISTOPHER B. BURKE ENGINEERING, LLC
PNC Center, Suite 1368 South
115 West Washington Street
Indianapolis, Indiana 46204
(317) 266-8000 FAX: (317) 632-3306

PROJECT: **WHISTLER DRAIN
60" CULVERT BORE
UNDER S.R. 19**
HAMILTON COUNTY, INDIANA

NO.	DATE	50% PLANS	NATURE OF REVISION	CHKD.
A	2-1-13	50% PLANS		BWM
FILE NAME	P:\2012\12-0467\Work Hub\Design\12-0467_MD1.dgn			
DATE	2/11/2013			



MISCELLANEOUS DETAILS

PROJECT NO. 12-0467
SHEET 4 OF 5
DRAWING NO. **MD1**

