

Drain: BRIDLEWOOD DRAIN **Drain #:** 66
Improvement/Arm: BRIDLEWOOD-SECTION 1
Operator: JDH **Date:** 10-28-03
Drain Classification: Urban/Rural **Year Installed:** 1988

GIS Drain Input Checklist

- Digitize & Attribute Tile Drains N/A
- Digitize & Attribute Storm Drains JDH 10-28
- Digitize & Attribute SSD JDH 10-29
- Digitize & Attribute Open Ditch JDH 11-21
- Sum drain lengths & Validate JDH 10-29
- Enter Improvements into Posse JDH 10-29
- Enter Drain Age into Posse JDH 11-21
- Sum drain length for Watershed in Posse JDH 11-21
- Stamp Plans JDH 10-29
- Pull Source Documents for Scanning JDH 10-29

**Gasb 34 Footages for Historical Cost
Drain Length Log**

Drain-Improvement: BRIDGEWOOD DRAIN - SECTION 2

Drain Type:	Size:	Length (SURVEY RECORDS (AND AS BUILT))	Length (DB Query)	Length Reconcile	If Applicable	
					Price:	Cost:
SSD	6"	3805'	3805'	∅		
RCP	12"	638'	638'	∅		
	15"	367'	367'	∅		
	18"	308'	308'	∅		
	36"	1532'	1532'	∅		
OPEN DITCH		556.14'	556.14'	∅		
CONCRETE SWALE	24"	92'	92'	∅		

Sum: 7,298.14' 7,298.14' ∅

Final Report: _____

Comments:



SURVEYOR'S OFFICE

Hamilton County

Kenton C. Ward, Surveyor

~~773-6110-Ext. 19~~
776-9626

Noblesville, Ind. 46060 June 3, 1988

TO: Hamilton County Drainage Board

RE: Bridlewood Drain-Section 1

Attached is a petition, non-enforcement request, calculations, quantity summary and a assessment roll for the Bridlewood Drain, Section 1.

I have reviewed the submittals and petition and have found each 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 benefitted. The drain will consist of the following:

Open Ditch	556.14ft	36" RCP	1477ft
12" RCP	638.00ft	36" RCP	55ft
15" RCP	176.00ft	6" SSD	3805ft
18" RCP	400.00ft		

The total length of the drain will be 7107.14 Lin. Ft.

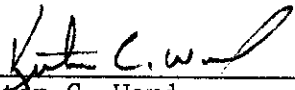
Included in the above as open ditch is the portion of Cool Creek which borders the subdivision. The Mary Wilson Drain was not included as part of this drain. The existing 36" CMP under 151st Street, North of STR 24 was included as part of the drain. Also, all of the 6" SSD was included, but the length may change with the "As Builts".

I have reviewed the plans and believe the drain will benefit each lot equally.

Therefore, I recommend each lot be assessed equally. I recommend a maintenance assessment of \$50.00 per lot, \$5.00 per acre for roadways, with a \$50.00 minimum. With this assessment the total annual assessment for the drain/this section will be \$1250.00.

I recommend a hearing be set for September 1988.

KCW/no



Kenton C. Ward
Hamilton County Surveyor

STATE OF INDIANA)
)
COUNTY OF HAMILTON)

TO: HAMILTON COUNTY DRAINAGE BOARD
% Hamilton County Surveyor, Courthouse, Noblesville, IN 46060

In the matter of BRIDLEWOOD Subdivision,
Section I Drain Petition.

Petitioner is the owner of all lots in the land affected by the proposed new regulated drain. The drainage will affect various lots in BRIDLEWOOD, a subdivision in Hamilton County, Indiana. The general route of such drainage shall be in existing easements and along public roads as shown in the plans on file in the Surveyor's Office.

Petitioner believes that the cost, damages and expenses of the proposed improvement will be less than the benefits which will result to the owners of the land likely to be benefited thereby. Petitioner believes the proposed improvements will:

- (a) improve public health
- (b) benefit a public street
- (c) be of public utility

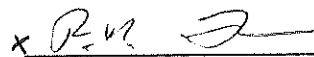
Petitioner agrees to pay the cost of construction of the drainage system and requests periodic maintenance assessments by the Board thereafter.

The Petitioner also agrees to the following:

1. To provide the Drainage Board a Performance Bond for the portion of the drainage system which will be made a regulated drain. The bond will be in the amount of 100% of the Engineers estimate. The bond will be in effect until construction of 100% of the system is completed and so certified by the Engineer.
2. The Petitioner shall retain an Engineer throughout the construction phase. At completion of the project the Petitioner's Engineer shall certify that the drainage system which is to be maintained as a regulated drain has been constructed as per construction plans.

3. The Petitioner agrees to request in writing to the County Surveyor any changes from the approved plan and must receive written authorization from the County Surveyor prior to implementation of the change. All changes shall be documented and given to the Surveyor to be placed in the Drain File.
4. The Petitioner shall instruct his Engineer to provide a reproducible print on a 24" x 36" mylar of the final design of the Drainage System. This shall be submitted to the County Surveyor prior to the release of the Performance Bond.
5. The Petitioner shall comply with the Erosion Control Plan as as specified on the construction plans. Failure to comply with the Erosion Control Plan shall be determined by the Board as being an obstruction to the drainage system. The County Surveyor shall immediately install or repair the needed measures at Petitioners cost as per IC 36-9-27-46.

The Petitioner further requests that the Drain be classified as an Urban Drain.

x 
Signed

R. N. THOMPSON
Printed Name

Signed

Printed Name

RECORDED OWNER(S) OF LAND INVOLVED

DATE May 12, 1988

Estimate_Drainage

BRIDLEWOOD

Engineer's Estimate for:
Drainage

Item No.	Description	Quantity	Unit	Price	Amount
1	Earthwork	10400	C.Y.	\$1.70	\$17,680.00
2	6" Sub Surface Drains	280	L.F.	\$4.00	\$1,120.00
3	SSD Riser	2	Ea.	\$75.00	\$150.00
4	36" CMP	8	L.F.	\$45.00	\$360.00
5	12" RCP	538	L.F.	\$11.00	\$5,918.00
6	15" RCP	367	L.F.	\$13.00	\$4,771.00
7	18" RCP	400	L.F.	\$17.50	\$7,000.00
8	36" RCP	1484	L.F.	\$47.00	\$69,748.00
9	Yard Inlet	8	Ea.	\$450.00	\$3,600.00
10	Solid Lid Manhole	2	Ea.	\$500.00	\$1,000.00
11	Curb Inlet	10	Ea.	\$450.00	\$4,500.00
12	21" Metal End Section	1	Ea.	\$90.00	\$90.00
13	42" Metal End Section	1	Ea.	\$200.00	\$200.00
14	Rip Rap	6	Tons	\$25.00	\$150.00
15	Sodding	900	S.Y.	\$1.50	\$1,350.00
16	Straw Bales	150	Ea.	\$1.25	\$187.50
17	Grass and Mulch	20000	S.Y.	\$0.10	\$2,000.00
18	Erosion Control Blanket	400	L.F.	\$1.00	\$400.00
				TOTAL	\$120,224.50

FILED
MAY 13 1988

HAMILTON COUNTY DRAINAGE BOARD

SECRETARY



Date: December 1, 1988kh

SWIFT Address: INBI US 44 Telex Number: 02-7326 Phone: 266-6153

INB NO.
SB034645

Credit Number Advising Bank No.

Advising Bank

Applicant
Land Innovators, an Indiana Limited Partnership
234 S. Franklin Road
Indianapolis, IN 46219

Beneficiary

Hamilton County Commissioners, Hamilton County Drainage Board and The Westfield Town Board of Trustees - Westfield City Building
130 E. Penn St.
Westfield, IN 46074

Amount
USD \$161,300.00

Expiration Date
December 2, 1989

We hereby issue in your favor this irrevocable letter of credit which is available against the following documents:

Drafts drawn at— Sight

on The Indiana National Bank, Indianapolis, Indiana

bearing the clause; "Drawn under irrevocable letter of credit No. **SB 034645**
Other documents:

Beneficiary's signed certificate stating that the applicant has failed to construct the necessary drainage improvements at the applicant's Bridlewood Subdivision in Hamilton County, Indiana.

Special Conditions:

We hereby engage with You drawers and/or bona fide holders that drafts drawn and negotiated in conformity with the terms of this credit will be duly honored on presentation and that drafts accepted within the terms of this credit will be duly honored at maturity.

The amount of each draft must be endorsed on the reverse of this credit by the negotiating bank.

~~The Advising Bank is requested to notify the beneficiary without delay of the expiration.~~

Very truly yours,

Jenda C. Shreman

Advising Bank's Notification

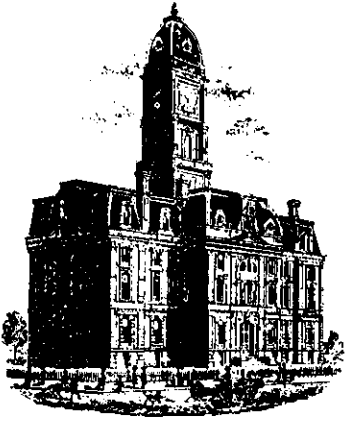
Place/date/name/signature of advising bank.

320-6320 Revised 9/84

ORIGINAL

THE INDIANA NATIONAL BANK
INDIANAPOLIS, INDIANA
1-613-3000

Except so far as otherwise expressly stated, this documentary credit is subject to the Uniform Customs and Practice for Documentary Credits, 1983 Edition, published by the International Chamber of Commerce (Publication No. 333, 400)



SURVEYOR'S OFFICE
Hamilton County

Kenton C. Ward, Surveyor

Phone (317) 776-8495

Fax (317) 776-9628

Suite 146

One Hamilton County Square

Noblesville, Indiana 46060-2230

July 23, 1996

TO: Hamilton County Drainage Board

RE: Bridlewood Drain-Section 1

Attached are AS-Builts, Certificate of Completion and Compliance, and other information for Bridlewood Drain-Section 1. 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 June 3, 1988. The changes are as followed:

STR 22A was changed from 400 feet of 18 inch RCP to 308 feet of 18 inch RCP and 92 feet of 24 inch concrete swale.

STR 20 to 21 was missed on the original report. It consists of 191 feet of 15 inch RCP.

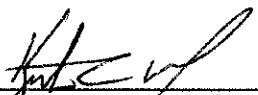
The length of the drain due to the changes described above is now 7,298.14 feet.

The non-enforcement request was approved by the Board at its meeting on July 24, 1989.

The Bond of Letter of Credit from Indiana National Bank, number SB 034645, dated December 1, 1988, in the amount of \$161,300, has expired.

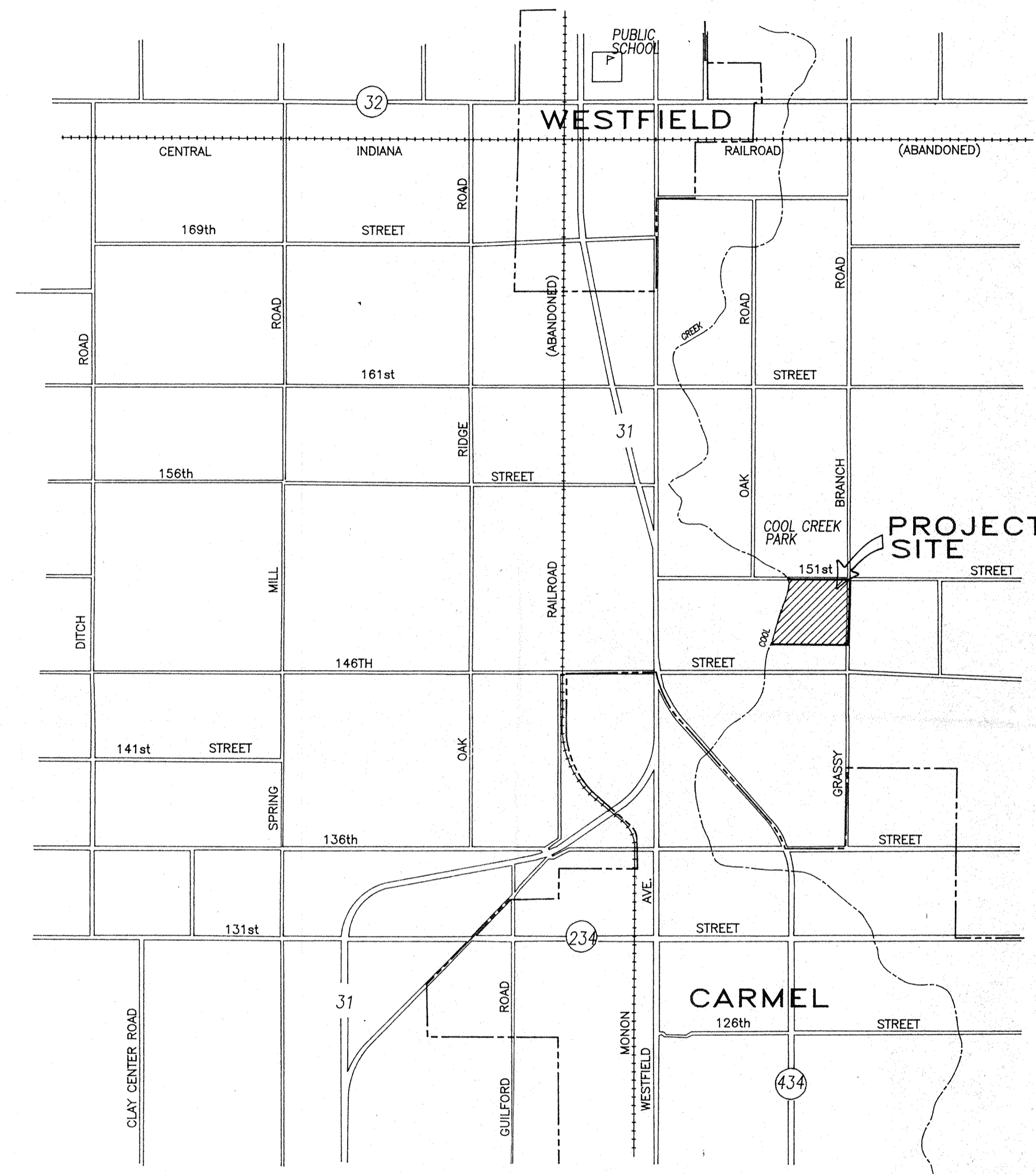
Page #2

I recommend the Board approve the drains construction as complete and acceptable.



Kenton C. Ward
Hamilton County Surveyor
KCW/no

CONSTRUCTION PLANS FOR BRIDLEWOOD SECTION 1



SHEET INDEX

SHEET 1	COVER SHEET
SHEET 2	OVERALL SEWER AND WATER PLAN
SHEET 3	SITE PLAN
SHEET 4	FLOODWAY GRADING PLAN
SHEET 5	EROSION CONTROL PLAN
SHEET 6	OFFSITE SANITARY SEWER PLAN
SHEET 7	BRIDLEWOOD DRIVE PLAN AND PROFILE
SHEET 8	BRIDLEWOOD DRIVE cont. / HORSESHOE DRIVE
SHEET 9	WINDMILL CIRCLE PLAN AND PROFILE
SHEET 10	BRIDLEWOOD LANE PLAN AND PROFILE
SHEET 11	STORM SEWER PLANS - STR. 1-4, 23-25
SHEET 12	STORM SEWER PLANS - STR. 4-9 & STR. CHART
SHEET 13	STORM SEWER PLANS - STR. 16-22A
SHEET 14	INTERSECTION AND ENTRANCE DETAIL
SHEET 15	STANDARD SPECIFICATIONS
SHEET 16	MISC. STANDARD DETAILS
SHEET 17	SEWER DETAILS

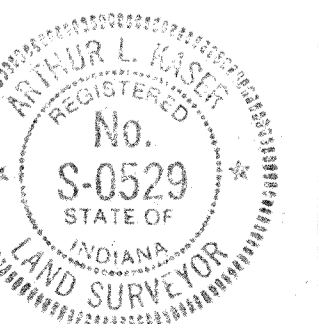
Evergreen
Planners, Inc.
234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
317/353-6161

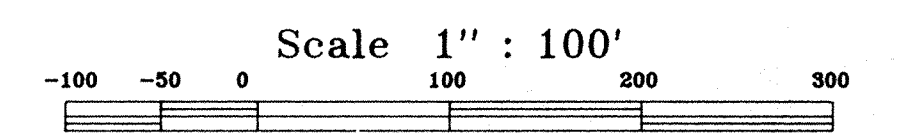
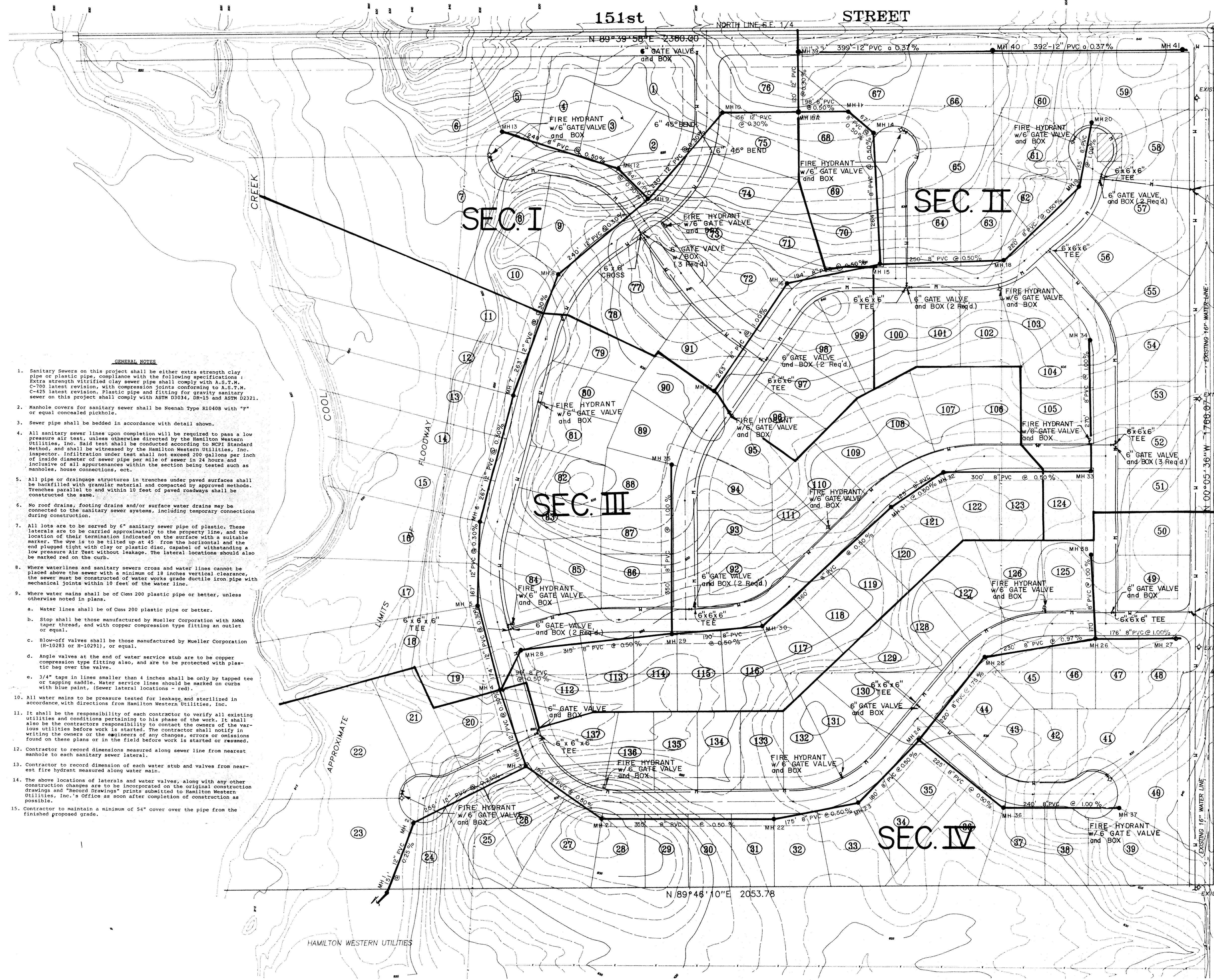
THESE PLANS PREPARED BY:

FILED

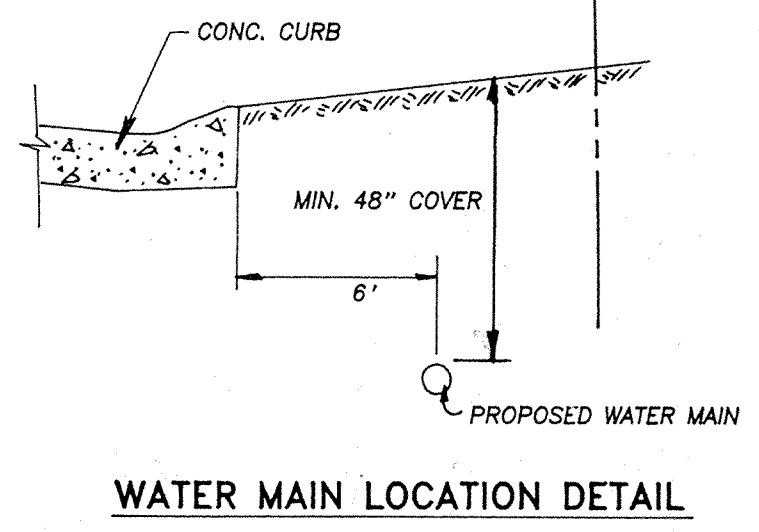
Arthur L. Kaser

OFFICE OF THE REGISTERED LAND SURVEYOR
ARTHUR L. KASER
REGISTERED LAND SURVEYOR NO. S0529





- LEGEND**
- WATER MAIN (SIZE AS INDICATED)
 - ⊕ FIRE HYDRANT
 - M.J. GATE VALVE
 - M.J. TEE
 - MISC. WATER MAIN FITTING
 - SANITARY SEWER w/MANHOLE
- NOTE:** ALL WATER MAINS TO BE 6" CLASS 200 PLASTIC PIPE OR EQUAL.



- GENERAL NOTES**
- Sanitary Sewers on this project shall be either extra strength clay pipe or plastic pipe, compliance with the following specifications: Extra strength vitrified clay sewer pipe shall comply with A.S.T.M. C-700 latest revision, with compression joints conforming to A.S.T.M. C-425 latest revision. Plastic pipe and fitting for gravity sanitary sewer on this project shall comply with ASTM D3034, DR-15 and ASTM D2321.
 - Manhole covers for sanitary sewer shall be Neenah Type R1040B with "P" or equal concealed pickhole.
 - Sewer pipe shall be bedded in accordance with detail shown.
 - All sanitary sewer lines upon completion will be required to pass a low pressure air test, unless otherwise directed by the Hamilton Western Utilities, Inc. Said test shall be conducted according to NCP Standard Method, and shall be witnessed by the Hamilton Western Utilities, Inc. Inspector. Infiltration under test shall not exceed 200 gallons per inch of inside diameter of sewer pipe per mile of sewer in 24 hours and inclusive of all appurtenances within the section being tested such as manholes, house connections, etc.
 - All pipe or drainage structures in trenches under paved surfaces shall be backfilled with granular material and compacted by approved methods. Trenches parallel to and within 10 feet of paved roadways shall be constructed the same.
 - No roof drains, footing drains and/or surface water drains may be connected to the sanitary sewer systems, including temporary connections during construction.
 - All lots are to be served by 6" sanitary sewer pipe of plastic. These laterals are to be carried approximately to the property line, and the location of their termination indicated on the surface with a suitable marker. The pipe is to be tilted up at 45° from the horizontal and the end plugged tight with clay or plastic disc, capable of withstanding a low pressure air test without leakage. The lateral locations should also be marked red on the curb.
 - Where waterlines and sanitary sewers cross and water lines cannot be placed above the sewer with a minimum of 18 inches vertical clearance, the sewer must be constructed of water works grade ductile iron pipe with mechanical joints within 10 feet of the water line.
 - Where water mains shall be of Class 200 plastic pipe or better, unless otherwise noted in plans.
 - Water lines shall be of Class 200 plastic pipe or better.
 - Stop shall be those manufactured by Mueller Corporation with ANMA taper thread, and with copper compression type fitting an outlet or equal.
 - Blow-off valves shall be those manufactured by Mueller Corporation (H-10283 or H-10291), or equal.
 - Angle valves at the end of water service stub are to be copper compression type fitting also, and are to be protected with plastic bag over the valve.
 - 3/4" taps in lines smaller than 4 inches shall be only by tapping tee or tapping saddle. Water service lines should be marked on curbs with blue paint. (Sewer lateral locations - red).
 - All water mains to be pressure tested for leakage and sterilized in accordance with directions from Hamilton Western Utilities, Inc.
 - It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners or the engineers of any changes, errors or omissions found on these plans or in the field before work is started or resumed.
 - Contractor to record dimensions measured along sewer line from nearest manhole to each sanitary sewer lateral.
 - Contractor to record dimension of each water stub and valves from nearest fire hydrant measured along water main.
 - The above locations of laterals and water valves, along with any other construction changes are to be incorporated on the original construction drawings and "Record Drawings" prints submitted to Hamilton Western Utilities, Inc.'s Office as soon after completion of construction as possible.
 - Contractor to maintain a minimum of 54" cover over the pipe from the finished proposed grade.

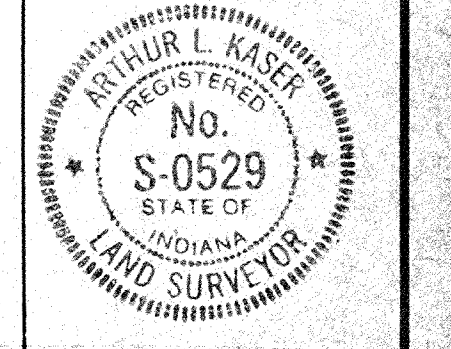
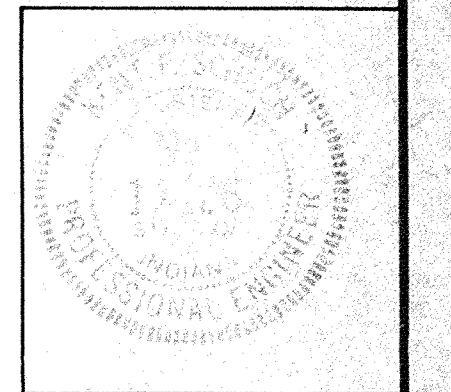
Water distribution system reviewed and certified by:

Kent F. Schuch
Kent F. Schuch P.E. No. 17226

Sanitary sewer plans prepared by:

Arthur L. Kaser
Arthur L. Kaser
Registered Land Surveyor No. S-0529

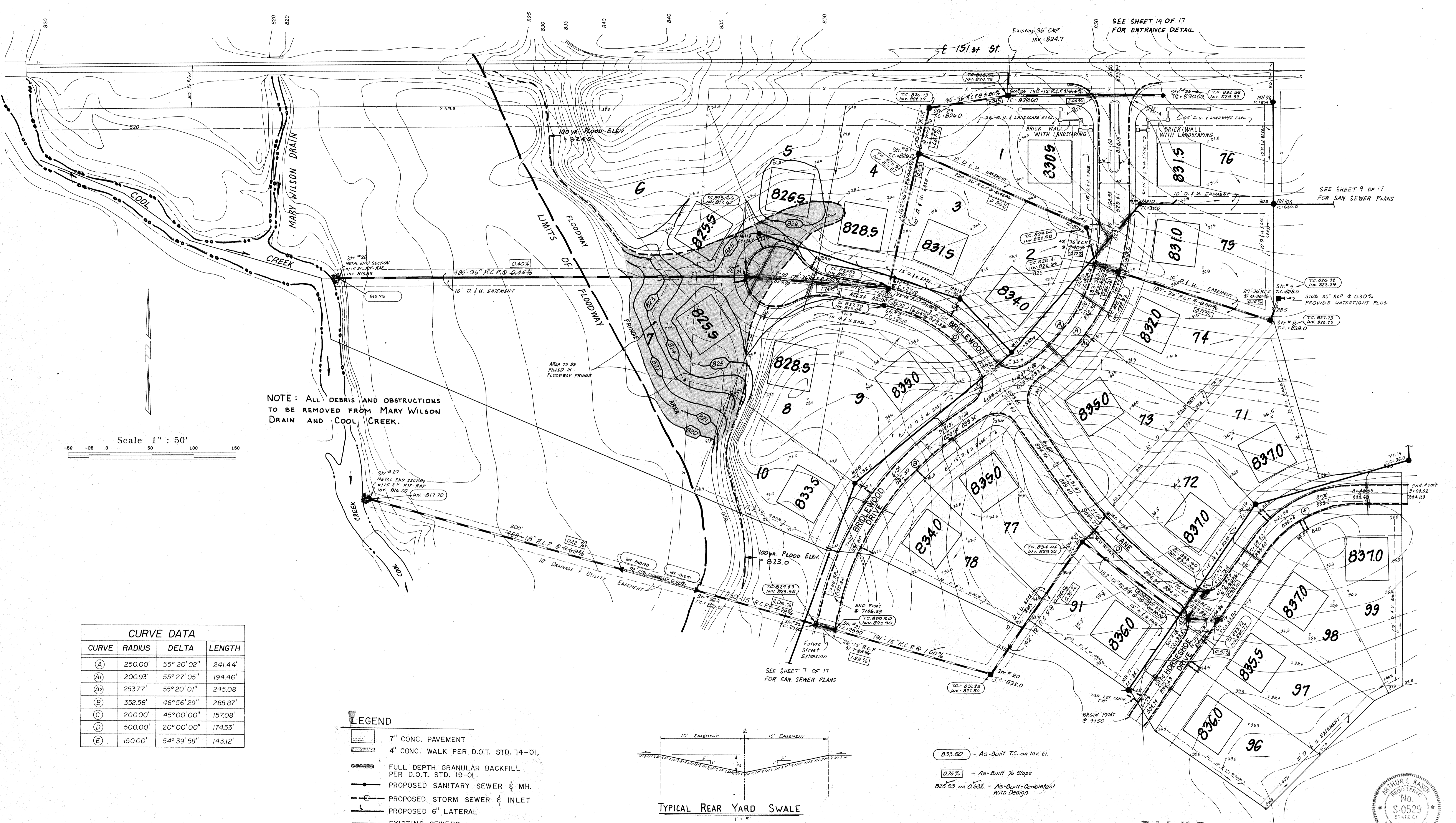
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JUL 19 1988
OFFICE OF HAMILTON COUNTY SURVEYOR



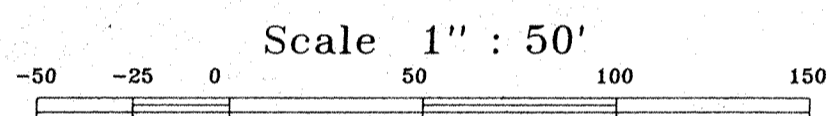
DATES AND REVISIONS		TITLE			
		MASTER SEWER & WATER PLAN BRIDLEWOOD			
1-5-88	REPER. M.L. 41, M.L. 41	DESIGN BY	DRAWN BY	CHECKED	APPROVED
8-8-88	MOVED WATER LINE w/ CUL-DE-SACS	ALK	HASP		

Evergreen
Planners, Inc.
234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
317/353-6161

DATE	Dec., 1988
JOB NO.	87-84
SCALE	1" = 100'
SHEET NO.	3 of 12

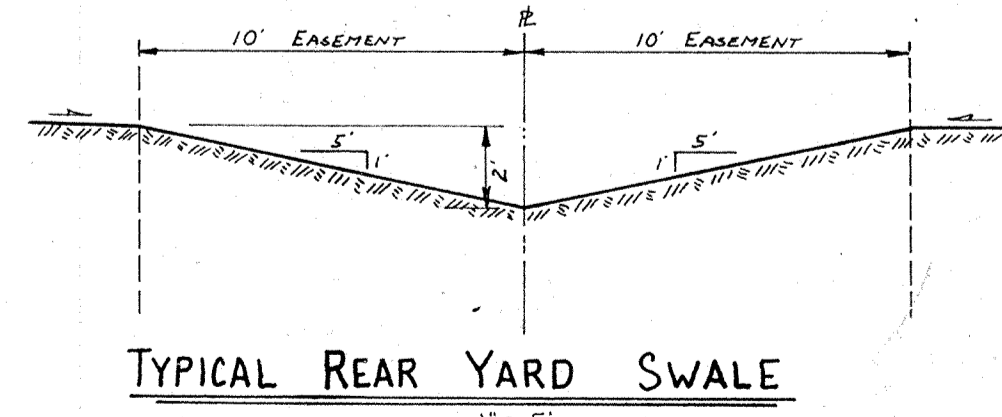


NOTE: ALL DEBRIS AND OBSTRUCTIONS TO BE REMOVED FROM MARY WILSON DRAIN AND COOL CREEK.



CURVE DATA			
CURVE	RADIUS	DELTA	LENGTH
(A)	250.00'	55° 20' 02"	241.44'
(A1)	200.93'	55° 27' 05"	194.46'
(A2)	253.77'	55° 20' 01"	245.08'
(B)	352.58'	46° 56' 29"	288.87'
(C)	200.00'	45° 00' 00"	157.08'
(D)	500.00'	20° 00' 00"	174.53'
(E)	150.00'	54° 39' 58"	143.12'

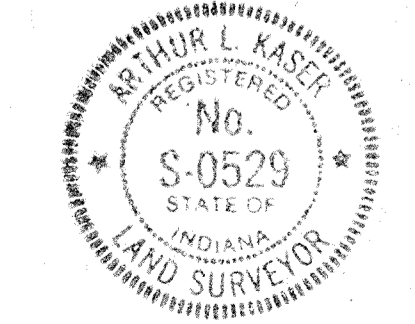
- LEGEND**
- 7" CONC. PAVEMENT
 - 4" CONC. WALK PER D.O.T. STD. 14-01.
 - FULL DEPTH GRANULAR BACKFILL PER D.O.T. STD. 19-01.
 - PROPOSED SANITARY SEWER & MH.
 - PROPOSED STORM SEWER & INLET
 - PROPOSED 6" LATERAL
 - EXISTING SEWERS
 - 6" SUB SURFACE DRAIN



833.50 - As-Built T.C. or Inv. El.
 0.75% - As-Built % Slope
 825.50 on 0.63% - As-Built - Consistent with Design.

FILED
 JUL 19 1988
 OFFICE OF HAMILTON COUNTY SURVEYOR

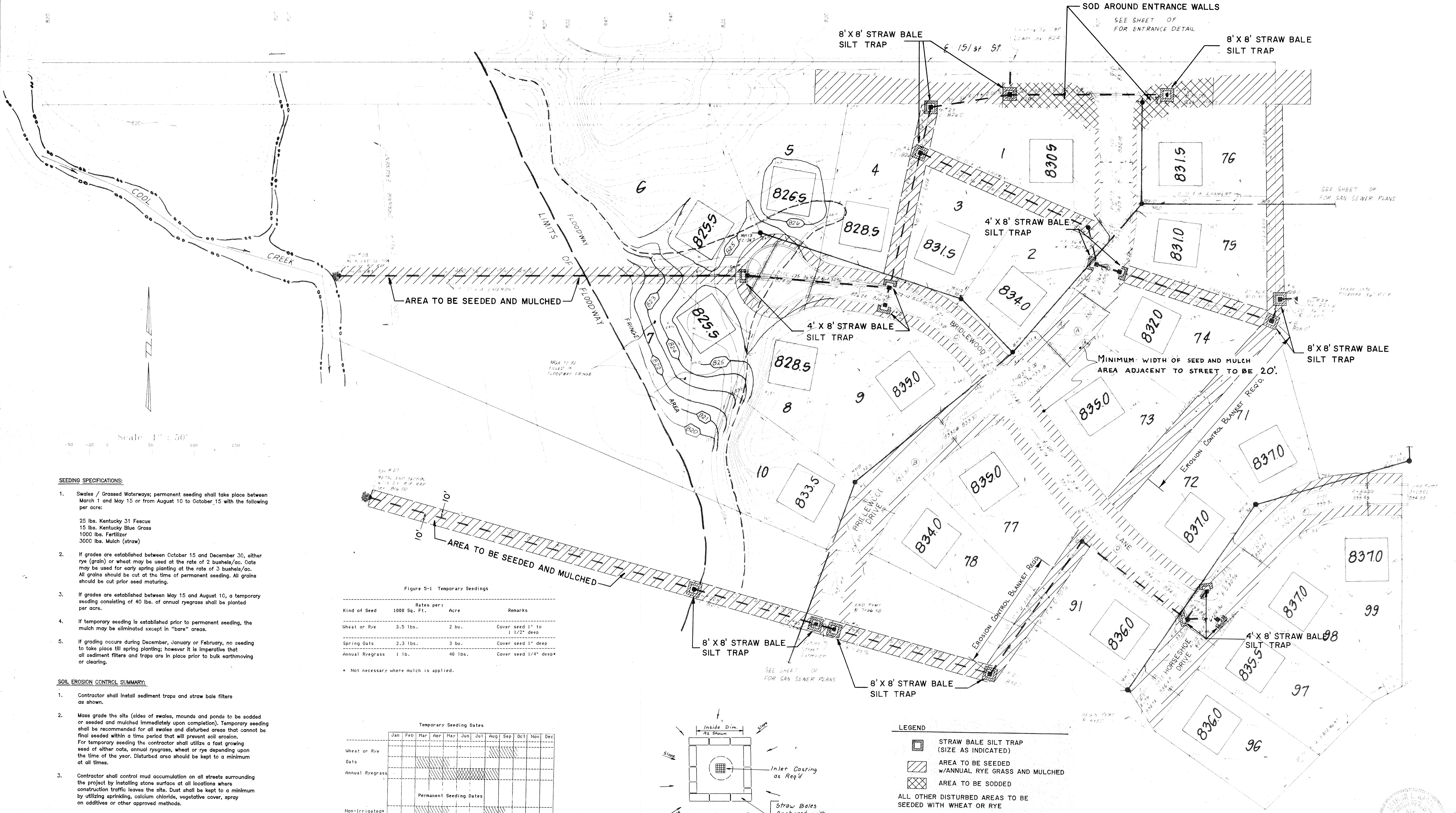
"AS-BUILTS"
 June, 1988



DATES AND REVISIONS		TITLE			
3/11/88	MFH Revised MH39 From MH18 ALK	SITE PLAN BRIDLEWOOD SECTION I			
3/21/88	CHANGED STR 2549 ADDED NOTE ALK				
4/17/88	ADDED MH 10A				
5/12/88	ADDED EASEMENTS & DETAILS ALK				
DESIGN BY	ALK	DRAWN BY	HASP	CHECKED	APPROVED

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 Planners, Inc.
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

DATE	FEBRUARY 1988
JOB NO.	87-84
SCALE	1" = 50'
SHEET NO.	3 of 17



- SEEDING SPECIFICATIONS:**
- Swales / Grassed Waterways; permanent seeding shall take place between March 1 and May 15 or from August 10 to October 15 with the following per acre:
 25 lbs. Kentucky 31 Fescue
 15 lbs. Kentucky Blue Grass
 1000 lbs. Fertilizer
 3000 lbs. Mulch (straw)
 - If grades are established between October 15 and December 30, either rye (grain) or wheat may be used at the rate of 2 bushels/acre. Oats may be used for early spring planting at the rate of 3 bushels/acre. All grains should be cut at the time of permanent seeding. All grains should be cut prior seed maturing.
 - If grades are established between May 15 and August 10, a temporary seeding consisting of 40 lbs. of annual ryegrass shall be planted per acre.
 - If temporary seeding is established prior to permanent seeding, the mulch may be eliminated except in "bare" areas.
 - If grading occurs during December, January or February, no seeding to take place till spring planting; however it is imperative that all sediment filters and traps are in place prior to bulk earthmoving or clearing.

Figure 5-1 Temporary Seeding

Kind of Seed	Rates per:		Remarks
	1000 Sq. Ft.	Acre	
Wheat or Rye	2.5 lbs.	2 bu.	Cover seed 1" to 1 1/2" deep
Spring Oats	2.3 lbs.	3 bu.	Cover seed 1" deep
Annual Ryegrass	1 lb.	40 lbs.	Cover seed 1/4" deep

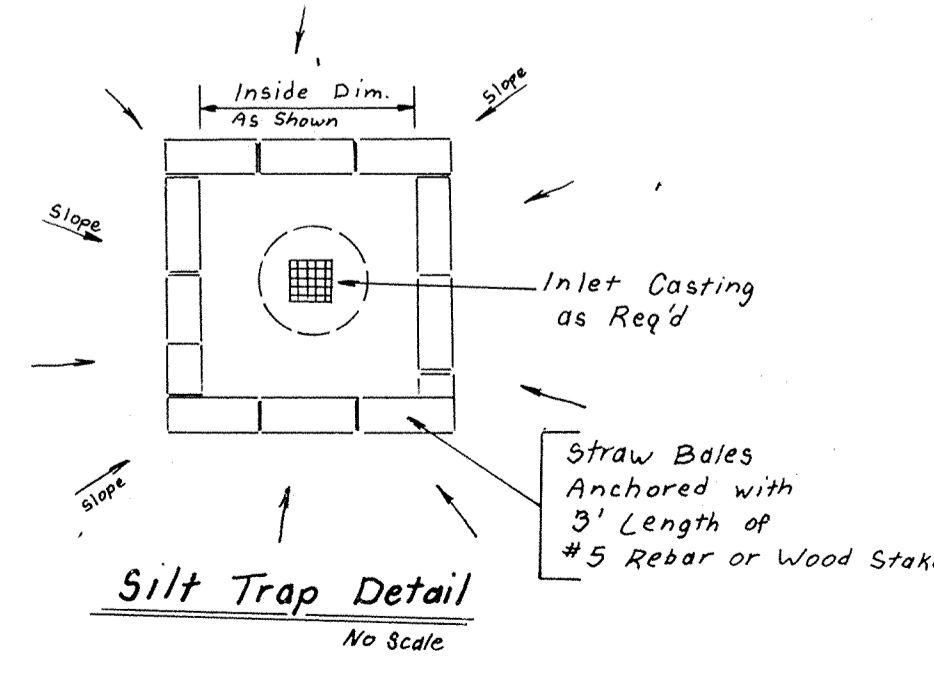
* Not necessary where mulch is applied.

- SOIL EROSION CONTROL SUMMARY:**
- Contractor shall install sediment traps and straw bale filters as shown.
 - Mass grade the site (sides of swales, mounds and ponds to be sodded or seeded and mulched immediately upon completion). Temporary seeding shall be recommended for all swales and disturbed areas that cannot be final seeded within a time period that will prevent soil erosion. For temporary seeding the contractor shall utilize a fast growing seed of either oats, annual ryegrass, wheat or rye depending upon the time of the year. Disturbed area should be kept to a minimum at all times.
 - Contractor shall control mud accumulation on all streets surrounding the project by installing stone surface at all locations where construction traffic leaves the site. Dust shall be kept to a minimum by utilizing sprinkling, calcium chloride, vegetative cover, spray on additives or other approved methods.
 - Maintain all filters and traps during construction to prevent any blockages from accumulated sediment. Additional seeding and straw may be required during construction as specified by engineer or Soil Conservation Service. Rip rap shall be placed in areas of high velocity stream flow (minimum size 1/3 cu. ft.). Payment for additional straw bales and rip rap not shown on plans and seeding shall be on a unit basis.
 - Contractor shall install all storm sewer inlet filters as storm sewer system is installed.
 - All proposed street areas to be paved as soon as possible after subgrade is prepared.

Temporary Seeding Dates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wheat or Rye												
Oats												
Annual Ryegrass												
Non-Irrigated*												
Irrigated												
Dormant Seeding**												

* Irrigation needed during this period. To control erosion at times other than in the shaded areas, use mulch.
 ** Late summer seeding dates may be extended 5 days if mulch is applied.
 *** Increase seeding application by 50%.



- LEGEND**
- STRAW BALE SILT TRAP (SIZE AS INDICATED)
 - AREA TO BE SEEDED w/ANNUAL RYE GRASS AND MULCHED
 - AREA TO BE SODDED
 - ALL OTHER DISTURBED AREAS TO BE SEEDED WITH WHEAT OR RYE

EROSION CONTROL PLAN
BRIDLEWOOD SECTION I

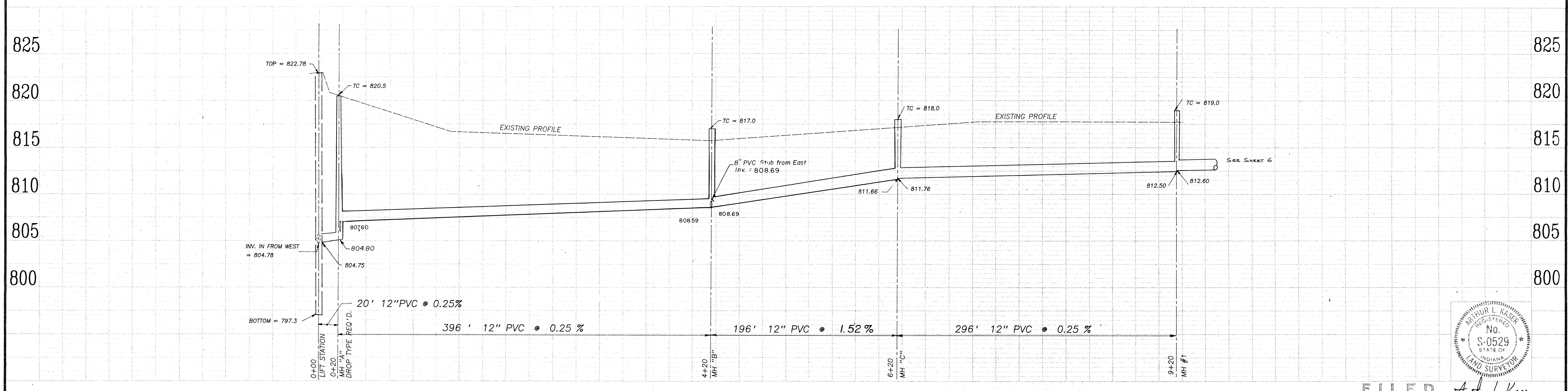
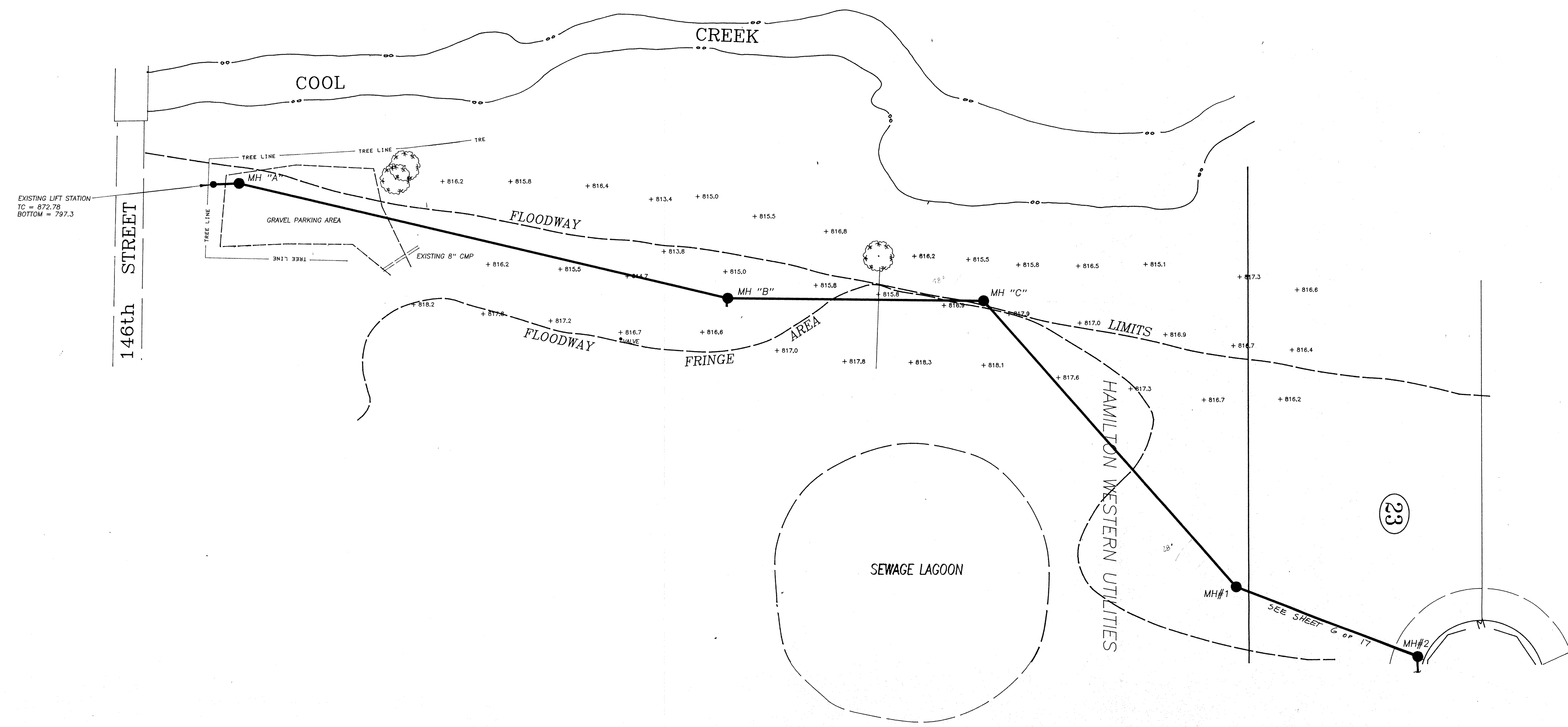
ALK

Evergreen
 Planners, Inc.
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46216
 317-353-6767

FILED
 JUL 19 1991
 OFFICE OF HAMILTON COUNTY SURVEYOR

February 1988
 87-84
 1" = 50'
 4 of 17

Scale: HORIZ. 1"=50'
VERT. 1"=5'



NOTE: Inverts of MH's "A" and "B" were lowered per request by Stoepelwerth Engineers to accommodate the proposed Village Park Estates development.

DATE	REVISIONS
4-20-88	Rev. Inv. MHS A & B (See Note)

TITLE OFFSITE SANITARY SEWER BRIDLEWOOD			
DESIGN BY ALK	DRAWN BY HASP	CHECKED	APPROVED

234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

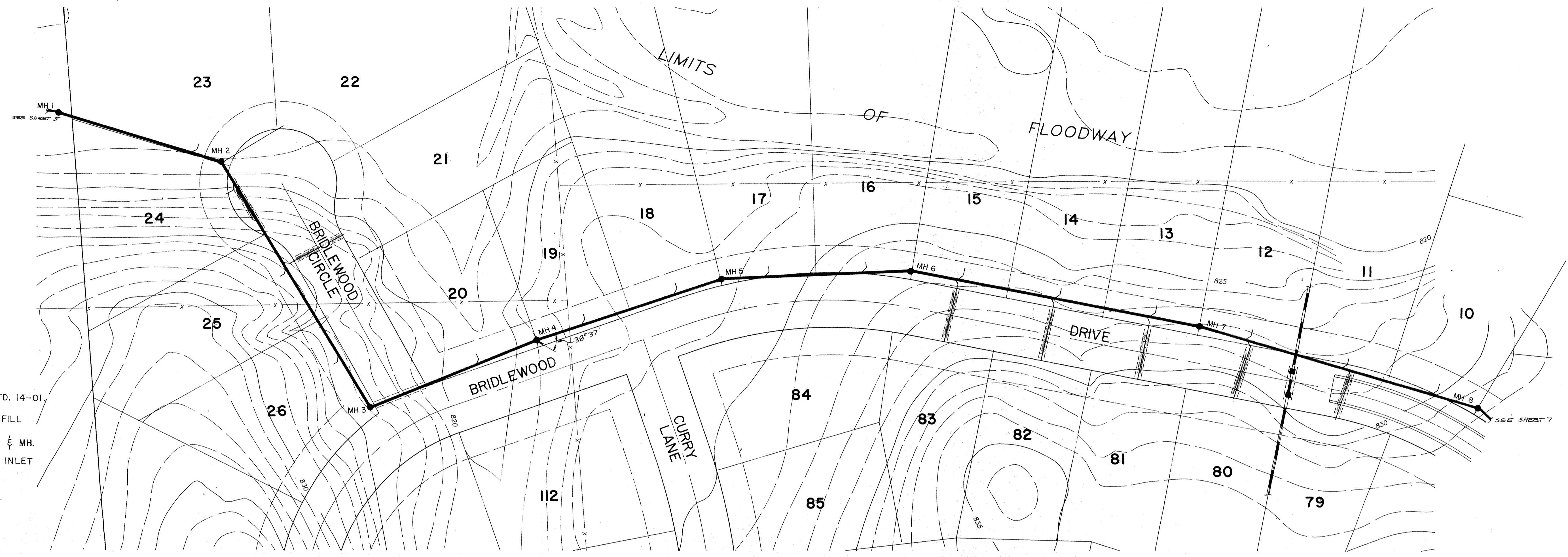
DATE	Apr 11 7, 1988
JOB NO	87-84
SCALE	1"=50'
SHEET NO	5 of 17



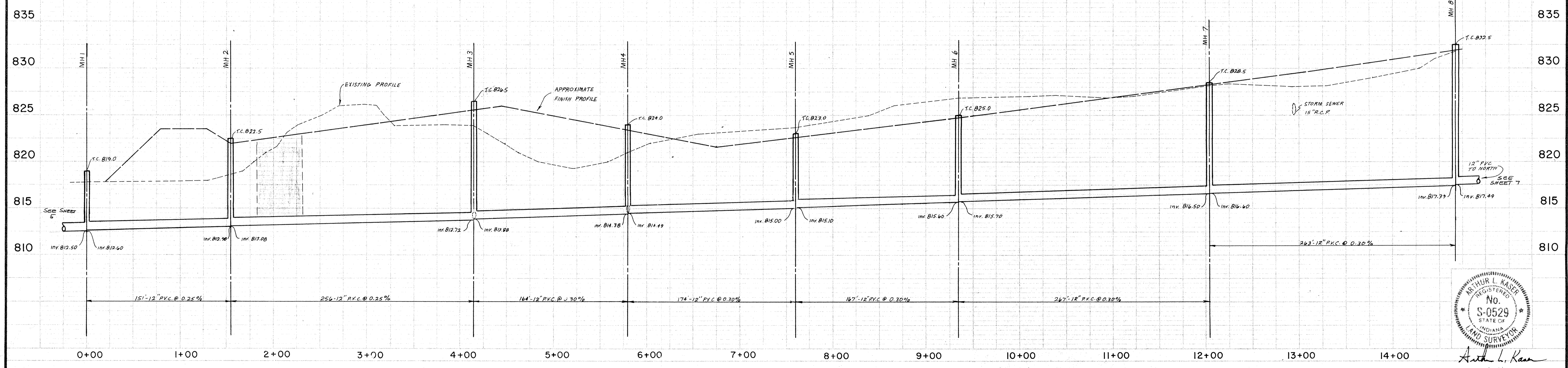
FILED
JUL 19 1988
Arthur L. Kaser

PLAN
ADJUSTED
NOT TO SCALE
NO. 171 3381

PROFILE
NOT TO SCALE
NO. 171 3381



- LEGEND**
- 7" CONC. PAVEMENT
 - 4" CONC. WALK PER D.O.T. STD. 14-01.
 - FULL DEPTH GRANULAR BACKFILL PER D.O.T. STD. 19-01.
 - PROPOSED SANITARY SEWER & MH.
 - PROPOSED STORM SEWER & INLET
 - PROPOSED 6" LATERAL
 - EXISTING SEWERS

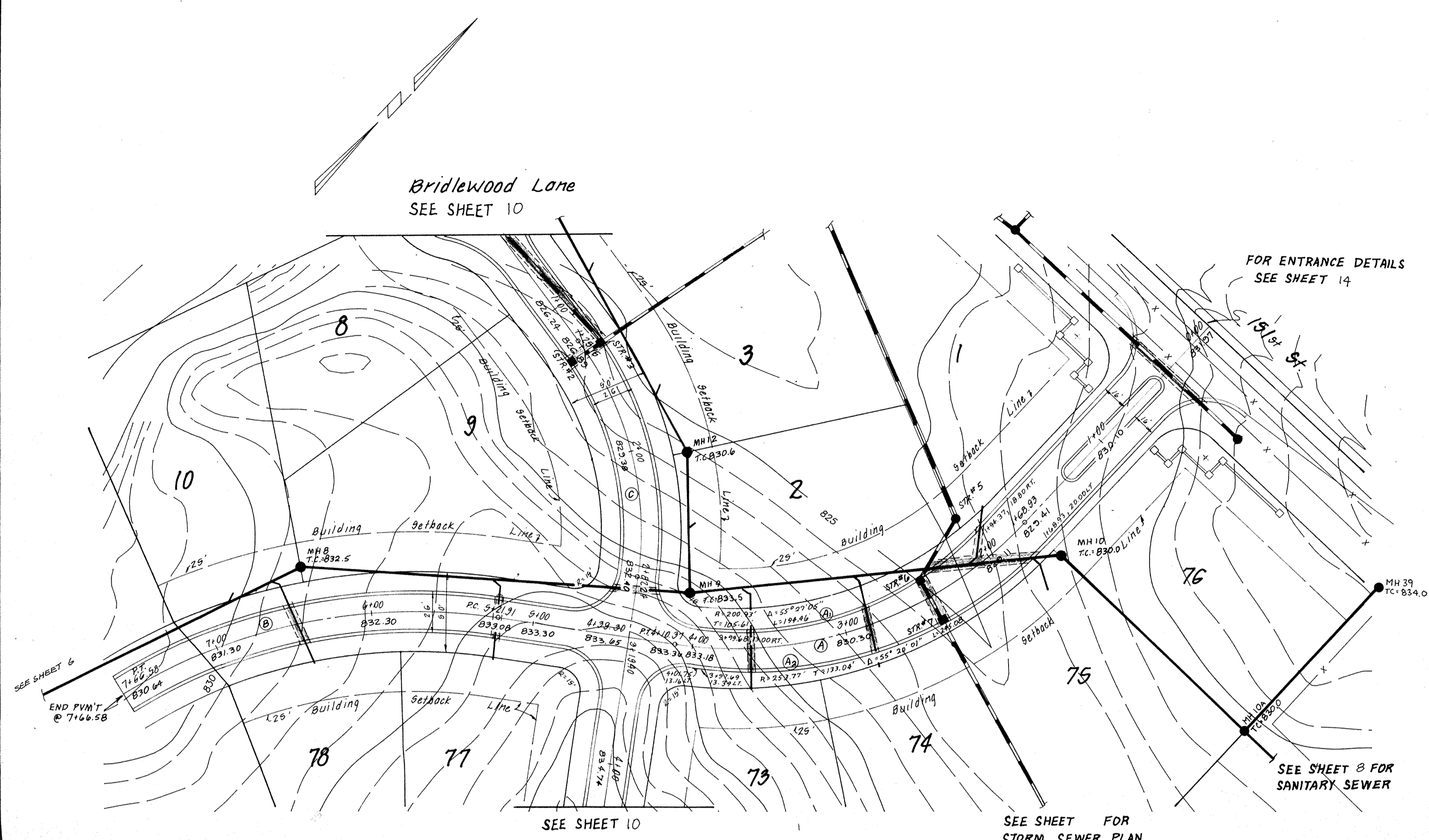


ARTHUR L. KASER
 REGISTERED
 No. S-0529
 STATE OF INDIANA
 LAND SURVEYOR
 Arthur L. Kaser

DATES AND REVISIONS		TITLE				Evergreen Planners, Inc.	FILED JUL 19 1988 OFFICE OF HAMILTON COUNTY SURVEYOR	DATE
		SANITARY SEWER PLANS BRIDLEWOOD						234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219 317/353-6161
DESIGN BY	ALK	DRAWN BY	HASP/ALK/DTP	CHECKED	APPROVED		JOB NO	87-84
							SCALE	HORIZ. 1" = 50' VERT. 1" = 5'
							SHEET NO.	6 of 17

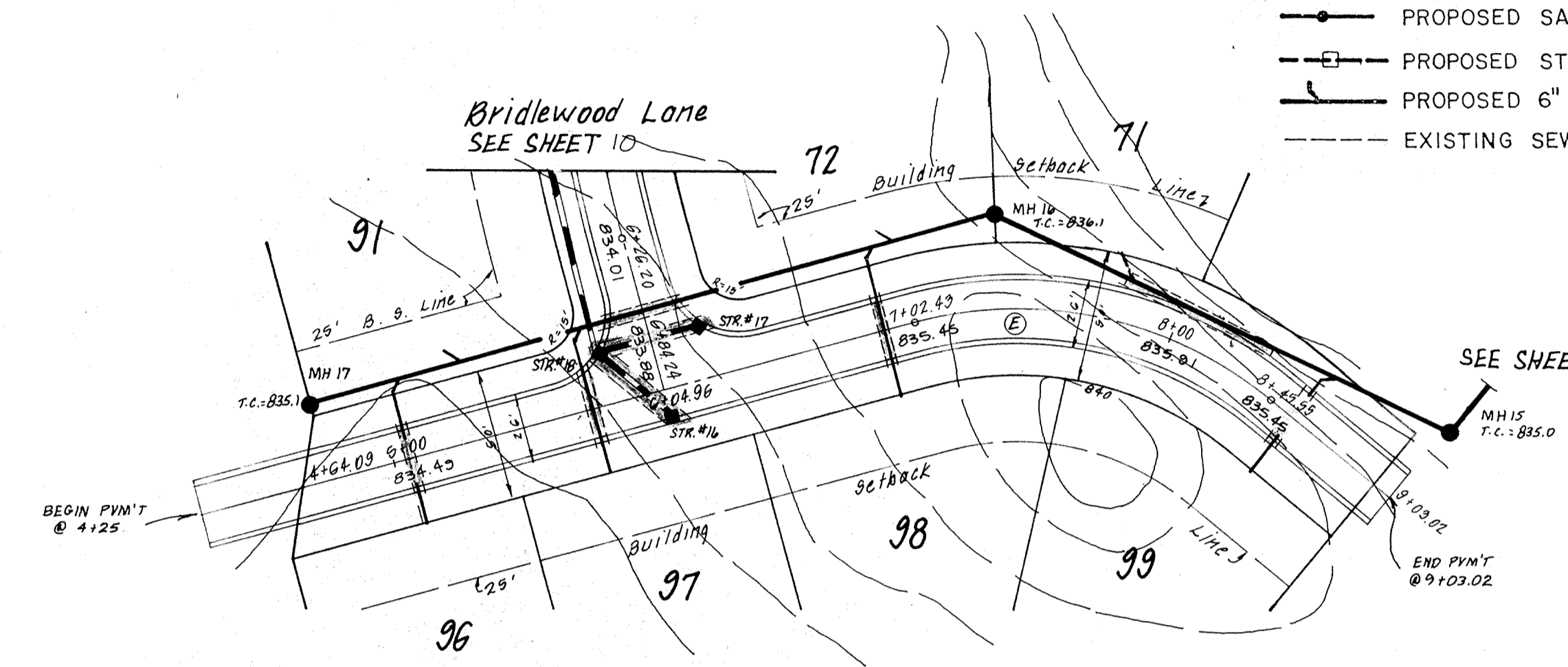
PLAN
 DATE: 1/18/88
 DRAWN BY: HASP/CMB/DTP
 CHECKED BY: ALK
 APPROVED BY: [Signature]

PROFILES
 DATE: 1/18/88
 DRAWN BY: HASP/CMB/DTP
 CHECKED BY: ALK
 APPROVED BY: [Signature]



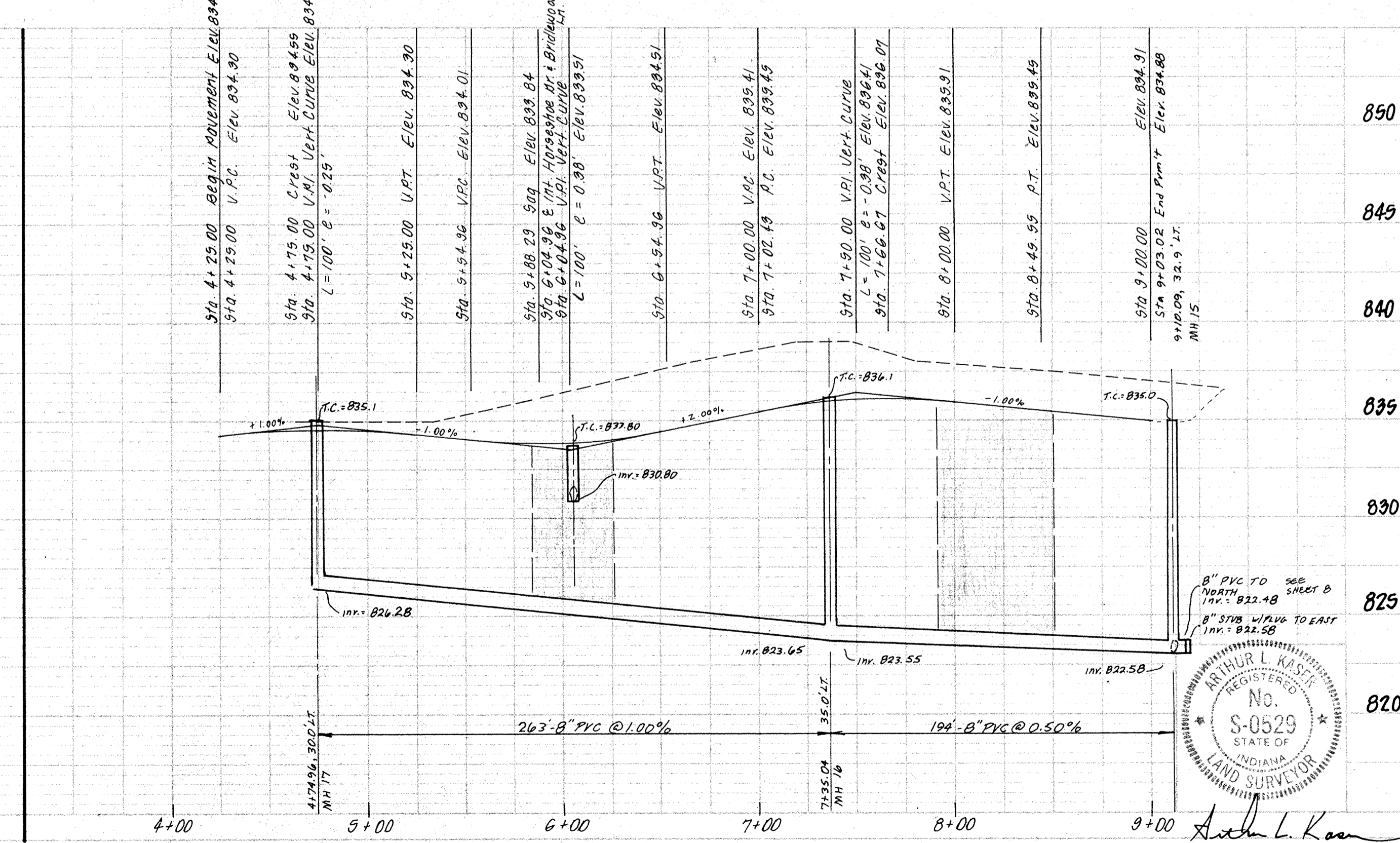
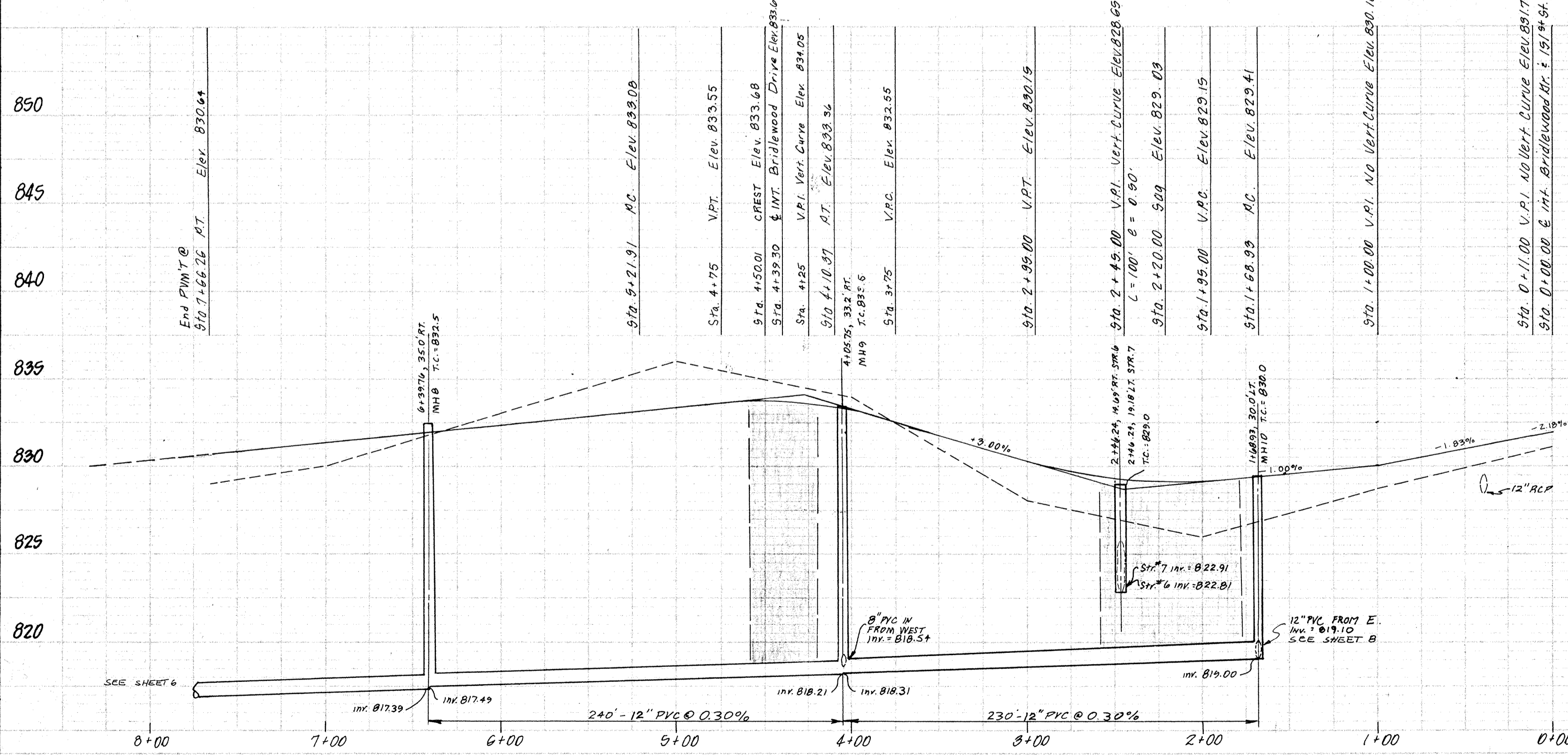
CURVE DATA			
CURVE	RADIUS	DELTA	LENGTH
(A)	250.00'	55° 20' 02"	241.44'
(A1)	200.93'	55° 27' 05"	194.46'
(A2)	253.77'	55° 20' 01"	245.08'
(B)	352.58'	46° 56' 29"	288.87'
(C)	200.00'	45° 00' 00"	157.08'
(D)	500.00'	20° 00' 00"	174.53'
(E)	150.00'	54° 39' 58"	143.12'

- LEGEND
- 7" CONC. PAVEMENT
 - 4" CONC. WALK PER D.O.T. STD. 14-01.
 - FULL DEPTH GRANULAR BACKFILL PER D.O.T. STD. 19-01.
 - PROPOSED SANITARY SEWER & MH.
 - PROPOSED STORM SEWER & INLET
 - PROPOSED 6" LATERAL
 - EXISTING SEWERS



Bridlewood Drive

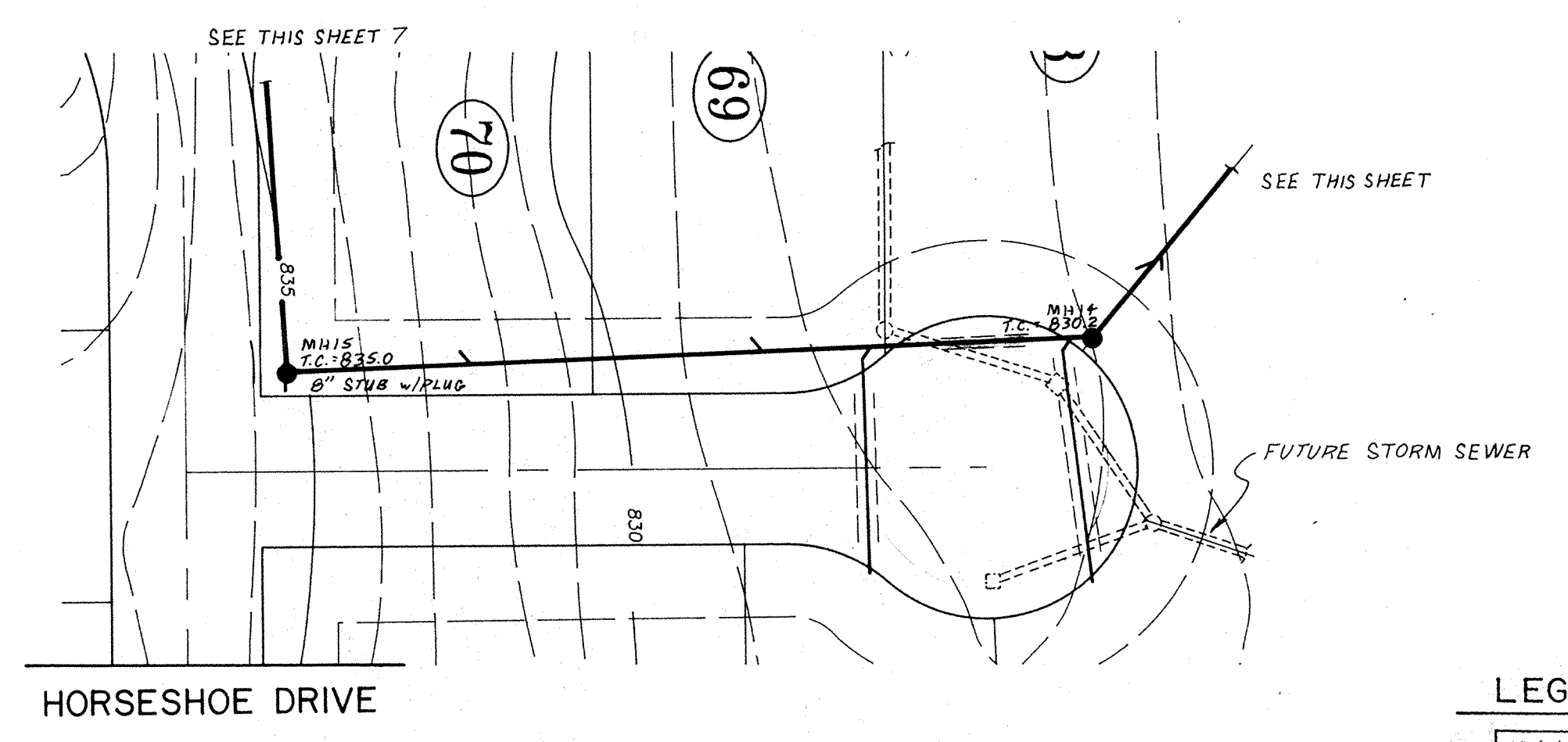
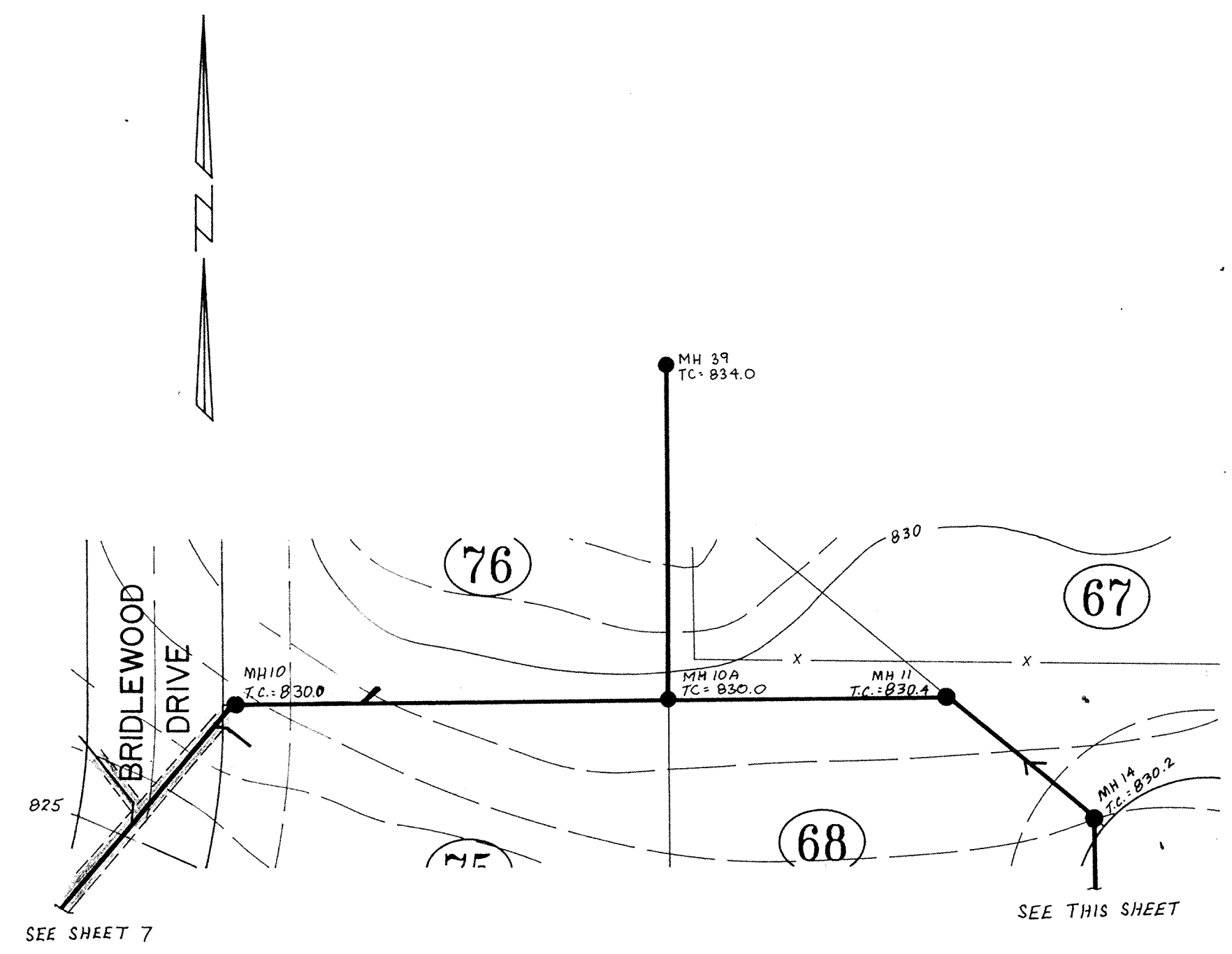
Horseshoe Drive



DATES AND REVISIONS		TITLE	
3/1/88	M.H. Changed MH 15 to MH 37	BRIDLEWOOD DR. & HORSESHOE DR. BRIDLEWOOD SECTION I	
4/1/88	Added MH 10a / Moved MH 37	DESIGN BY	ALK
		DRAWN BY	HASP/CMB/DTP
		CHECKED	
		APPROVED	

Evergreen FILED
 Planners, Inc. JUL 19 1988
 OFFICE OF HAMILTON COUNTY SURVEYOR
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

DATE: FEBRUARY 1988
 JOB NO: 87-84
 SCALE: HORIZ. 1" = 50'
 VERT. 1" = 5'
 SHEET NO: 7 of 17



WINDMILL CIRCLE

- LEGEND**
- 7" CONC. PAVEMENT
 - 4" CONC. WALK PER D.O.T. STD. 14-01.
 - FULL DEPTH GRANULAR BACKFILL PER D.O.T. STD. 19-01.
 - PROPOSED SANITARY SEWER & MH.
 - PROPOSED STORM SEWER & INLET
 - PROPOSED 6" LATERAL
 - EXISTING SEWERS

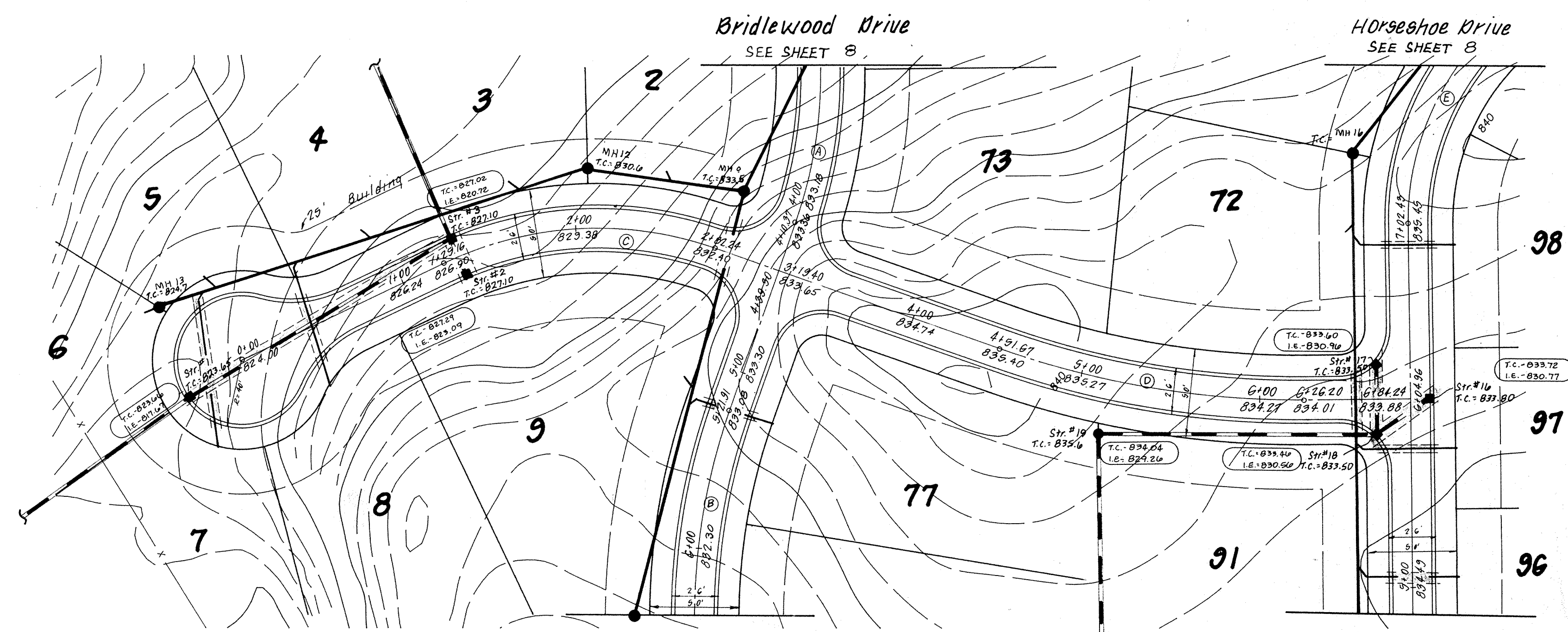


ARTHUR L. KASEB
REGISTERED
No. S-0529
STATE OF INDIANA
LAND SURVEYOR
Arthur L. Kaseb

DATES AND REVISIONS 4/17/88 Assoc. MH 10A / MOVED MH 39		TITLE WINDMILL CIR. & SAN. SEWER BRIDLEWOOD SAN. SEWER		DATE FEBRUARY 1988	
DESIGN BY ALK	DRAWN BY HASP/DTP	CHECKED	APPROVED	JOB NO. 87-84	SCALE HORIZ. 1" = 50' VERT. 3" = 5'
Evergreen Planners, Inc. 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219 317/353-6161				OFFICE OF HAMILTON COUNTY SURVEYOR JUL 19 1988	SHEET NO. 8 OF 17

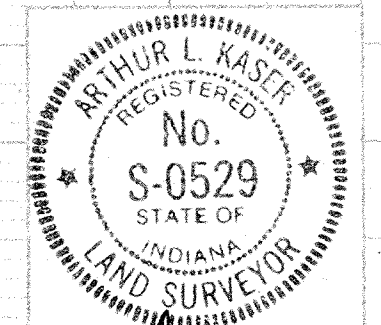
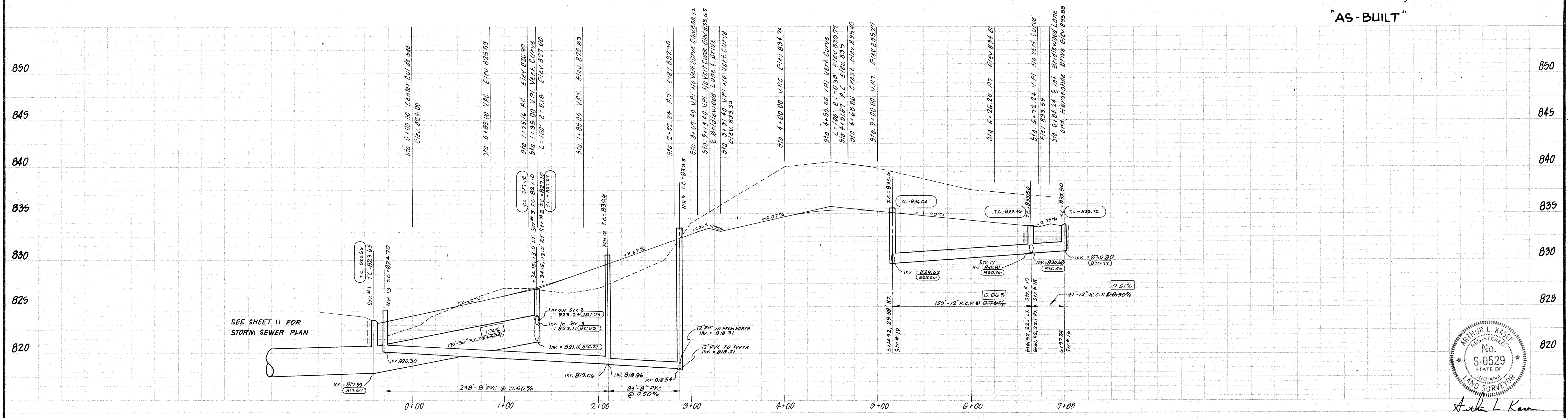
PLAN
 REVISIONS
 DATE
 BY
 CHECKED
 DATE
 BY

PROF.
 DATE
 BY
 CHECKED
 DATE
 BY



CURVE DATA			
CURVE	RADIUS	DELTA	LENGTH
(A)	250.00'	55° 20' 02"	241.44'
(A1)	200.93'	55° 27' 05"	194.46'
(A2)	253.77'	55° 20' 01"	245.08'
(B)	352.58'	46° 56' 29"	288.87'
(C)	200.00'	45° 00' 00"	157.08'
(D)	500.00'	20° 00' 00"	174.53'
(E)	150.00'	54° 39' 58"	143.12'

- LEGEND**
- 7" CONC. PAVEMENT
 - 4" CONC. WALK PER D.O.T. STD. 14-01.
 - FULL DEPTH GRANULAR BACKFILL PER D.O.T. STD. 19-01.
 - PROPOSED SANITARY SEWER & MH.
 - PROPOSED STORM SEWER & INLET
 - PROPOSED 6" LATERAL
 - EXISTING SEWERS
- As-Built T.C. or Inv. El.
 - As-Built % Slope
 0.75% or 0.65% - As-Built Consistent With Design.
- "AS-BUILT"**



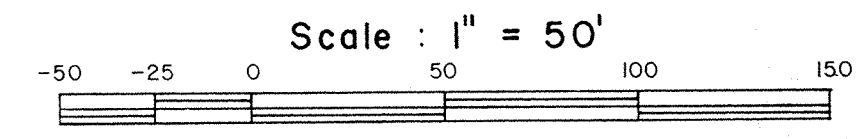
Arthur L. Kase

DATES AND REVISIONS		TITLE	
		BRIDLEWOOD LANE	
		BRIDLEWOOD SECTION I	
DESIGN BY		DRAWN BY	
ALK		HASP/CMB/DTP	
CHECKED		APPROVED	

Evergreen FILED
 Planners, Inc.
 JUL 19 1988
 OFFICE OF HAMILTON COUNTY SURVEYOR
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

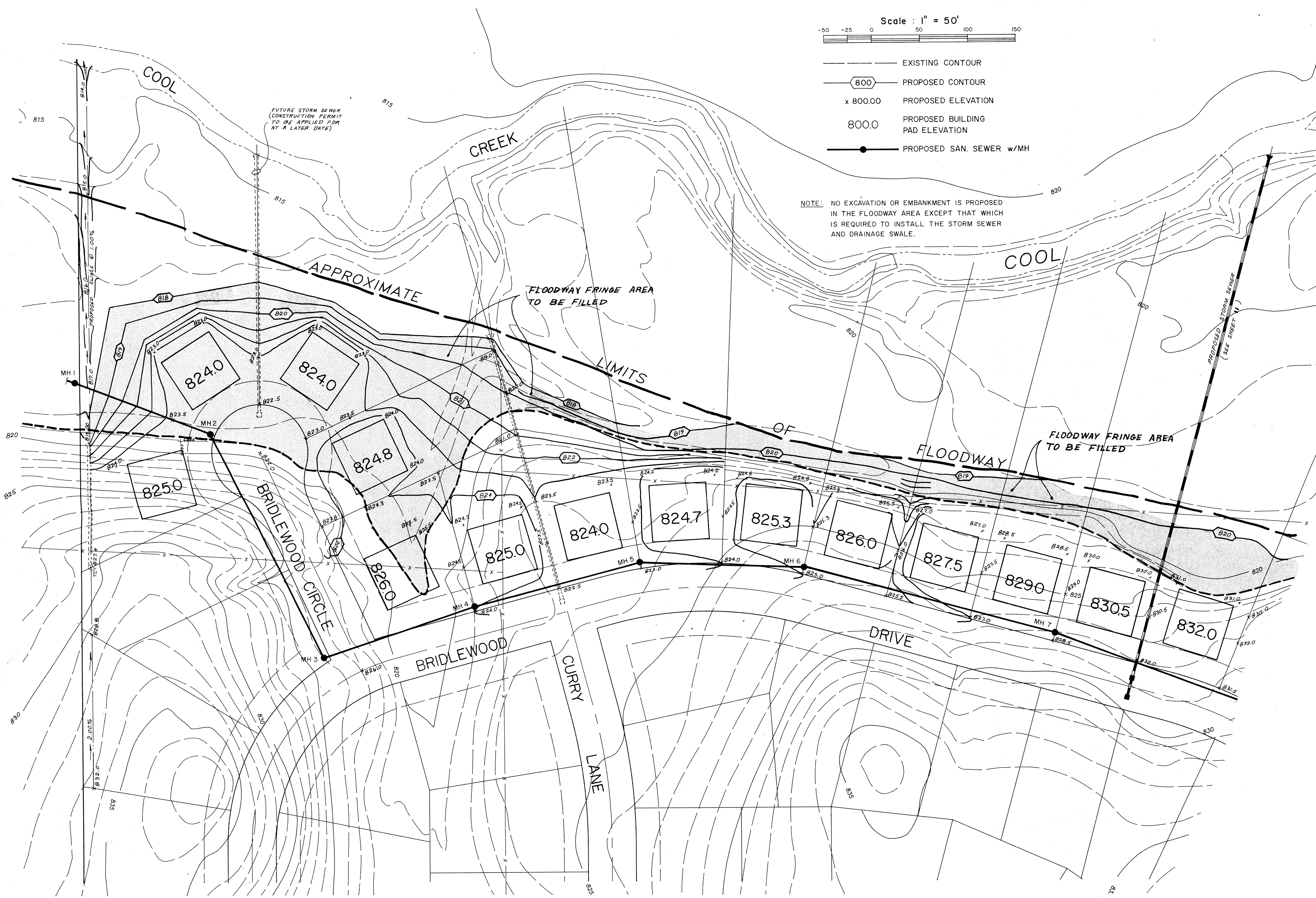
DATE: FEBRUARY 1988
 JOB NO: 87-84
 SCALE: HORIZ. 1" = 50'
 VERT. 1" = 5'
 SHEET NO: 9 of 17

BENCHMARK: BRONZE TABLET SET IN TOP OF EAST END OF SOUTH GUARDRAIL, 9 FEET SOUTH OF CENTERLINE OF 151st ST. @ BRIDGE OVER COOL CREEK. STAMPED "HAM 12 1959" ELEV. = 825.08

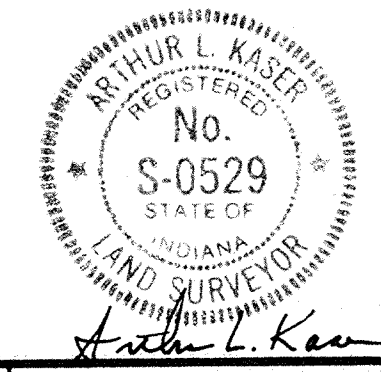


- EXISTING CONTOUR
- ⬡ 800 — PROPOSED CONTOUR
- x 800.00 — PROPOSED ELEVATION
- 800.0 — PROPOSED BUILDING PAD ELEVATION
- PROPOSED SAN. SEWER w/MH

NOTE: NO EXCAVATION OR EMBANKMENT IS PROPOSED IN THE FLOODWAY AREA EXCEPT THAT WHICH IS REQUIRED TO INSTALL THE STORM SEWER AND DRAINAGE SWALE.




NOTE: ALL AREAS DISTURBED BY CONSTRUCTION TO BE SEEDED & MULCHED

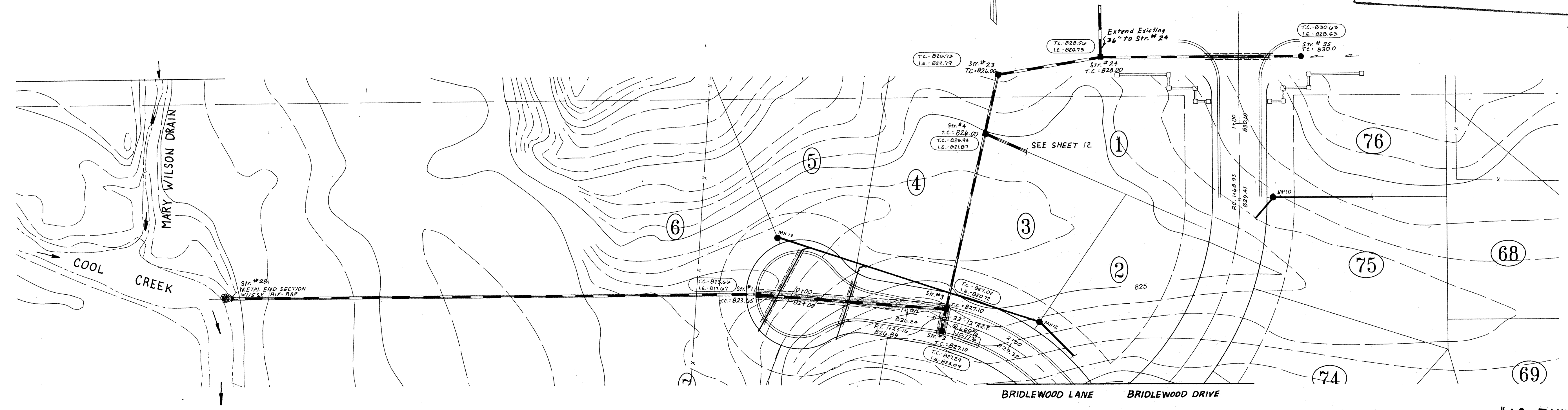


DATES AND REVISIONS		TITLE	
		FLOODWAY GRADING PLAN	
		BRIDLEWOOD SUBDIVISION	
DESIGN BY	DRAWN BY	CHECKED	APPROVED
ALK	HASP/DTP		

Evergreen FILED
 Planners, Inc.
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

DATE: FEBRUARY 1988
 JOB NO.: 87-84
 SCALE: 1" = 50'
 SHEET NO.: 10 OF 17

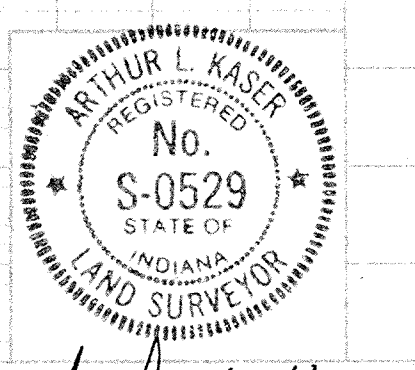
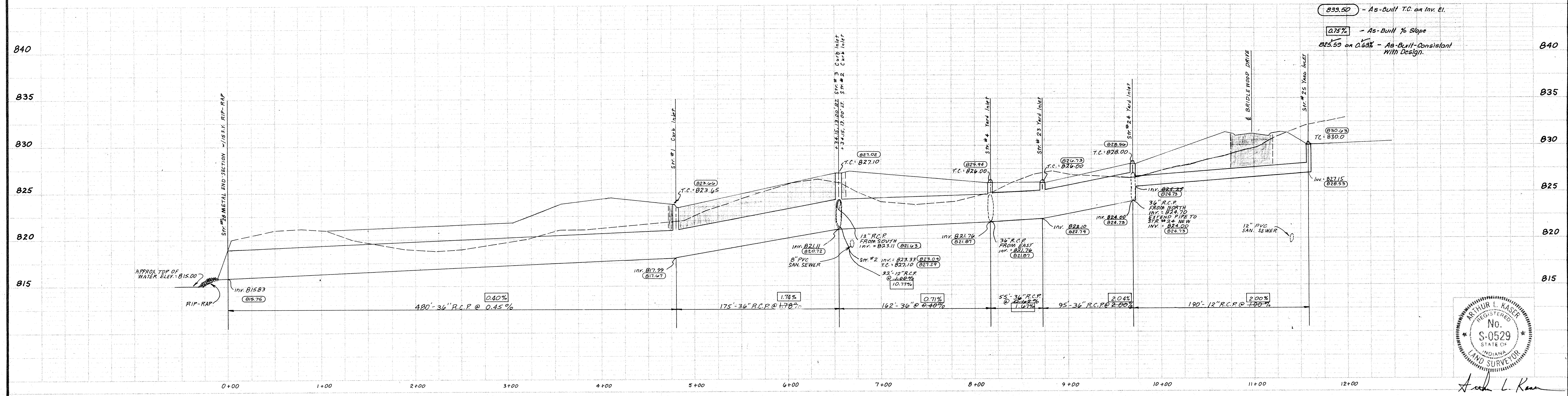

 This information was gathered for input into the Hamilton County Geographical Information System. This document is considered an official record of the GIS.
 Entry Date: 10-29-03
 Entered by: JDH



"AS-BUILT"

- LEGEND
- Full Depth Granular Backfill Required
 - Sanitary Sewer with Manhole and Wye
 - Storm Sewer with Inlet and Slope Wall
 - 4' Concrete Walk per D.O.T. Std.

833.50 - As-Built T.C. on Inv. El.
 0.75% - As-Built % Slope
 825.50 on 0.68% - As-Built Consistent with Design.



Arthur L. Kasper

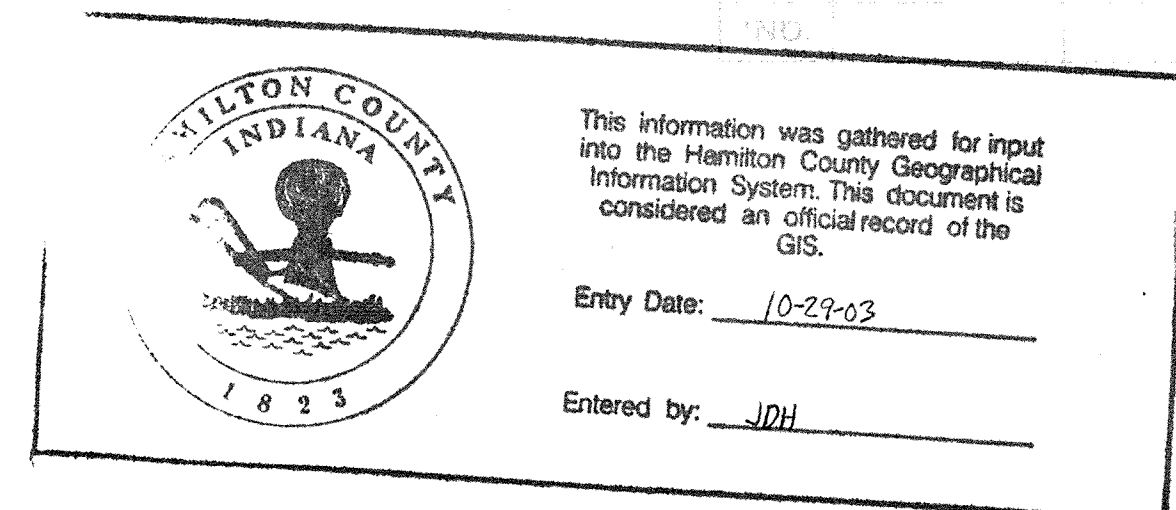
DATE	REVISIONS
3/14/88	MPH Changed MH 19 to MH 39
3/21/88	Changed Str. 25 to Yard Inlet
4/7/88	Revised MH 39

TITLE			
STORM STRS. 1-4, 23-25			
BRIDLEWOOD SECTION I			
DESIGN BY	DRAWN BY	CHECKED	APPROVED
ALK	HASP/DTP		


Evergreen
 Planners, Inc.
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

FILED
 JUL 19 1984
 OFFICE OF HAMILTON COUNTY SURV. 703

DATE	FEBRUARY 1988
JOB NO.	87-84
SCALE	HORIZ. 1" = 50' VERT. 1" = 5'
SHEET NO.	11 of 17

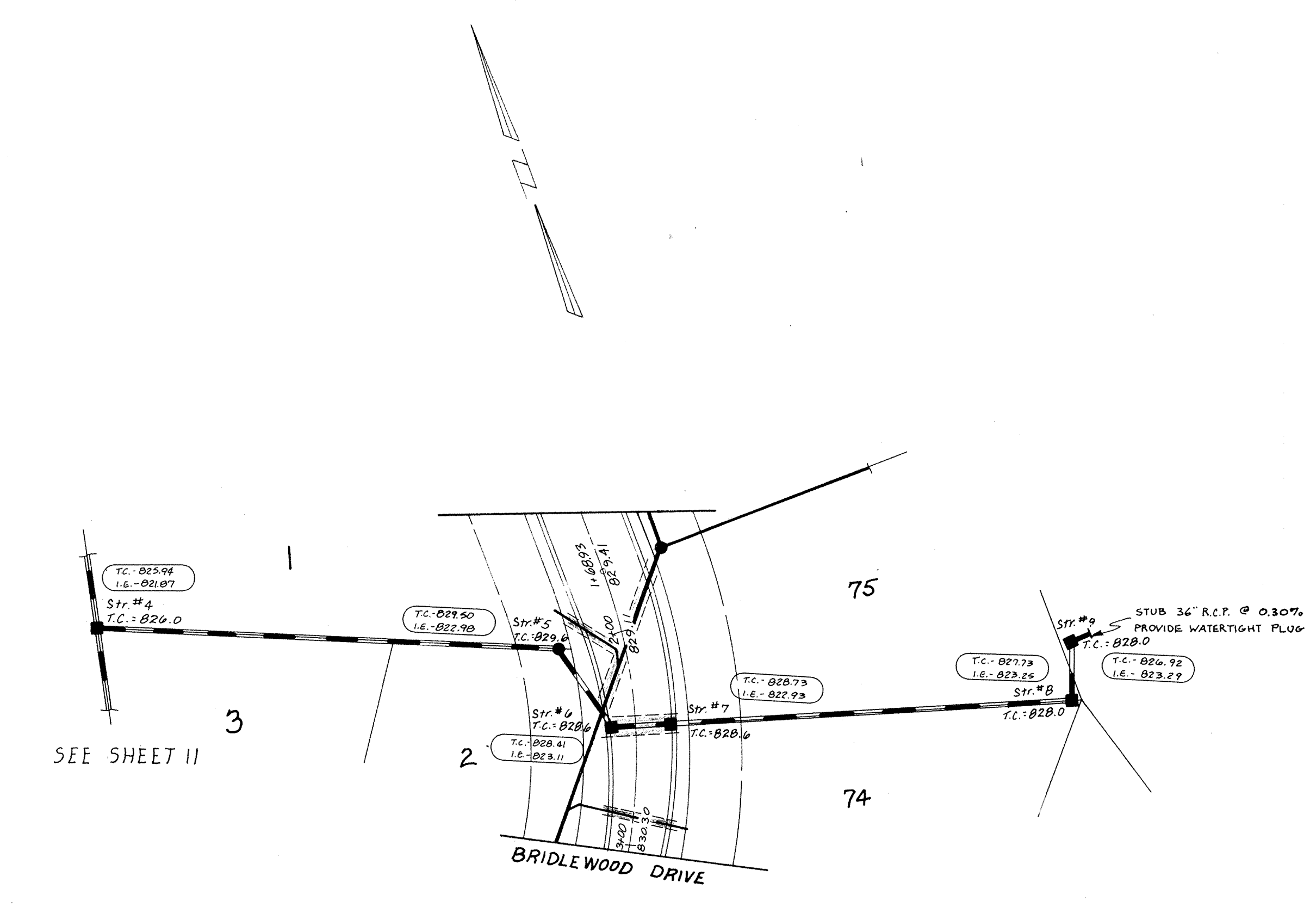


STORM SEWER STRUCTURE CHART

STR. NO.	STRUCTURE TYPE	NEENAH CSTG TYPE	CASTING CAPACITY	IN-FLOW CFS	AREA
1	Curb Inlet	R-3501-N	3.45	3.00	1.5
2	Curb Inlet	R-3501-N	3.45		
3	Curb Inlet	R-3501-N	3.45	0.66	0.33
4	Yard Inlet	R-4343	7.54	1.60	0.80
5	Solid Lid MH	R-1772-A			
6	Curb Inlet	R-3501-N	3.45	1.20	0.60
7	Curb Inlet	R-3501-N	3.45	1.80	0.90
8	Yard Inlet	R-4343	7.54	2.60	1.30
9	Solid Lid MH	R-1772-A			
16	Curb Inlet	R-3501-N	3.45	0.80	0.40
17	Curb Inlet	R-3501-N	3.45	1.20	0.60
18	Curb Inlet	R-3501-N	3.45	1.00	0.50
19	Yard Inlet	R-4343	7.54	3.40	1.70
20	Yard Inlet	R-4343	7.54	3.40	1.70
21	Curb Inlet	R-3501-N	3.45	1.20	0.60
22	Curb Inlet	R-3501-N	3.45	1.20	0.60
22A	Yard Inlet	R-4343	7.54		
23	Yard Inlet	R-4343	7.54	1.00	0.50
24	Yard Inlet	R-4343	7.54	0.60	0.30
25	Yard Inlet	R-4343	7.54	0.40	0.20
26					
27	Metal End Section				
28	Metal End Section				

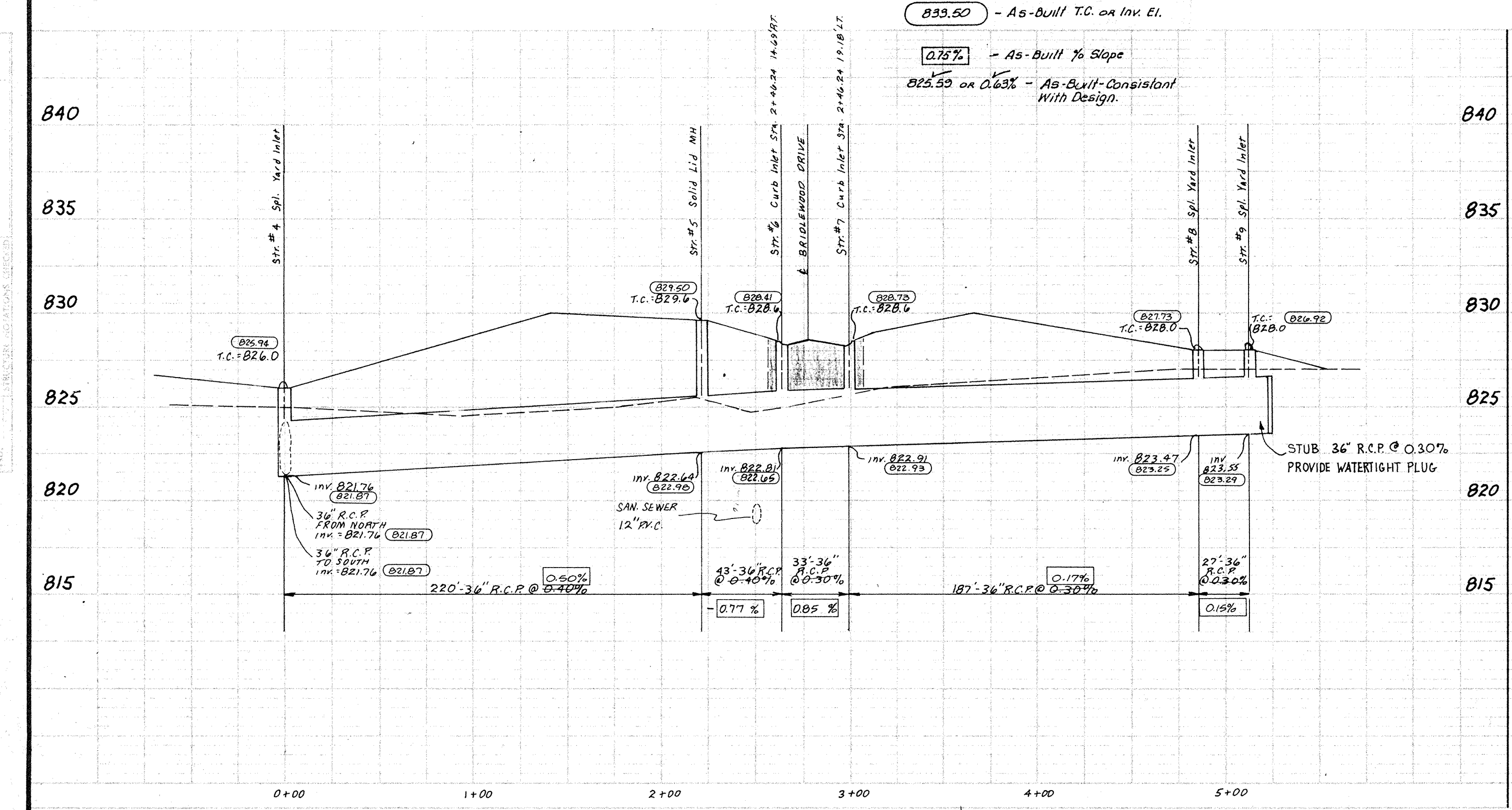
SANITARY SEWER MANHOLE CHART

MH NO.	TOP of CSTG	INV. IN	INV. OUT
1	819.0	812.60	812.50
2	822.5	813.08	812.98
3	826.5	813.88	813.72
4	824.0	814.49	814.38
5	823.0	815.10	815.00
6	825.0	815.70	815.60
7	828.5	816.60	816.50
8	832.5	817.49	817.39
9	833.5	818.54-818.31	818.21
10	830.0	819.10	819.00
11	830.4	820.72	820.62
12	830.6	819.06	818.96
13	824.7		820.30
14	830.2	821.16	821.06
15	835.0	822.58-822.58	822.48
16	836.1	823.65	823.55
17	835.1		826.28
18	831.2	819.56	819.46
10A	830.0	819.67-820.13	819.57
39	834.0		820.03

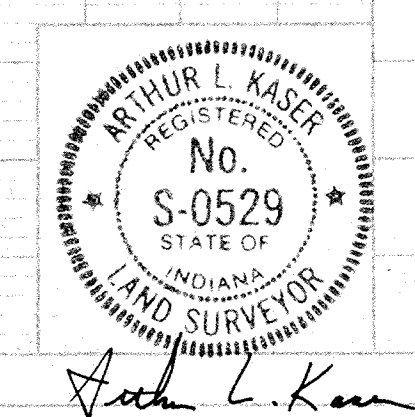


- LEGEND**
- Full Depth Granular Backfill Required
 - Sanitary Sewer with Manhole and Wye
 - Storm Sewer with Inlet and Slope Wall
 - 4' Concrete Walk per D.O.T. Std.

833.50 - As-Built T.C. on Inv. El.
 0.75% - As-Built % Slope
 825.50 on 0.63% - As-Built-Consistent With Design.



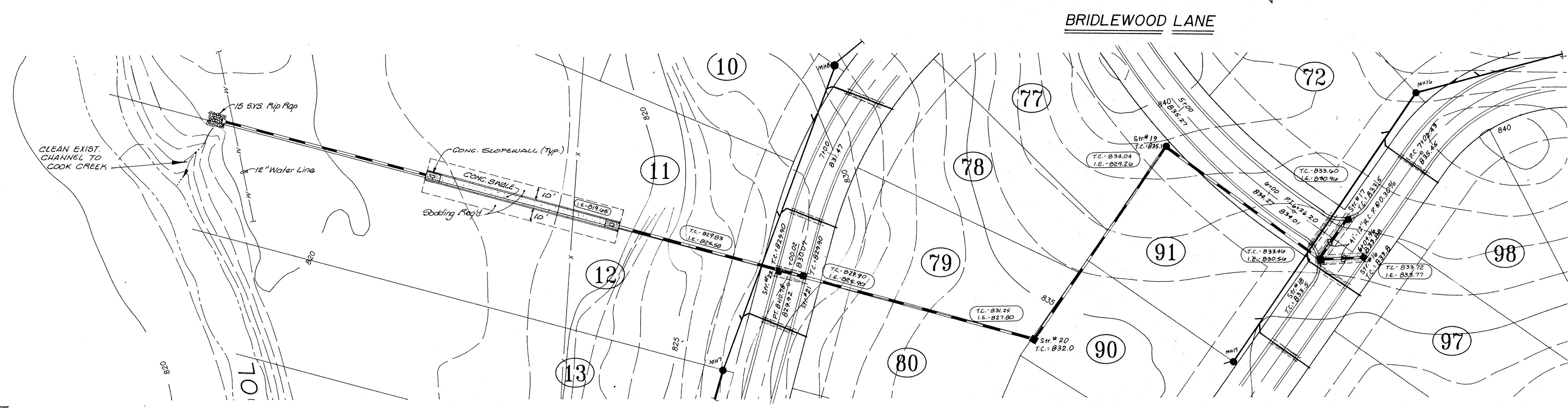
"AS-BUILT"



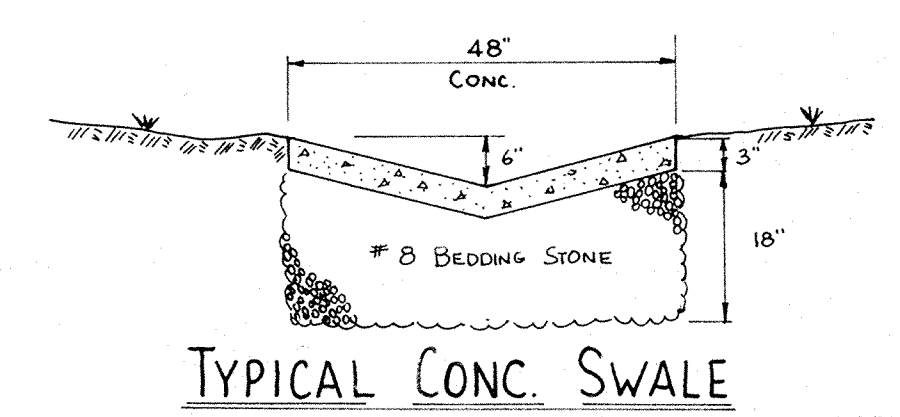
DATES AND REVISIONS 4-7-88 Added MH 10A & MH 39 3-21-88 Revised Str. 25 & 26 ALK		TITLE STRS. 4-9, STR. & MH CHARTS BRIDLEWOOD SECTION I		DESIGN BY ALK		DRAWN BY HASP/DTP		CHECKED []		APPROVED []	
Evergreen Planners, Inc. 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219 317/353-6161				FILED JUL 19 1981 OFFICE OF HAMILTON COUNTY SURV. DIV.		DATE FEBRUARY 1988		JOB NO. 87-84		SCALE HORIZ. 1" = 50' VERT. 1" = 5'	
SHEET NO. 12 of 17											



This information was gathered for input into the Hamilton County Geographical Information System. This document is considered an official record of the GIS.
 Entry Date: 10-29-03
 Entered by: JDH

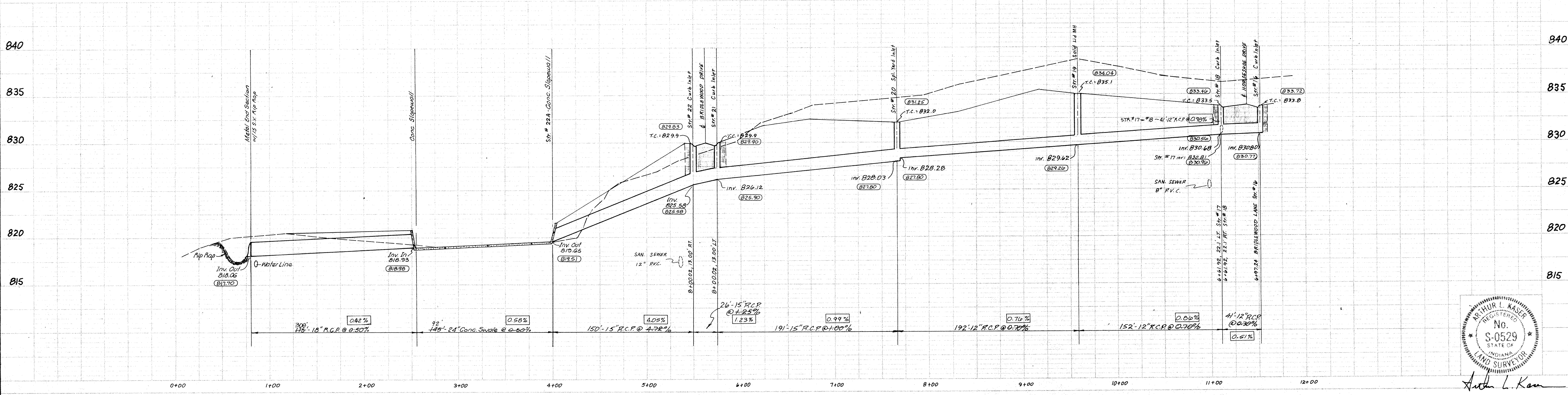


- LEGEND**
- Full Depth Granular Backfill Required
 - Sanitary Sewer with Manhole and Wye
 - Storm Sewer with Inlet and Slope Wall
 - 4' Concrete Walk per D.O.T. Std.



"AS-BUILT"

- As-Built T.C. on Inv. El.
- As-Built % Slope
- As-Built Constant with Design

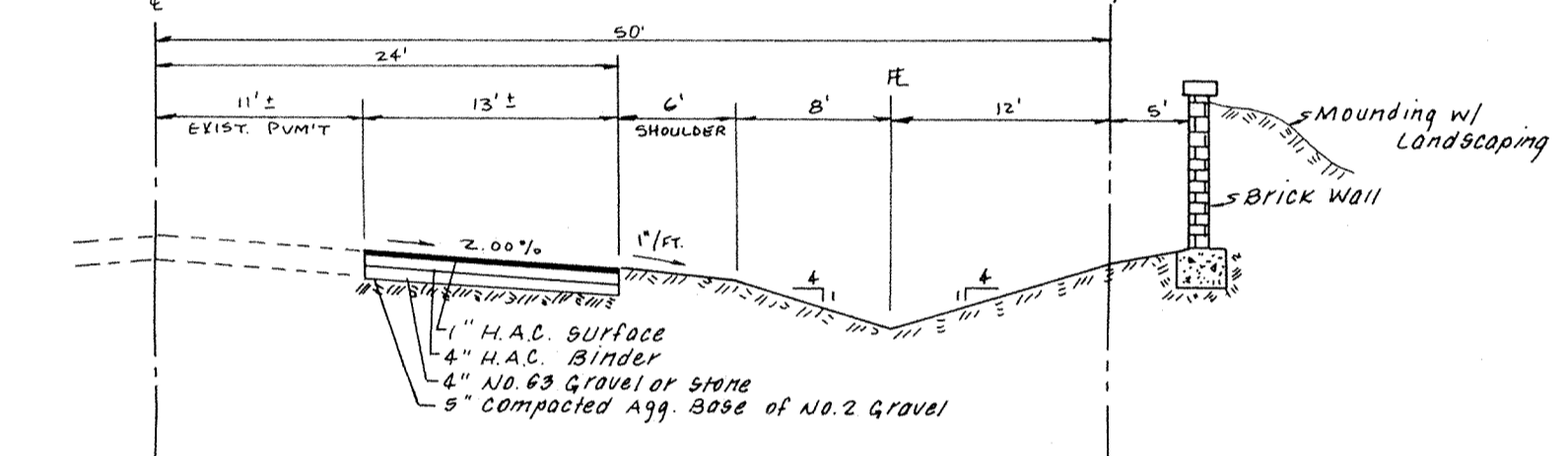
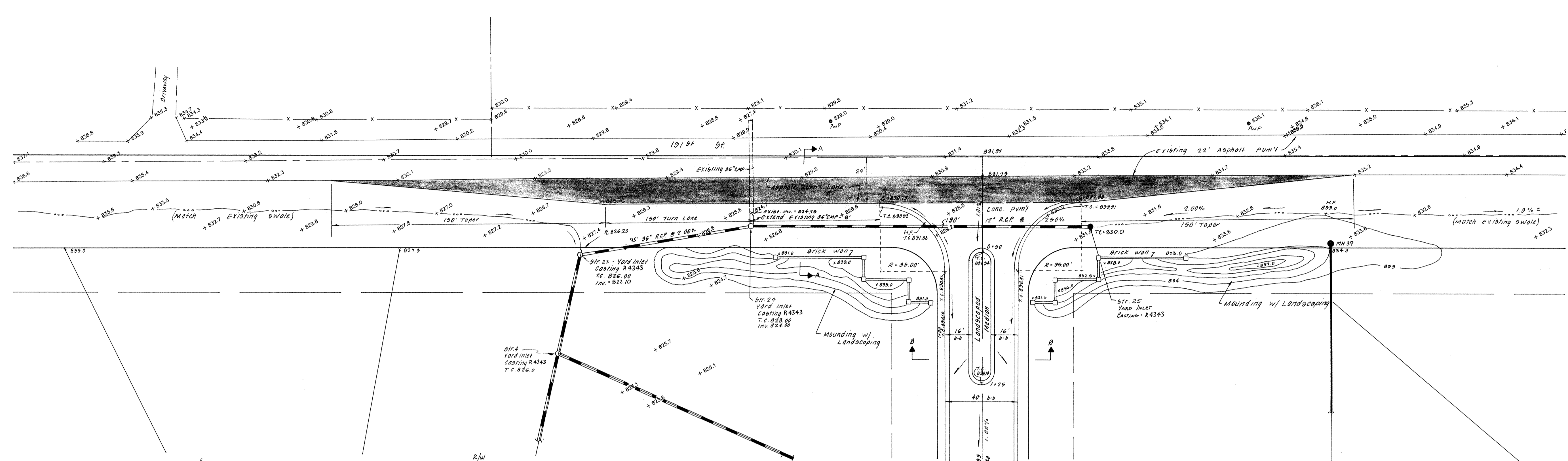


Arthur L. Kaser

DATES AND REVISIONS		TITLE			
5/15/89 ADDED CONC. SWALE		STORM STRUCTURES 16-22A BRIDLEWOOD SECTION I			
DESIGN BY	DRAWN BY	CHECKED	APPROVED		
ALK	HASP/DTP				

Evergreen FILED
 Planners, Inc.
 JUL 19 1988
 OFFICE OF HAMILTON COUNTY SURVYOR
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317/353-6161

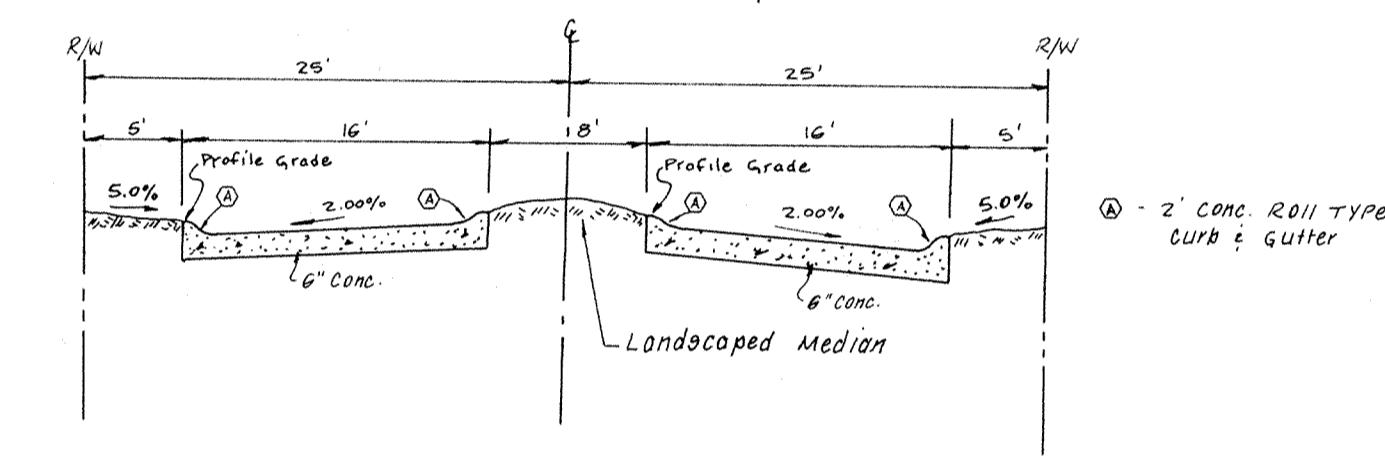
DATE	FEBRUARY 1988
JOB NO	87-84
SCALE	HORIZ.: 1" = 50' VERT.: 1" = 5'
SHEET NO	13 of 17



SECTION A-A

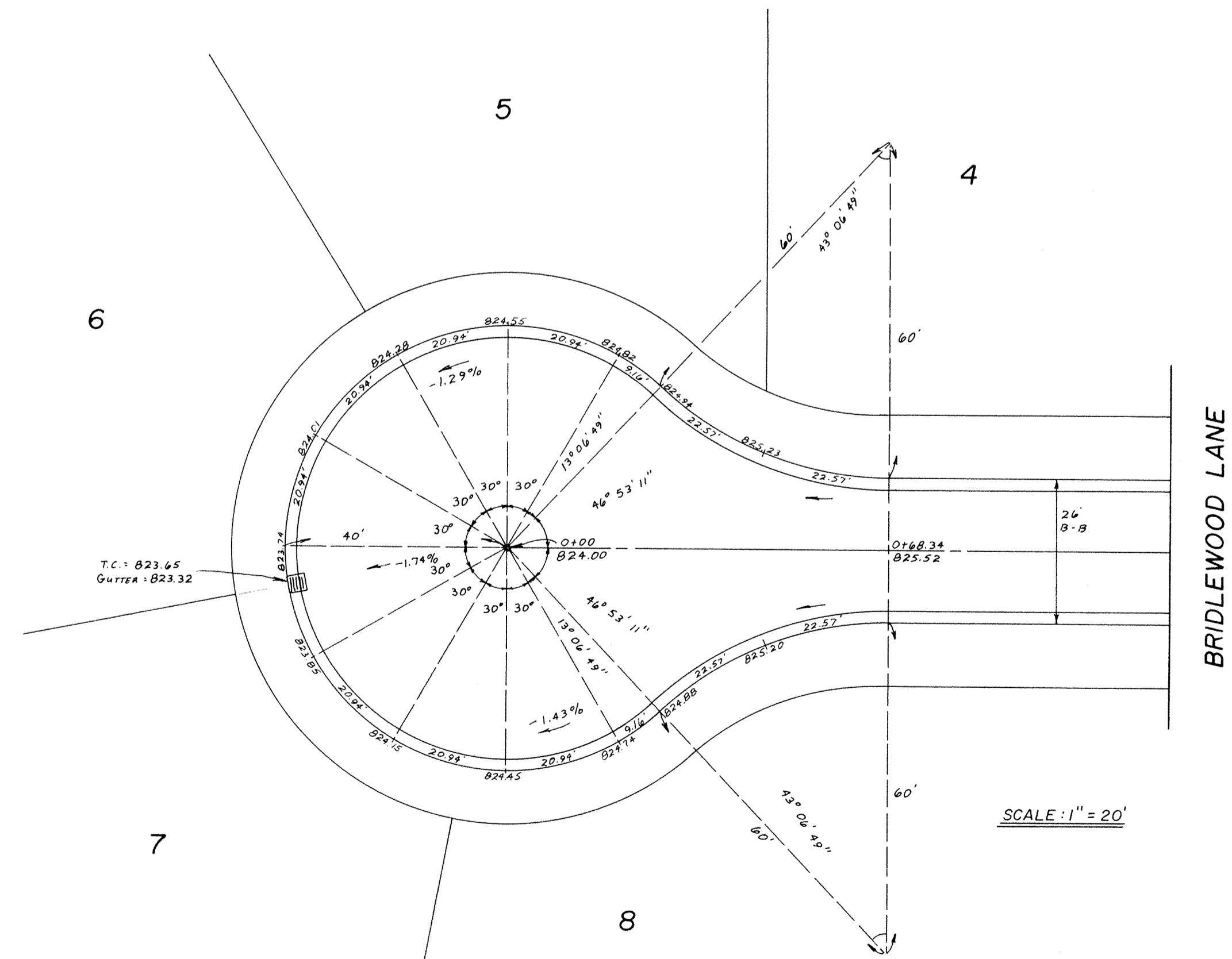
ENTRANCE DETAIL

SCALE: 1" = 30'

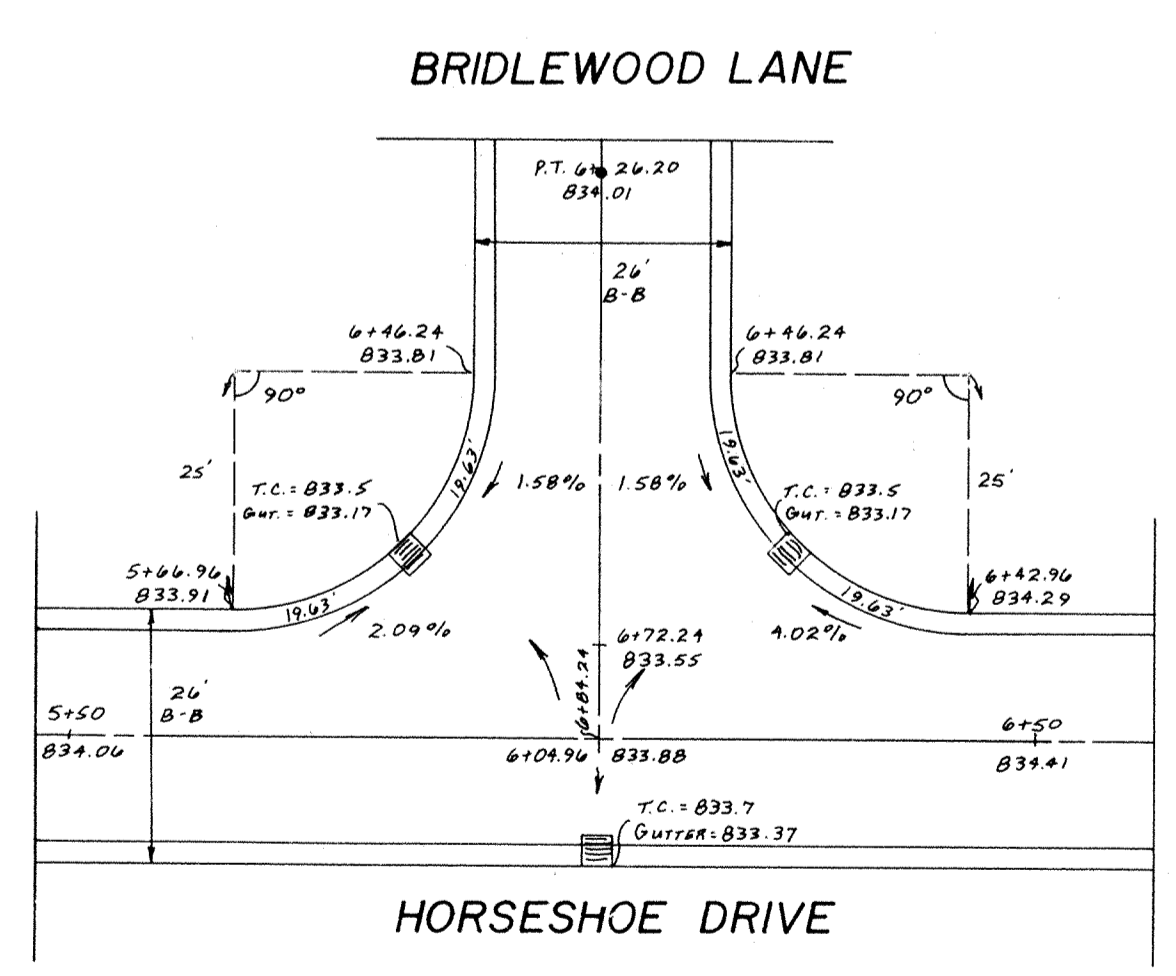


SECTION B-B

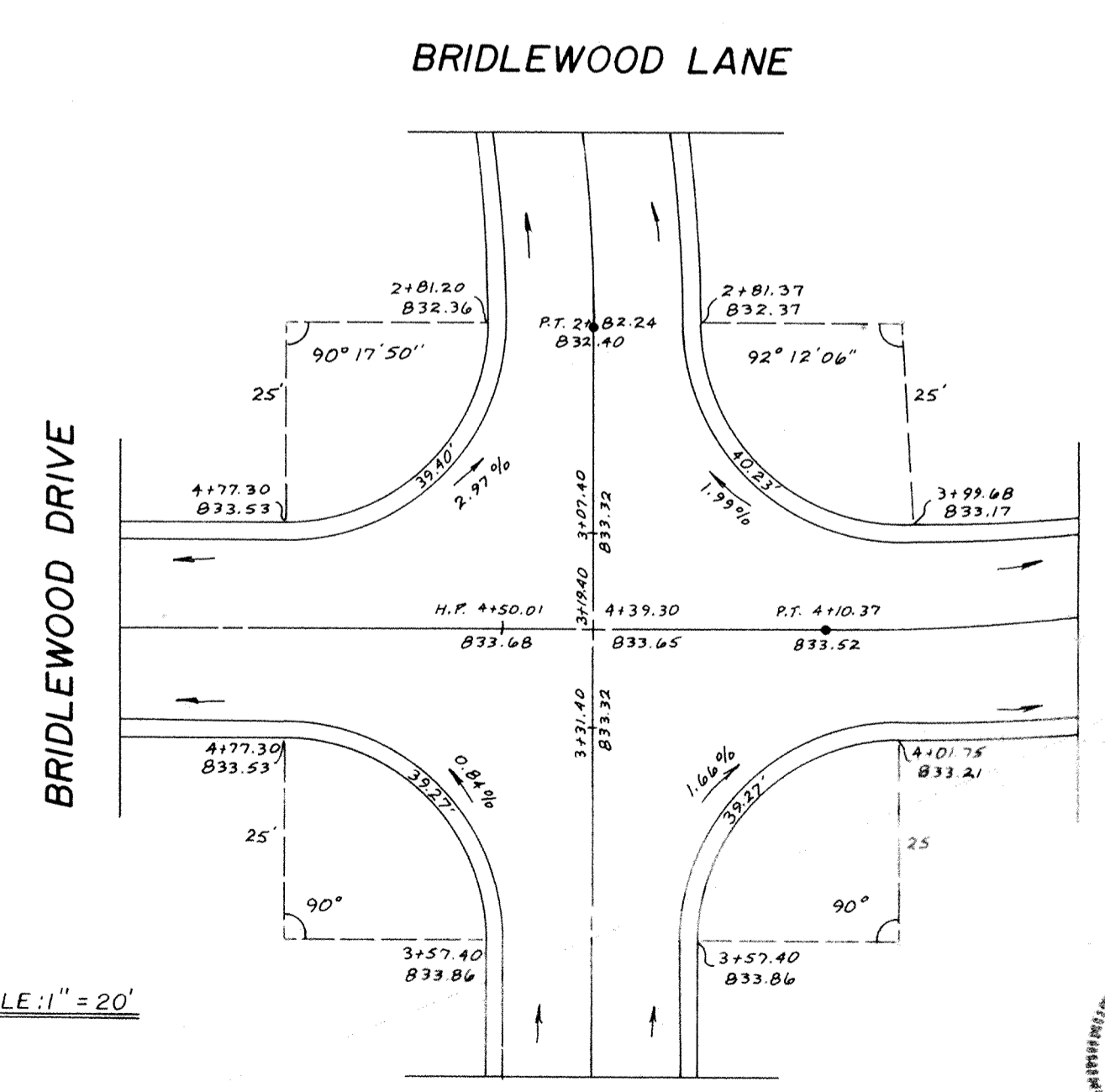
2" CONC. CURB & GUTTER



SCALE: 1" = 20'



SCALE: 1" = 20'



SCALE: 1" = 20'



ARTHUR L. KASPER

DATES AND REVISIONS		TITLE	
3/21/88	Checked See No. 25 to Yard Inlet	CUL-DE-SAC, INTERSECTION AND ENTRANCE DETAILS BRIDLEWOOD SECTION I	
DESIGN BY	ALK	DRAWN BY	HASP/DTP/
CHECKED		APPROVED	

Evergreen Planners, Inc.

FILED JUL 19 1988

OFFICE OF HAMILTON COUNTY SURV. DIV.

234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
317/353-6161

DATE: FEBRUARY 1988
JOB NO: 87-84
SCALE: AS SHOWN
SHEET NO: 14 of 19

GENERAL SITE WORK NOTES

1. All construction work and material shall meet the specifications of the Indiana Department of Highways 1988.
2. All trenches under or within five (5) feet of the street pavement shall be backfilled to the subgrade with granular material as directed by the engineer. Backfill shall be compacted per Section 211.
3. Before earthwork is commenced, the contractor shall remove the topsoil in the area of the street and house pads that require fill. This topsoil shall be stockpiled as directed by the engineer in sufficient quantity so as to allow for the placement of at least three (3) inches over all disturbed areas before mulch seeding. The remainder of the topsoil shall be distributed in the front and rear yards.
4. All fills placed under paved areas and house pads are to be compacted with a minimum of 95% relative standard proctor (ASTM D-698) or equivalent with 28,000 p.s.i.
 - * Minimum elevation for the top of the slab of slab type structures or
 - * If a crawl space or basement is used, the flood protection grade
 - * would pertain to the lowest land grade around the exterior of the
 - * building, is two (2) feet above the 100-year flood elevation.
5. Temporary silt settlement basins, two feet in depth shall be excavated at the entrance to storm structures, as directed by the engineer.
6. Storm and Sanitary sewer material and installation shall be in direct accordance with the STANDARD SPECIFICATIONS FOR STORM AND SANITARY SEWER CONSTRUCTION IN MARION COUNTY, INDIANA as approved on the 20th day of June, 1974. The sanitary sewer contractor shall furnish to the owner certified infiltration tests showing that the leakage outward or inward (exfiltration or infiltration), by an air test (ASTM D28 preferred) shall not exceed 200 gallons per inch of pipe diameter per mile per day and deflection tests for PVC or Truss pipe for 100% of the project and any other tests required for acceptance of sewers by the Department of Public Works.
7. Pavement is to be placed on a prepared subgrade with no traffic on the subgrade prior to paving, as per 1988 I.D.O.H. Specifications, Section 207.
8. Concrete pavement to be placed as per 1988 I.D.O.H. Specifications, Section 500. Asphalt pavement to be placed as per 1988 I.D.O.H. Specifications, Section 400. For additional information see Street Detail Sheet.
9. All construction within the dedicated right of way or in areas dedicated to the public shall conform to the City of Indianapolis, Department of Transportation's STANDARDS for STREET & BRIDGE DESIGN AND CONSTRUCTION as adopted on the 17th day of May 1972 and its periodic revisions.
10. All natural areas which are disturbed by site development construction shall be seeded with a mixture of 60 pounds per acre of Perennial Rye grass and 60 pounds per acre of Kentucky 31 Fescue or Alta Fescue.
11. Driveways and sidewalks, unless otherwise noted, are not to be installed as part of these plans and are the responsibility of the individual home builder.
12. Prior to start of construction, a pre-construction conference shall be scheduled on site with Contractor, Subcontractor, Developer, Engineer for the Developer, or City Engineer (844-8900), and Utilities Department.
13. All City of Lawrence permits shall be obtained prior to start of construction.

ELECTRIC AND TELEPHONE

1. Conduit shall be required for all crossings under pavement areas.
2. Granular backfill shall be required for all crossings under pavement areas, and compacted per Section 211.
3. Concrete pads for electric and telephone transformers shall be set at the approximate ground grade as shown on the Site Development Grading Plans for the respective locations.

CURBS AND WALKS

1. See Detail Sheet for type and details. Curbs and walks within existing or proposed right of way shall be constructed in accordance with General Ordinance No. 49, 1977.
 2. Concrete shall be ready mix Portland cement conforming to A.S.T.M. C-150, and water. Aggregate shall conform to A.S.T.M. C-33. Compressive strength of concrete at 28 days shall be 4000 p.s.i. Where required, reinforcement shall be welded steel wire fabric conforming to A.S.T.M. A-185.
- A. Application
- A. Place concrete only on a moist, compact subgrade or base free from loose material. Place no concrete on muddy or frozen subgrade.
 - B. Concrete shall be deposited so as to require as little rebarrelling as practical. When concrete is to be placed at an atmospheric temperature of 35 F. or less, Paragraph 702.10 of the I.D.O.H. Specifications, 1985 edition, shall apply.
 - C. Except as otherwise specified, cure all concrete by one of the methods described in Section 501.17 of the I.D.O.H. Specifications, 1985 edition.

SANITARY SEWER SPECIFICATIONS

1. Current City of Indianapolis Sanitary Sewer District, County and State specifications shall prevail as to materials and methods of construction.
2. Sanitary sewers shall be installed in accordance with the Indiana State Board of Health requirements.
3. Sanitary sewers shown on the construction plans may be Poly-Vinyl Chlorine Pipe in accordance with A.S.T.M. D-3034 (S.D.R. 35), or A.B.S. Truss Pipe, where applicable, in accordance with A.S.T.M. D-2680 (8"-15" pipe and fittings), D-2751 (6" pipe and fittings).
4. Construction of the sanitary sewers will not be allowed to commence until a valid SPC-15 permit is obtained from the Department of Environmental Management.
5. Sanitary manholes shall be precast concrete in accordance with A.S.T.M. C-478. Manhole joints shall be O-RING type.
6. Plastic sanitary sewers shall be marked for easy identification.
7. Water and sewer line crossings and separations shall be in accordance with Ten States Standards and local codes.
 - a. Where water lines and sewer lines cross and the water line cannot be placed above the sewer line a minimum of 18" with a minimum cover of 48", the sewer line shall be constructed of waterworks grade cast iron pipe with mechanical joints.
 - b. Where water lines and sanitary sewer lines run parallel with one another, a minimum of 10' horizontal separation shall be maintained.
8. Buildings shall be serviced by a 6" minimum sanitary sewer lateral. The sewer laterals' termination shall be indicated on the surface with a post set immediately above said termination point. The ends shall be plugged and sealed with a water tight clay or plastic disc. Wyes are to be tilted up to 45 degrees from the horizontal, with suitable fittings for all changes in direction. Identified with locator tape.
9. The Contractor shall provide the Engineer with "as-built" locations and information for all sanitary sewers and laterals including elevations within ten days after completion.
10. Manhole sections shall have "O" rings in case of wet conditions, larger stone shall be used for bedding.
11. Truss Pipe To Have Gasket Type Joints. No Glue Joints Allowed.

STORM SEWERS

1. Storm sewer structures shall comply with current specifications of the City, County and all agencies in respect to design and quality of construction.
2. All storm sewer construction inside public right of way, either existing or to be dedicated, shall be in accordance with General Ordinance 49, 1972. Contractor shall notify the Indianapolis Department of Transportation forty-eight hours prior to commencement of storm sewer construction.
3. Where reinforced concrete pipe is shown on the construction plans it shall be in accordance with A.S.T.M. C-76 (Class III Wall "B", unless otherwise specified on the plans.
4. Where corrugated metal pipe is shown on the construction plans, it shall be 16 gauge unless otherwise specified and shall have the connecting bands and seals as specified by the manufacturer. C.M.P. may be either aluminum pipe or zinc coated steel sheets in accordance with A.S.T.M. A-444.
5. Manholes, catchbasins, and inlets may be precast concrete, brick or block.
6. Precast concrete and steel for manholes and inlets shall be in accordance with A.S.T.M. C-478.
7. Castings shall be as shown on the Structure Data Table for the manufacturer, type, and model number.
8. Granular Backfill shall be required for all crossings under pavement areas per D.O.T. Standard 19-01. Granular Backfill shall be compacted per Section 211.

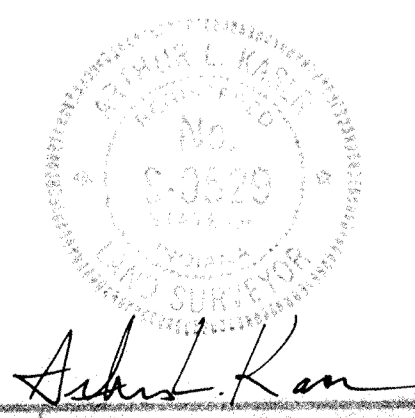
NOTE: Section References refer to 1988 IDOH Standard Specifications

DATE	REVISIONS
3-6-88	Rev Notes 8 & 110 - San Sewer Dept
7-30-88	Rev Notes 4 & 5 - San Sewer Dept
11-10-88	Rev Notes 3 & 8 - General Service Dept
1-10-89	Rev Notes 1, Telephone, Rev Storm Sewer

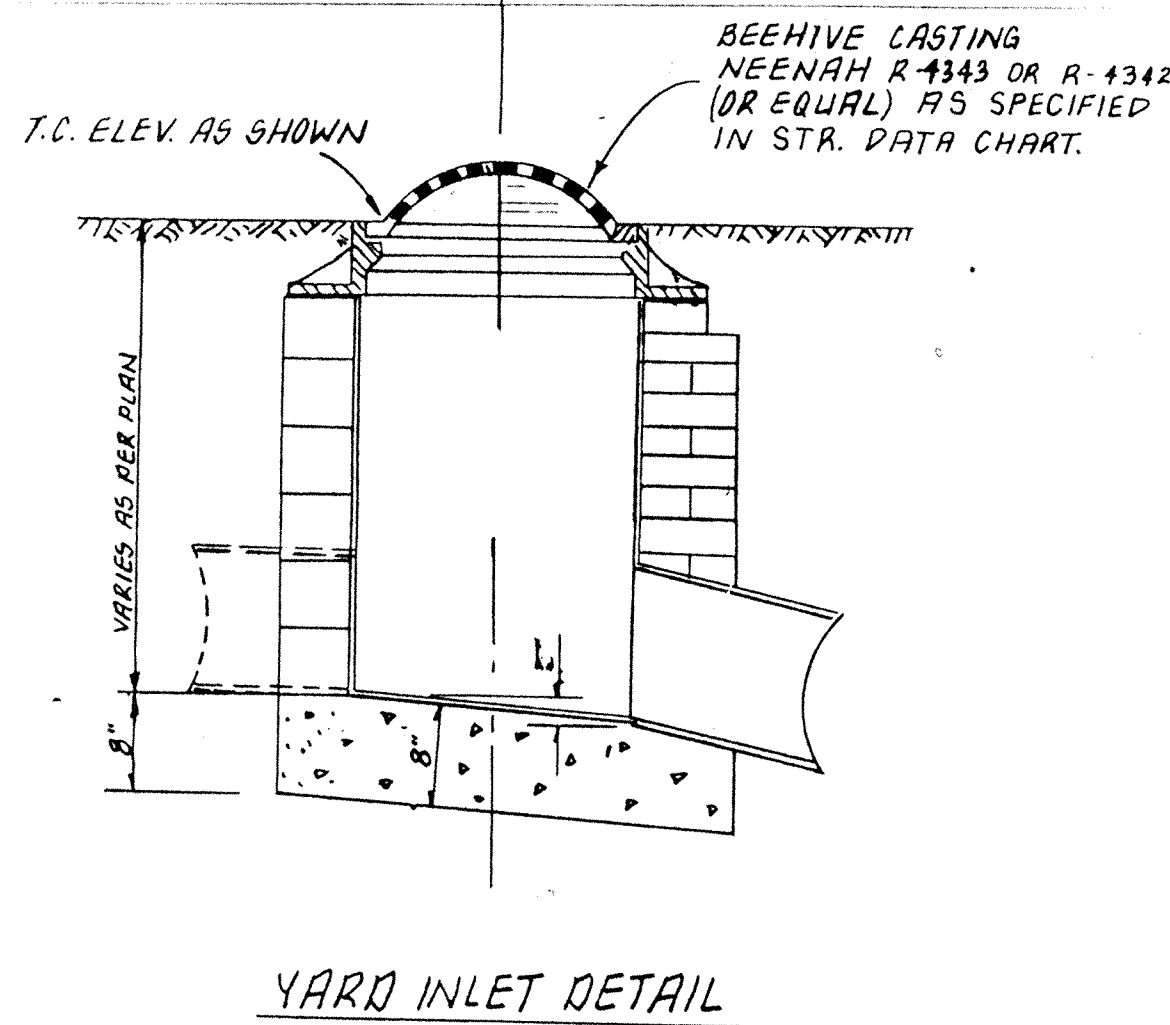
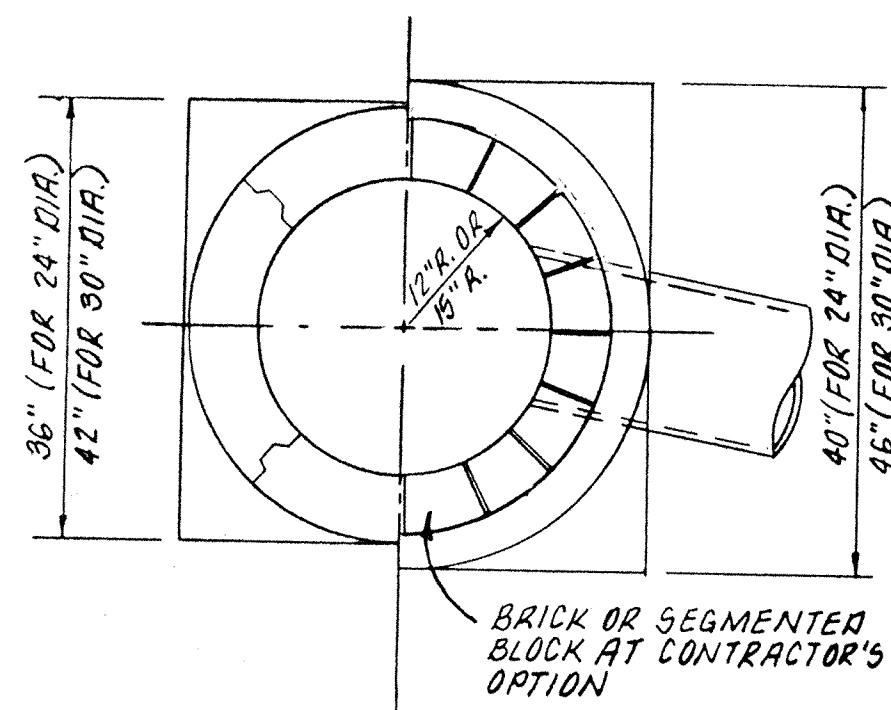
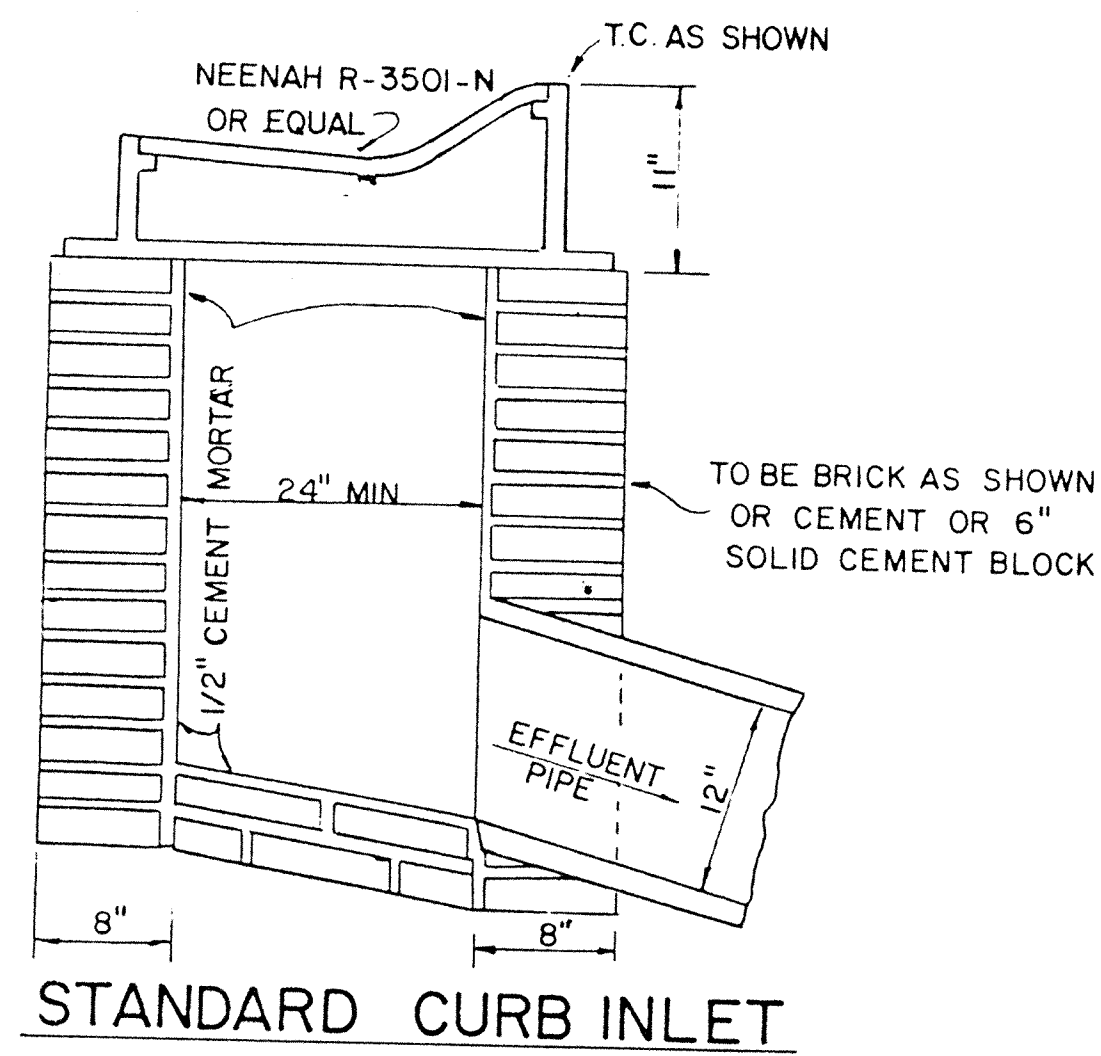
TITLE	Specifications		
DESIGN BY	DRAWN BY	CHECKED HASP	APPROVED

Evergreen Development Corporation
 OFFICE OF HAMILTON COUNTY SURVYOR
 234 SOUTH FRANKLIN RD., INDIANAPOLIS, INDIANA 46219
 317-353-8161

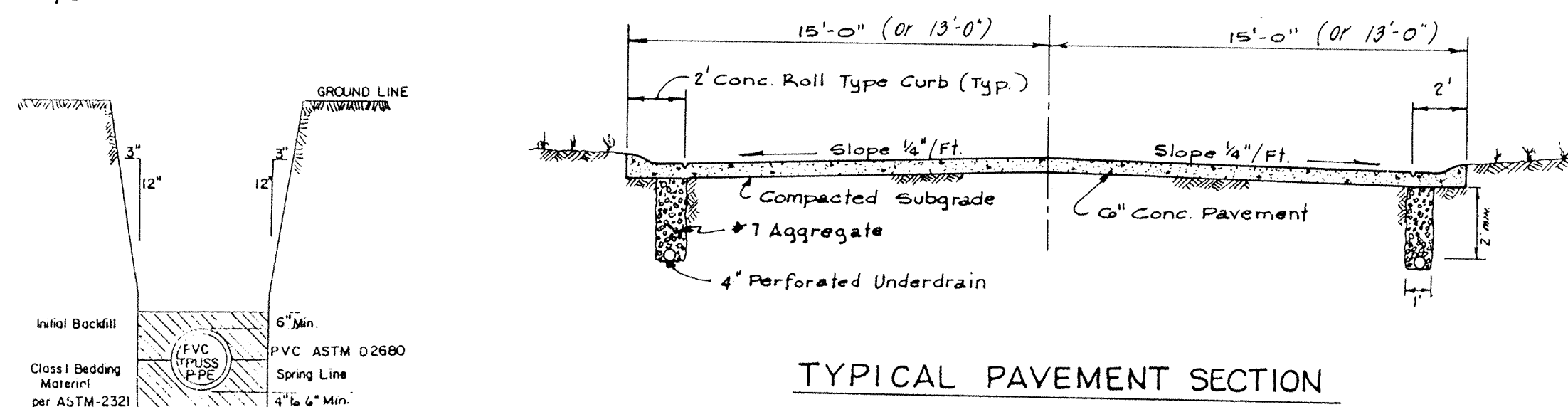
DATE	NOV. 1988
JOB NO.	87-84
SCALE	No Scale
SHEET NO.	11 of 12



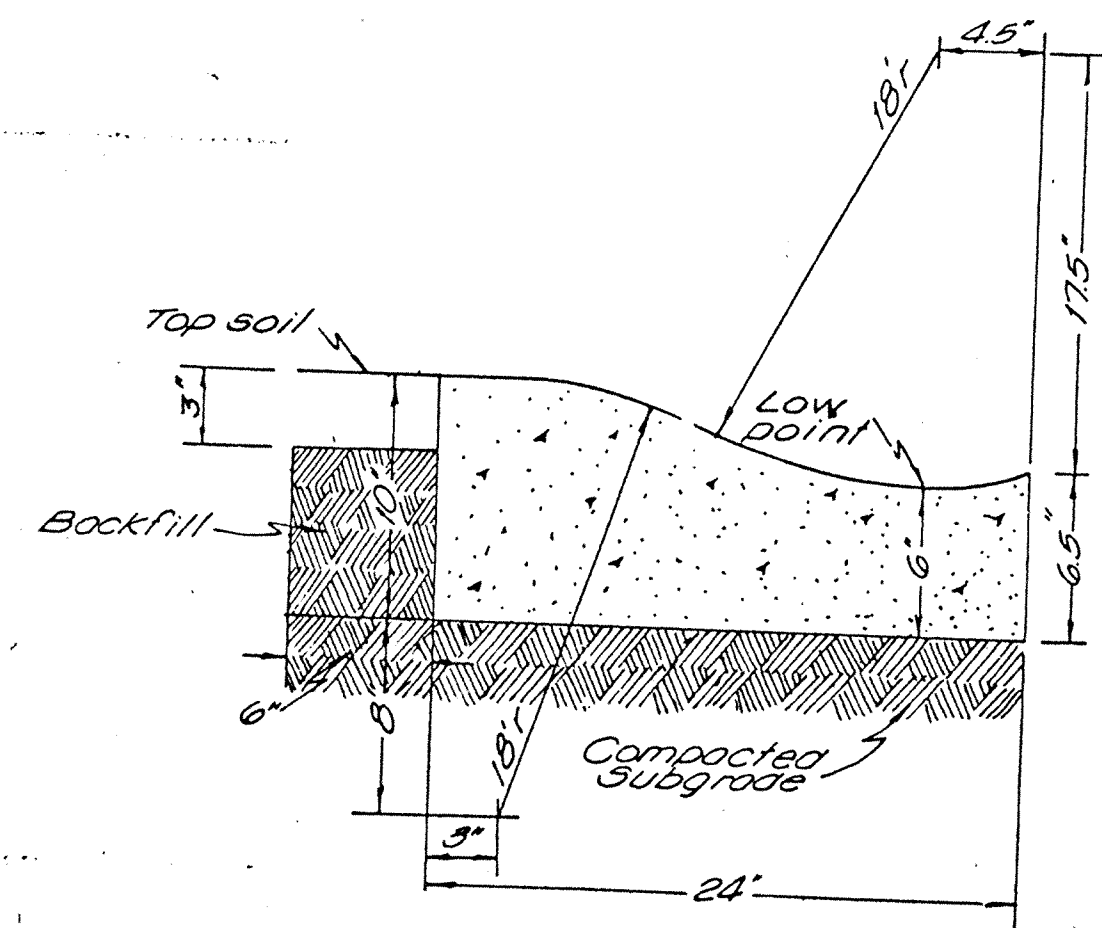
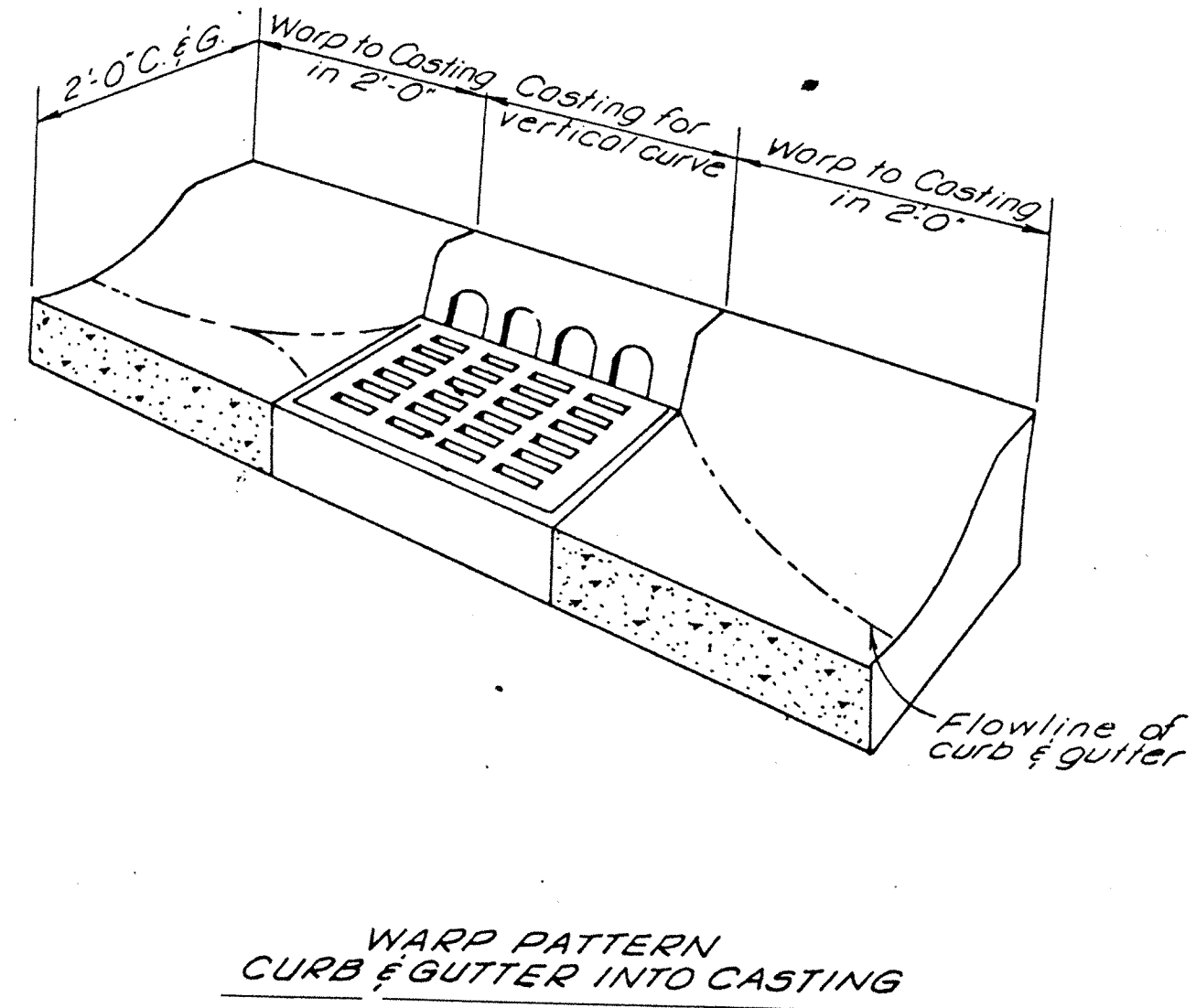
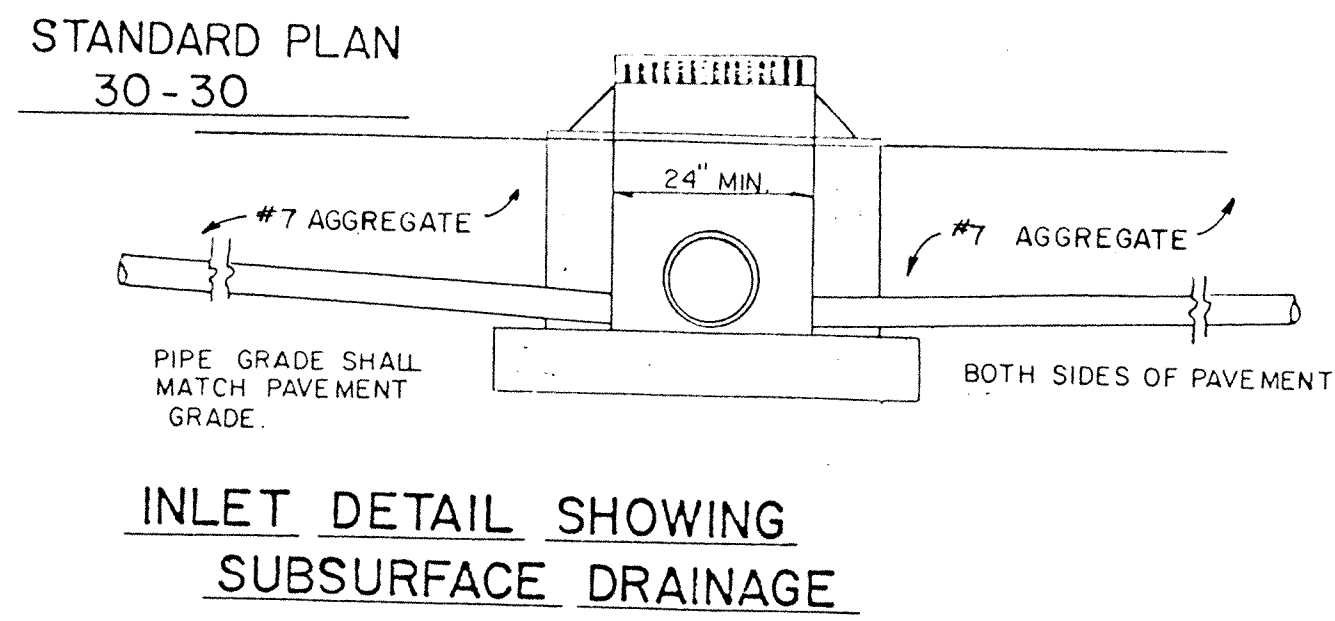
Robert L. Wilson



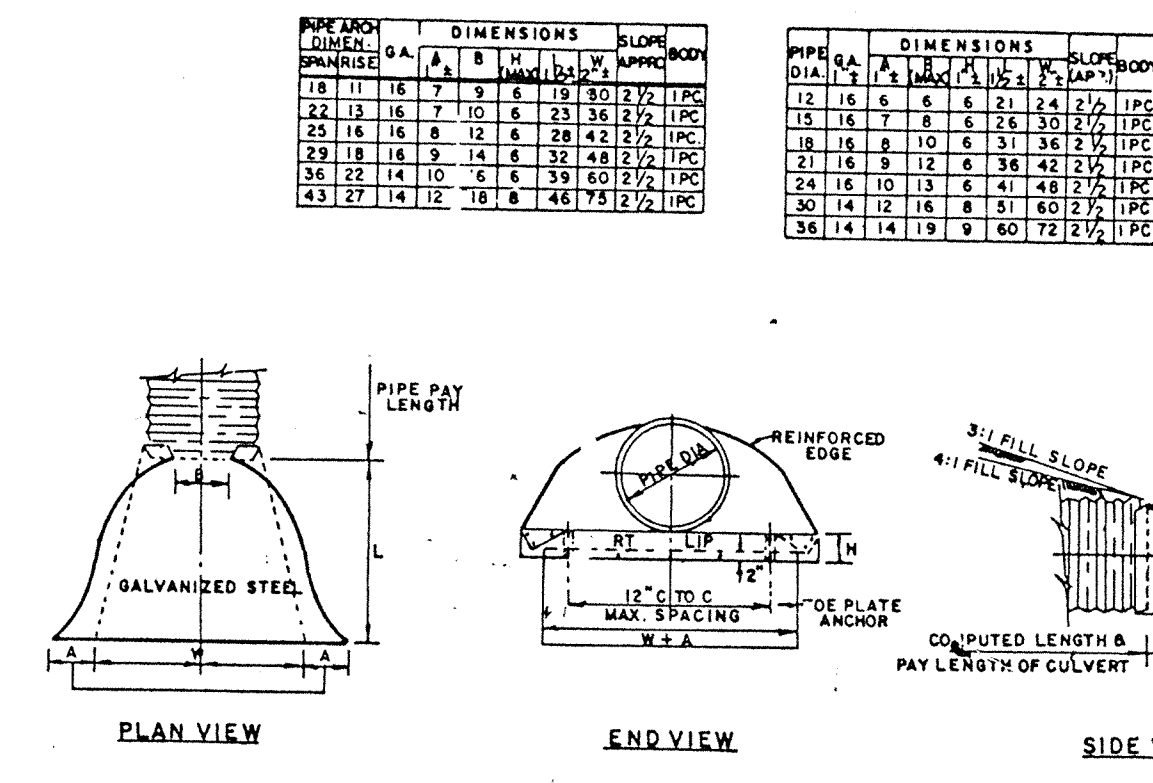
NOTE:
FOR SAFETY REASONS:
Contractor will be responsible to either use shoring, sheeting or a sewer box on all sewer construction deeper than 5 feet.



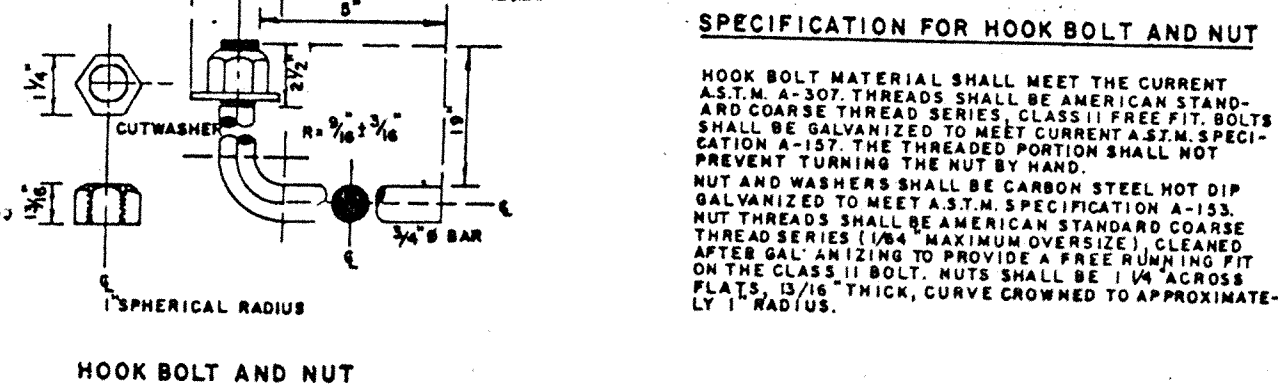
TRENCH SECTION
PVC ASTM D2680
PVC ASTM D2680
Class B Bedding Material as per ASTM 2321
11.0 O.T. No. 4 Stone is acceptable class B Bedding Material.
Bedding and Initial Backfill Material will extend from a minimum of 4" below bottom of pipe to a minimum of 6" above the top of the pipe.



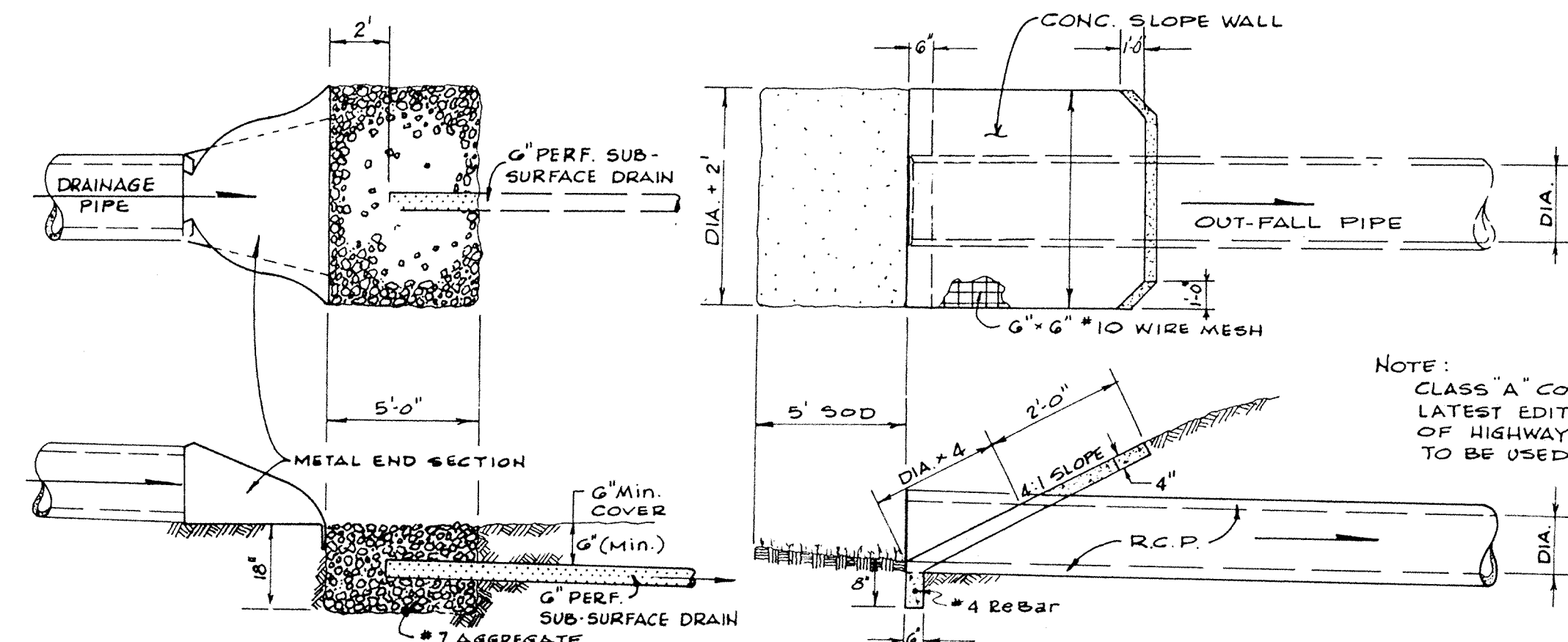
CONC. SWALE DETAIL



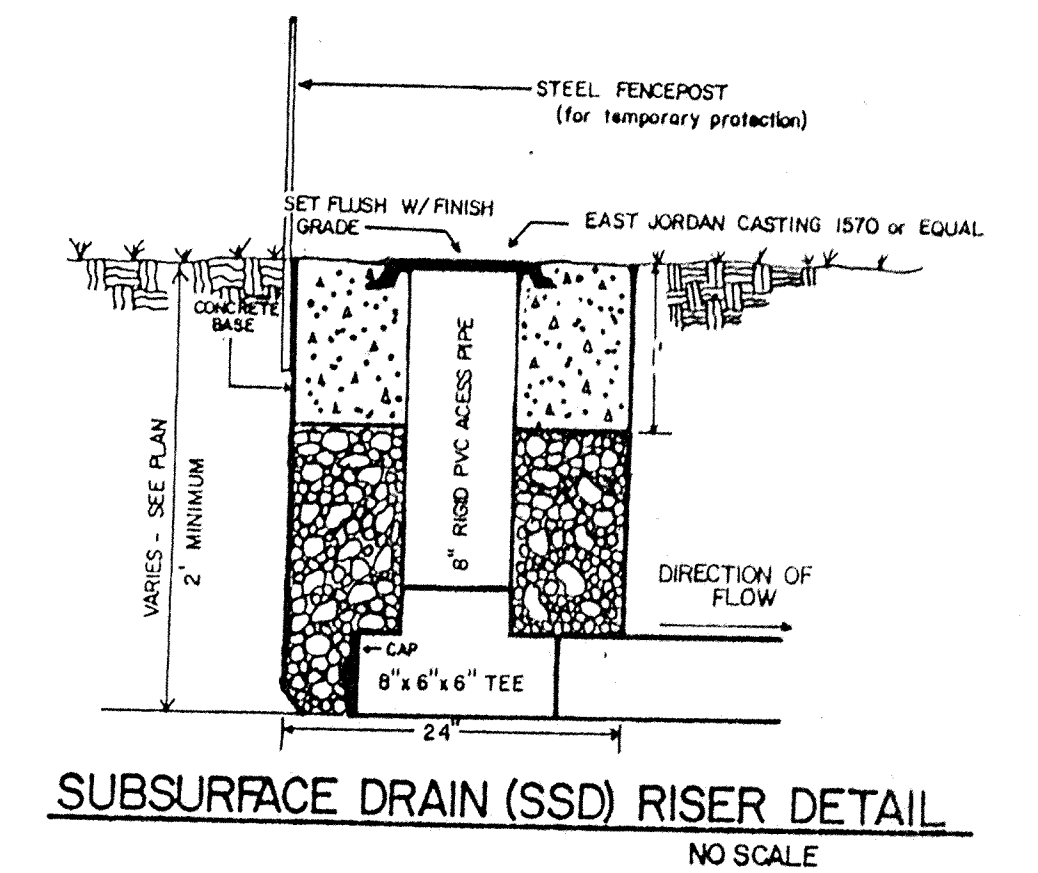
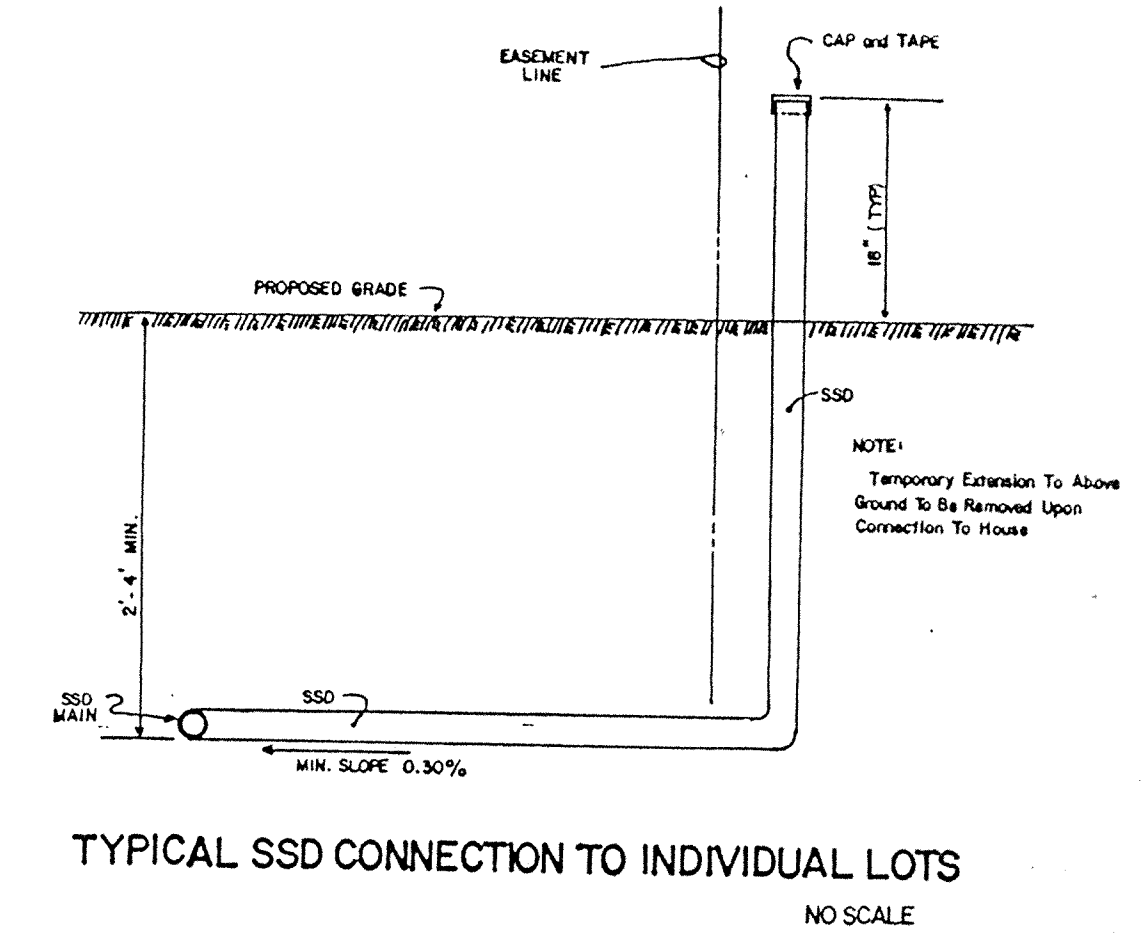
NOTES:
END SECTIONS AND TOE PLATE ANCHORS SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS AS SET OUT IN THE STANDARD SPECIFICATIONS.
IF ALUMINUM ALLOY PIPE CULVERT IS FURNISHED, ALUMINUM ALLOY END SECTIONS SHALL ALSO BE USED AND ALL COMPONENT PARTS SHALL BE ALUMINUM ALLOY AS SET OUT IN THE STANDARD SPECIFICATIONS.
MULTIPLE PANEL BODIES SHALL HAVE LAP SEAMS WHICH SHALL BE TIGHTLY JOINTED WITH 3/8" GALVANIZED RIVETS OR BOLTS.
THE TOE PLATE ANCHOR SHALL BE CONSTRUCTED OF 10 GAUGE GALVANIZED STEEL AND BE REQUIRED ON ALL STEEL PIPE END SECTIONS. IT SHALL BE MATCHED-PUNCHED TO FIT HOLES IN SKIRT LIP AND SUPPLIED LOOSE, COMPLETE WITH 3/8" GALVANIZED BOLTS. CO. T THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR "PIPE END SECTION".
WHERE VITRIFIED CLAY CULVERT OR CAST IRON CULVERT PIPE IS USED A "PIPE END SECTION" COMPARABLE TO THAT AS SHOWN FOR METAL OR CONCRETE SHALL BE FURNISHED AND SHALL BE AS APPROVED BY THE ENGINEER.
END SECTIONS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "PIPE END SECTION" COMPLETE IN PLACE.
PIMPLED CONNECTION BAND MAY BE USED TO CONNECT PIPE END SECTION TO HELICALLY CORRUGATED PIPE.



METAL END SECTION DETAIL



NOTE:
CLASS "A" CONCRETE AS SPECIFIED IN THE LATEST EDITION OF THE INDIANA DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS TO BE USED.



TITLE MISC. DETAILS				DATE DECEMBER 1999	
DESIGN BY ALK				JOB NO. 87-84	
DRAWN BY EH				SCALE As shown	
CHECKED				SHEET NO. 12 of 12	
APPROVED				DATE DECEMBER 1999	

Arthur L. Kavan
REGISTERED
No. S-8529
STATE OF INDIANA
LAND SURVEYOR

Evergreen Development Corporation
OFFICE OF HAMILTON COUNTY SURV. FOR
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317/353-6161