

Drain: Park Mountain Drain **Drain #:** 136
Improvement/Arm: HAMILTON BUSINESS PARK
Operator: JOH **Date:** 8-13-04
Drain Classification: Urban/Rural **Year Installed:** 1996

GIS Drain Input Checklist

- Pull Source Documents for Scanning JOH
- Digitize & Attribute Tile Drains N/A
- Digitize & Attribute Storm Drains JOH
- Digitize & Attribute SSD JOH
- Digitize & Attribute Open Ditch JOH
- Stamp Plans JOH
- Sum drain lengths & Validate JOH
- Enter Improvements into Posse JOH
- Enter Drain Age into Posse slm ✓
- Sum drain length for Watershed in Posse slm ✓
- Check Database entries for errors JOH

Gasb 34 Footages for Historical Cost
Drain Length Log

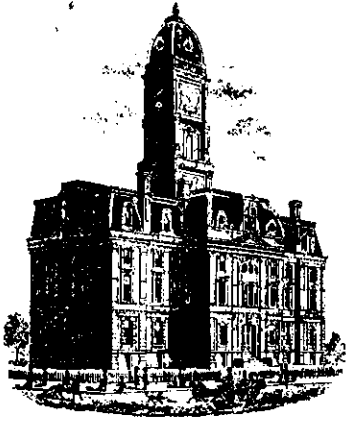
Drain-Improvement: PARK NORTHWESTERN DRAIN - HAMILTON BUSINESS PARK

Drain Type:	Size:	Length <i>AS-BUILT</i>	Length (DB Query)	Length Reconcile	Price:	Cost:
SSD	6"	1,090'	1,090'	Ø	2.00	2,180.00
RW	12"	240'	240'	Ø	7.25	1,740.00
	15"	56'	56'	Ø	9.50	532.00
	18"	277'	277'	Ø	10.50	2,908.50
SSD (TRND)	4"	652	Ø	-652	Ø	Ø

Sum: 2,315' 1,663' -652 7,360.50

Final Report: _____

Comments:
4" SSD VALUED IN FUTURE SECTION OF West Carmel Center BLK A



7/21/96
7:20 am

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

June 11, 1996

To: Hamilton County Drainage Board

Re: Park Northwestern Drain, Hamilton Business Park Arm

Attached is a petition, non-enforcement request, plans, calculations, quantity summary and assessment roll for the Hamilton Business Park Arm, Park Northwestern Drain. 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 benefited. The drain will consist of the following:

12" RCP	240ft	6" SSD	1090ft
15" RCP	56ft	4" SSD w/Swale (temp)	652ft
18" RCP	277ft		

The total length of the drain will be 2315 feet.

The storm drainage facilities listed above is the first phase of the system to be installed. Additional phases will be petitioned for separately when installed.

The retention pond (lake) located in Block E is not to be considered part of the regulated drain. Only the inlet and outlet will be maintained as part of the regulated drain. The maintenance of the pond (lake) will be the responsibility of the Homeowners Association of Ashbrooke and the petitioner however, retain jurisdiction for ensuring the storage Volume for which the lake was designed will be retained. Thereby, allowing no fill or easement encroachments.

The subsurface drains (SSD) to be part of the regulated drain are those located under the curbs and those main lines between lots or in swales. Only the main SSD lines which are located within the easement/right of way are to be maintained as regulated drain. Laterals for individual tracts will not be considered part of the regulated drain. The portion of the SSD which will be regulated other than those under curbs are as follows:

The temporary 4" SSD with swale listed above and shown on asbuilt plan dated April 12, 1995.

I have reviewed the plans and believe the drain will benefit each lot equally. Therefore, I recommend each lot be assessed equally. I also believe that no damages will result to landowners by the construction of this drain. I recommend a maintenance assessment of \$20.00 per acre with a \$20.00 minimum. With this assessment the total annual assessment for this drain/this section will be \$ 1189.00.

At this time five tracts are to be added to the assessment of Park Northwestern these are as follows:

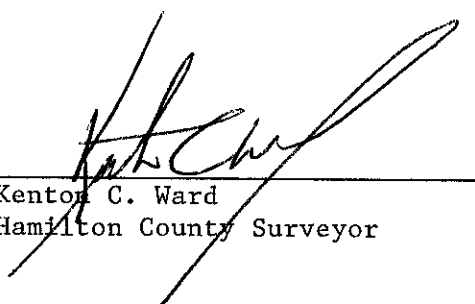
IDOT	US 421	17.2 acres
HCHWY	106th ST.	2.0 acres
Shady Brook Dev. Co.	13-07-00-00-002.005	.28 acres
Shady Brook Dev. Co.	13-07-00-00-014.000	30.2 acres
Shady Brook Dev. Co.	13-07-00-00-013.000	7.0 acres

The streets within Hamilton Business Park are not assessed at this time but will be once platted.

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

I recommend that upon approval of the above proposed drain that the Board also approve the attached non-enforcement request. This request is for the reduction of the regulated drain easement to those easement widths as shown on exhibit A & B which are attached to the request.

I recommend the Board set a hearing for this proposed drain for ^{August}~~July~~ 1996.



Kenton C. Ward
Hamilton County Surveyor

KCW/ndw



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

To: Hamilton County Drainage Board

**Re: Park Northwestern Drain -Hamilton Business
Park Arm**

Attached are as-builts, certificate of completion & compliance, and other information for Hamilton Business Park Arm . An inspection of the drainage facilities for this section has been made and the facilities were found to be complete and acceptable.

During construction of the drain there were not any significant changes made to the drain there were not any significant changes made to the plans submitted with my report dated June 11, 1996. Therefore, the length of the drain remains at **2315 feet**.

Attached also is a non-enforcement for the drain which I recommend that the Board approve at this time. The non-enforcement was approved by the Board at its meeting on September 23, 1996.

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

Sincerely,

Kenton C. Ward,
Hamilton County Surveyor

KCW/slm

CONSTRUCTION PLANS

FOR

SUMMER '94 CONSTRUCTION

BLOCKS A, B & C GRADING (PARTIAL)

COMMERCE DRIVE (PARTIAL)

CARWINION WAY

NOTES:

- EACH CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING ALL CONSTRUCTION ACTIVITIES IN OR NEAR THE PIPELINE EASEMENTS WITH THE BELOW LISTED COMPANIES. THIS IS TO INCLUDE THE INSTALLATION OF FIELD CROSSINGS FOR HEAVY EQUIPMENT.

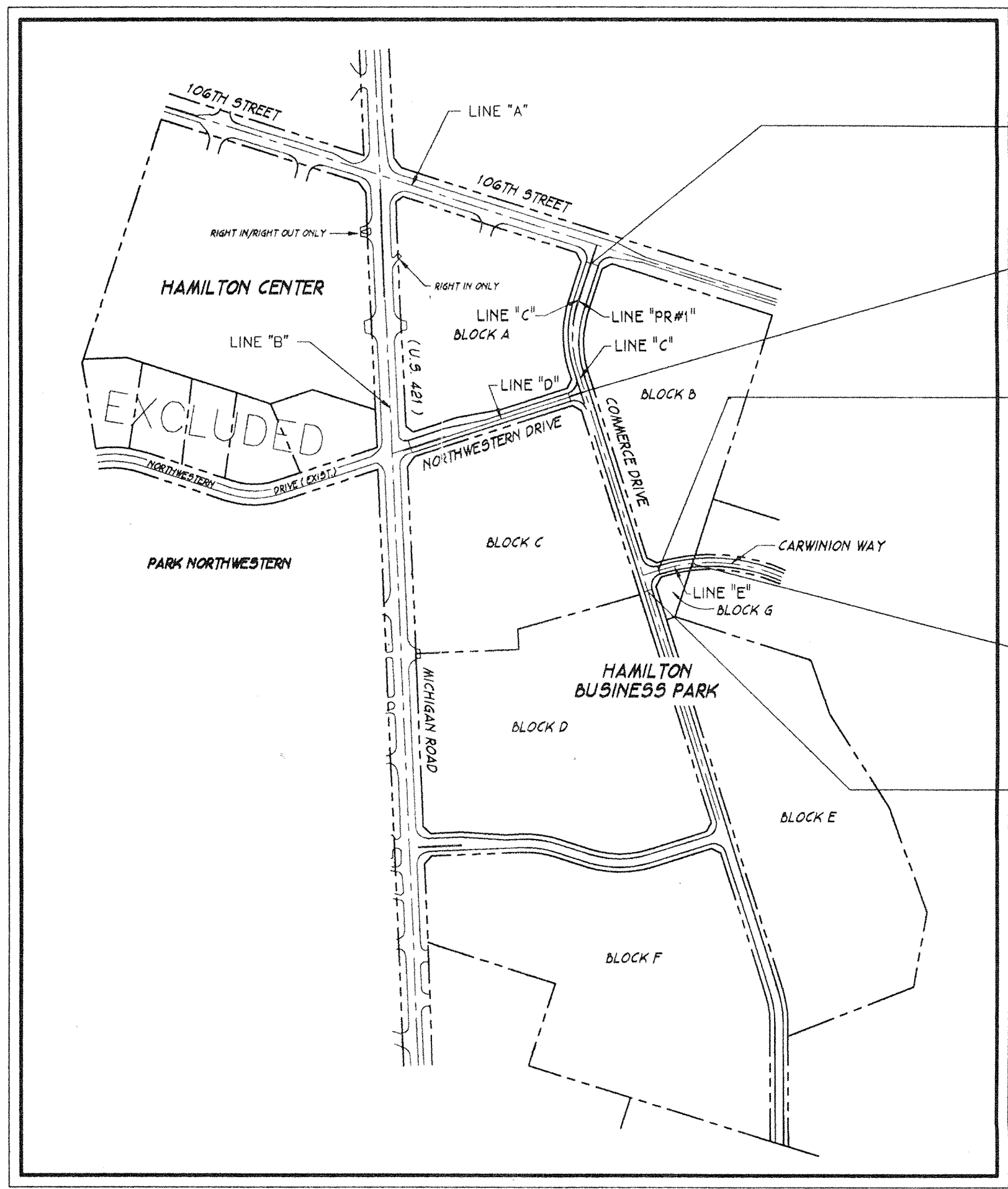
MR. ART LEAR
PANHANDLE EASTERN PIPELINE COMPANY
TRUNKLINE GAS COMPANY
P.O. BOX 38
9371 ZIONSVILLE ROAD
ZIONSVILLE, INDIANA 46077
(317) 873-2410

MR. PERRY HUNTOON
SHELL PIPELINE COMPANY
8500 NORTH MICHIGAN ROAD
INDIANAPOLIS, INDIANA 46268
(317) 876-2207
(317) 872-7440

INDEX	
HAMILTON BUSINESS PARK	
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PROJECT LOCATION



BEGIN PROJECT
STA. 199+26.74
(LINE "PR#1")

END PROJECT
STA. 374+46.29
(LINE "D")

BEGIN PROJECT
STA. 400+55.10
(LINE "E")

END PROJECT
STA. 401+71.71
(LINE "E")

END PROJECT
STA. 187+96.08
(LINE "C")

DESIGN DATA:

COMMERCE DRIVE ----- 1,138.20' (0.2156 MILES)

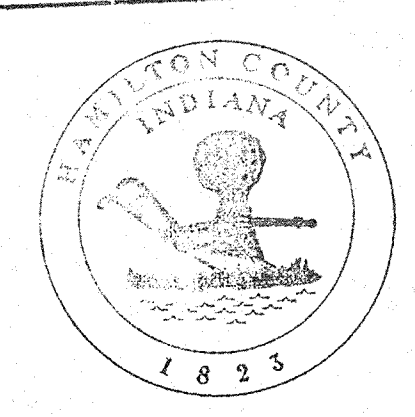
CARWINION WAY ----- 116.61' (0.0221 MILES)

INDIANA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS DATED 1988, WITH SUBSEQUENT REVISIONS AND ADDITIONS.

REVISIONS			
SHEET No.	DATE	REVISED	REVISION
12 & 13	11/05/91	REV. C	& PWMT. EDGE (106th ST.)
12	11/18/91	REV. R/W	
2, 5, 8 & 11	08/03/94	REV. CARWINION WAY HOR & VERT ALIGNMENT;	REV. STORM
2-9 & 11-13	08/08/94	REV. 106TH ST. SECTION WIDTH (5 LANES);	REV. POND & STORM
2-5 & 7-10	08/24/94	REV. STORM & SAN. NORTHWESTERN DRIVE	
2-5, 8, & 11	09/02/94	ADDED STR. 323A & 18' RCP	
ALL SHEETS	09/07/94	REV. SHEET NUMBERS	
6 & 7	09/09/94	REV. PAVEMENT SECTIONS	

LOCATION MAP

NOT TO SCALE



This information was entered or input into the Hamilton County Geographical Information System. This document is considered an official record of the GIS.

Entry Date: 8-13-04

Entered by: JOH

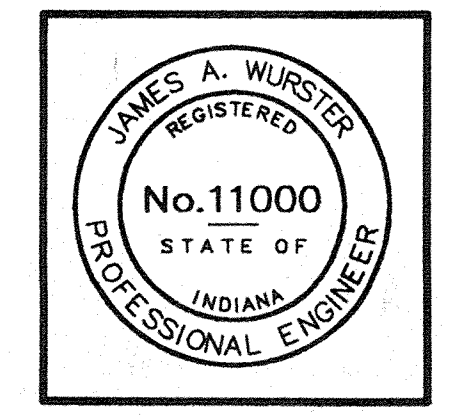
PLANS PREPARED FOR:

SHADY BROOK DEVELOPMENT COMPANY
8463 CASTLEWOOD DRIVE
INDIANAPOLIS, INDIANA 46250

PLANS PREPARED BY:

AMERICAN CONSULTING ENGINEERS, INC.
CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING
INDIANAPOLIS INDIANA

CERTIFIED BY: [Signature] DATE 9/24/94



HAMILTON COUNTY COMMISSIONERS

_____ WILLIAM R. KARNs

_____ STEVEN C. DILLINGER

_____ STEVEN A. HOLT

DWG FILE: C:\90\22094\22037594
PLOT SCALE: 1:1000
PLOT ORIGIN: 0.00,0.00

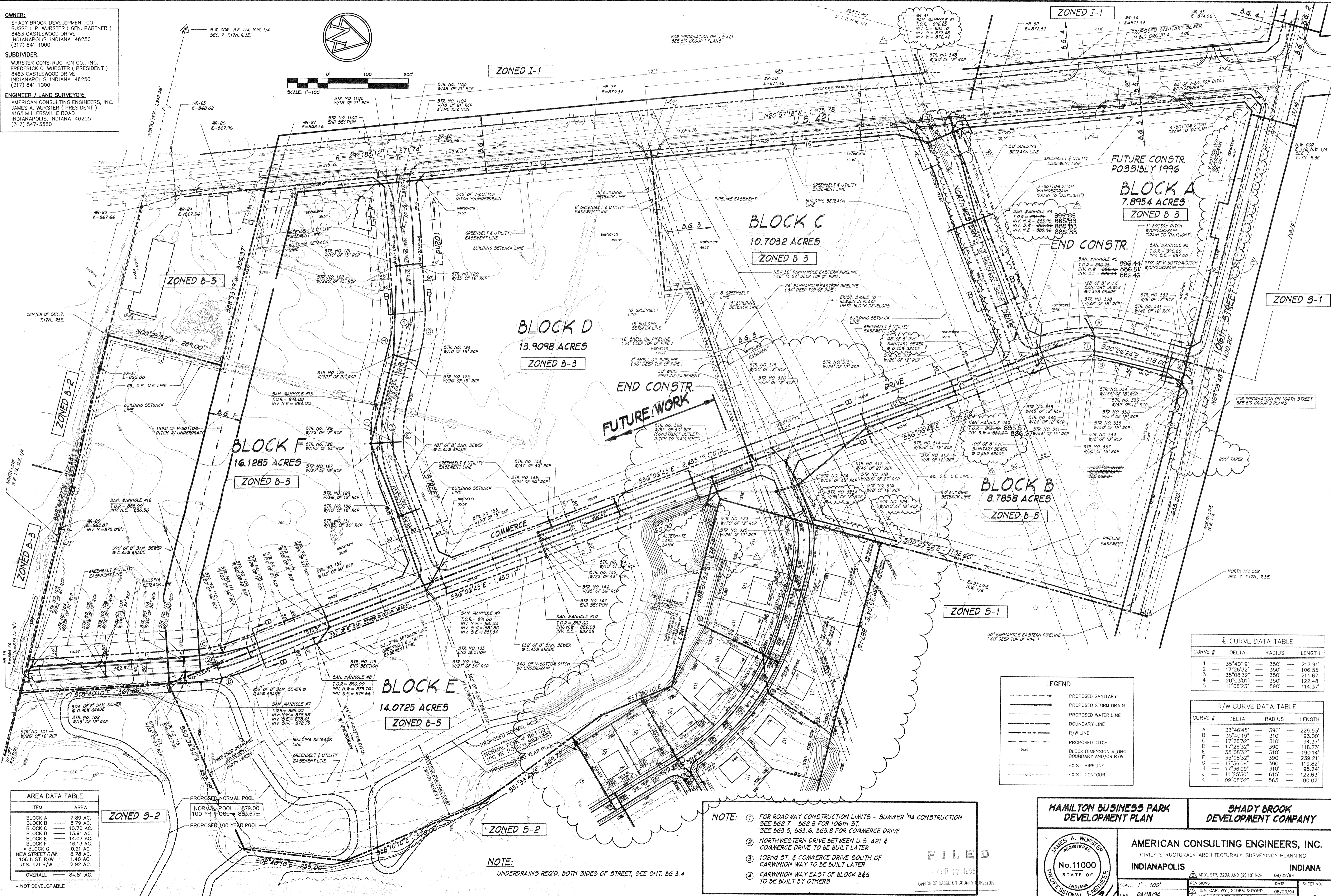
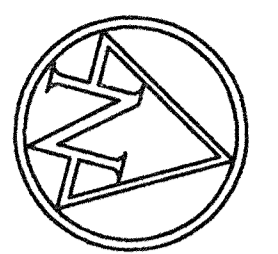
SPELLCHK: 09/13/94
EDIT DATE: 09/13/94
EDITOR: BRH - 589

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OWNER:
SHADY BROOK DEVELOPMENT CO.
RUSSELL P. WURSTER (GEN. PARTNER)
8463 CASTLEWOOD DRIVE
INDIANAPOLIS, INDIANA 46250
(317) 841-1000

SUBDIVIDER:
WURSTER CONSTRUCTION CO., INC.
FREDERICK C. WURSTER (PRESIDENT)
8463 CASTLEWOOD DRIVE
INDIANAPOLIS, INDIANA 46250
(317) 841-1000

ENGINEER / LAND SURVEYOR:
AMERICAN CONSULTING ENGINEERS, INC.
JAMES A. WURSTER (PRESIDENT)
4165 MILLERSVILLE ROAD
INDIANAPOLIS, INDIANA 46205
(317) 547-5580



AREA DATA TABLE

ITEM	AREA
BLOCK A	7.89 AC.
BLOCK B	8.79 AC.
BLOCK C	10.70 AC.
BLOCK D	13.91 AC.
BLOCK E	14.07 AC.
BLOCK F	16.13 AC.
BLOCK G	0.21 AC.
NEW STREET R/W	8.78 AC.
106th ST. R/W	1.40 AC.
U.S. 421 R/W	2.92 AC.
OVERALL	84.81 AC.

* NOT DEVELOPABLE

ZONED S-2

PROPOSED NORMAL POOL
NORMAL POOL = 879.00
100 YR. POOL = 883.67±

PROPOSED 100 YEAR POOL

ZONED S-2

NOTE:
UNDERDRAINS REQ'D. BOTH SIDES OF STREET. SEE SHT. BG 3.4

NOTE:

- FOR ROADWAY CONSTRUCTION LIMITS - SUMMER '94 CONSTRUCTION SEE BG 2.7 - BG 2.8 FOR 106TH ST. SEE BG 3.5, BG 3.6, BG 3.8 FOR COMMERCE DRIVE
- NORTHWESTERN DRIVE BETWEEN U.S. 421 & COMMERCE DRIVE TO BE BUILT LATER
- 102nd ST. & COMMERCE DRIVE SOUTH OF CARWINION WAY TO BE BUILT LATER
- CARWINION WAY EAST OF BLOCK B&G TO BE BUILT BY OTHERS

FILED
APR 17 1994
OFFICE OF HAMILTON COUNTY SURVEYOR

Curve Data Table

CURVE #	DELTA	RADIUS	LENGTH
1	35°40'19"	350'	217.91'
2	17°26'32"	350'	106.55'
3	35°08'32"	350'	214.67'
4	20°03'01"	350'	122.48'
5	11°06'23"	590'	114.37'

R/W Curve Data Table

CURVE #	DELTA	RADIUS	LENGTH
A	33°46'45"	390'	229.93'
B	35°40'19"	310'	193.00'
C	17°26'32"	310'	94.37'
D	17°26'32"	390'	118.73'
E	35°08'32"	310'	190.14'
F	35°08'32"	390'	239.21'
G	17°36'09"	390'	119.82'
H	17°36'09"	310'	95.24'
J	11°25'30"	615'	122.83'
K	09°08'02"	565'	90.07'

LEGEND

- PROPOSED SANITARY
- PROPOSED STORM DRAIN
- PROPOSED WATER LINE
- BOUNDARY LINE
- R/W LINE
- PROPOSED DITCH
- BLOCK DIMENSION ALONG BOUNDARY AND/OR R/W
- EXIST. PIPELINE
- EXIST. CONTOUR

HAMILTON BUSINESS PARK DEVELOPMENT PLAN

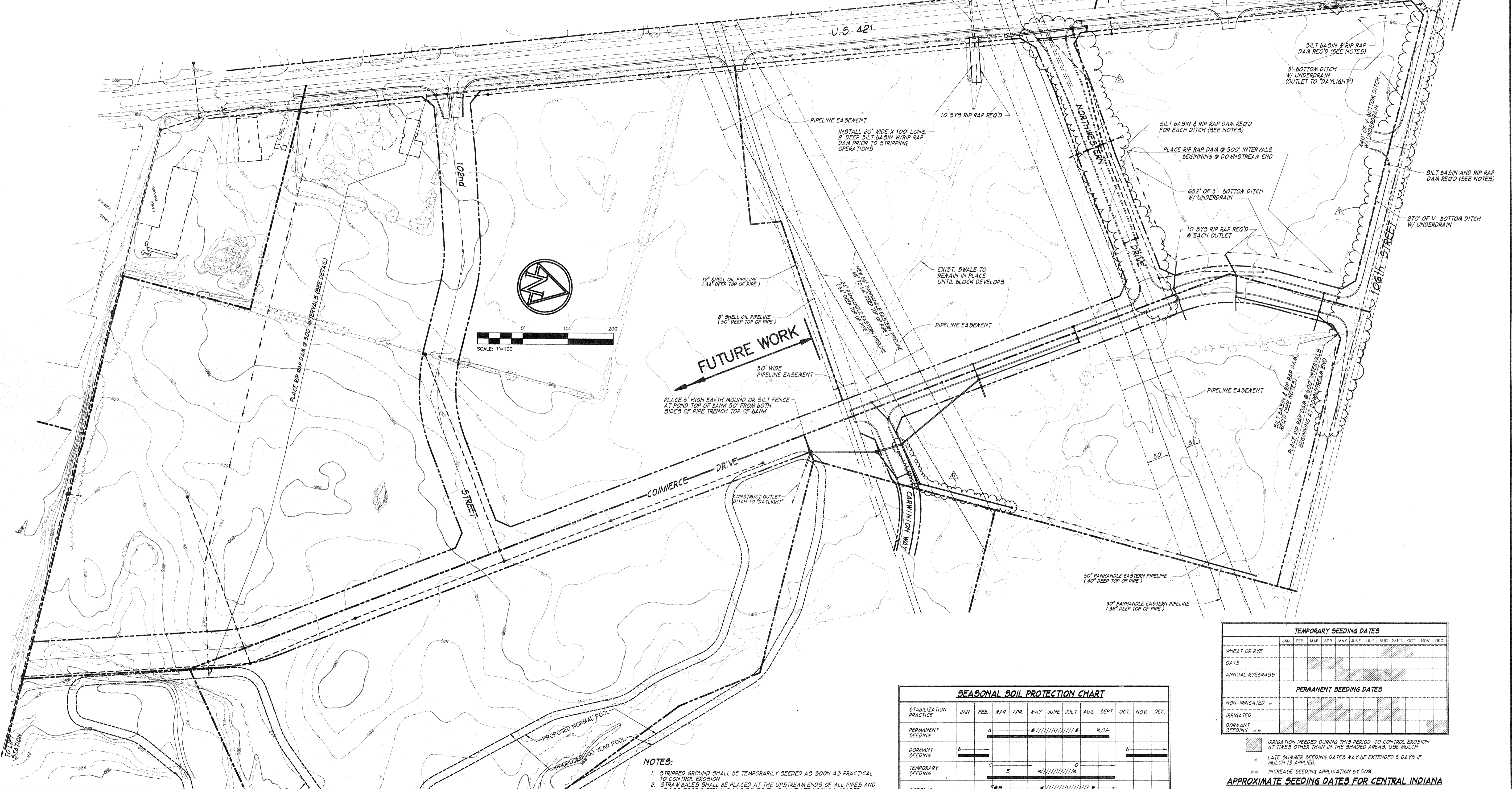
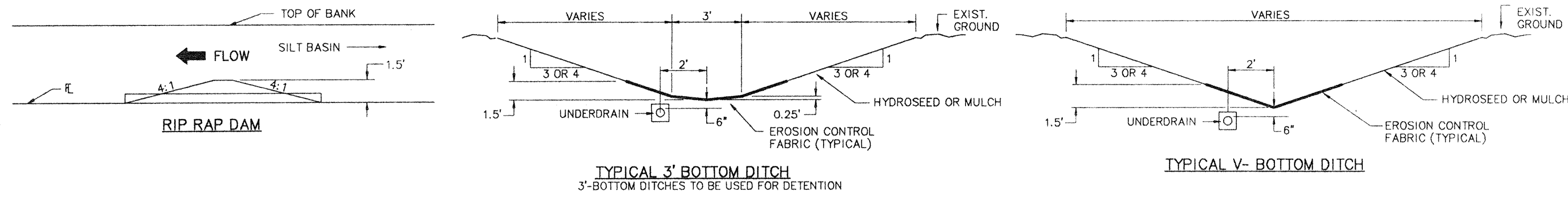
SHADY BROOK DEVELOPMENT COMPANY

AMERICAN CONSULTING ENGINEERS, INC.
CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING
INDIANAPOLIS, INDIANA

SCALE: 1" = 100'
DATE: 04/18/94
DRAWN BY: RRH
CHECKED BY: RRH

ADDL. STR. 323A AND (2) 18" RCP 09/02/94
REVISIONS: REV. CAR. WY., STORM & POND 08/03/94
ADDL. 6" S. SIDE 106TH ST. 08/08/94
MISS. STORM & POND REV. 08/08/94
REV. STM. & SAN. NORTHWESTERN DR. 08/24/94

SHEET NO. 2 OF 16



LEGEND

- PROPOSED SANITARY
- PROPOSED STORM DRAIN
- BOUNDARY LINE
- R/W LINE
- PROPOSED DITCH
- EXIST. PIPELINE
- EXIST. CONTOUR

- NOTES:**
- STRIPPED GROUND SHALL BE TEMPORARILY SEEDED AS SOON AS PRACTICAL TO CONTROL EROSION.
 - STRAW BALES SHALL BE PLACED AT THE UPSTREAM ENDS OF ALL PIPES AND AT 500-FOOT INTERVALS IN DITCHES THAT HAVE BEEN ROUGH-GRADED.
 - EROSION CONTROL FABRIC AND SEEDING SHALL BE INSTALLED UPON COMPLETION OF FINAL GRADING.
 - SILT FENCES OR STRAW BALES SHALL BE PLACED AT THE TOPS OF BANK OF THE POND PRIOR TO START OF CONSTRUCTION.
 - THE TEMPORARY SILT BASINS AT THE CULVERT UNDER U.S. 421 SHALL BE INSTALLED PRIOR TO STRIPPING OPERATIONS.
 - 6x25' SILT BASINS, 2' DEEP, SHALL BE PLACED IMMEDIATELY UPSTREAM OF ALL NEWLY INSTALLED CULVERTS.
 - CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL MEASURES INSTALLED UNTIL ADEQUATE VEGETATION COVER IS ACHIEVED. CONTRACTOR SHALL CONTACT THE HAMILTON COUNTY SOIL AND WATER CONSERVATION DISTRICT (773-1406) PRIOR TO THE REMOVAL OF ANY EROSION CONTROL DEVICES.
 - ALL PIPE AND SWALE OUTLETS SHALL EMPTY INTO PONDS AT OR BELOW PROPOSED NORMAL POOL ELEVATION.
 - PERMANENT GRASS SEEDING SHALL BE INSTALLED FOR PERMANENT DITCHES AND BERMS.
 - "CLOUDS" ARE USED TO DESIGNATE AREAS OF RESPONSIBILITY FOR BID CLOUDS AND SHOULD IN NO WAY BE CONSTRUCTED AS AREAS OF STRIP. CONSTRUCTION LIMITS OR ANY OTHER TYPE OF CONSTRUCTION ACTIVITY.
 - SEEDING OF THE ENTIRE PROPERTY (EXCLUDING TOP OF BANK TO TOP OF BANK OF DITCHES AND R/W AREAS) SHALL BE THE RESPONSIBILITY OF BID GROUP 3 CONTRACTOR.

SEASONAL SOIL PROTECTION CHART

STABILIZATION PRACTICE	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING		A										
DORMANT SEEDING	S											S
TEMPORARY SEEDING			C	E								
SODDING			F									
MULCHING	S											

TEMPORARY SEEDING DATES

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
WHEAT OR RYE												
OATS												
ANNUAL RYEGRASS												

PERMANENT SEEDING DATES

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
NON-IRRIGATED												
IRRIGATED												
DORMANT SEEDING												

IRRIGATION NEEDED DURING THIS PERIOD TO CONTROL EROSION AT OTHER THAN IN THE SHADDED AREAS. USE MULCH.
 LATE SUMMER SEEDING DATES MAY BE EXTENDED 5 DAYS IF MULCH IS APPLIED.
 INCREASE SEEDING APPLICATION BY 50%.
APPROXIMATE SEEDING DATES FOR CENTRAL INDIANA

A = KENTUCKY BLUEGRASS 40 LBS./ACRE, CREEPING RED FESCUE 40 LBS./ACRE, PLUS 2 TONS STRAW MULCH/ACRE, OR ADD ANNUAL RYEGRASS 80 LBS./ACRE
 B = KENTUCKY BLUEGRASS 60 LBS./ACRE, CREEPING RED FESCUE 60 LBS./ACRE, PLUS 2 TONS STRAW MULCH/ACRE, OR ADD ANNUAL RYEGRASS 30 LBS./ACRE
 C = SPRING OATS 3 BUSHELS/ACRE
 D = WHEAT OR RYE 2 BUSHELS/ACRE
 E = ANNUAL RYEGRASS 40 LBS./ACRE (1 LB./1000 SQ. FT.)
 F = 500
 G = STRAW MULCH 2 TONS/ACRE
 *// = IRRIGATION NEEDED DURING JUNE, JULY, AUGUST AND/OR SEPTEMBER
 ** = IRRIGATION NEEDED FOR 2 TO 3 WEEKS AFTER SUPPLYING 500

HAMILTON BUSINESS PARK EROSION CONTROL PLAN

SHADY BROOK DEVELOPMENT COMPANY

AMERICAN CONSULTING ENGINEERS, INC.
 CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING
 INDIANAPOLIS INDIANA

SCALE: 1" = 100'

DATE: 04/18/94

DESIGNED BY: RRH

CHECKED BY: RRH

JOB NO. 90-220

DATE: 08/08/94

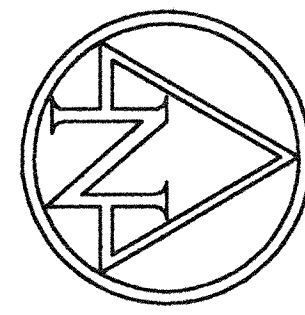
DATE: 08/24/94

DATE: 09/02/94

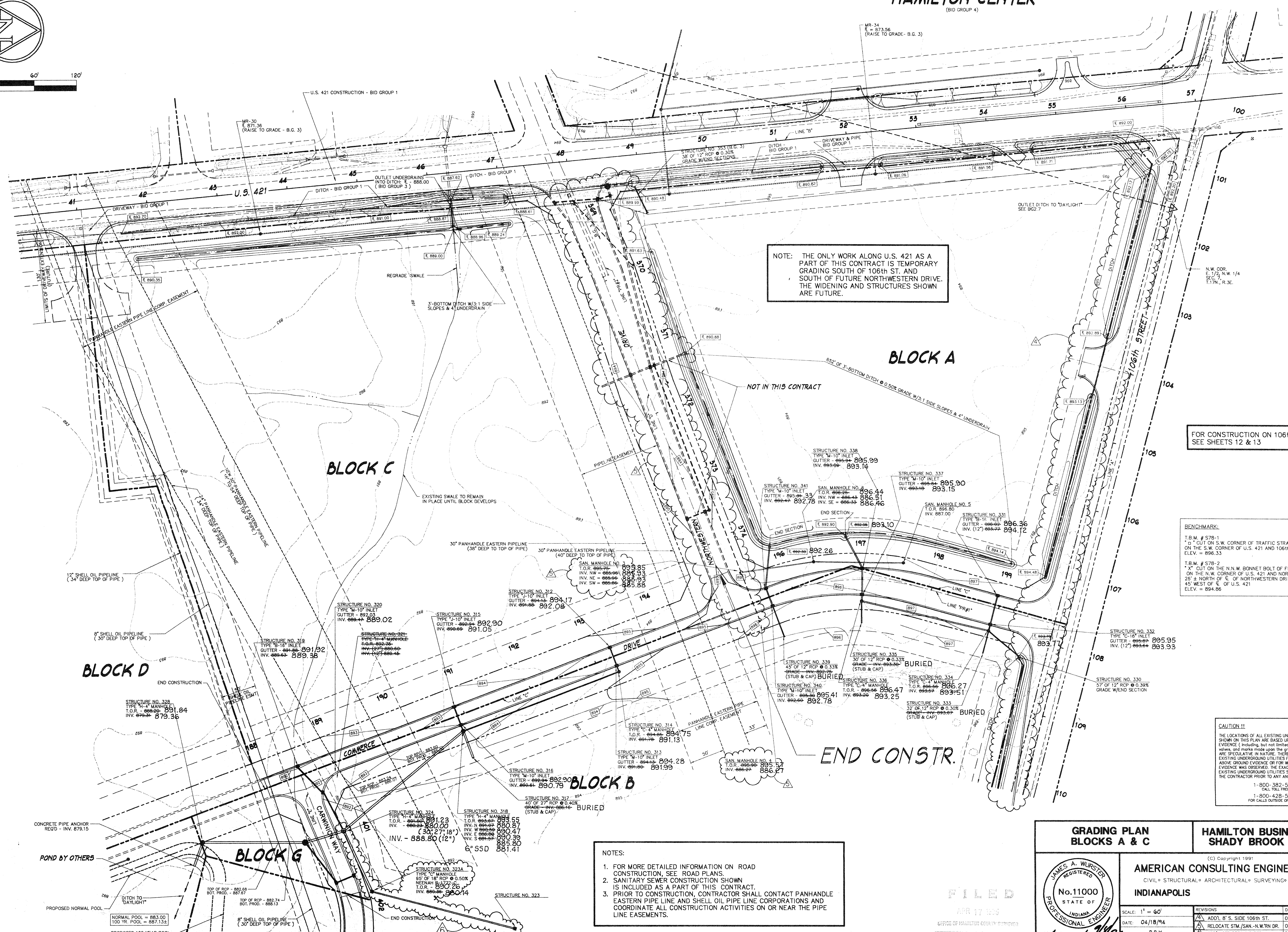
SHEET NO. **3** OF 16

HAMILTON CENTER

(BID GROUP 4)



SCALE: 1"=60'



NOTE: THE ONLY WORK ALONG U.S. 421 AS A PART OF THIS CONTRACT IS TEMPORARY GRADING SOUTH OF 106th ST. AND SOUTH OF FUTURE NORTHWESTERN DRIVE. THE WIDENING AND STRUCTURES SHOWN ARE FUTURE.

FOR CONSTRUCTION ON 106th ST. SEE SHEETS 12 & 13

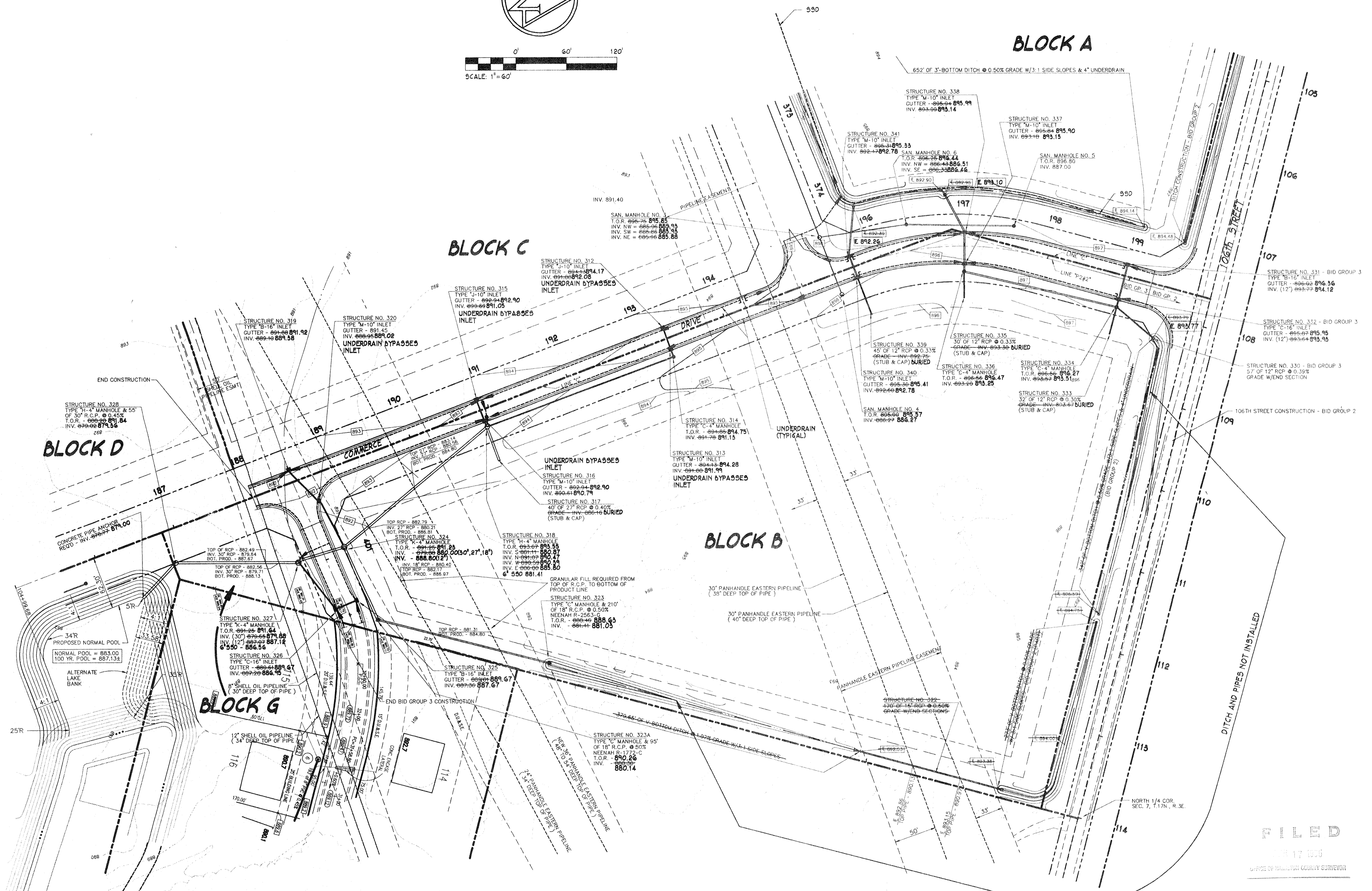
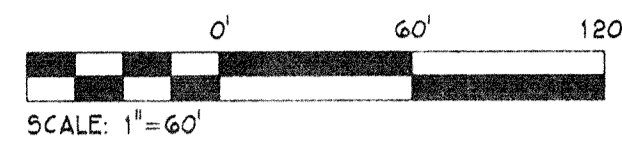
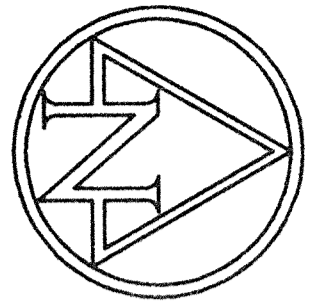
BENCHMARK:
 T.B.M. # 578-1
 "X" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST ON THE S.W. CORNER OF U.S. 421 AND 106th STREET ELEV. = 896.33
 T.B.M. # 578-2
 "X" CUT ON THE N.W. BONNET BOLT OF FIRE HYDRANT ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE, 25' ± NORTH OF E. OF NORTHWESTERN DRIVE, AND 45' WEST OF E. OF U.S. 421 ELEV. = 894.86

CAUTION !!
 THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, pits, valves, and marks made upon the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.
 1-800-382-5544
 CALL TOLL FREE
 1-800-428-5200
 FOR CALLS OUTSIDE OF INDIANA

- NOTES:
- FOR MORE DETAILED INFORMATION ON ROAD CONSTRUCTION, SEE ROAD PLANS.
 - SANITARY SEWER CONSTRUCTION SHOWN IS INCLUDED AS A PART OF THIS CONTRACT.
 - PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR THE PIPE LINE EASEMENTS.

GRADING PLAN BLOCKS A & C		HAMILTON BUSINESS PARK SHADY BROOK DEV. CO.	
(C) Copyright 1991			
AMERICAN CONSULTING ENGINEERS, INC.			
CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING			
INDIANAPOLIS		INDIANA	
		REVISIONS DATE: 04/18/94 DRAWN BY: R.R.H. CHECKED BY: R.R.H.	
SCALE: 1" = 60' DATE: 04/18/94 DRAWN BY: R.R.H. CHECKED BY: R.R.H.		REVISIONS DATE: 08/08/94 DATE: 08/24/94 DATE: 08/02/94 JOB NO. 90-220 MICRO. NO. OF 16	

DWG FILE: C:\90\22094\220184
 PLOT SCALE: 1"=60'
 PLOT ORIGIN: 0,0,0,0
 SPELLOK: 09/07/94
 EDIT DATE: RHH - 569



BLOCK D

BLOCK C

BLOCK B

BLOCK A

BLOCK G

- NOTES:
1. FOR MORE DETAILED INFORMATION ON BID GROUP 3 ROAD CONSTRUCTION, SEE BID GROUP 3 ROAD PLANS.
 2. SANITARY SEWER CONSTRUCTION SHOWN ON BID GROUP 3 PLANS IS INCLUDED AS A PART OF BID GROUP 3 CONTRACT.
 3. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR THE PIPE LINE EASEMENTS.

BENCHMARK:

T.B.M. # S78-1
 4" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST
 ON THE S.W. CORNER OF U.S. 421 AND 106TH STREET
 ELEV. = 896.33

T.B.M. # S78-2
 1" X 1" CUT ON THE N.W. CORNER OF FIRE HYDRANT
 ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE,
 26' ± NORTH OF 1/4 OF NORTHWESTERN DRIVE, AND
 45' WEST OF 1/4 OF U.S. 421
 ELEV. = 894.85

CAUTION !!

THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, vaults, valves, and marks made upon the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

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 1-800-428-5200
 FOR CALLS OUTSIDE OF INDIANA

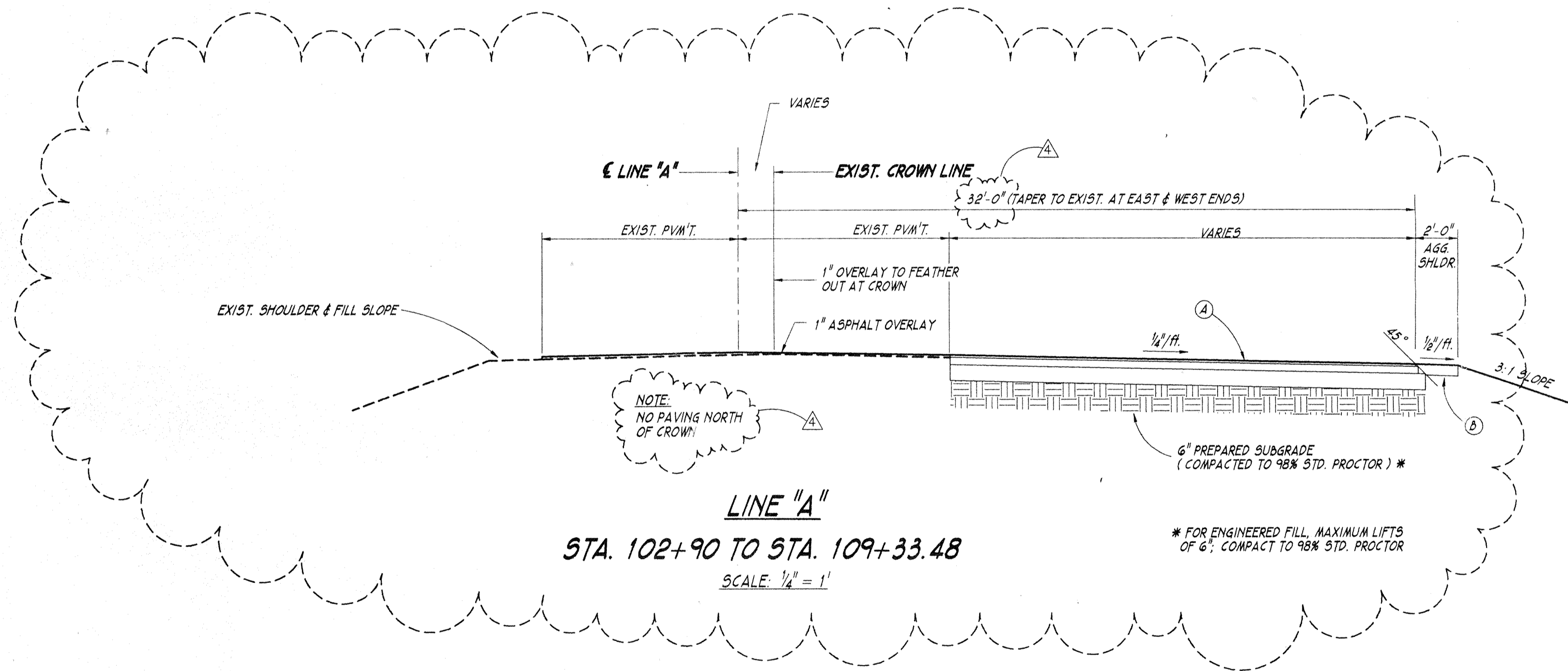
FILED

MAY 17 1995

OFFICE OF HAMILTON COUNTY SURVEYOR

"AS-BUILT" PLAN BLOCK B		HAMILTON BUSINESS PARK SHADY BROOK DEV. CO.	
SCALE: 1" = 60'	REVISIONS	DATE	SHEET NO.
DATE: 03/24/95			
DRAWN BY:			
CHECKED BY:	JOB NO.	MICRO. NO.	OF

FEDERAL ROAD DIVISION NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.			R-5	



LINE "A"
 STA. 102+90 TO STA. 109+33.48
 SCALE: 1/4" = 1'

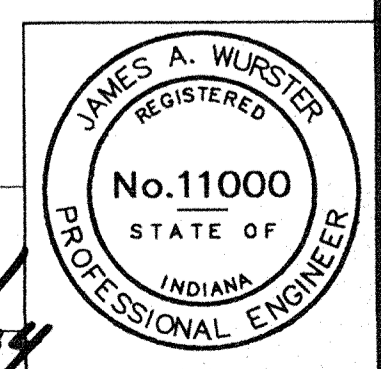
- LEGEND**
- (A) 110#/SYD - BIT SURFACE, HV (COMPACTED TO 98% STD. PROCTOR)
 5" - BIT BINDER, 8 OR 9, HV
 14" - No. 53 STONE
 (3 LIFTS, COMPACTED TO 98% STD. PROCTOR)
 - (B) 6" - TYPE 'O' AGGREGATE, No. 73
 (COMPACTED TO 98% STD. PROCTOR)

INDIANA DEPARTMENT OF TRANSPORTATION
TYPICAL CROSS SECTIONS

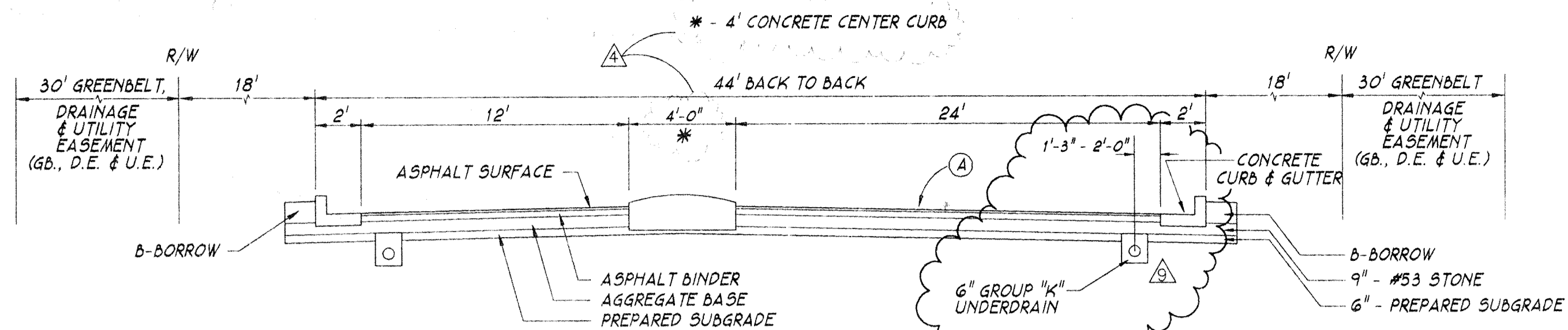
SCALE: AS SHOWN

RECOMMENDED FOR APPROVAL

James A. Wurster 9/21/94



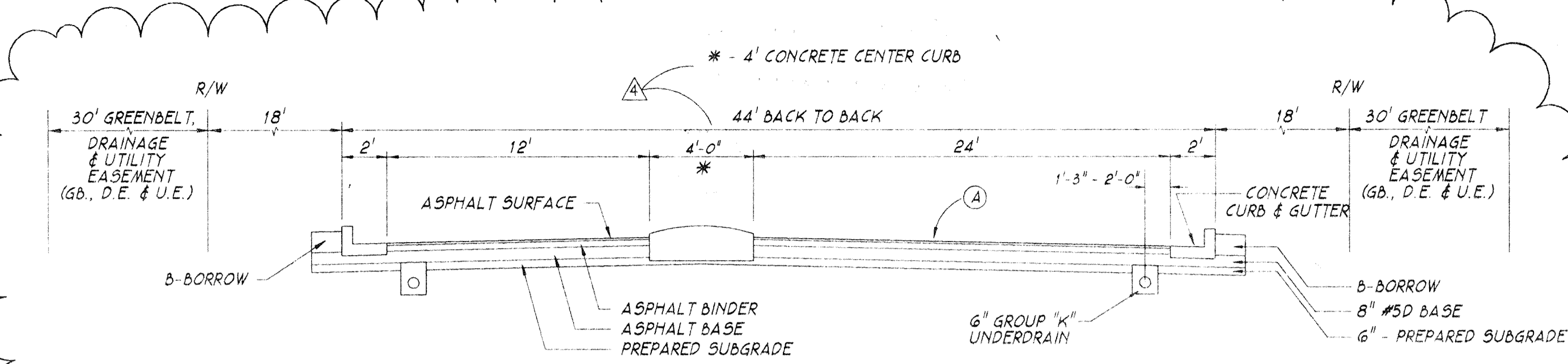
08/08/94 - ADD'L 8' OF WIDENING
 09/09/94 - REV. P.V.M.T. SECTION



SECTION A-A
TYPICAL SECTION
STA 198+10.00 "PR-1" TO STA. 198+93.87 "PR-1"
NOT TO SCALE

LEGEND

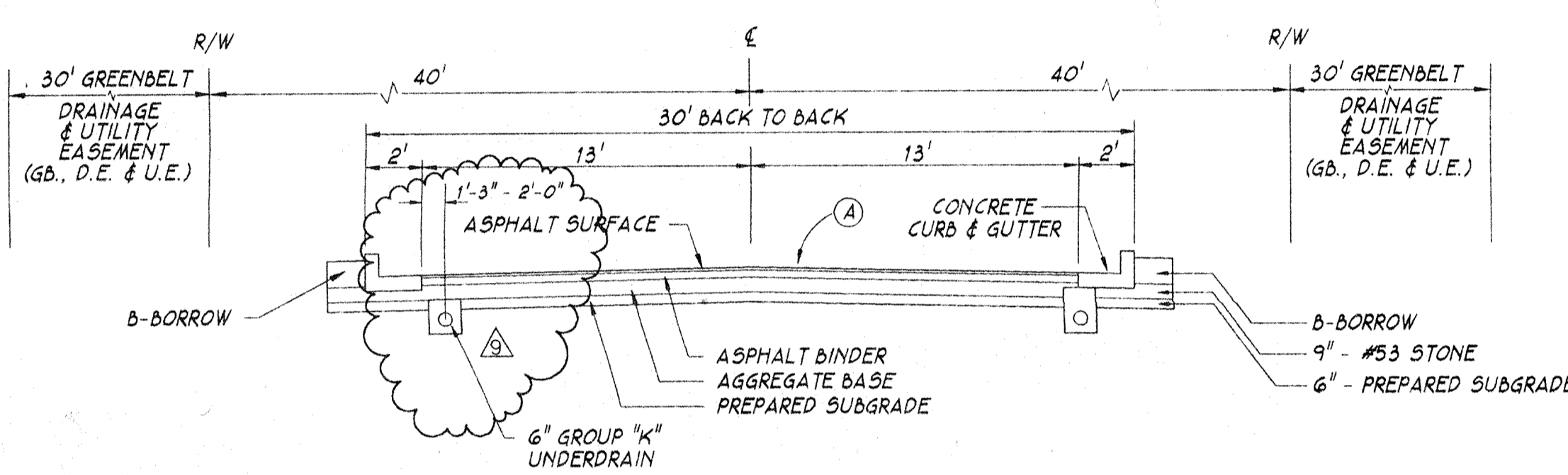
- (A) 110#/SYD - BIT. SURFACE, HV (COMPACTED TO 98% STD. PROCTOR)
- 440#/SYD - BIT. BINDER, B OR 9, HV
- 12" - No. 53 STONE (3 LIFTS, COMPACTED TO 98% STD. PROCTOR)



SECTION A-A
TYPICAL FULL-DEPTH SECTION
STA. 198+93.87 "PR-1" TO STA. 199+58.74 "PR-1"
NOT TO SCALE

LEGEND

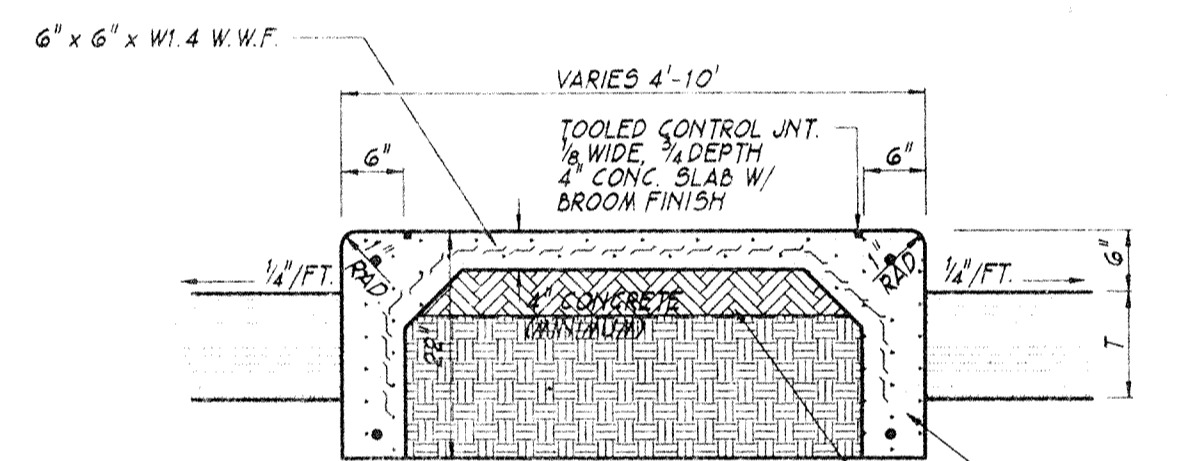
- (A) 110#/SYD - BIT. SURFACE, HV
- 330#/SYD - BIT. BINDER, B OR 9, HV
- 880#/SYD - BIT. BASE, 5D (TWO LIFTS)



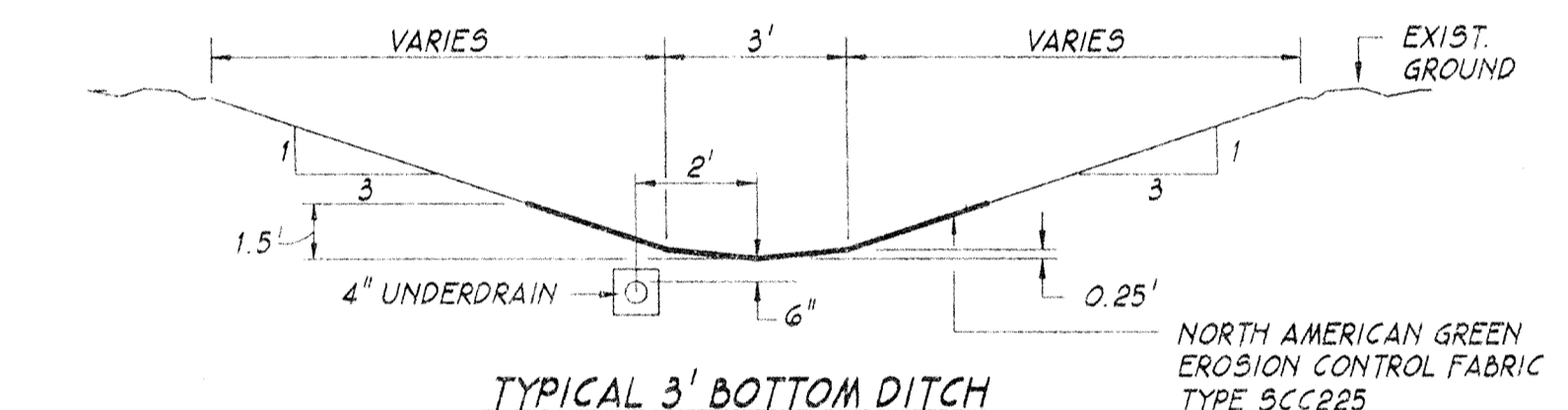
SECTION B-B
TYPICAL SECTION
COMMERCE DRIVE SOUTH OF STA. 195+70
NOT TO SCALE

LEGEND

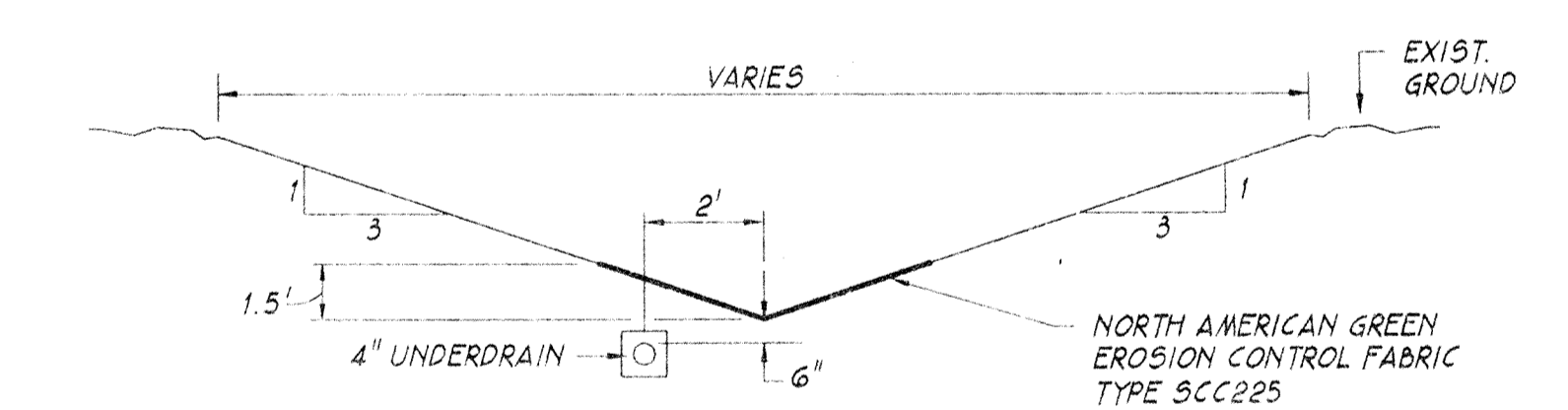
- (A) 110#/SYD - BIT. SURFACE, HV (COMPACTED TO 98% STD. PROCTOR)
- 440#/SYD - BIT. BINDER, B OR 9, HV
- 12" - No. 53 STONE (3 LIFTS, COMPACTED TO 98% STD. PROCTOR)



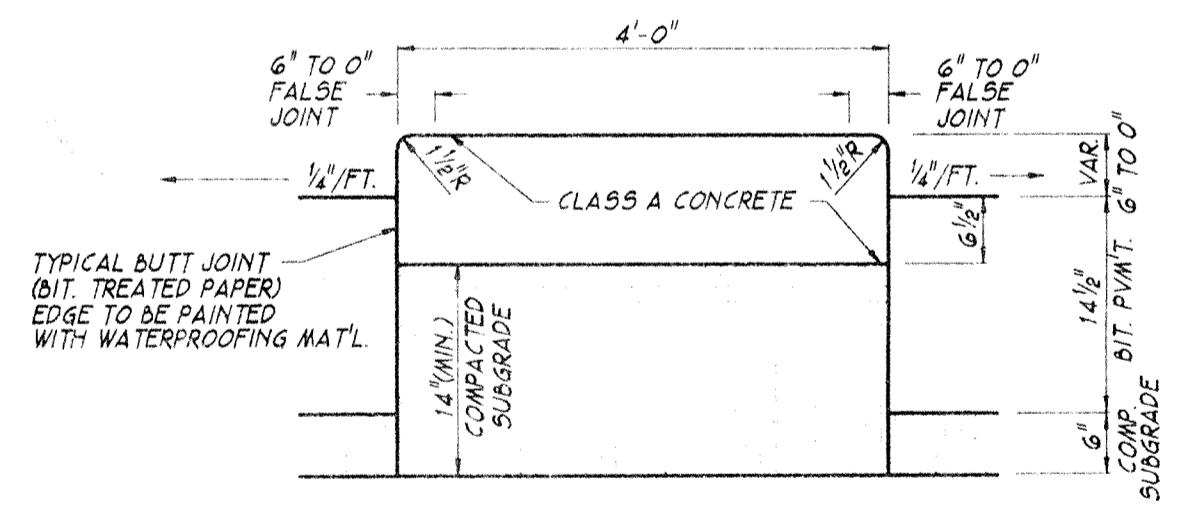
SECTION K-K
T= NORMAL PAVEMENT THICKNESS
T= 1 1/2" FOR BITUMINOUS PAVEMENT
T= 8" FOR REINFORCED CONCRETE PAVEMENT
T= 9" FOR UNREINFORCED CONCRETE PAVEMENT



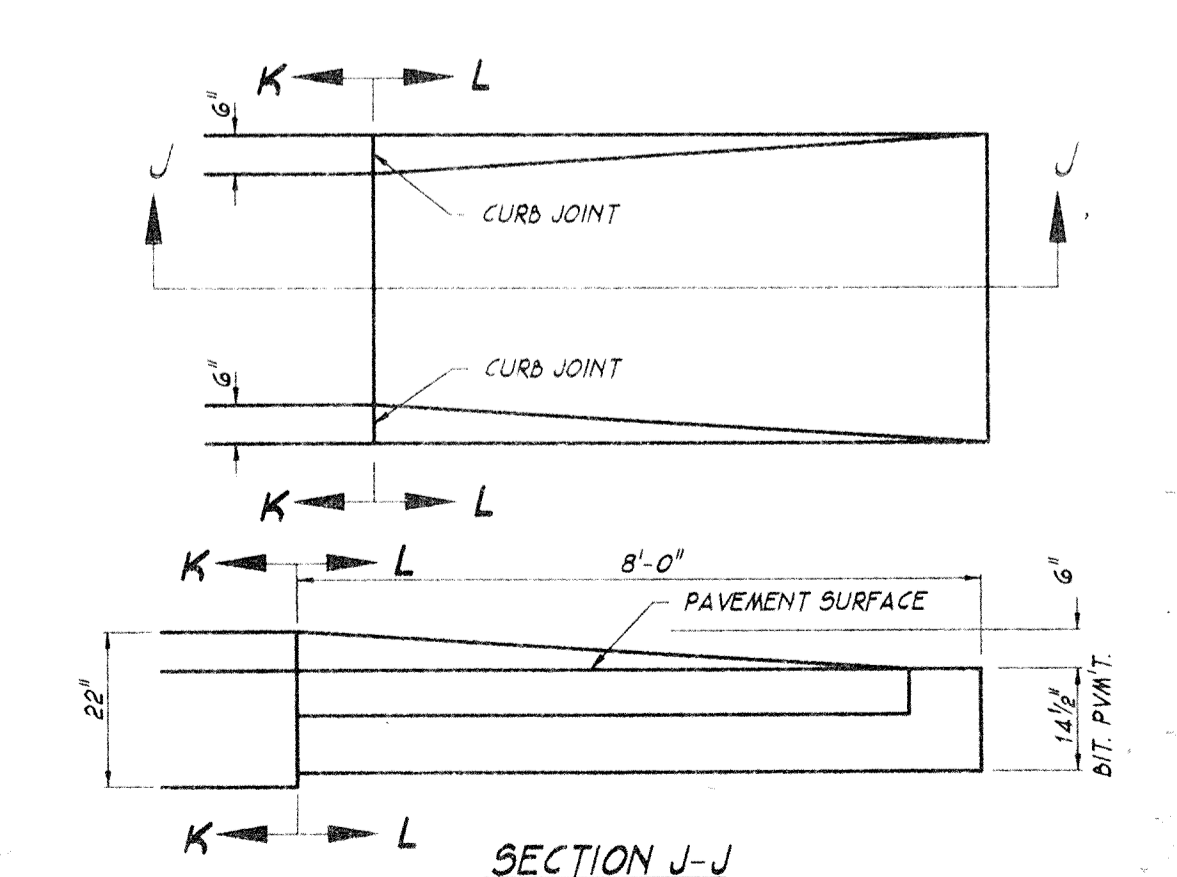
TYPICAL 3' BOTTOM DITCH
3'-BOTTOM DITCHES TO BE USED FOR DETENTION
NOT TO SCALE



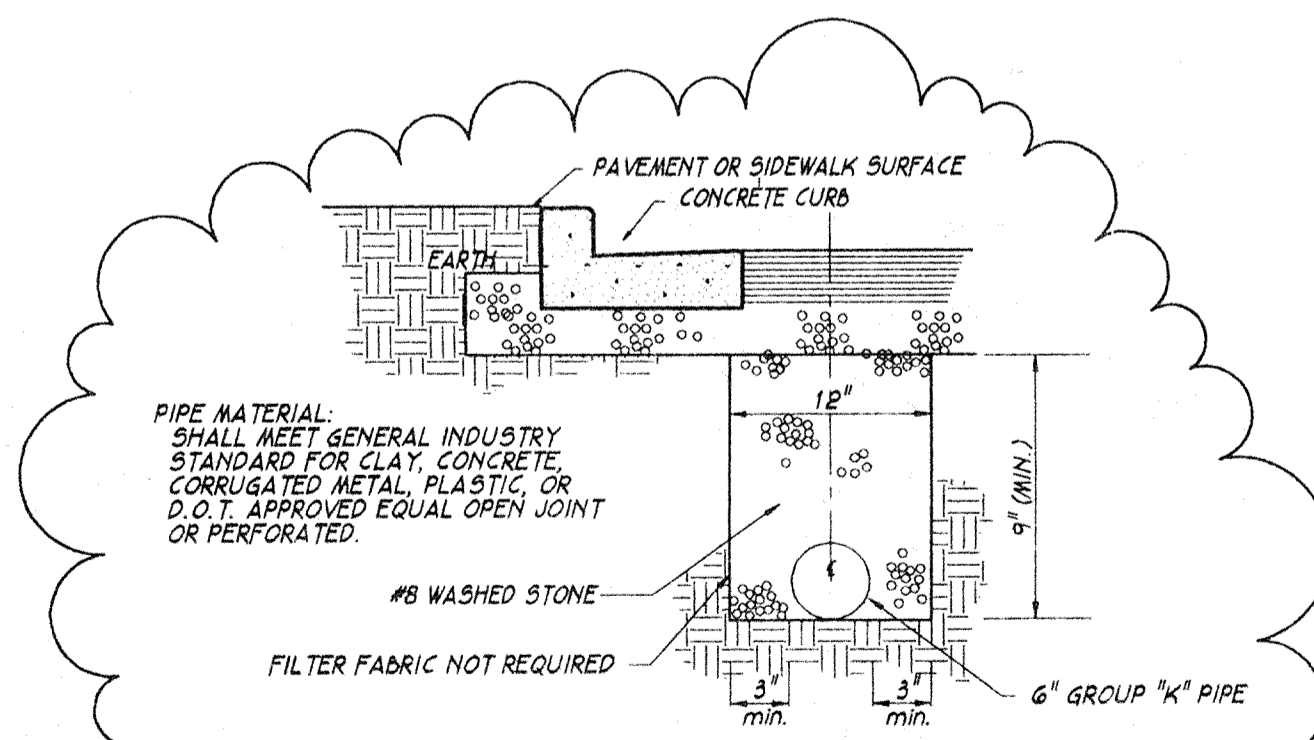
TYPICAL V-BOTTOM DITCH
NOT TO SCALE



SECTION L-L

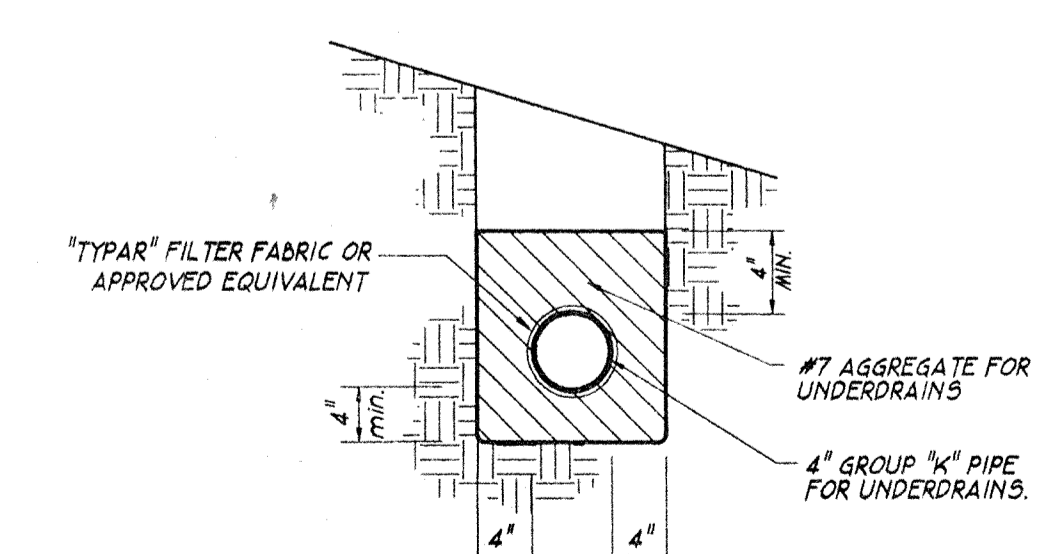


SECTION J-J
CONCRETE CENTER CURB
NOT TO SCALE



PIPE UNDERDRAIN
(TYPICAL INSTALLATIONS)
NOT TO SCALE

INSTALLATION REQUIRED:
BOTH SIDES OF PAVEMENT
UNLESS WAIVED IN WRITING BY THE
HAMILTON COUNTY HIGHWAY DEPT.



PERFORATED PIPE DETAIL
NOT TO SCALE

- NOTES:
- GROUP 'K' PIPE SHALL BE PER INDIANA STATE HIGHWAY STANDARD SPECIFICATIONS SECTION 718.
 - CONTRACTOR MAY USE, AT HIS OPTION, EITHER THE AGGREGATE OR THE FILTER FABRIC OR BOTH.

NOTE: PRIOR TO INSTALLATION OF UNDERDRAIN, CONTRACTOR SHALL CONTACT HAMILTON COUNTY HIGHWAY DEPARTMENT AND COORDINATE THE INSPECTION OF THE INSTALLATION.

10/17/94 - REVISED UNDERDRAIN SECTION & DETAIL; ADDED FULL DEPTH SECTION

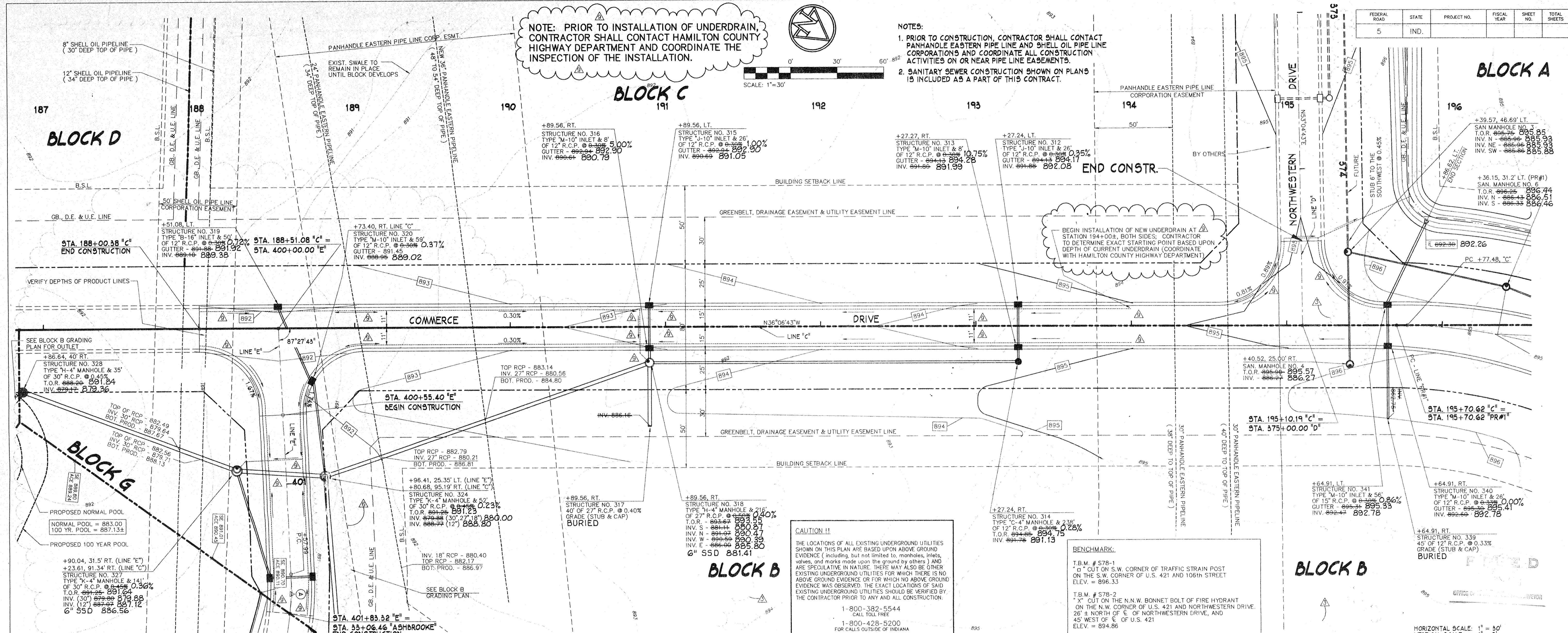
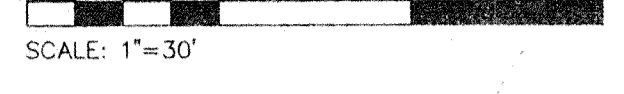
FILED
APR 17 1995
OFFICE OF HAMILTON COUNTY SURVEYOR

HAMILTON BUSINESS PARK TYPICAL CROSS SECTIONS		SHADY BROOK DEVELOPMENT COMPANY	
		AMERICAN CONSULTING ENGINEERS, INC. CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING INDIANAPOLIS INDIANA	
SCALE: AS NOTED	REVISIONS:	DATE:	SHEET NO.:
DATE: 04/18/94	REV. CENTER CURB	08/08/94	7
DRAWN BY: R.J.P.G.	ADD DETAIL	08/24/94	
CHECKED BY: RRH	REV P/MT SECTION	09/09/94	
JOB NO. 90-220	MICRO. NO.	OF 16	

FEDERAL ROAD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.				

NOTE: PRIOR TO INSTALLATION OF UNDERDRAIN, CONTRACTOR SHALL CONTACT HAMILTON COUNTY HIGHWAY DEPARTMENT AND COORDINATE THE INSPECTION OF THE INSTALLATION.

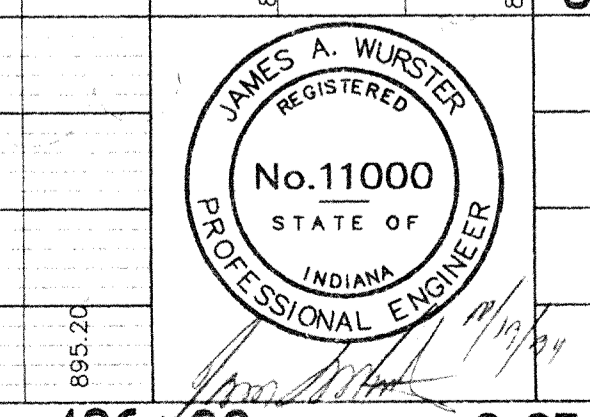
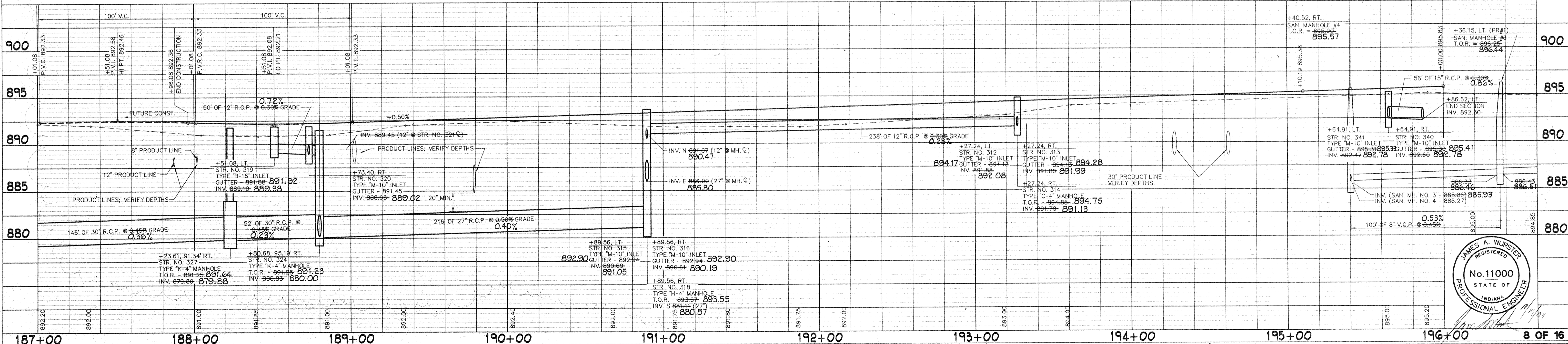
- NOTES:**
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR PIPE LINE EASEMENTS.
 - SANITARY SEWER CONSTRUCTION SHOWN ON PLANS IS INCLUDED AS A PART OF THIS CONTRACT.



CAUTION !!
 THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, inlets, valves, and marks made upon the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

1-800-382-5544
 CALL TOLL FREE
 1-800-428-5200
 FOR CALLS OUTSIDE OF INDIANA

BENCHMARK:
 T.B.M. # S78-1
 "O" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST ON THE S.W. CORNER OF U.S. 421 AND 10th STREET
 ELEV. = 896.33
 T.B.M. # S78-2
 "O" CUT ON THE N.W. BONNET BOLT OF FIRE HYDRANT ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE, 26' ± NORTH OF 1/4" OF NORTHWESTERN DRIVE, 45' WEST OF 1/4" OF U.S. 421
 ELEV. = 894.86

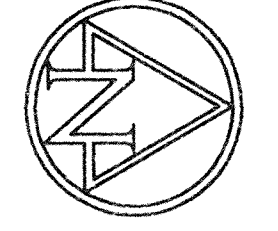


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FEDERAL ROAD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.	90-220			

BLOCK A

NOTE: PRIOR TO INSTALLATION OF UNDERDRAIN, CONTRACTOR SHALL CONTACT HAMILTON COUNTY HIGHWAY DEPARTMENT AND COORDINATE THE INSPECTION OF THE INSTALLATION.



FOR CONSTRUCTION OF 106th ST. SEE SHEETS BG2.7 & BG2.8

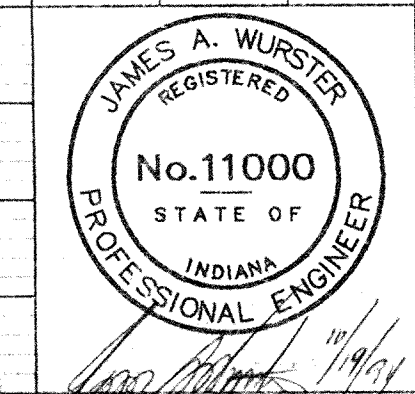
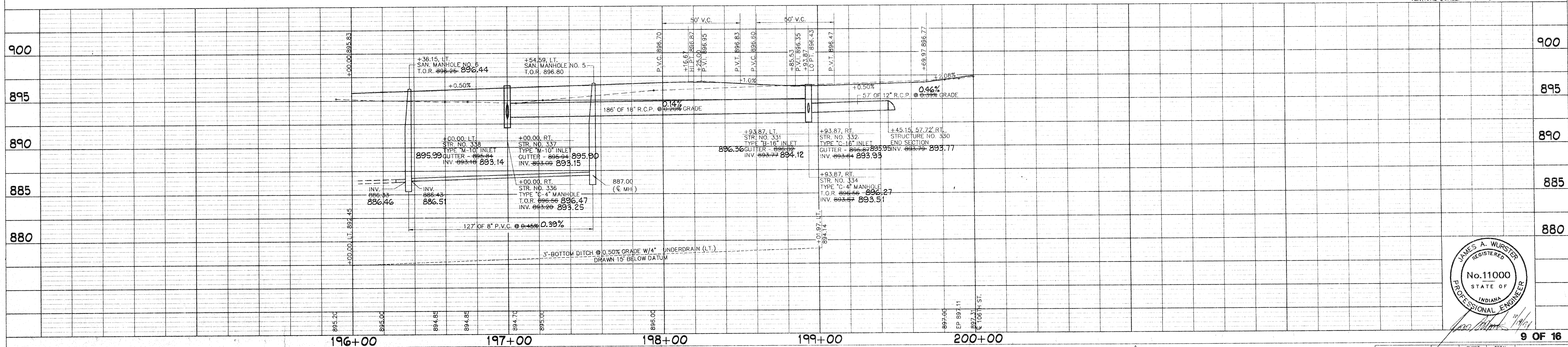
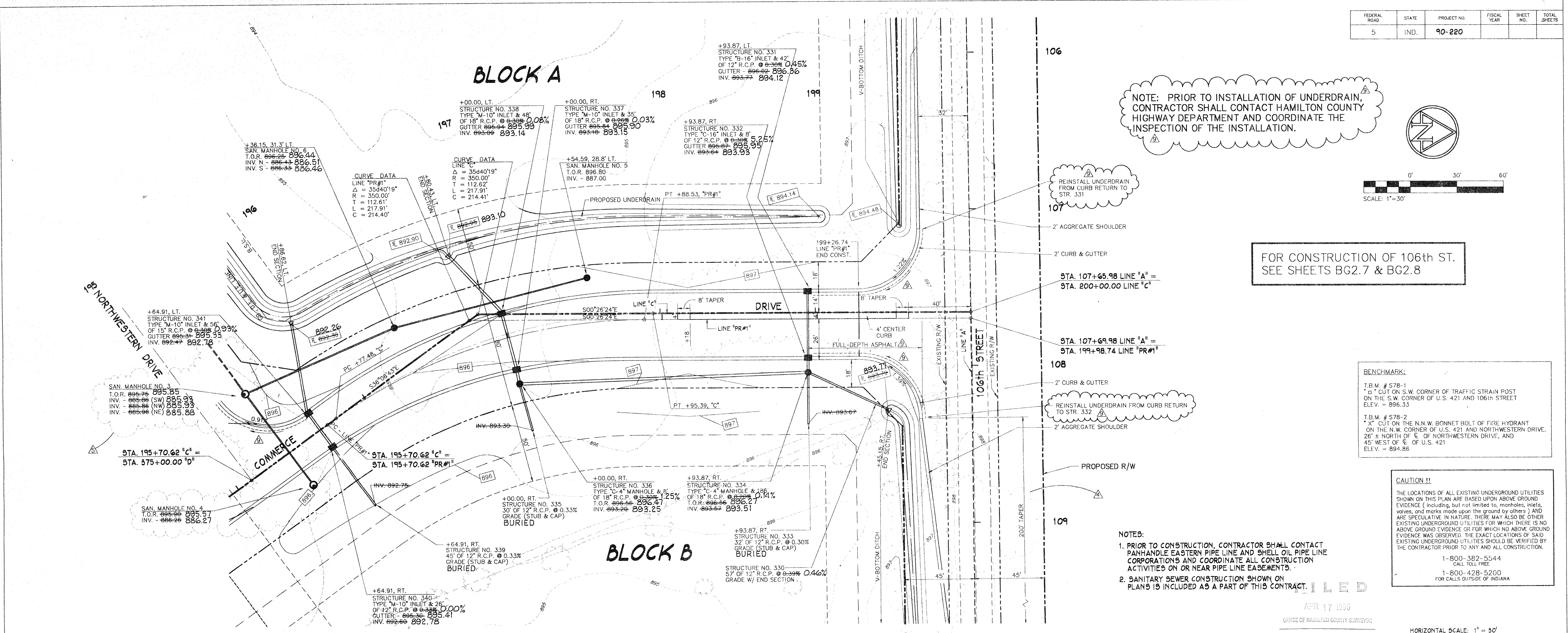
BENCHMARK:
 T.B.M. # S78-1
 "d" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST ON THE S.W. CORNER OF U.S. 421 AND 106th STREET ELEV. = 896.33
 T.B.M. # S78-2
 "x" CUT ON THE N.W. BONNET BOLT OF FIRE HYDRANT ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE, 26' ± NORTH OF C. OF NORTHWESTERN DRIVE, AND 45' WEST OF E. OF U.S. 421 ELEV. = 894.86

CAUTION !!
 THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, inlets, valves, and marks made upon the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.
 1-800-382-5544
 CALL TOLL FREE
 1-800-428-5200
 FOR CALLS OUTSIDE OF INDIANA

- NOTES:**
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR PIPE LINE EASEMENTS.
 - SANITARY SEWER CONSTRUCTION SHOWN ON PLANS IS INCLUDED AS A PART OF THIS CONTRACT.

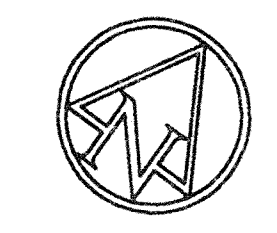
APR 17 1995
 OFFICE OF HAMILTON COUNTY SURVEYOR

HORIZONTAL SCALE: 1" = 30'
 VERTICAL SCALE: 1" = 5'

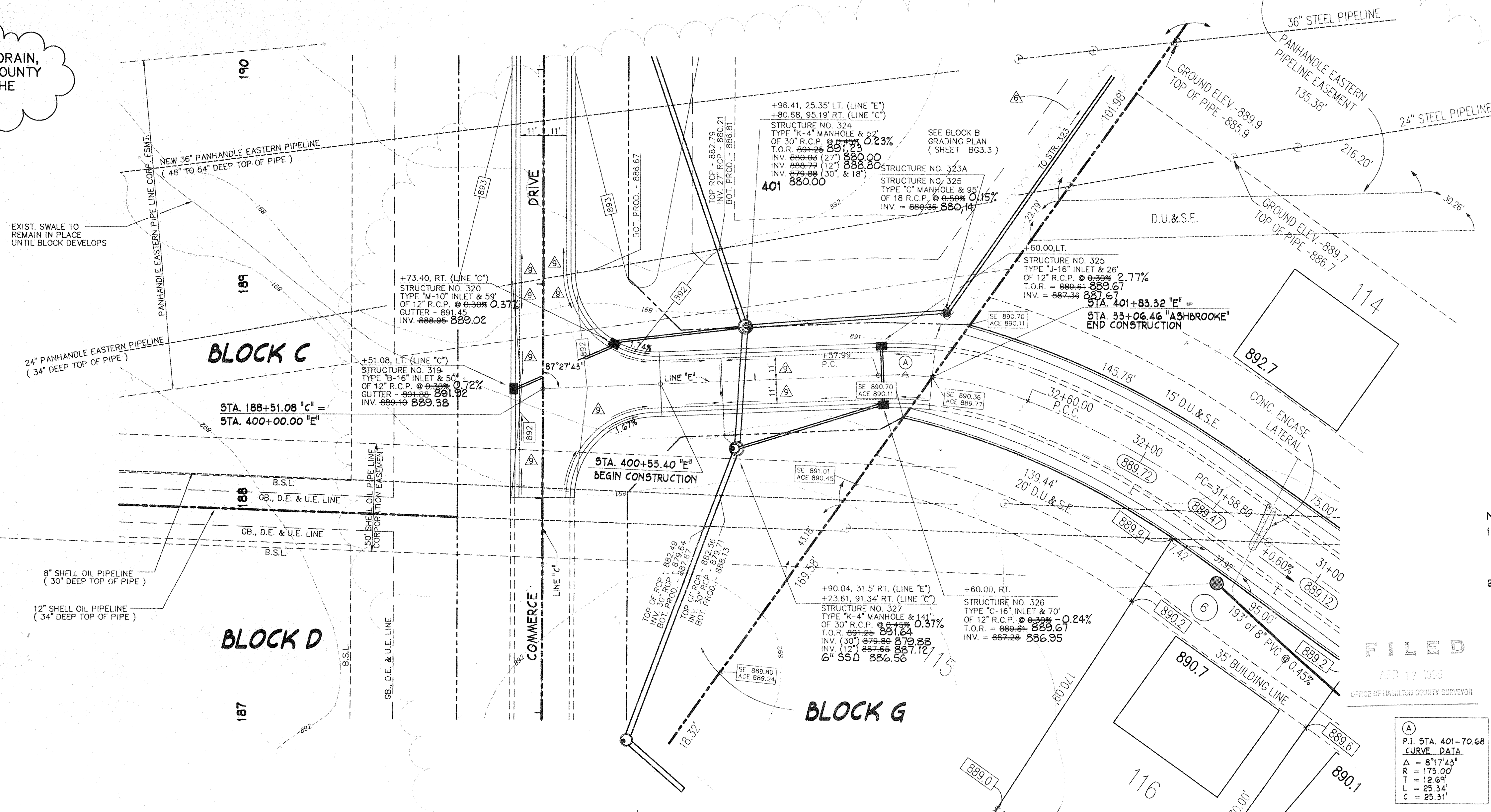


PROJECT NO.	LINE	SHEET NO.	TOTAL SHEETS	FILE
90-220	"PR#1"			

FEDERAL ROAD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		90-220			



NOTE: PRIOR TO INSTALLATION OF UNDERDRAIN, CONTRACTOR SHALL CONTACT HAMILTON COUNTY HIGHWAY DEPARTMENT AND COORDINATE THE INSPECTION OF THE INSTALLATION.



CAUTION !!
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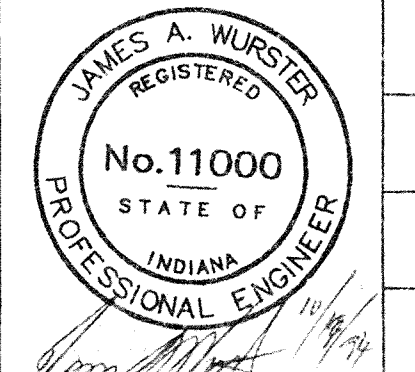
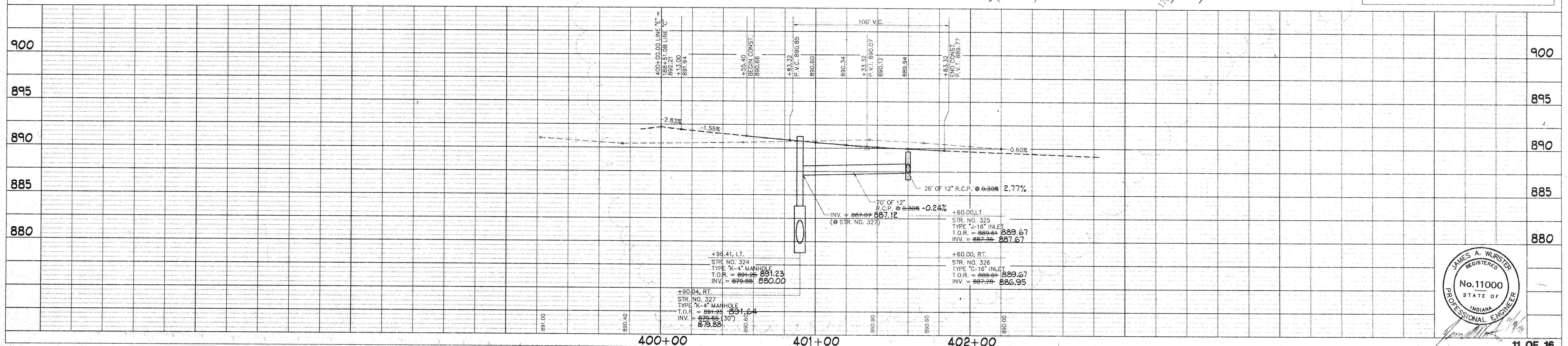
- NOTES:**
1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR PIPE LINE EASEMENTS.
 2. CONTRACTOR SHALL NOTE THAT THERE IS A DIFFERENCE IN BENCHMARK ELEVATIONS BETWEEN THIS PROJECT AND THE ASHBROOKE PROJECT OF APPROXIMATELY 0.5'. CONTRACTOR SHALL MATCH CONSTRUCTION OF THE ASHBROOKE PROJECT AT THE STATION INDICATED AND ADJUST ELEVATIONS BETWEEN THE END OF THE PROJECT AND THE POINT OF VERTICAL INTERSECTION.

FILED
 APR 17 1994
 OFFICE OF HAMILTON COUNTY SURVEYOR

BENCHMARK:
 T.B.M. # S78-1
 "O" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST ON THE S.W. CORNER OF U.S. 421 AND 106th STREET
 ELEV. = 896.33
 T.B.M. # S78-2
 "X" CUT ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE, 25' NORTH OF E. OF NORTHWESTERN DRIVE, AND 45' WEST OF E. OF U.S. 421
 ELEV. = 894.86

A

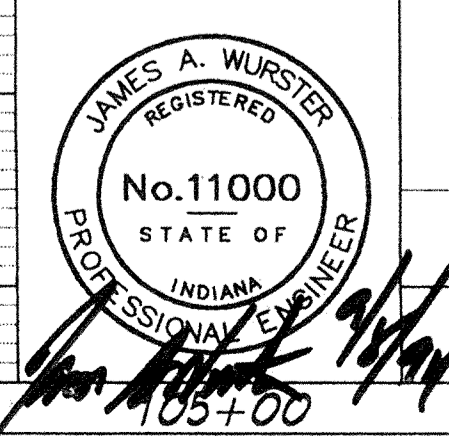
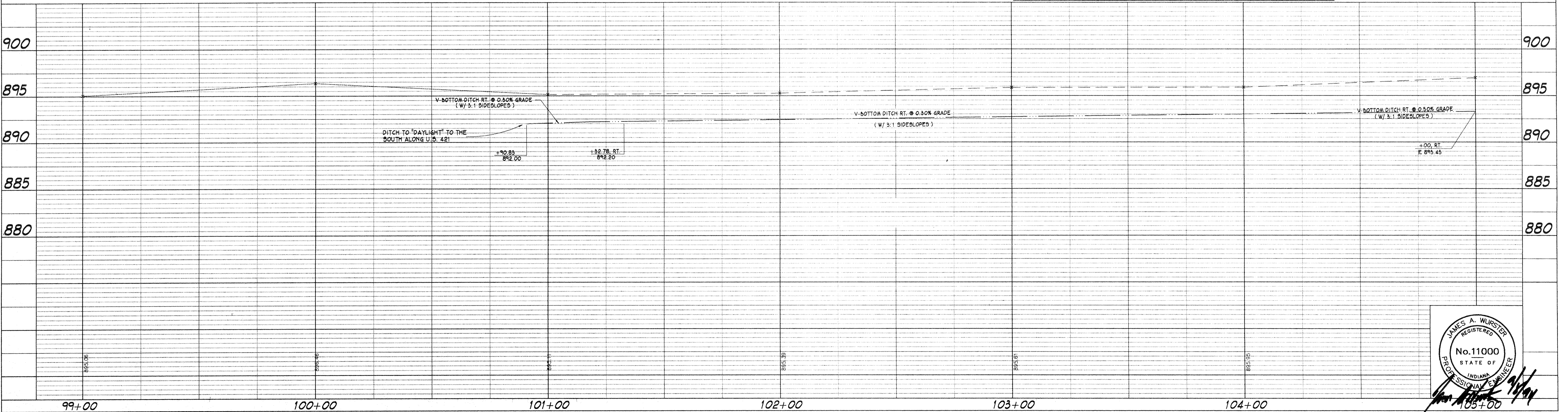
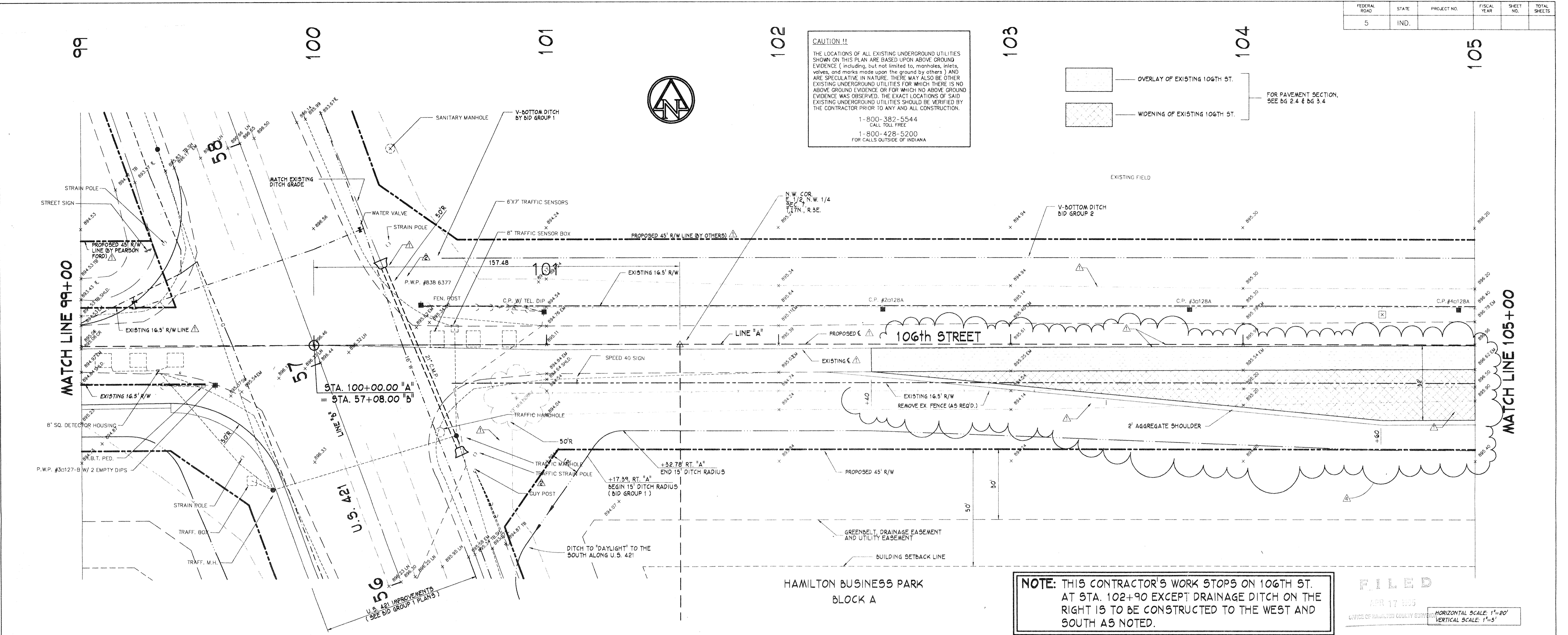
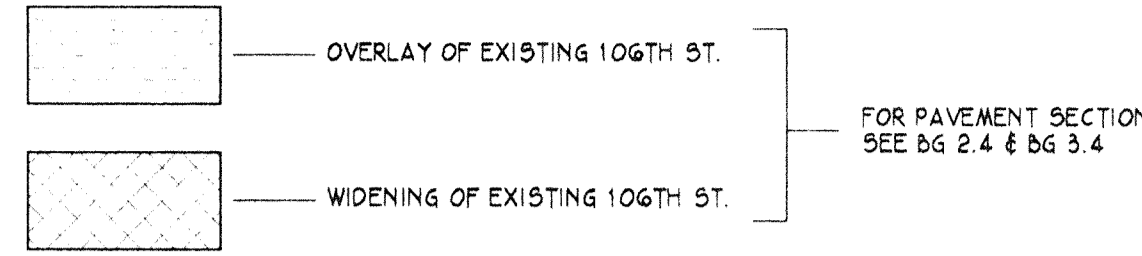
P.1 STA. 401+70.68
CURVE DATA
Δ = 8°17'43"
R = 175.00'
T = 12.64'
L = 25.34'
C = 25.31'



FEDERAL ROAD	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	IND.				

CAUTION !!
 THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ABOVE GROUND EVIDENCE (including, but not limited to, manholes, inlets, valves, and marks made upon the ground by others) AND ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE EXACT LOCATIONS OF SAID EXISTING UNDERGROUND UTILITIES SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.

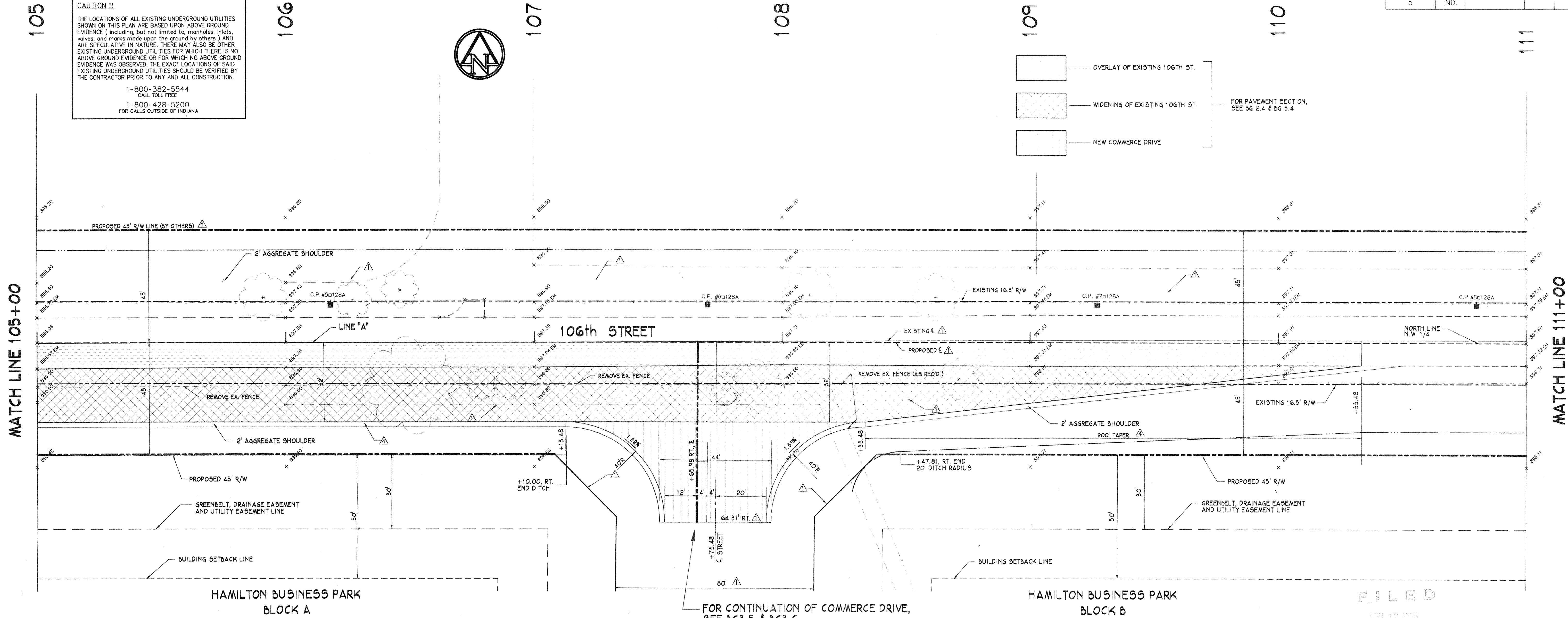
1-800-382-5544
 CALL TOLL FREE
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 FOR CALLS OUTSIDE OF INDIANA



CAUTION !!
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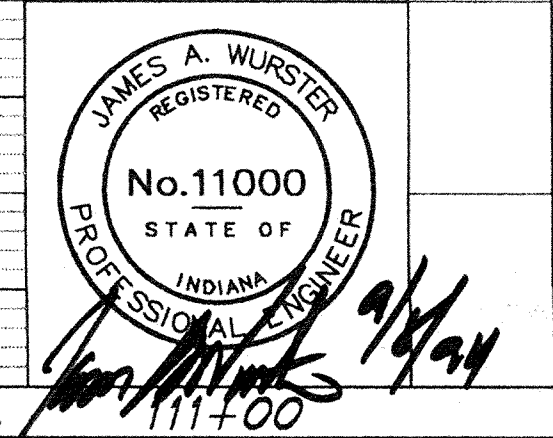
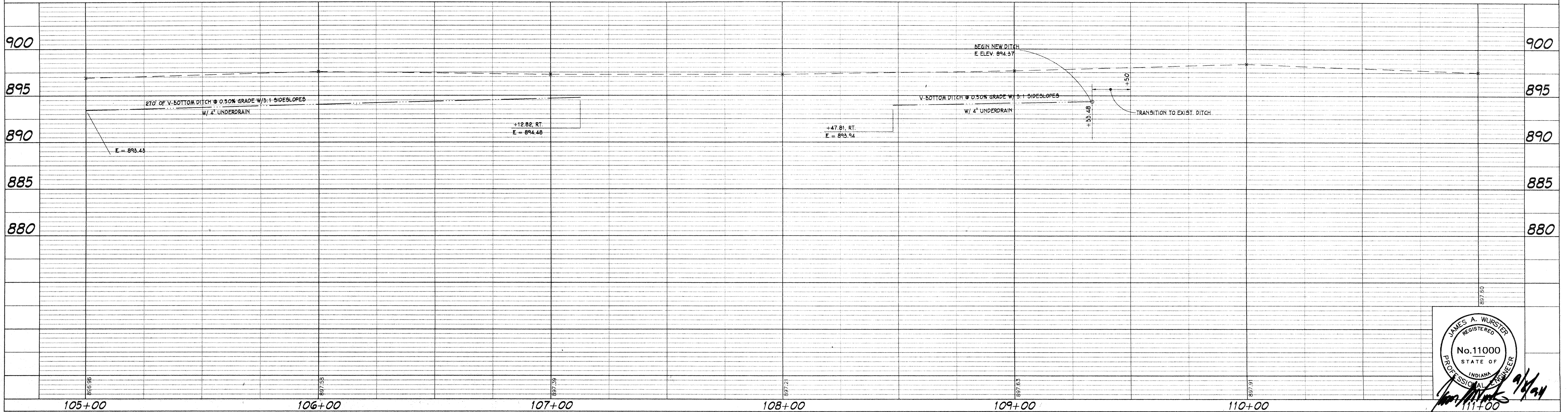
- OVERLAY OF EXISTING 106TH ST.
 - WIDENING OF EXISTING 106TH ST.
 - NEW COMMERCE DRIVE
- FOR PAVEMENT SECTION, SEE BG 2.4 & BG 3.4



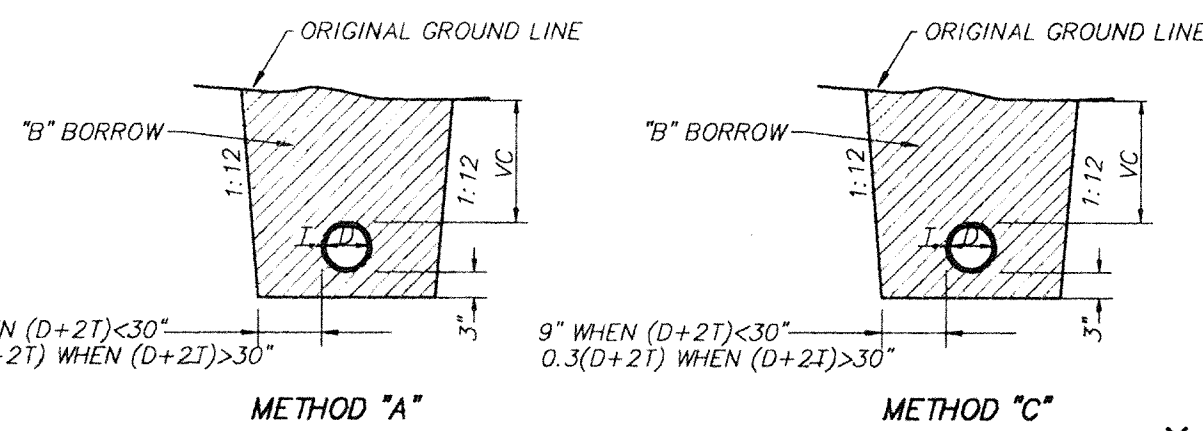
FOR CONTINUATION OF COMMERCE DRIVE, SEE BG 3.5 & BG 3.6

FILED
 APR 17 1998
 OFFICE OF HAMILTON COUNTY SURVEYOR

HORIZONTAL SCALE: 1"=20'
 VERTICAL SCALE: 1"=5'

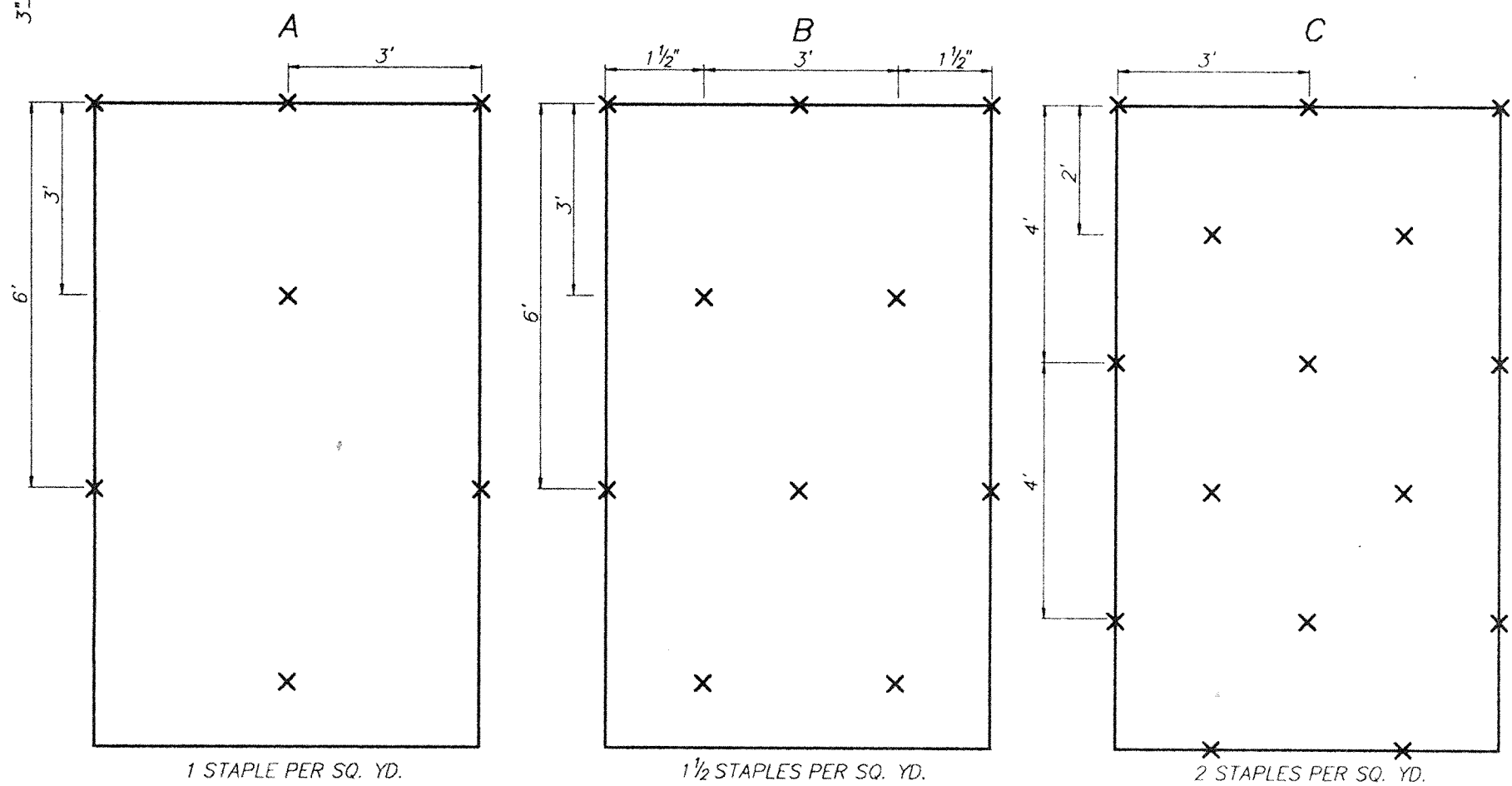


11/05/91 - CHANGED C TO SECTION LINE, REVISED PAVEMENT EDGES ACCORDINGLY, REVISED R/W WIDTH FOR NEW PUBLIC STREET
 08/08/94 - ADD 8' SOUTH SIDE OF 106TH STREET - EXTEND TAPER



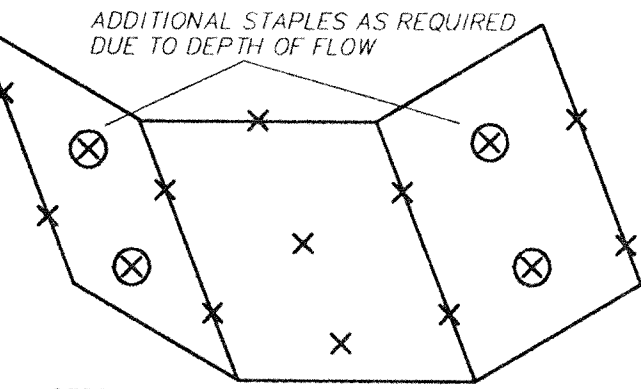
METHOD "A"
STRUCTURE BACKFILL DETAILS
NOT TO SCALE

NOTE:
VC=TOP OF PIPE TO ORIGINAL GROUND LINE OR 2'-0" MIN., WHICHEVER IS GREATER (OR TO SUBGRADE IF 2'-0" MIN. IS UNATTAINABLE) WHEN WITHIN 10' OF ROADWAY.
VC=2' MIN. WHEN OUTSIDE OF 10' FROM ROADWAY
VC=1'-0" MIN. IF D<15"
VC=15" MIN. IF D>15"



GENERAL STAPLE RECOMMENDATIONS

SLOPE LENGTH FT.	B	C	C	C	C
300					
275					
250					
225					
200					
175					
150					
125					
100					
75					
50					
25					



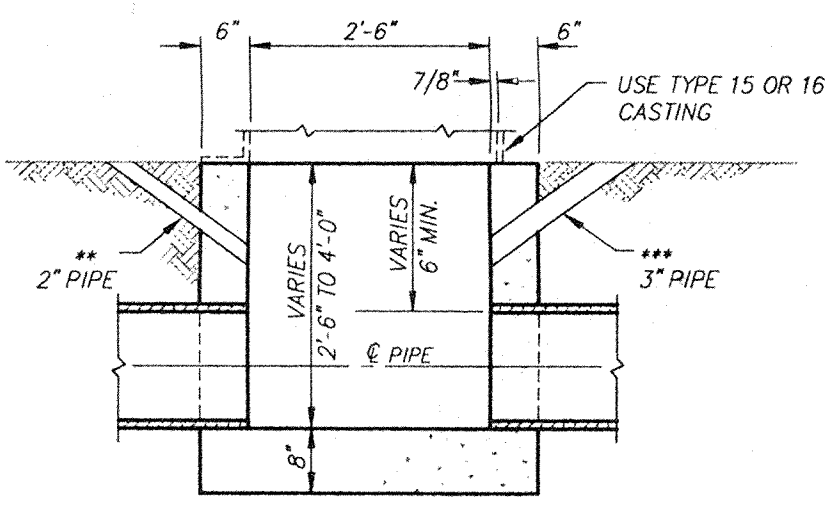
CONCENTRIC CONE
NOT TO SCALE

CONE HEIGHTS *

2'-6"
3'-0"
3'-2"
4'-0"

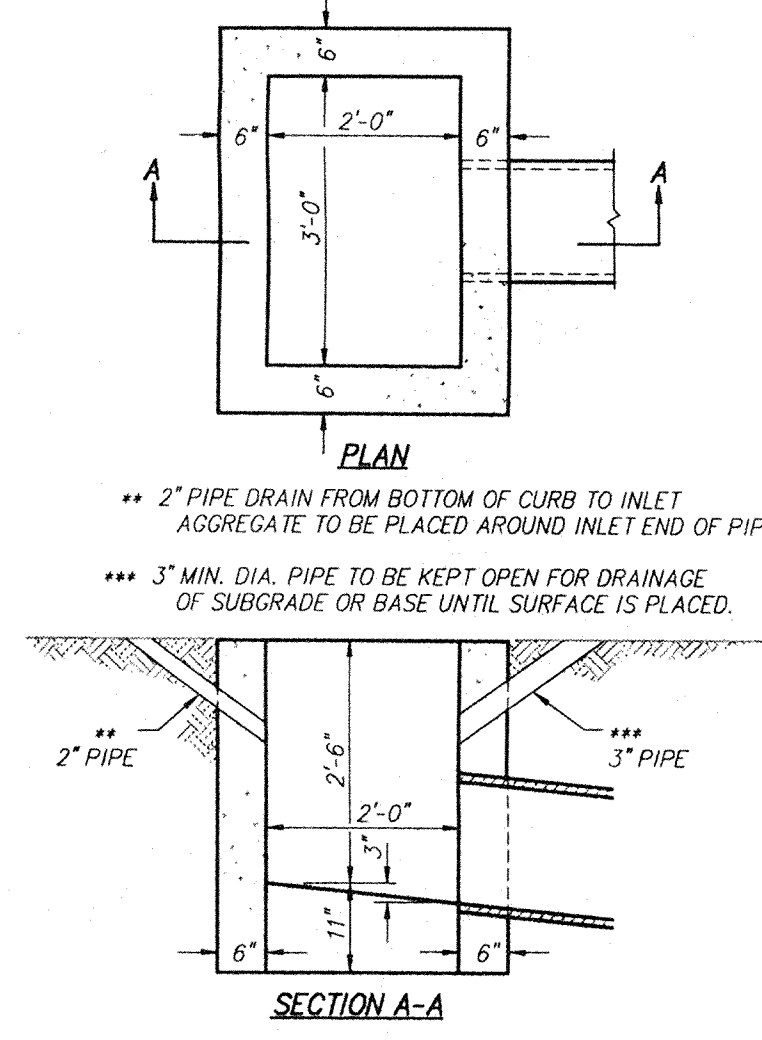
NOTES:
CHANNEL LININGS UTILIZE STAPLE PATTERN "C" WITH ADDITIONAL STAPLES ON SIDE SLOPES AT PROJECTED WATER LINE.
STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN GREEN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE RAINFALL.
AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.

EROSION CONTROL MAT INSTALLATION GUIDE DETAIL
NOT TO SCALE

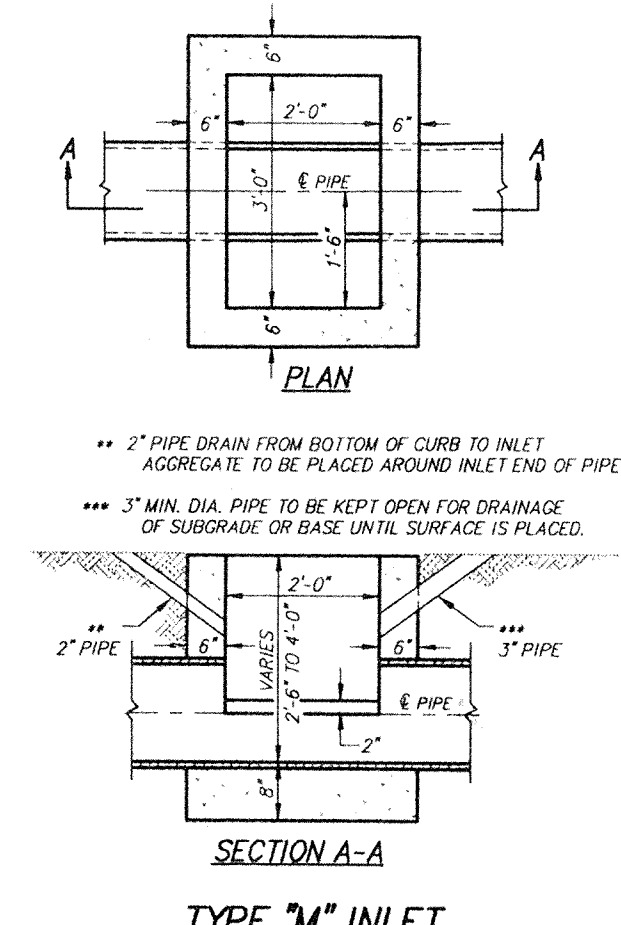


TYPE "C" INLET
NOT TO SCALE

- NOTES:
- CAST-IN-PLACE OR PRECAST INLET SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE I.N.D.O.T. STANDARD SPECIFICATIONS.
 - TYPE "C" INLET IS INTENDED FOR USE PRIMARILY AS A SINGLE CURB LINE INLET AT THE LOW POINT OF A SAG VERTICAL CURVE.
 - WHEN PIPE IS FIELD CONNECTED TO A PRECAST UNIT, THE PRECAST UNIT SHALL INCLUDE A FIELD FURRED CLASS "A" CONCRETE COLLAR OF A 6 INCH MINIMUM LONGITUDINAL AND RADIAL THICKNESS.
- ** 2" PIPE DRAIN FROM BOTTOM OF CURB TO INLET AGGREGATE TO BE PLACED AROUND INLET END OF PIPE
- *** 3" MIN. DIA. PIPE TO BE KEPT OPEN FOR DRAINAGE OF SUBGRADE OR BASE UNTIL SURFACE IS PLACED.

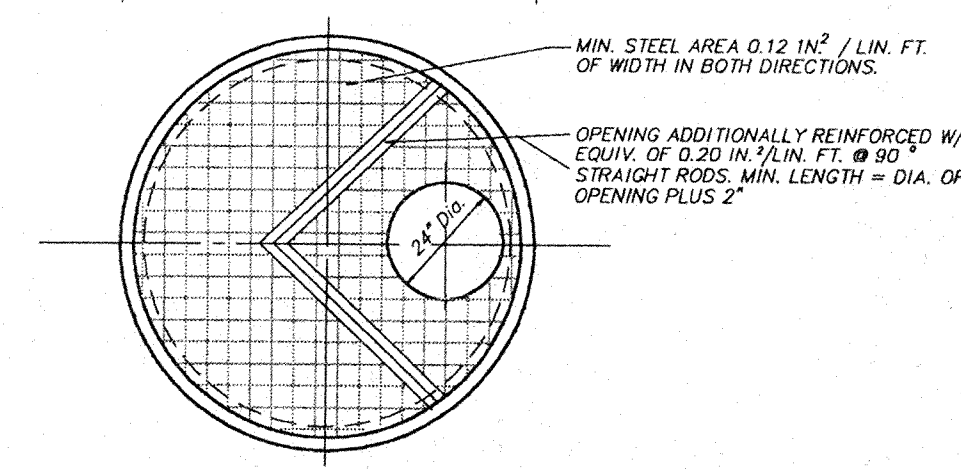


TYPE "J" INLET
NOT TO SCALE

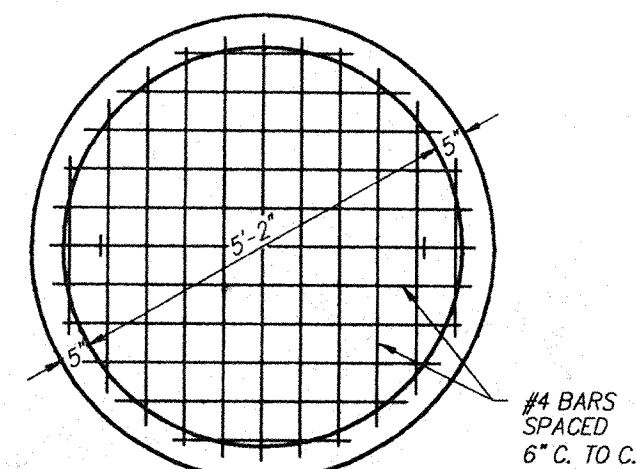


TYPE "M" INLET
NOT TO SCALE

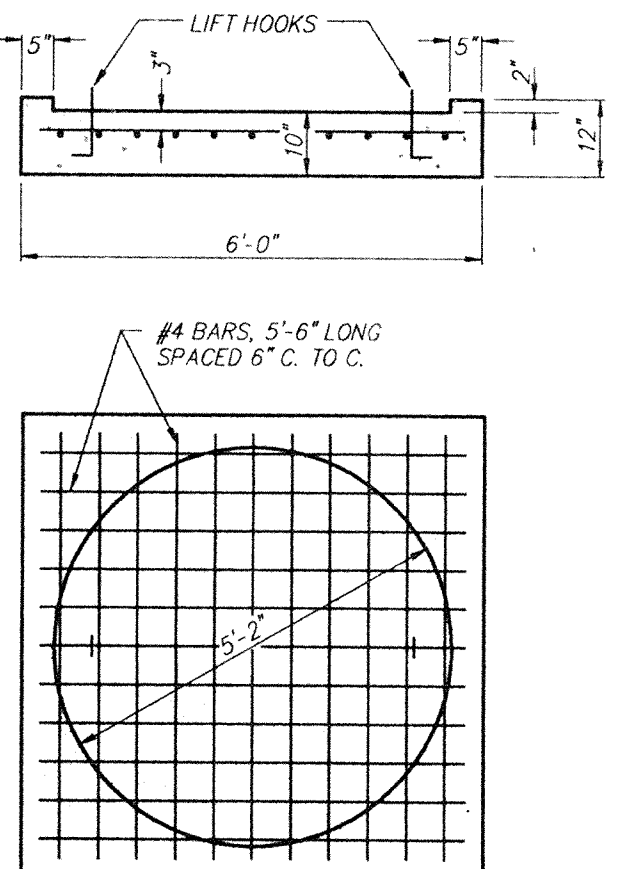
SEC. DIA.	H
60"	6'-0"
72"	7'-2"
96"	9'-6"
102"	10'-1"
108"	10'-8"



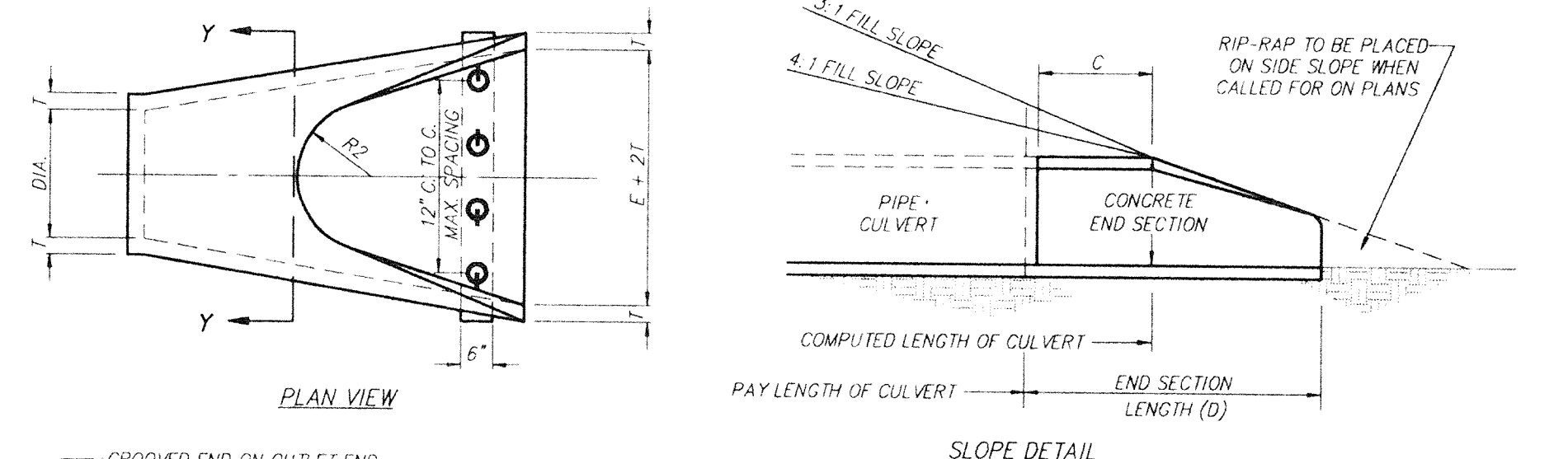
COVER CAP FOR PRE-CAST CONCRETE MANHOLE COVER
NOT TO SCALE



ROUND PRECAST BOTTOM SECTION
NOT TO SCALE



SQUARE PRECAST BOTTOM SECTION
NOT TO SCALE



PRECAST CONCRETE END SECTION

CONCRETE IN THESE END SECTIONS SHALL BE THE SAME GRADE AND STRENGTH AS SPECIFIED FOR REINFORCED CONCRETE PIPE, A.S.T.M. DESIGNATION C-76 (as set out in standard specifications.)

REINFORCEMENT IN THE "C" PORTION SHALL BE THE SAME AS SPECIFIED FOR REINFORCED CONCRETE, A.S.T.M. DESIGNATION C-76 FOR THE SIZE OF CONNECTING PIPE. (as set out in standard specifications.)

REINFORCEMENT IN THE "B" PORTION SHALL HAVE A CROSS SECTIONAL AREA EQUAL TO THAT OF ONE LAYER OF STEEL IN THE "C" PORTION.

THE END OF THE PIPE CULVERT SHALL BE PLACED IN THE CONCRETE END SECTION SO THAT THE FLOW LINES ARE FLUSH. THE JOINT SHALL BE COMPLETELY FILLED WITH MORTAR.

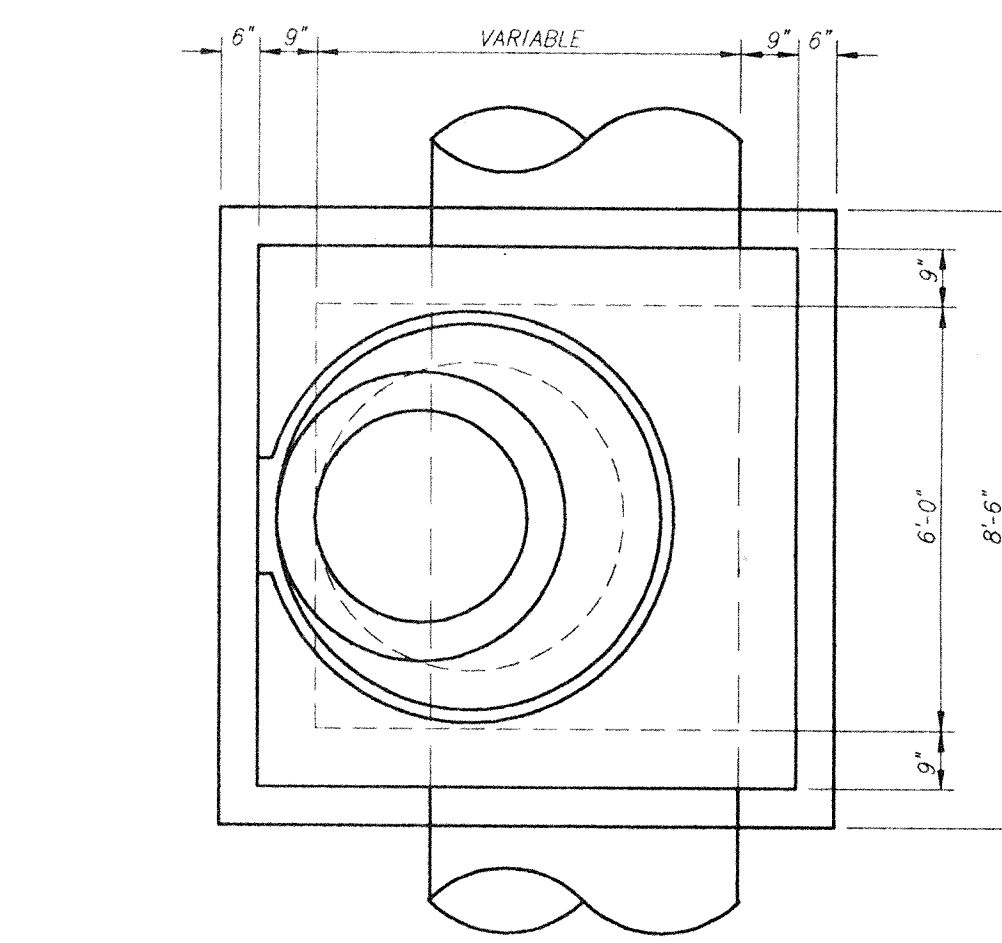
IN 3:1 OR 4:1 FILL SLOPE, CHANGE TO THE SLOPE OF THE END SECTION IN A SMOOTH, PLEASING TRANSITION APPROXIMATELY 10'-0" IN LENGTH.

VARIATIONS IN DIMENSIONS - THE THICKNESS OF THE CONCRETE, THE POSITION OF STEEL, AND THE INTERNAL DIAMETER OF THE PIPE SHALL CONFORM WITH THE VARIATIONS IN DIMENSIONS AS PROVIDED IN THE SPECIFICATIONS FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, A.S.T.M. DESIGNATION C-76.

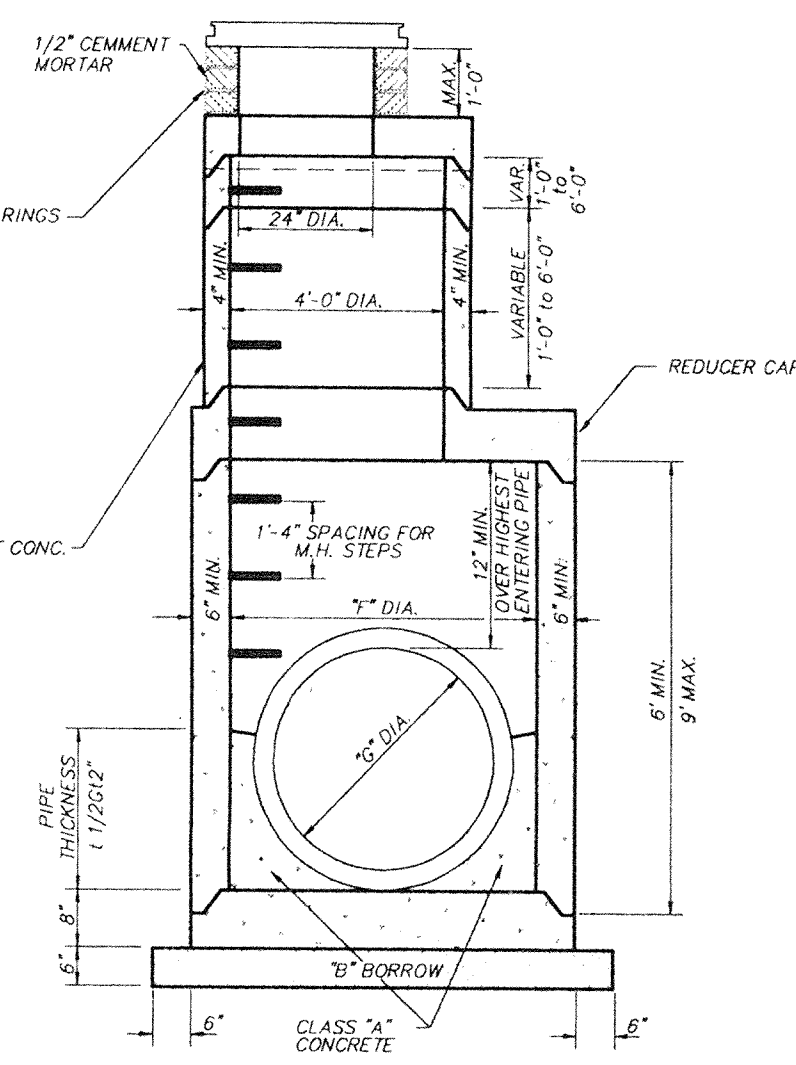
WHERE VITRIFIED CLAY CULVERT OR CAST IRON CULVERT PIPE IS USED, A "PIPE END SECTION" COMPARABLE TO THAT AS SHOWN FOR METAL OR CONCRETE SHALL BE FURNISHED AND SHALL BE AS APPROVED BY THE ENGINEER, EXCEPT IN AREAS OF ACID OR MINE WATER, THEN THE USE OF METAL END SECTION IS PROHIBITED.

END SECTIONS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "PIPE END SECTION" COMPLETE IN PLACE AND ACCEPTED.

CONCRETE PIPE TOE ANCHORS SHALL BE REQUIRED ON ALL CONCRETE PIPE END SECTIONS. THE COST THEREOF SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR "PIPE END SECTION".



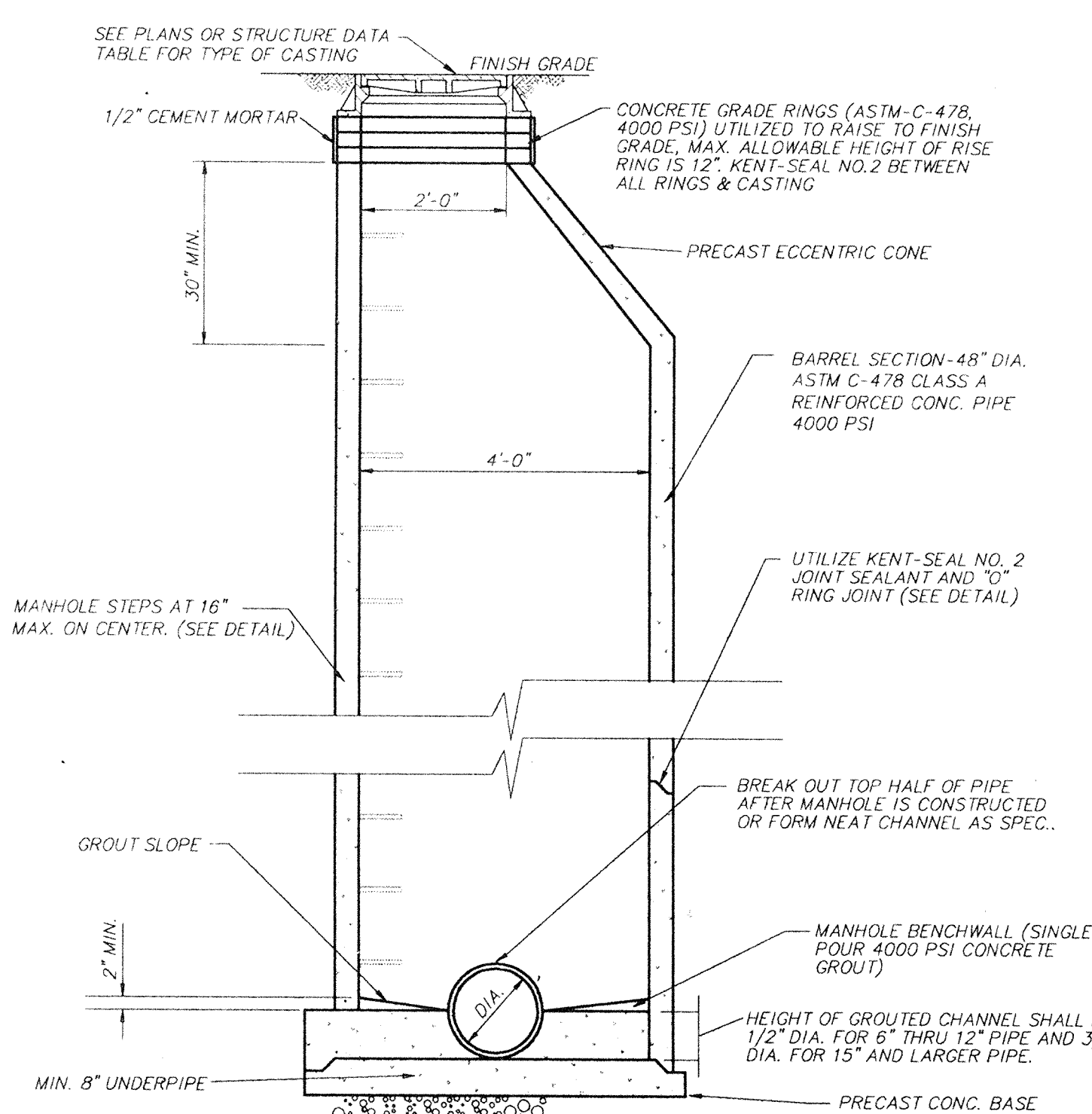
MANHOLE TYPE H
NOT TO SCALE



MANHOLE TYPE J, K, L, M, & N
NOT TO SCALE

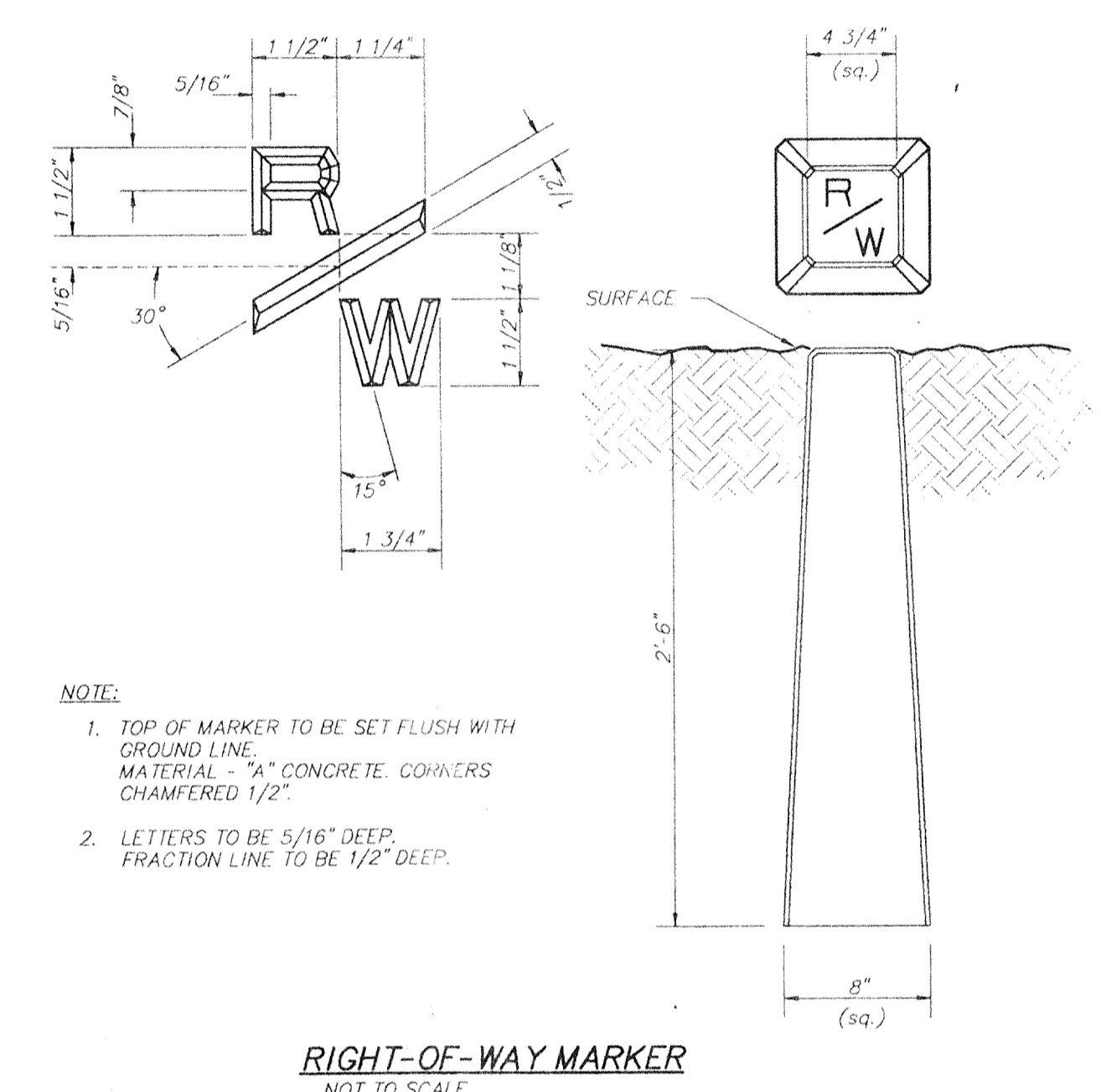
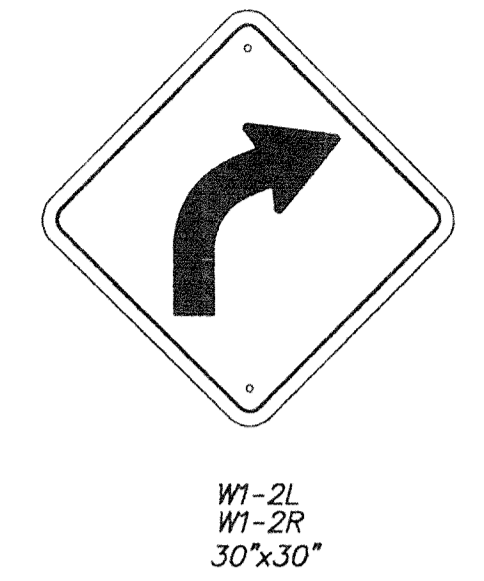
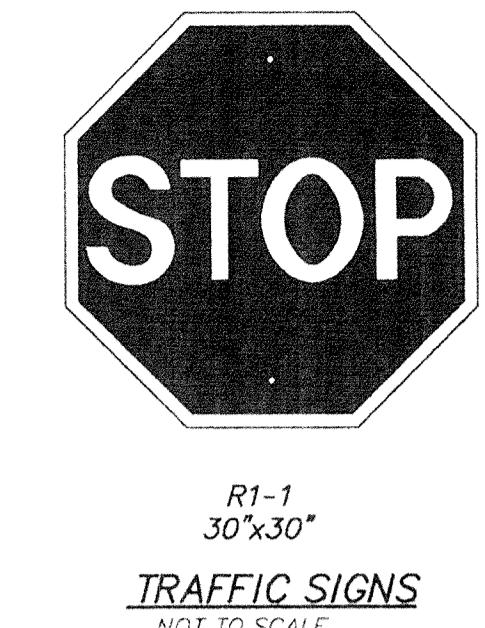
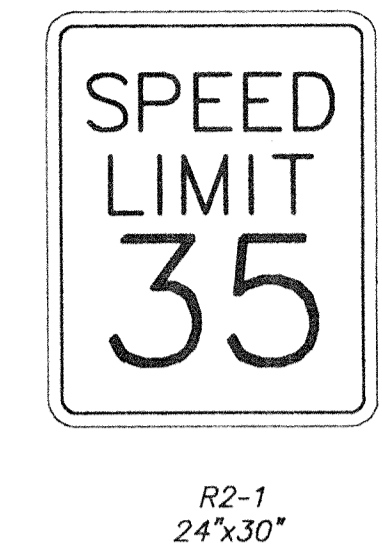
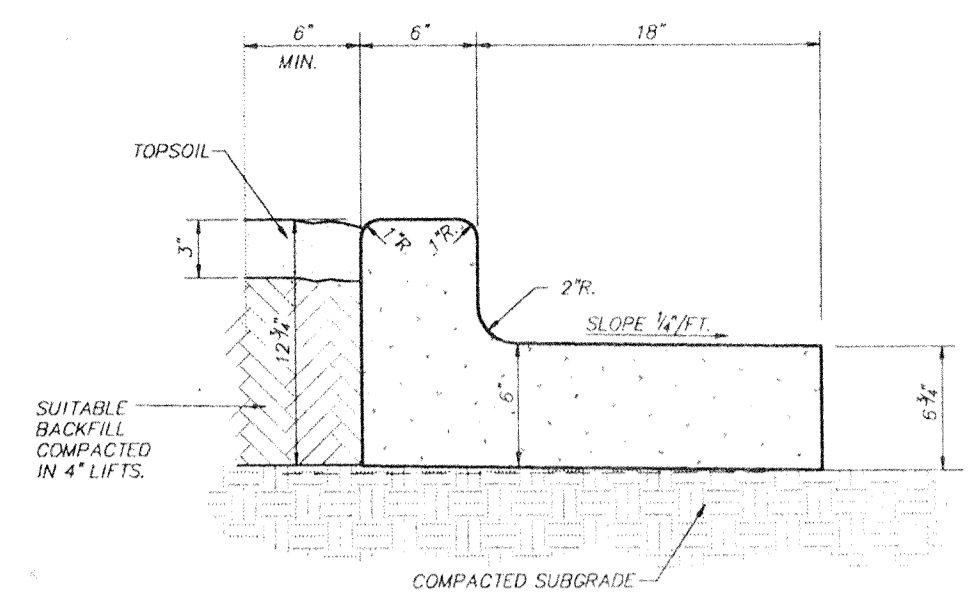
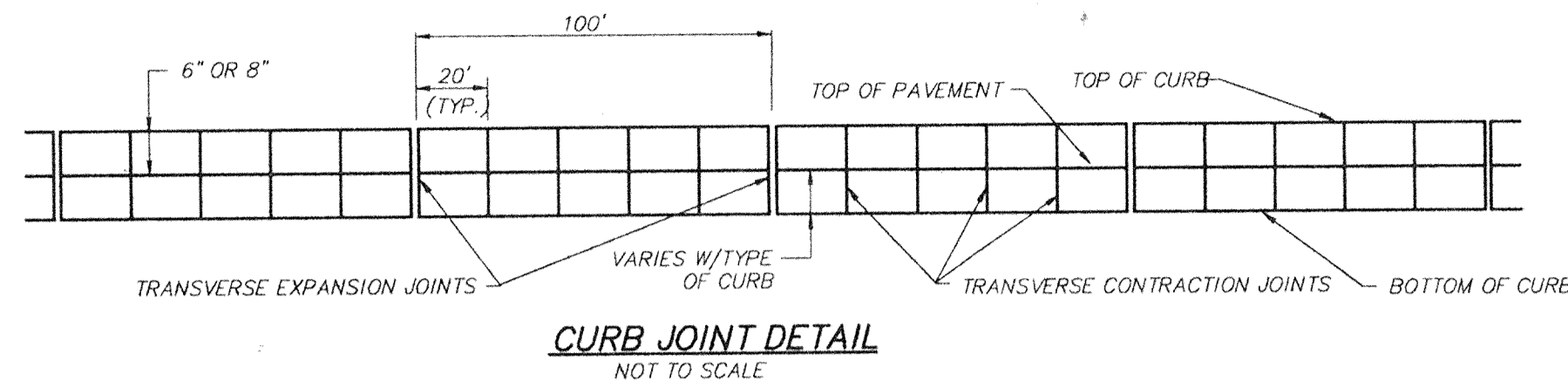
TYPE	C*	T*	MAXIMUM PIPE SIZE RT. TO MAINLINE	MAXIMUM PIPE SIZE FOR MAINLINE
H	24"x36"	30"	36"	36"
J	24"x36"	33"	36"	36"
K	36"x48"	72"	36"	48"
L	48"x54"	96"	48"	54"
M	54"x72"	108"	60"	72"
N	72"x84"	108"	72"	84"

NOTES:
DROP PIPE MAY BE USED WITH MANHOLE TYPE H THRU N AND SHALL BE REFERRED TO AS DROP MANHOLE TYPE H THRU N.

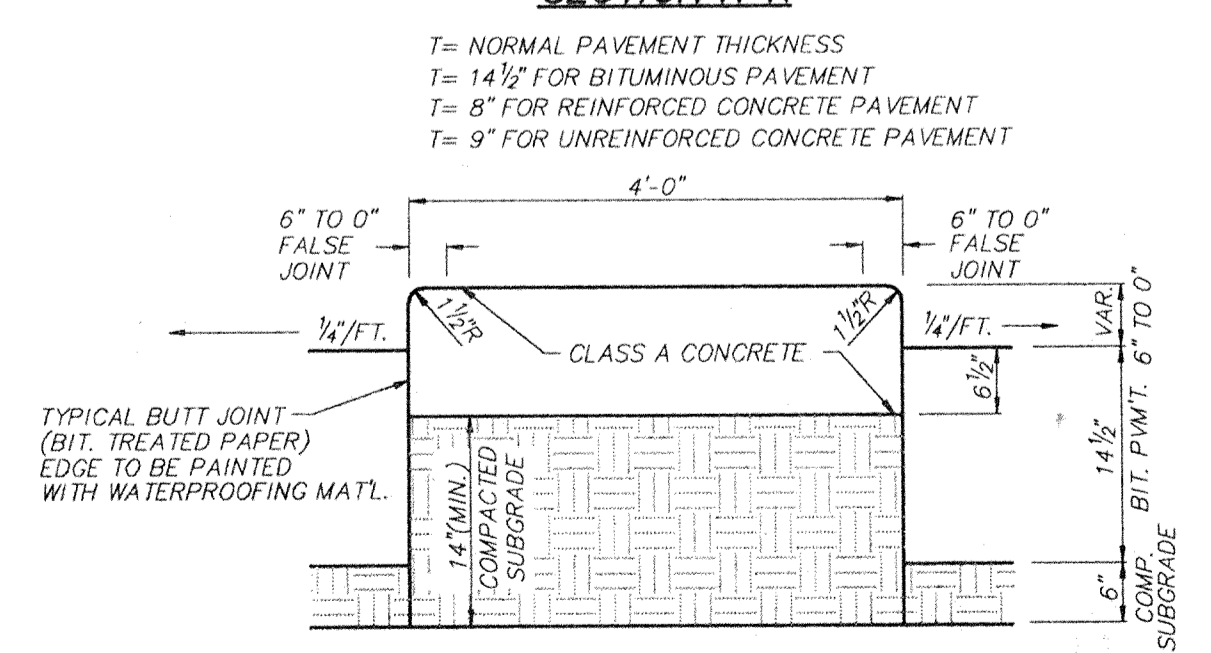
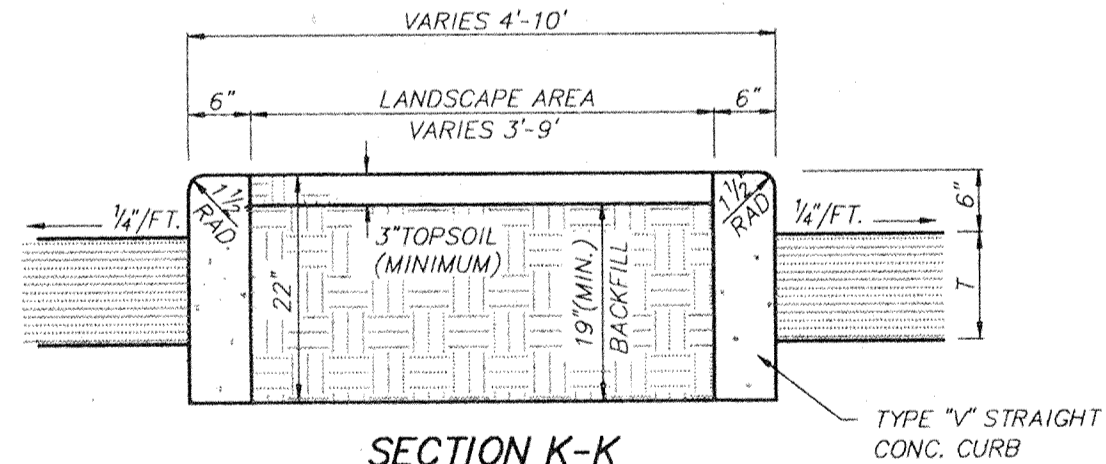
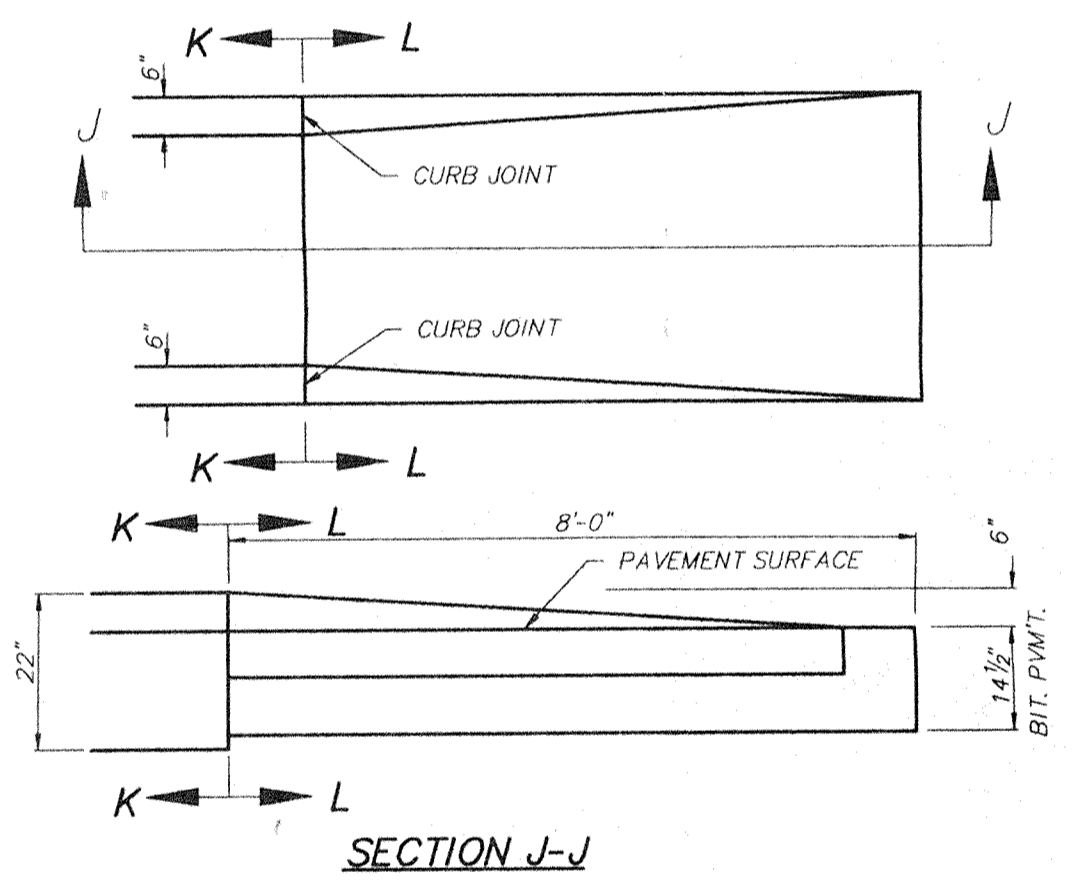


MANHOLE TYPE "C"
NOT TO SCALE

	DETAILS		HAMILTON BUSINESS PARK	
	AMERICAN CONSULTING ENGINEERS, INC. CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING INDIANAPOLIS INDIANA			
SCALE: AS NOTED	REVISIONS:	DATE:	SHEET NO.:	
DATE: 04/18/94			14	
CHECKED BY: R.R.H.	JOB NO. 90-259	MICRD. NO.:	OF 16	



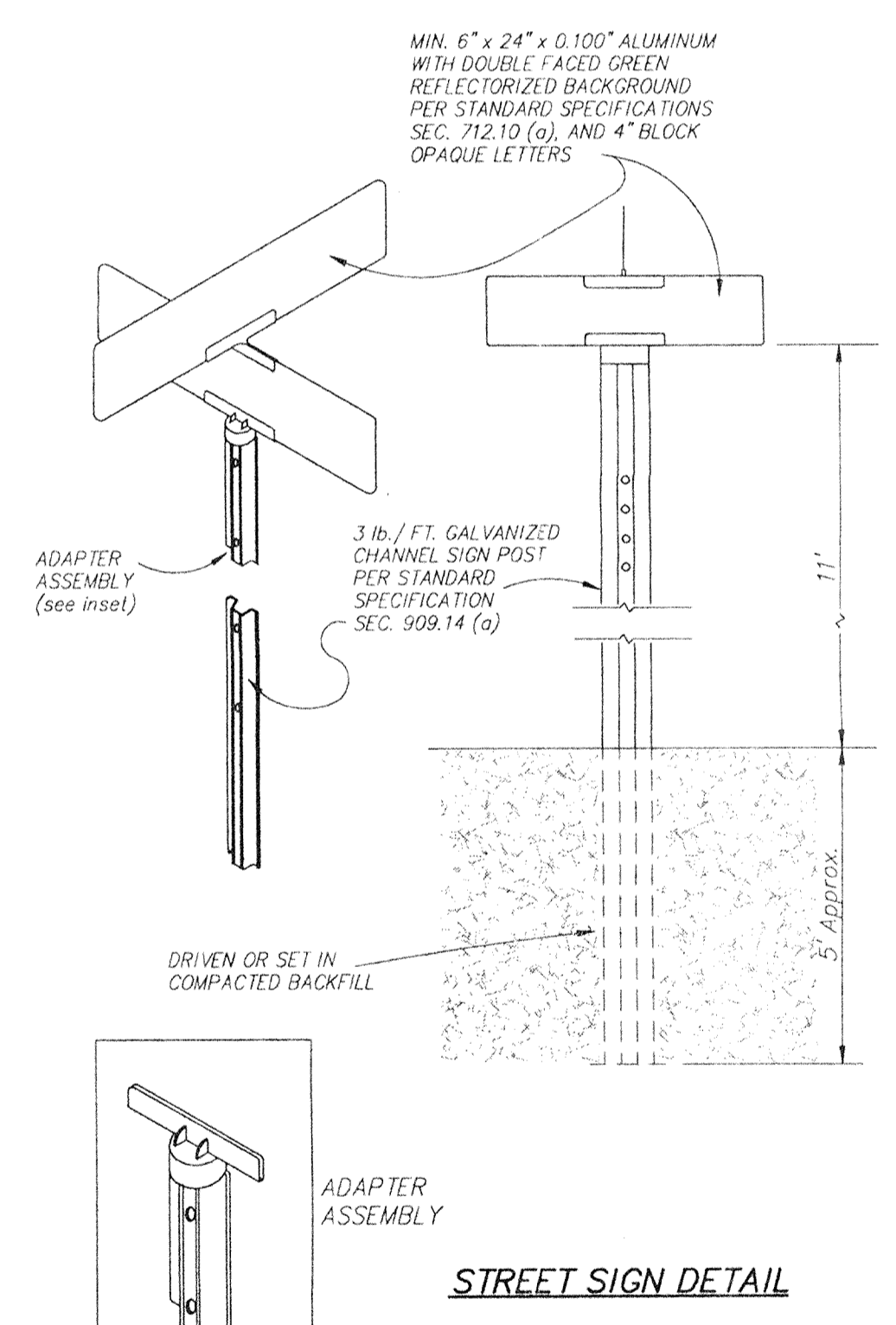
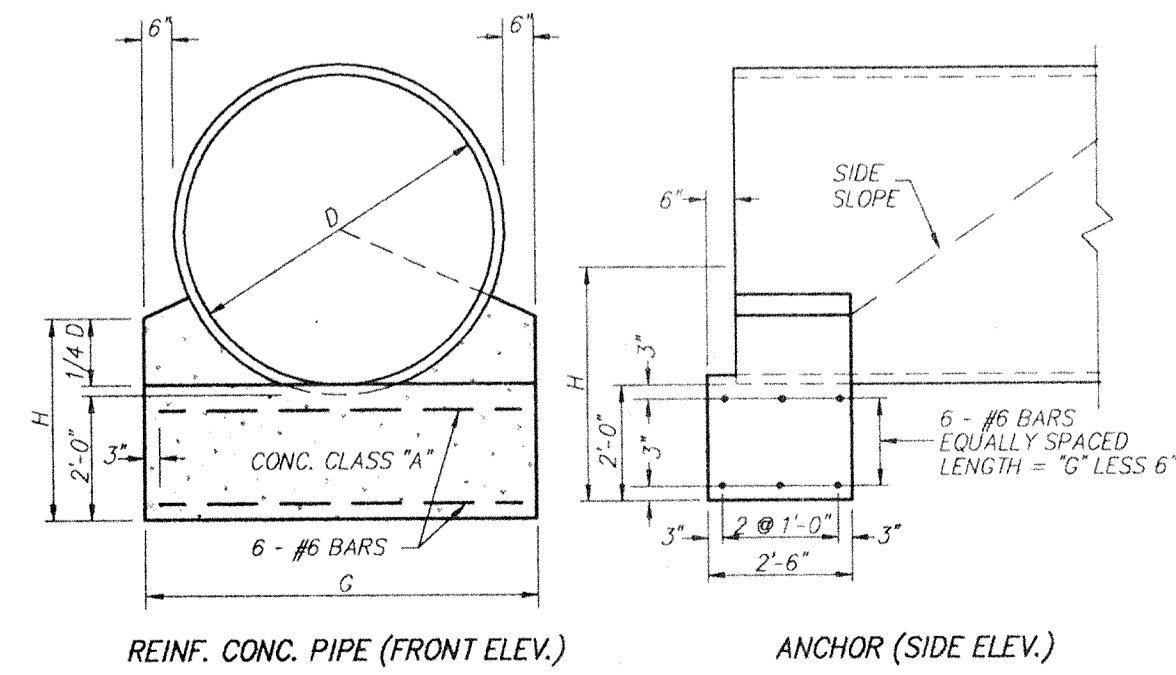
NOTE:
 1. TOP OF MARKER TO BE SET FLUSH WITH GROUND LINE. MATERIAL 4\"/>



T = NORMAL PAVEMENT THICKNESS
 T = 1 1/2\"/>

CONCRETE PIPE ANCHORS			
DIAM.	H	G	C.Y. CONC. 2 ANCHORS
42"	3'-3"	5'-3"	2.5
48"	3'-5"	5'-10"	2.8
54"	3'-7"	6'-5"	3.2
60"	3'-9"	7'-0"	3.5
66"	3'-11"	7'-7"	3.9
72"	4'-1"	8'-2"	4.3
78"	4'-3"	8'-9"	4.7
84"	4'-5"	9'-4"	5.1
90"	4'-7"	9'-11"	5.5
96"	4'-9"	10'-6"	6.0
102"	4'-11"	11'-1"	6.4
108"	5'-1"	11'-8"	6.9
114"	5'-3"	12'-3"	7.4
120"	5'-5"	12'-10"	7.8
126"	5'-7"	13'-5"	8.3
132"	5'-9"	14'-0"	8.8
138"	5'-11"	14'-7"	9.4
144"	6'-1"	15'-2"	9.9

LEGEND
 C.M. = CORRUGATED METAL
 C.A. = CORRUGATED METAL
 C.S. = CORRUGATED STEEL



- PROVIDE THE FOLLOWING STREET SIGNS
- 106th ST. & COMMERCE DRIVE
 - COMMERCE DRIVE & NORTHWESTERN DRIVE
 - COMMERCE DRIVE & CARWINION WAY

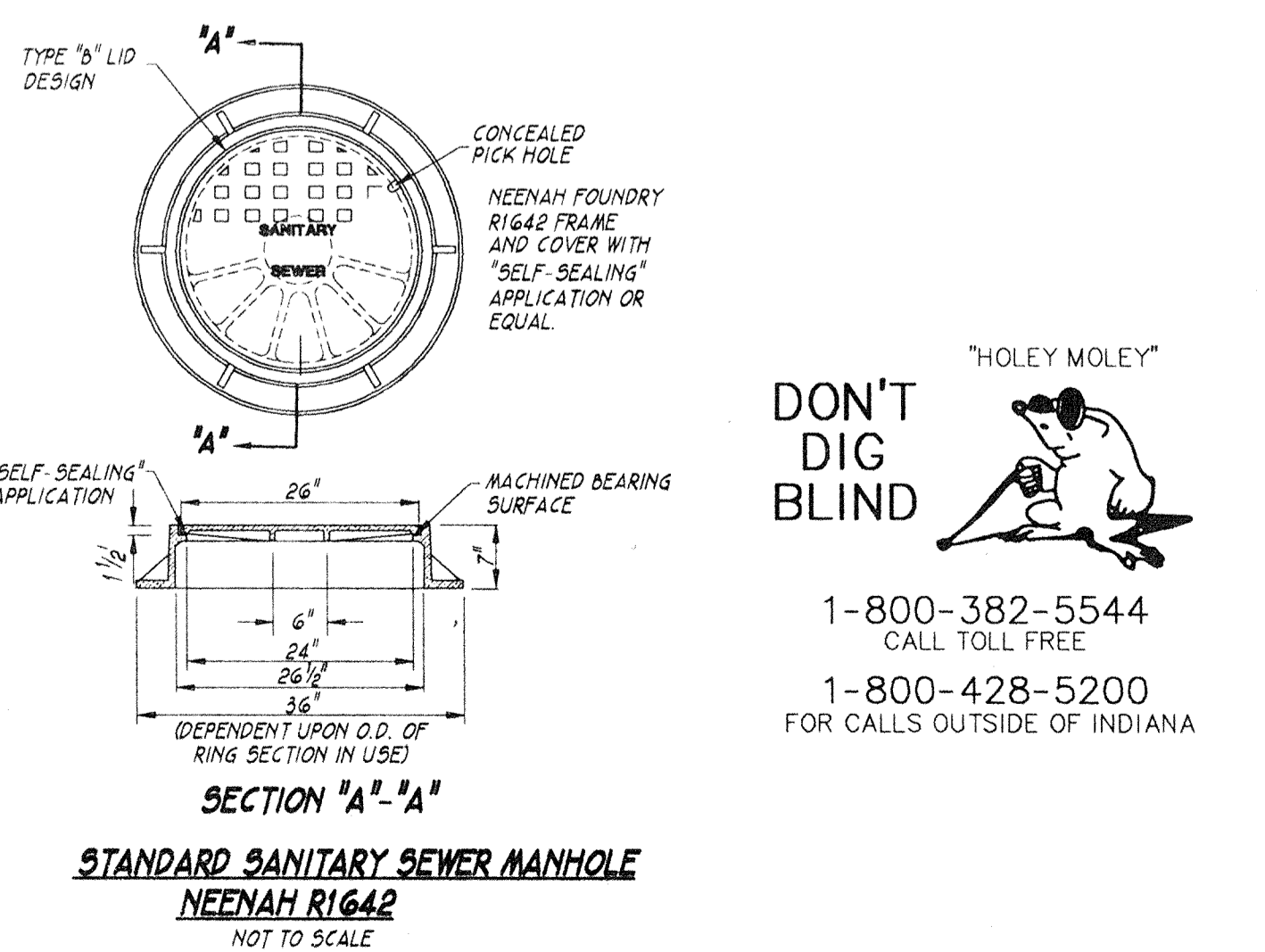
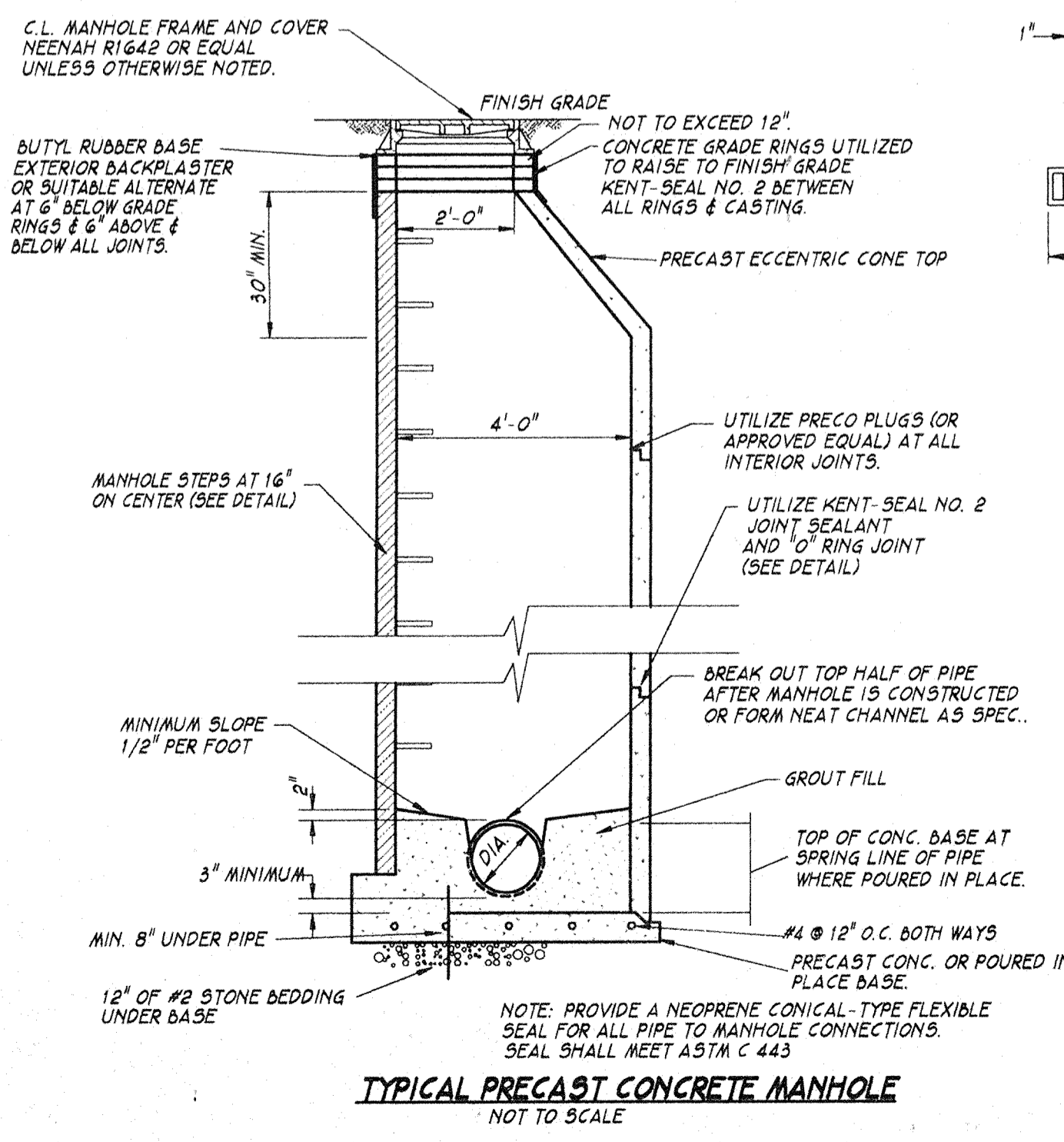
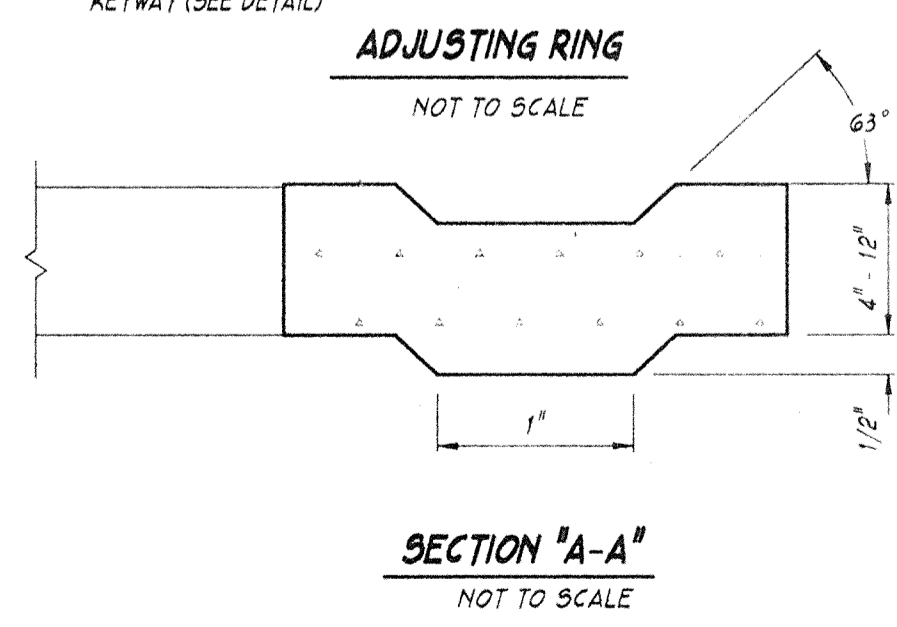
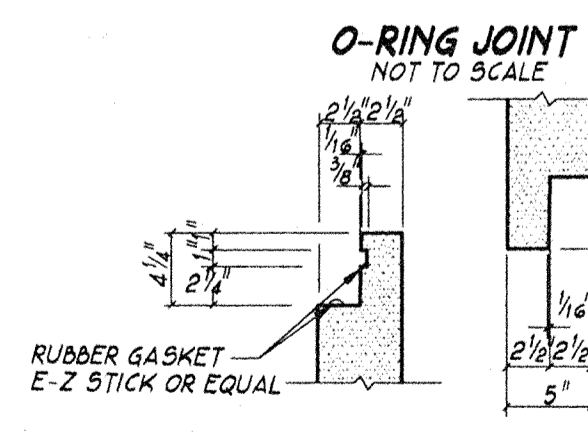
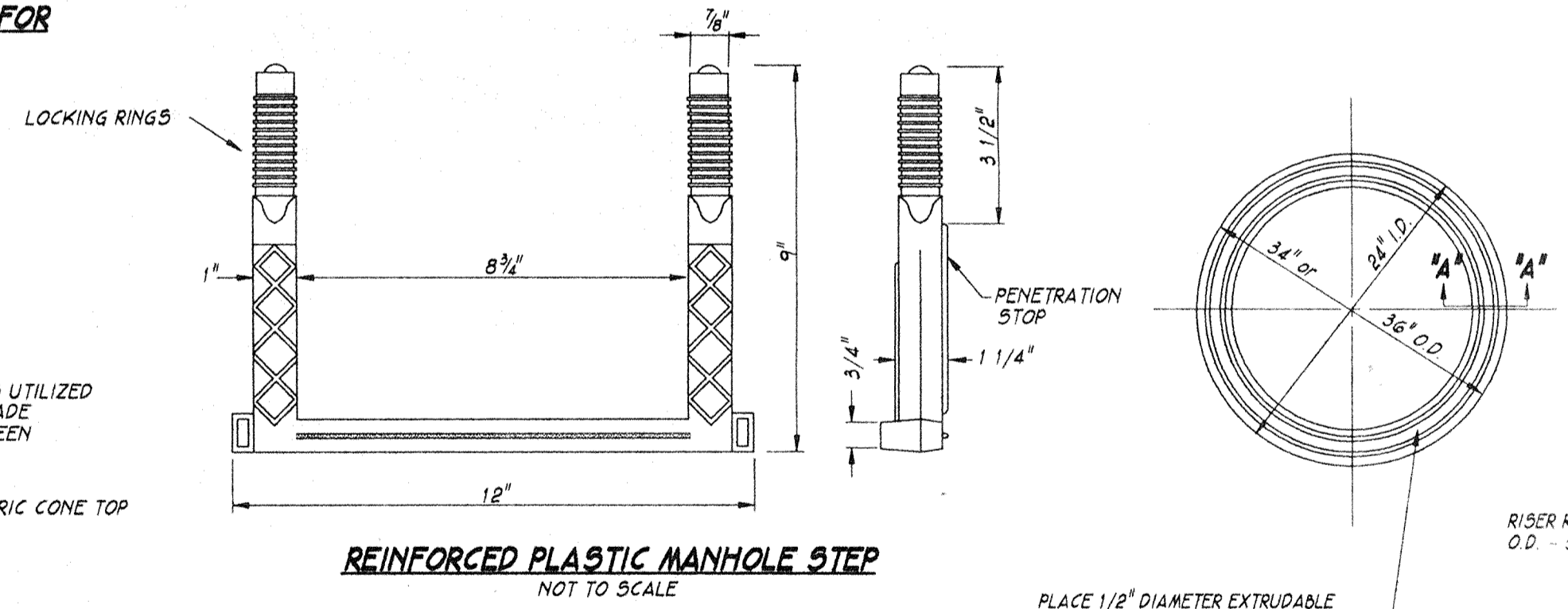
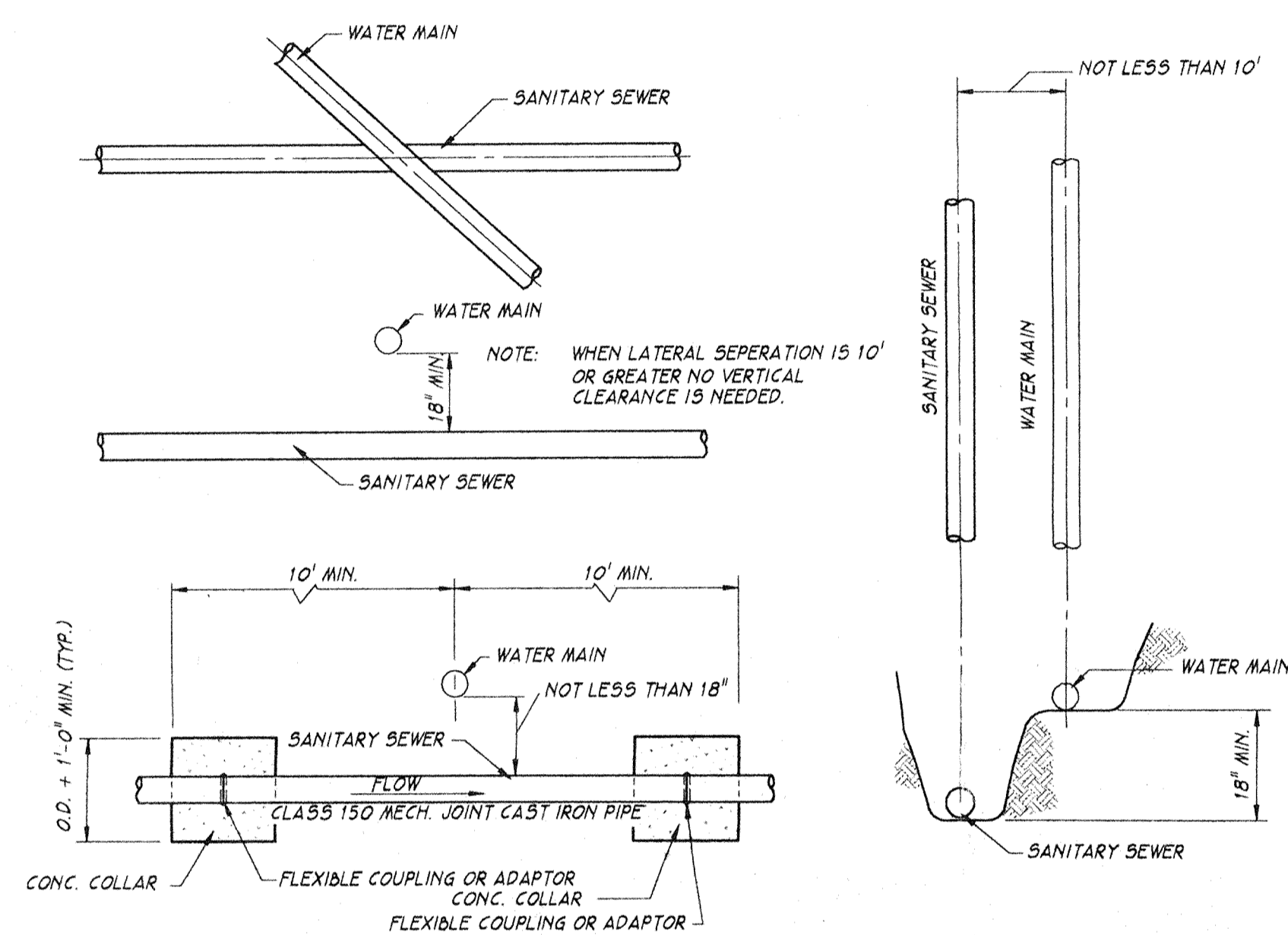
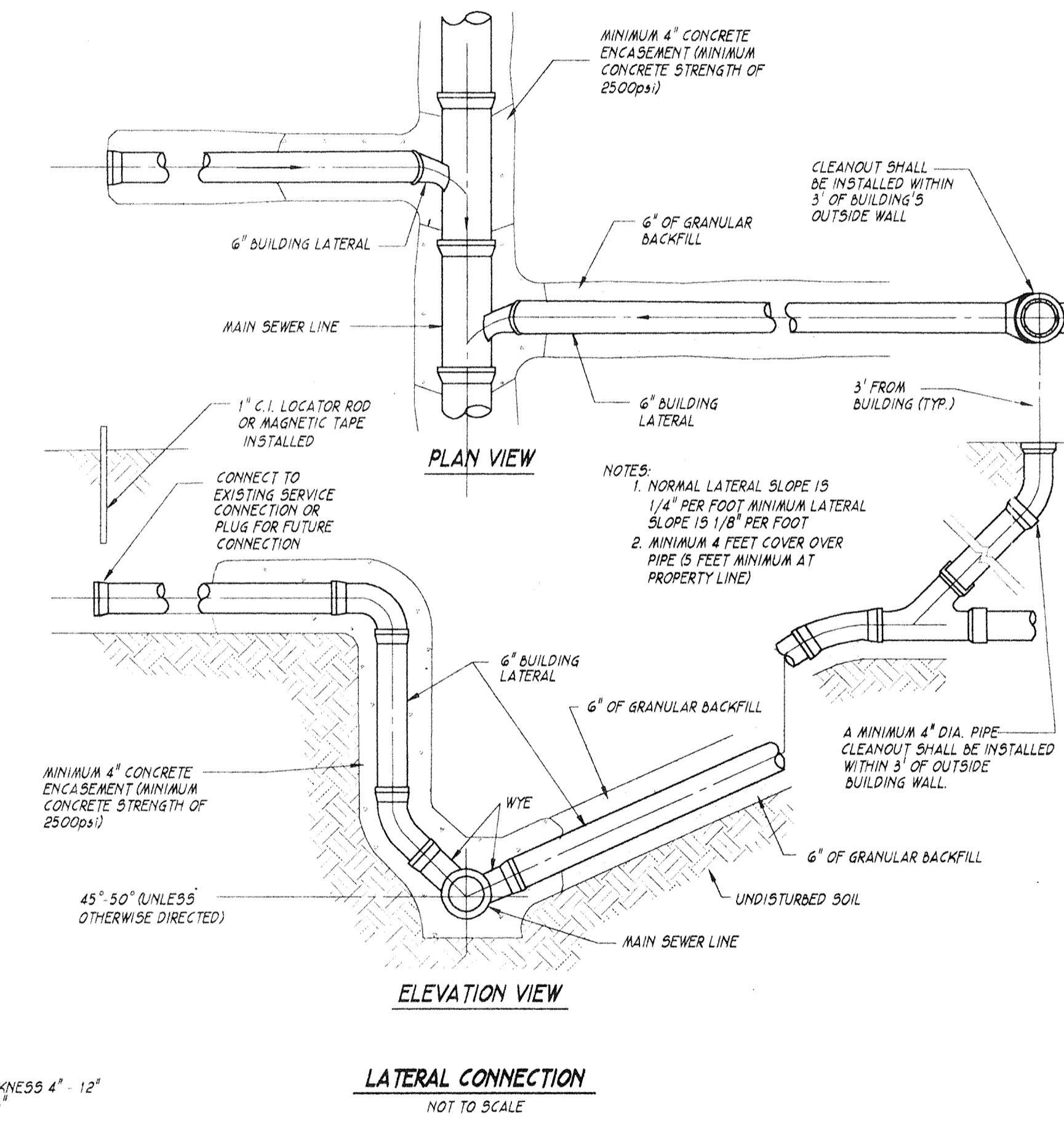
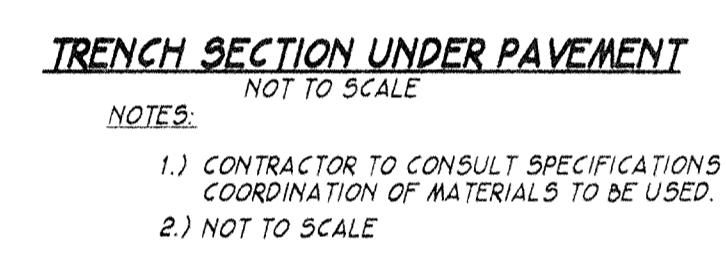
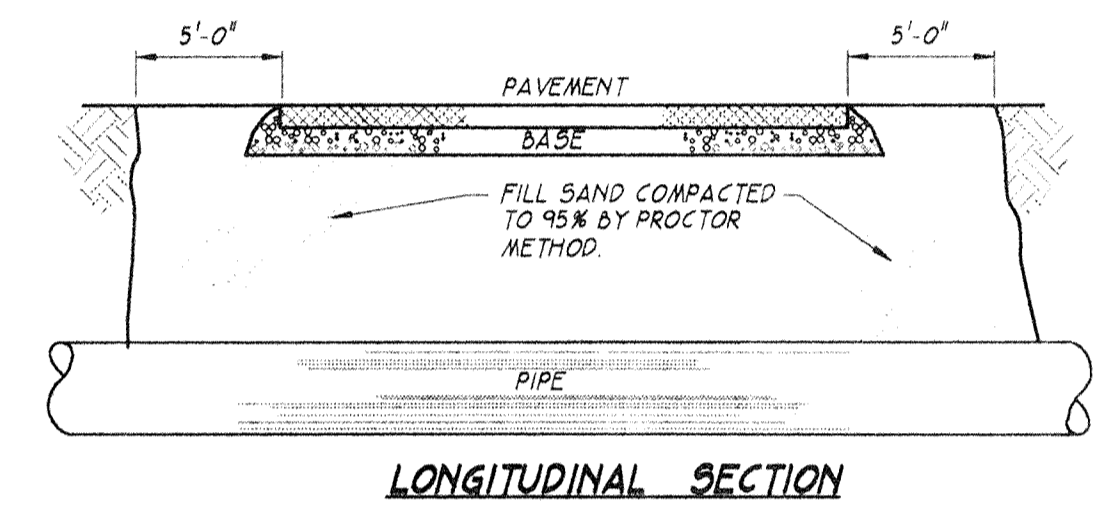
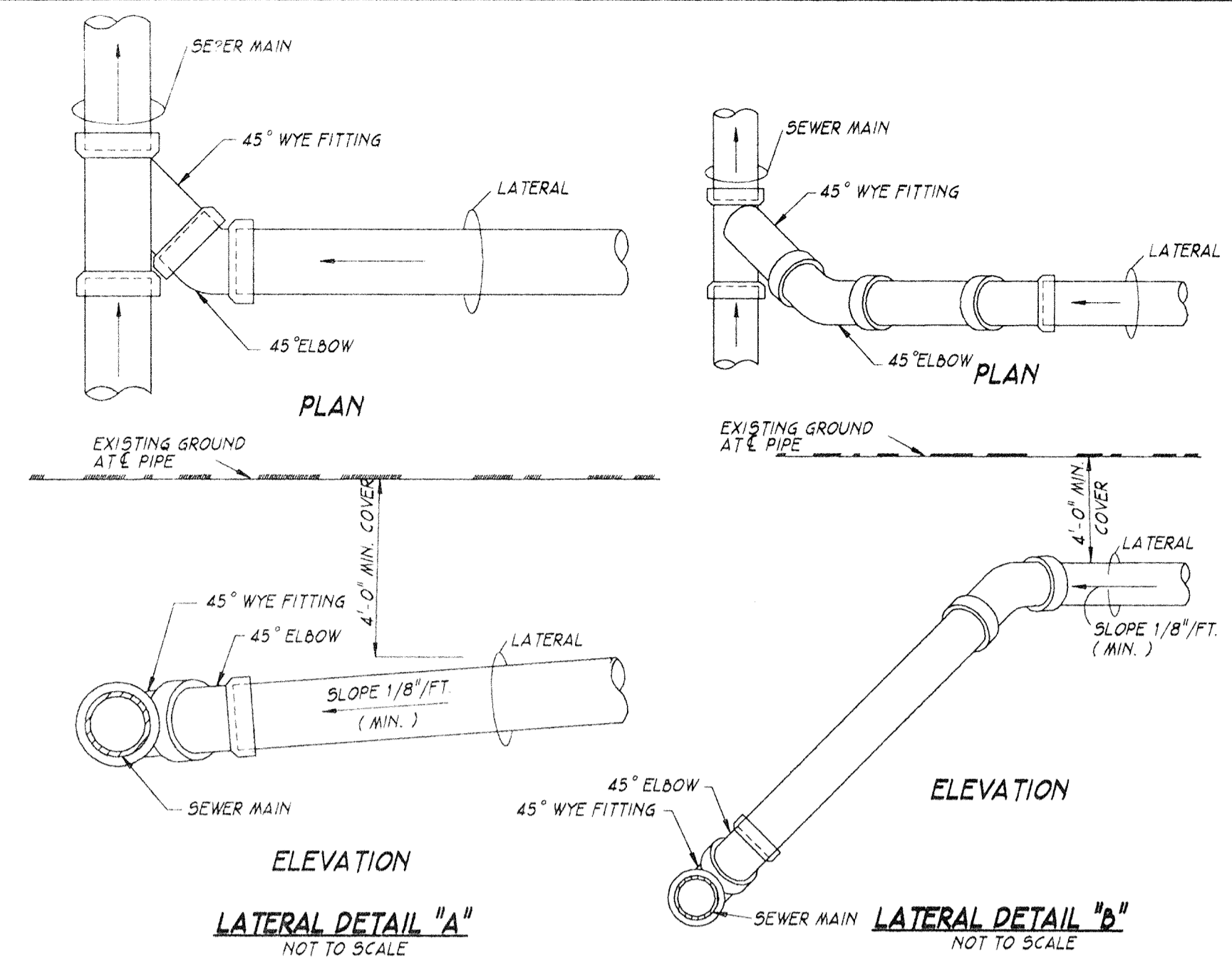
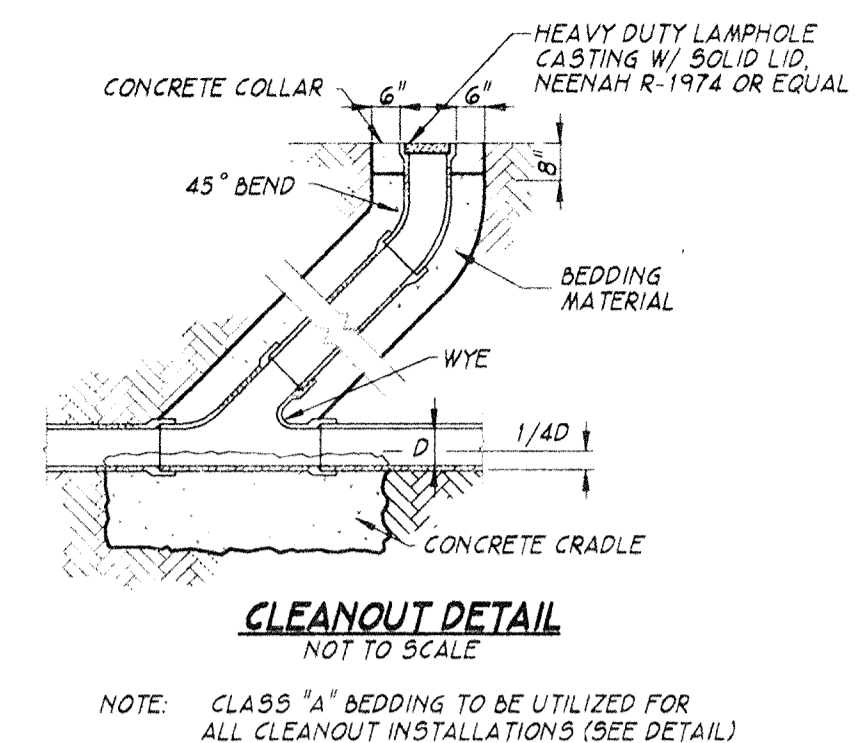
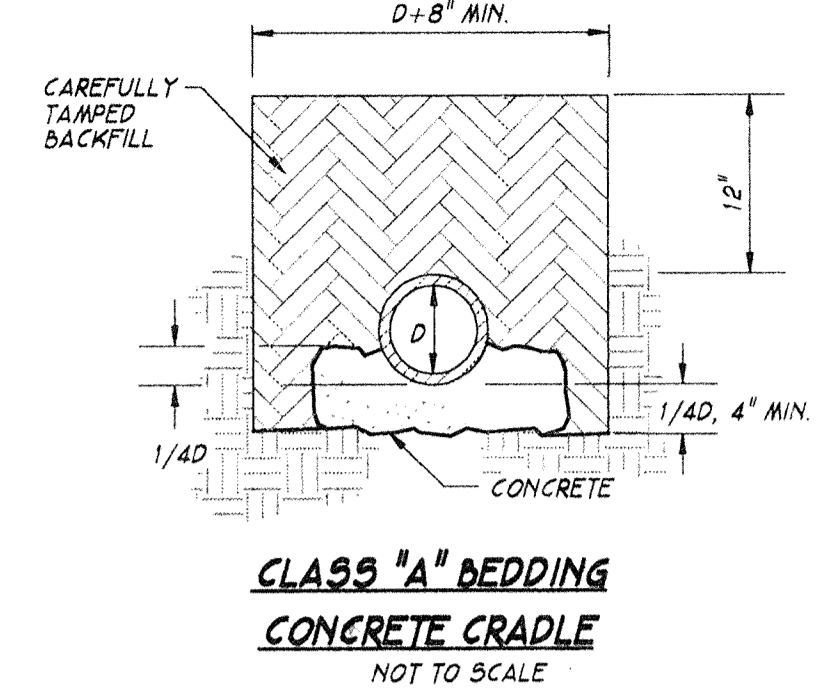
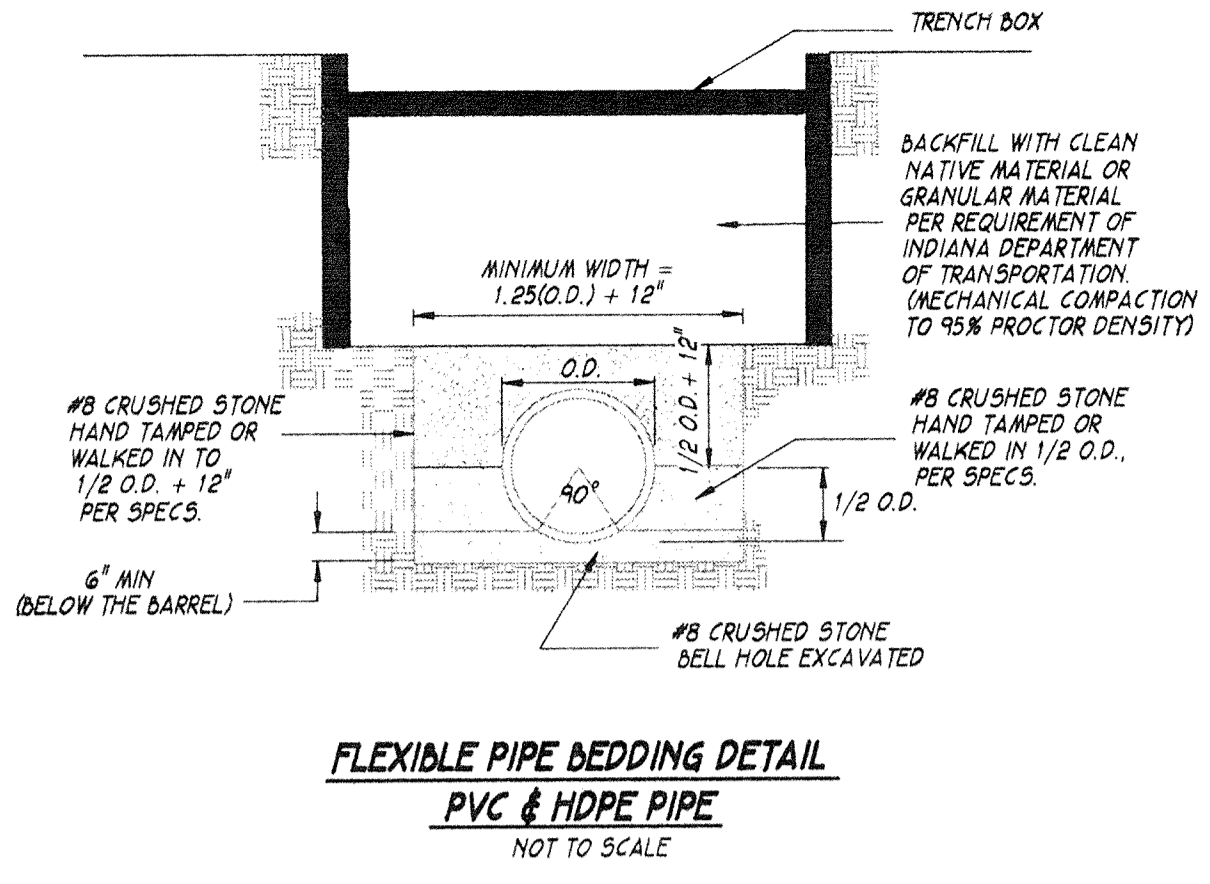
FILED
 APR 17 1995
 OFFICE OF HAMILTON COUNTY SURVEYOR

DETAILS		HAMILTON BUSINESS PARK	
		AMERICAN CONSULTING ENGINEERS, INC. CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING INDIANAPOLIS INDIANA	
SCALE: AS NOTED	REVISIONS:	DATE:	SHEET NO.
DATE: 04/18/94			15
DRAWN BY: J.C.S.	CHECKED BY: R.R.H.	JOB NO. 90-259	MICRO. NO. OF 16

SPECIFICATIONS

SANITARY SEWER CONSTRUCTION

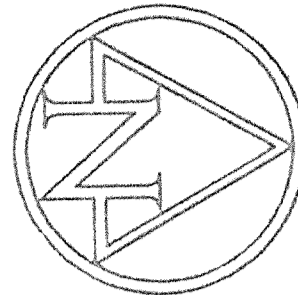
- A. LOCAL COUNTY AND STATE SPECIFICATIONS SHALL PREVAIL AS TO MATERIALS AND METHODS OF CONSTRUCTION.
 - B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING OR VERIFYING ALL PERMITS FOR ALL OR PORTIONS OF THIS PROJECT PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER & THE CLAY TOWNSHIP REGIONAL WASTE DISTRICT (844-9200) 48 HOURS BEFORE BEGINNING CONSTRUCTION.
 - C. SANITARY SEWERS SHALL BE INSTALLED IN ACCORDANCE WITH THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT REQUIREMENTS.
 - D. SANITARY SEWERS SHOWN ON THE CONSTRUCTION PLANS SHALL BE POLYVINYL CHLORIDE PIPE IN ACCORDANCE WITH A.S.T.M. D-3034 (S.D.R. 35). ALL JOINTS SHALL BE ELASTOMERIC GASKET TYPE (WITH A "LOCKED IN" RUBBER SEALING RING) PROVIDING A WATER TIGHTSEAL AND CONFORMING TO THE REQUIREMENTS OF A.S.T.M. D3212 "SPECIFICATION FOR JOINTS AND DRAIN AND SEWER PLASTIC PIPES USING FLEXIBLE ELASTOMERIC SEALS" ALL PIPE SHALL HAVE A MINIMUM CELL CLASSIFICATION OF 12454-B AS DEFINED IN A.S.T.M. D-1784.
 - E. GRANULAR BACKFILL SHALL BE REQUIRED UNDER ALL PAVEMENT AREAS AND WITHIN 5' OF THE EDGE OF PAVEMENT.
 - F. SANITARY MANHOLES SHALL BE PRECAST CONCRETE IN ACCORDANCE WITH A.S.T.M. C-478 AND SHALL BE WATER PROOFED TO 6" BELOW ALL GRADE RINGS AND 6" ABOVE & BELOW ALL EXTERIOR JOINTS. THE INTERIOR OF ALL MANHOLES SHALL HAVE PRECO, OR AN APPROVED EQUAL, AT ALL JOINTS.
 - G. CASTING SHALL BE AS NOTED ON PLAN.
 - H. PLASTIC SANITARY SEWERS SHALL BE MARKED FOR EASY IDENTIFICATION.
 - I. WATER AND SEWER LINE CROSSING AND SEPARATIONS SHALL BE IN ACCORDANCE WITH TEN STATE STANDARDS AND LOCAL CODES.
 1. 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.
 2. WHERE WATER LINES AND SANITARY SEWER LINES RUN PARALLEL WITH ONE ANOTHER, A MINIMUM OF 10' HORIZONTAL SEPARATION SHALL BE MAINTAINED.
 - J. ALL FUTURE SEWER INSTALLATION, EITHER CONNECTED TO OR EXTENDED FROM THIS SYSTEM, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THESE SPECIFICATIONS.
 - K. NO ROOF DRAINS, FOOTING DRAINS, AND/OR SURFACE WATER DRAINS MAY BE CONNECTED TO THE SANITARY SEWER SYSTEM, INCLUDING A TEMPORARY CONNECTION DURING CONSTRUCTION.
 - L. BUILDINGS SHALL BE SERVICED BY A 6" MINIMUM SANITARY SEWER LATERAL MEETING THE CRITERIA OF A.S.T.M. D 3034 (S.D.R. 35) WITH GASKETED JOINTS. THE SEWER LATERAL'S TERMINATION SHALL BE A MINIMUM OF 5' DEEP AT THE PROPERTY LINE AND SHALL BE INDICATED ON THE SURFACE WITH A METAL POST SET IMMEDIATELY ABOVE SAID TERMINATION POINT. THE ENDS SHALL BE PLUGGED AND SEALED TO BE WATER TIGHT.
 - M. MANHOLE INVERTS SHALL BE SHAPED FOR FLOW CHANNELS WITH CONCRETE AND SMOOTHLY FINISHED BY A U-SHAPED SECTION CONFORMING TO THE INSIDE DIAMETER OF THE CONNECTING SEWERS. CHANGES IN THE SIZE AND GRADE SHALL BE MADE SMOOTH TRUE CURVES FOR ALL CONNECTING SEWERS AT EACH MANHOLE.
 - N. CONCRETE RISER SECTIONS SHALL HAVE BOTH "O" RINGS WHICH MEET A.S.T.M. C-433, & A NOMINAL 1/2" SIZE BUTYL RUBBER BASE GASKET MATERIAL CONFORMING TO AASHTO M-198 & FEDERAL SPECIFICATION 55-5-210A.
 - O. MANHOLE WATERSTOPS SHALL BE INSTALLED AT THE CONNECTIONS TO MANHOLES, WHERE FLEXIBLE-TYPE MANHOLE CONNECTIONS ARE NOT USED.
 - P. ALL PRECAST MANHOLES SHALL BE BEDDED ON A #2 STONE BEDDING FOUNDATION AS SHOWN IN THE DETAILS.
 - Q. THE CONTRACTOR SHALL REMOVE BY PUMPING OR OTHER SUITABLE METHODS ANY WATER WHICH MAY ACCUMULATE IN TRENCHES.
 - R. PIPE SHALL BE LAID IN OPEN TRENCHES, EXCEPT WHEN CONDITIONS REQUIRE, AND THE APPROPRIATE APPROVING AGENCIES GIVE WRITTEN PERMISSION FOR TUNNELING OR JACKING OF PIPE.
 - S. TRENCH SHALL BE OPENED SUFFICIENTLY AHEAD OF PIPE LAYING TO REVEAL OBSTRUCTIONS, AND SHALL BE PROPERLY PROTECTED AND/OR BARRICADED WHEN LEFT UNATTENDED.
 - T. CONTRACTOR SHALL BE RESPONSIBLE FOR SHEETING AND BRACING OF TRENCHES AS NECESSARY TO PROTECT WORKMEN AND ADJACENT STRUCTURES. ALL TRENCHING SHALL BE DONE IN ACCORDANCE WITH O.S.H.A. STANDARDS TO PROTECT WORKMEN.
 - U. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTS FOR INFILTRATION/EXFILTRATION AND DEFLECTION AS ESTABLISHED BY THE THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
- ALL TESTING SHALL BE COMPLETED AFTER FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS AND SHALL BE OBSERVED BY A PROFESSIONAL ENGINEER FOR CERTIFICATION WITHIN FORTY DAYS AFTER COMPLETION. ANY PORTIONS NOT PASSING SAID TESTS FOR ACCEPTANCE SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE, INCLUDING REEXCAVATION AND BACKFILL.
- V. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH "AS BUILT" LOCATIONS AND INFORMATION FOR ALL SANITARY SEWER LATERALS WITHIN TEN DAYS AFTER COMPLETION. THESE PLANS SHALL BE SUBMITTED TO THE CLAY TOWNSHIP REGIONAL WASTE DISTRICT.



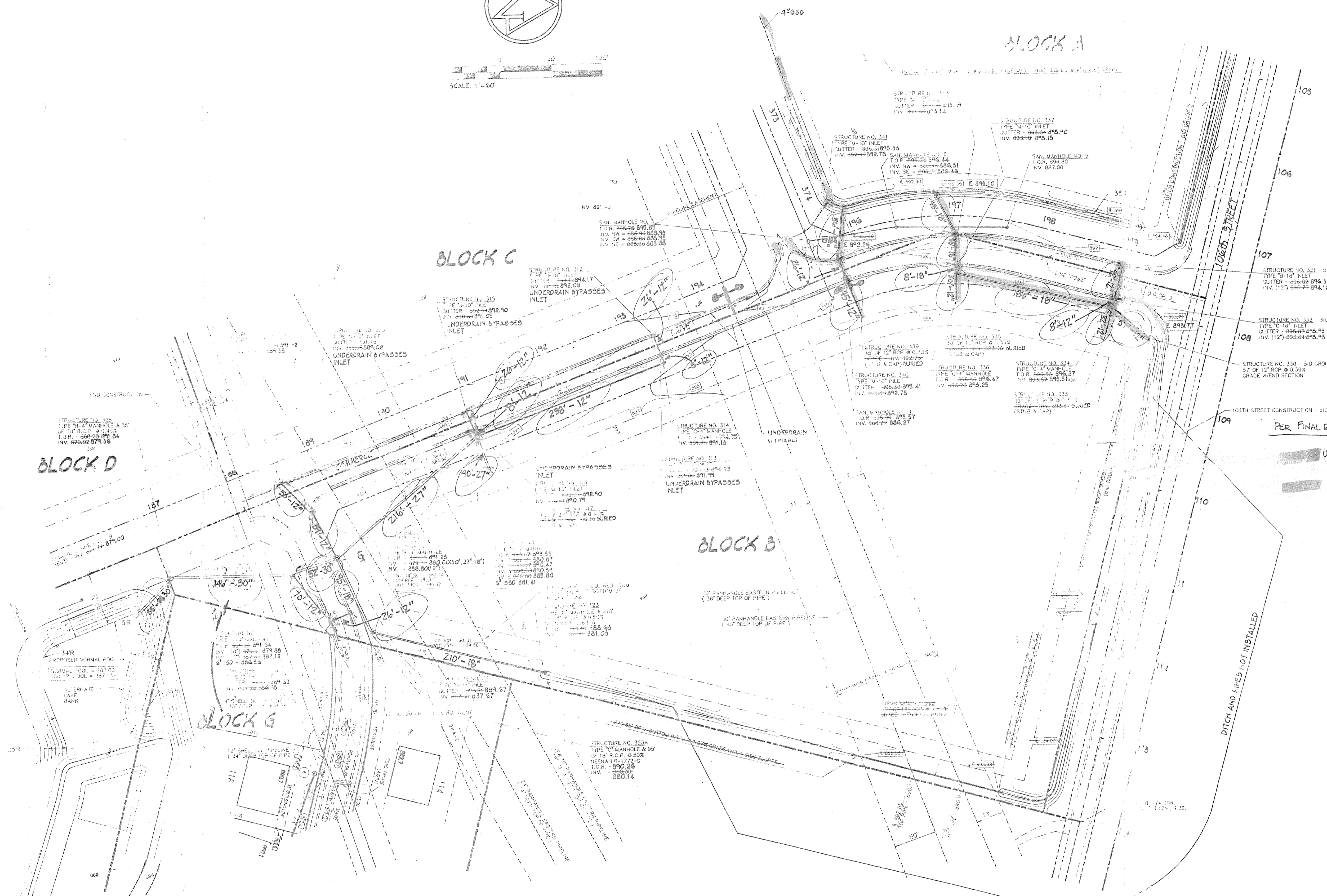
"HOLEY MOLEY"
DON'T DIG BLIND

1-800-382-5544
CALL TOLL FREE
1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA

SANITARY SEWER DETAILS		HAMILTON BUSINESS PARK	
		AMERICAN CONSULTING ENGINEERS, INC. CIVIL • STRUCTURAL • ARCHITECTURAL • SURVEYING • PLANNING INDIANAPOLIS INDIANA	
SCALE: A5 NOTED	REVISIONS:	DATE:	SHEET NO.
DATE: 04/18/94			16
DRAWN BY: J.C.S.	CHECKED BY: J.A.C.K.	JOB NO: 90-220	MICRO. NO. OF 16



SCALE: 1"=60'



PER FINAL REINSPECTION APRIL 12, 1995

UNDERDRAINS
STORM SEWER

CAUTION!!
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED UPON ALL AVAILABLE EVIDENCE (including but not limited to, records, surveys, and maps made up in the ground by others) and ARE SPECULATIVE IN NATURE. THERE MAY ALSO BE OTHER EXISTING UNDERGROUND UTILITIES FOR WHICH THERE IS NO ABOVE GROUND EVIDENCE OR FOR WHICH NO ABOVE GROUND EVIDENCE WAS OBSERVED. THE FACT LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOULD BE REVEALED BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.
1-800-382-5544
CALL TOLL FREE
1-800-423-3200
FOR CALLS OUTSIDE OF INDIANA.

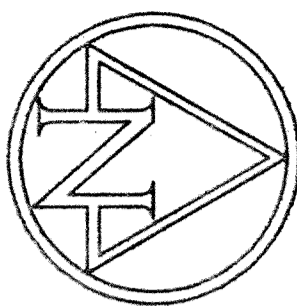
- NOTES:
- FOR MORE DETAILED INFORMATION ON BID GROUP 3 ROAD CONSTRUCTION, SEE BID GROUP 3 ROAD PLANS.
 - SANITARY SEWER CONSTRUCTION SHOWN ON BID GROUP 3 PLANS IS INCLUDED AS A PART OF BID GROUP 3 CONTRACT.
 - PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR THE PIPE LINE EASEMENTS.

BENCHMARK:

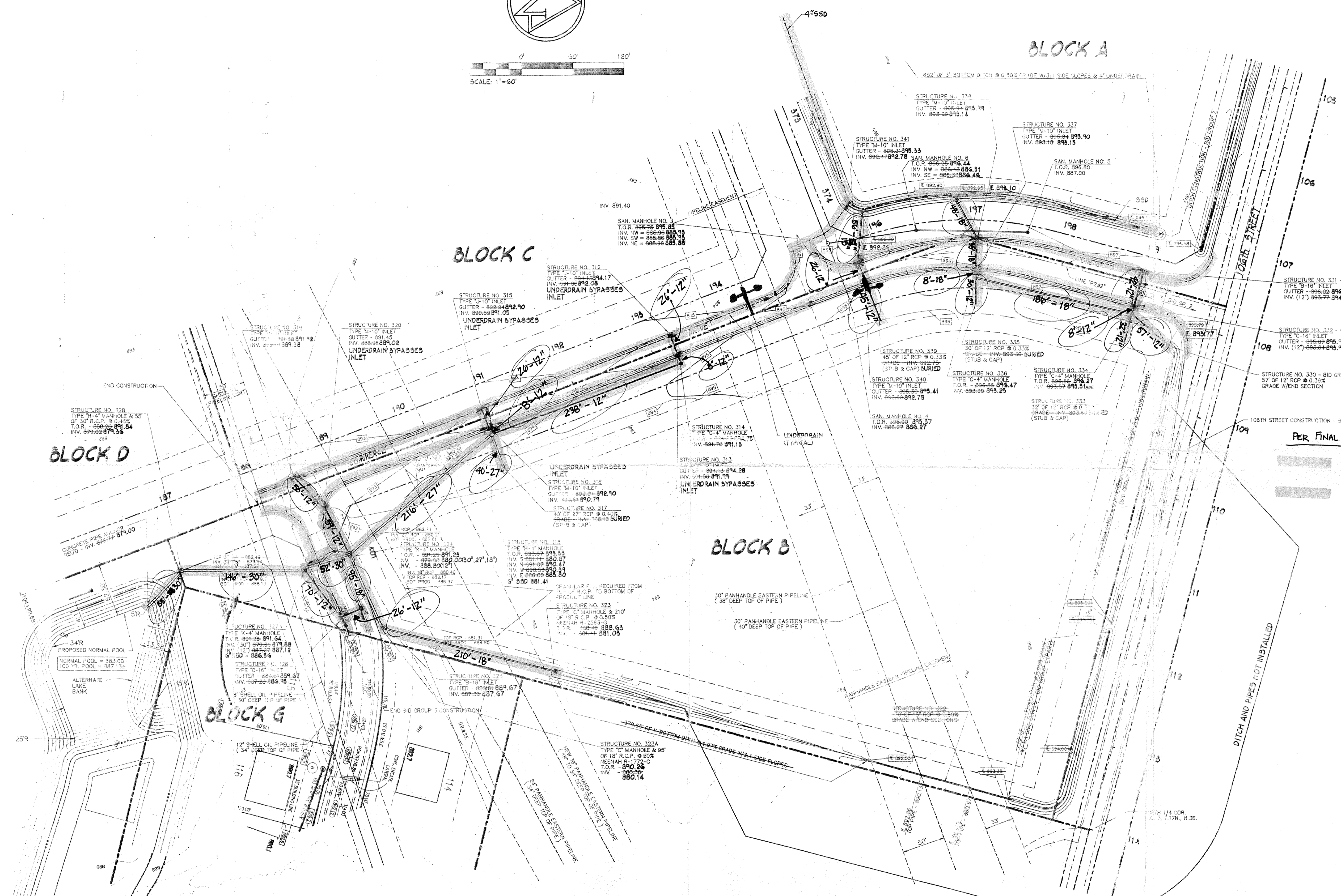
I.B.M. # 578-1
* 6" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST ON THE S.W. CORNER OF U.S. 421 AND 106TH STREET
ELEV. = 896.33

I.B.M. # 578-2
* "X" CUT ON THE N.W. BURNET BOLT OF FIRE HYDRANT ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE, 26' ± NORTH OF 1/4 OF NORTHWESTERN DRIVE, AND 45' WEST OF 1/4 OF U.S. 421
ELEV. = 894.86

"AS-BUILT" PLAN BLOCK B		HAMILTON BUSINESS PARK SHADY BROOK DEV. CO.	
SCALE: 1" = 60'	REVISIONS	DATE	SHEET NO.
DATE: 02/24/95			
DRAWN BY:			
CHECKED BY:	JOB NO.	MICRO. NO.	OF



SCALE: 1" = 60'



BLOCK D

BLOCK C

BLOCK A

BLOCK B

BLOCK G

PER FINAL REINSPECTION APRIL 12, 1995

UNDERDRAINS
STORM SEWER

CAUTION !!
THE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE BASED ON RECORD DRAWINGS AND EVIDENCE (including, but not limited to, manhole covers, valves, and marks made up in the ground). CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY AND ALL CONSTRUCTION. EVIDENCE WAS OBTAINED FOR THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES SHOULD BE KEPT BY THE CONTRACTOR PRIOR TO ANY AND ALL CONSTRUCTION.
1-800-780-554
CALL FOR MORE
1-800-423-5200
FOR CALLS OUTSIDE OF INDIANA.

- NOTES:
- FOR MORE DETAILED INFORMATION ON BID GROUP 3 ROAD CONSTRUCTION, SEE BID GROUP 3 ROAD PLANS.
 - SANITARY SEWER CONSTRUCTION SHOWN ON BID GROUP 3 PLANS IS INCLUDED AS A PART OF BID GROUP 3 CONTRACT.
 - PRIOR TO CONSTRUCTION, CONTRACTOR SHALL CONTACT PANHANDLE EASTERN PIPE LINE AND SHELL OIL PIPE LINE CORPORATIONS AND COORDINATE ALL CONSTRUCTION ACTIVITIES ON OR NEAR THE PIPE LINE EASEMENTS.

BENCHMARK:
T.B.M. # S78-1
"O" CUT ON S.W. CORNER OF TRAFFIC STRAIN POST ON THE S.W. CORNER OF U.S. 421 AND 106th STREET ELEV. = 896.33

T.B.M. # S78-2
"X" CUT ON THE N.W. CORNER OF U.S. 421 AND NORTHWESTERN DRIVE, 28' NORTH OF E. OF NORTHWESTERN DRIVE, AND 45' WEST OF E. OF U.S. 421 ELEV. = 894.86

"AS-BUILT" PLAN BLOCK B		HAMILTON BUSINESS PARK SHADY BROOK DEV. CO.	
SCALE: 1" = 60'	DATE: 03/24/95	CHECKED BY:	DRAWN BY: