Drain: PONOS WEST ORAIM Drain #: 254
Improvement/Arm: PONOS WEST-SKCTION 4
Operator: JOH Date: 3-10-04
Drain Classification: Urban/Rural Year Installed: 1993

GIS Drain Input Checklist

•	Pull Source Documents for Scanning	GFA 3-10
•	Digitize & Attribute Tile Drains	NA
•	Digitize & Attribute Storm Drains	09A 310

- Digitize & Attribute SSD Q22 341
- Digitize & Attribute Open Ditch
- Stamp Plans Oasul
- Sum drain lengths & Validate 92331
- Enter Improvements into Posse

 93-11

Enter Drain Age into Posse

Sum drain length for Watershed in Posse

Check Database entries for errors

Check Database entries for errors

Gasb 34 Footages for Historical Cost Drain Length Log

Drain-Improvement: PONOS WEST ORAIN - PONOS WEST - SECTION 1

Drain Type:	Size:	Length SURVEY INCS REFORT	Length (DB Query)	Length Reconcile	Price:	Cost:
SSO	6"	8835'	8835'	8		
RCP	124	78'	8835' 78'	Ø		· · · · ·
	15"	72'	72'	Ø		
	18"	346	72' 346'	Ø		
	21"	314'	3141	Ø	·	
	244	1,431	1,394'	-37'		
	27"	247'	247'	Ø		
	30"	300'	242'	-58		
	36"	Ø	160'	+1601		
CMP	8"	90'	Zol	-201		
						,

	Sum:	11,663'11,7	145°	 	·
Final Report:					
Comments: SR AND AB OF	SAGALL ON 24	"30",36", AND 8"CMP"	5		





Kenton C. Ward, Surveyor

Suite 146

776-8495

One Hamilton County Square

Noblesville, Indiana 46060-2230 May 13, 1993

TO: Hamilton County Drainage Board

RE: Ponds West Drain-Section 1

Attached is a petition, non-enforcement request, plans, calculations, quantity summary and assessment roll for the Ponds West 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 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:

6"	SSD	8835	feet	27"	RCP	247	feet
12"	RCP	78	feet	18"	RCP	289	feet
15"	RCP	128	feet	30"	RCP	460	feet
21"	RCP	314	feet	8"	CMP	40	feet
24"	RCP	1431	feet.				

The total length of the drain will be 11,822 feet.

The retention ponds (lakes) located in Common Area Ponds

3, 4, 5 and 6 and on Lots 35 and 36 are 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 ponds (lakes) will be the responsibility of the Homeowners Association. The Board will however, retain jurisdiction for ensuring the storage volume for which the lakes were designed will be retained. Thereby, allowing no fill or easement encroachments.

The portion of the Collins-Osborn or Williams Creek running through this section should be included under the maintenance of Ponds West until such time the open ditch is set up for maintenance separately.

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 rear yards. Only the main SSD lines which are located within the easement are to be maintained as regulated drain.

Laterals for individual lots 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:

REAR OF LOTS 4, 7-10, 20-24 AND 28-34

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 \$30.00 per lot, \$5.00 per acre for roadways, with a \$30.00 minimum. With this assessment the total annual assessment for the drain/this section will be \$ 1386.35.

Parcels assessed for this drain may be assessed for the

Collins-Osborn or Williams Creek at sometime in the future.

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 the secondary plat for Ponds West, Section 1 as recorded in the Office of the Hamilton County Recorder.

I recommend the Board set a hearing for this proposed drain for July 1993.

Kenton C. Ward

Hamilton County Surveyor

KCW/no

BEFORE THE HAMILTON COUNTY DRAINAGE BOARD IN THE MATTER OF THE Production 1

NOTICE

TO WHOM IT MAY CONCERN AND	
Notice is hereby given of the Hearing of the Hamilton Co	ounty
Drainage Board on the Ponds West -Section 1 Drain, of	on.
July 26, 1993 , at 9:00 A.M. in the Commissioners's Co	ourt,
Hamilton County Judicial Center, One Hamilton County Square	
Noblesville, Indiana and which the Maintenance Report of the	
Board have been filed and are available for public inspection	n in
the Office of the Hamilton County Surveyor.	
Hamilton County Drainage Bo	oard
ATTEST January Olafam Administrative Secretary	

ONE TIME ONLY

BEFORE THE HAMILTON
COUNTY DRAINAGE BOARD
IN THE MATTER OF THE

Dondo	1.100+	Drain-Section	1	
ronas	WESL	urain-section		

NOTICE

Notice is hereby given pursuant to Section 405 of the 1965 Indiana Drainage Code that this Board, prior to final adjournment has issued an order adopting the Schedule of Assessments, filed the same and made public announcement thereof at the hearing and ordered publication. If judicial review of the findings and order of the Board is not requested pursuant to Article Eight of this code within twenty (20) days from the date of this publication, the order shall be conclusive.

HAMILTON COUNTY DRAINAGE BOARD

ATTEST: Name to Secretary Administrative Secretary

ONE TIME ONLY

N•B National City Bank

TELEPHONE (317) 267-7751

INTERNATIONAL DEPARTMENT 101 WEST WASHINGTON STREET INDIANAPOLIS, INDIANA 46255

TELEX 244038

STANDBY LETTER OF CREDIT

Letter of Credit No: 44183

Date: April 13, 1993

BENEFICIARY

FOR ACCOUNT OF

HAMILTON COUNTY COMMISSIONERS AND CITY OF CARMEL Hamilton County Courthouse Noblesville, Indiana 46060 DART DEVELOPMENT CORP. II P.O. Box 1423 Carmel, Indiana 46032

We hereby establish our Irrevocable Letter of Credit in your favor, for the account indicated above, for the sum or sums not exceeding an aggregate amount of USD98,937.00 (Ninety-Eight Thousand Nine Hundred Thirty-Seven U.S.Dollars).

Funds are available by your draft(s) at sight drawn on National City Bank, Indiana Indianapolis, Indiana.

Drafts are to be accompanied by:

- 1. The original of this Letter of Credit No. 44183.
- 2. Beneficiary's certificate stating that "Dart Development Corp. II has failed to complete storm sewers, sub-service drains, monuments and markers in Project Ponds West, Section 1".

All drafts drawn under this Letter of Credit are to be endorsed hereon and shall bear the clause: "Drawn under National City Bank, Indiana Indianapolis, Indiana Letter of Credit No. (as indicated above)", and must be drawn and presented at this office on or before April 13, 1994.

We hereby agree with you that all drafts drawn under and in compliance with the terms of this Letter of Credit will be duly honored upon proper presentation.

Except as otherwise expressly stated herein, this credit is subject to the Uniform Customs and Practice for Documentary Credits (1983 Revision), International Chamber of Commerce, Publication No.400.

Very truly yours.

(Authorized gignotume)

(Authorized signature)

HAMILTON COUNTY DRAINAGE BOARD CERTIFICATE OF COMPLETION AND COMPLIANCE

Address of premises on which land alteration was accomplished: Southwest corner of 146th Street and Springmill Road, Carmel, Indiana

Project Name: Ponds West Section I

Relative to plans prepared by MSE Corporation on September 3, 1993.

I hereby certify that:

- 1. I am familiar with drainage requirements applicable to such land alteration (as set forth by the Hamilton County Drainage Board).
- 2. Land alteration accomplished pursuant to the referenced drainage permit was observed by personnel under my direction, and
- 3. To the best of my knowledge, information and belief, such land alteration has been performed and completed in conformity with all such drainage requirements.

Certified this 7th day of January, 1994.

MSE CORPORATION

Bruce E. Hagen

Professional Engineer #920299 - Indiana





Kenton C. Ward, Surveyor

Suite 146

776-8495

One Hamilton County Square August 29, 1995

Noblesville, Indiana 46060-2230

TO: Hamilton County Drainage Board

RE: Ponds West Drain Ponds West Sec. 1

Attached are as-builts, certificate of completion & compliance, and other information for Ponds West Sec. 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 May 13, 1993. The changes are as follows: Structure 52 to 53 was lengthened and added an additional structure numbered 52A. This section of 24"RCP now totals 395'feet. Structure 86 to 87 was upgraded from 15"RCP to 18"RCP. Structure 51 to 52 consists of 18"RCP which has lengthened from 160'feet to 161'feet. Structure 29 to 30 consists of 63 feet of 24"RCP. This section was constructed during section 1 but was not on the original report. Structure 47 to 48 consisted of 128 feet of 30"RCP which was upgraded to a 36"RCP of the same length. Structure 48 to 49 was also upgraded to a 36"RCP of the same length.

The length of the drain due to the changes described above is now 11.891.

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 April 13, 1993.

The bond or letter of credit from National City Bank, number 44183, dated April 13, 1993, in the amount of \$98,937.00, has been recommended for release in a letter to the Commissioners dated December 23, 1993.

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

Sincerely

Kenton C. Ward

Hamilton County Surveyor

KCW/nw





Kenton C. Ward, Surveyor

Suite 146

To: Jeff Meverose

776-8495

One Hamilton County Square Noblesville, Indiana 46060-2230

MSE Corp.

Re: Ponds West Sec 1

Date: August 4, 1995

Dear Jeff,

Upon writing the final report for Ponds West Sec 1, a discrepancy was found on the mylar between the drawing and the profile for structures 47 to 48 and 48 to 49. The drawing above the profiles calls for 36" RCP's between these structures. The profile below calls for 30" RCP's. Subsequently, the structures were inspected and were determined to be 36" RCP's. In light of this error, a new mylar needs to be submitted for these structures. The new mylar should note the correct pipe size in the profile as determined by our inspection. Thank you for co-operation in this matter. If there are any questions or concerns please contact us immediately.

Sincerely,

Suzanne L. Mills

Drainage Cartographer

manne L'Millo

776-8495

Land being part of the Northeast Quarter of Section 22, Township 18 North, Range 3 East, Hamilton County, Indiana, more particularly described as follows:

Beginning at the Southeast corner of said Northeast Quarter Section; thence South 89°20'11" West on and along the South line of said Quarter Section, a distance of 767.80 feet; thence North 00°04'20" East 475.00 feet; thence South 89°20'11" West parallel with the South line of said Quarter Section a distance of 733.70 feet; thence South 00°04'20" West 31.00 feet;

land described in a deed to Sarah B. Hein, recorded in Deed Book 329, Page 547, in the Office of the Recorder of Hamilton County, Indiana, a distance of 721.58 feet to the Northwest corner of said Hein's land; thence South 00°05'18" West, on Hein's West line, a distance of 444.00 feet to the South line of aforesaid Northeast Quarter Section; thence South 89°20'11" West on said South line a distance of 412.50 feet to the Southwest corner of said Quarter West on said South line a distance of 412.50 feet to the Southwest corner of said Quarter Section; thence North 00°05'18" East on and along the West line of said Quarter Section a distance of 2132.02 feet to a point 495 feet South of the Northwest corner of said Quarter Section; thence North 89°04'58" East parallel with the North line of said Quarter Section a distance of 412.50 feet; thence North 00°05'18" East 0.74 feet to an iron pipe found at the Southwest corner of land described in a deed to James M. Buck, as recorded in Deed Book 330, Page 304, in said Recorder's Office; thence North 79°49'38" East on and along the South line of said Buck's land a distance of 478.11 feet; thence South 00°55'02" East 57.80 feet; thence South 83°45'01" East 53.37 feet; thence South 41°01'24" East 43.56 feet; thence South 90°00'00" East 60.18 feet; thence South 11°18'35" East 310.67 feet; thence thence South 90°00'00" East 60.18 feet; thence South 11°18'35" East 310.67 feet; thence North 85°43'26" East 454.02 feet; thence North 00°48'29" West 795,00 feet to the North line of said Northeast Quarter Section; thence North 89°04'58" East on and along said North line, a distance of 1102.37 feet to the Northeast corner of said Quarter Section; thence South 00°02'16" East on and along the East line of said Quarter Section a distance of 2638.59 feet to the Point of Beginning, containing 123.288 acres, more or less, subject to rights-of-way, restrictions, easements, and legal drains.

	SHEET NO.	DESCRIPTION
*		TITLE SHEET
	2	SPECIFICATIONS
3-4	-3-00	SITE UTILITY PLANS & GRADING PLANS
	0-20	STREET PLAN & PROFILES
10-18	21-32	STORM PLAN & PROFILES
5-9	33 43	SANITARY PLAN & PROFILES
	44-46-	-GUL DE SAG & INTERSECTION DETAILS
	47-48-	-ENTRANCE DETAILS
n in the second second second	49-50	EROSION CONTROL PLANS
	5+52-	DETAILS
•		
,		

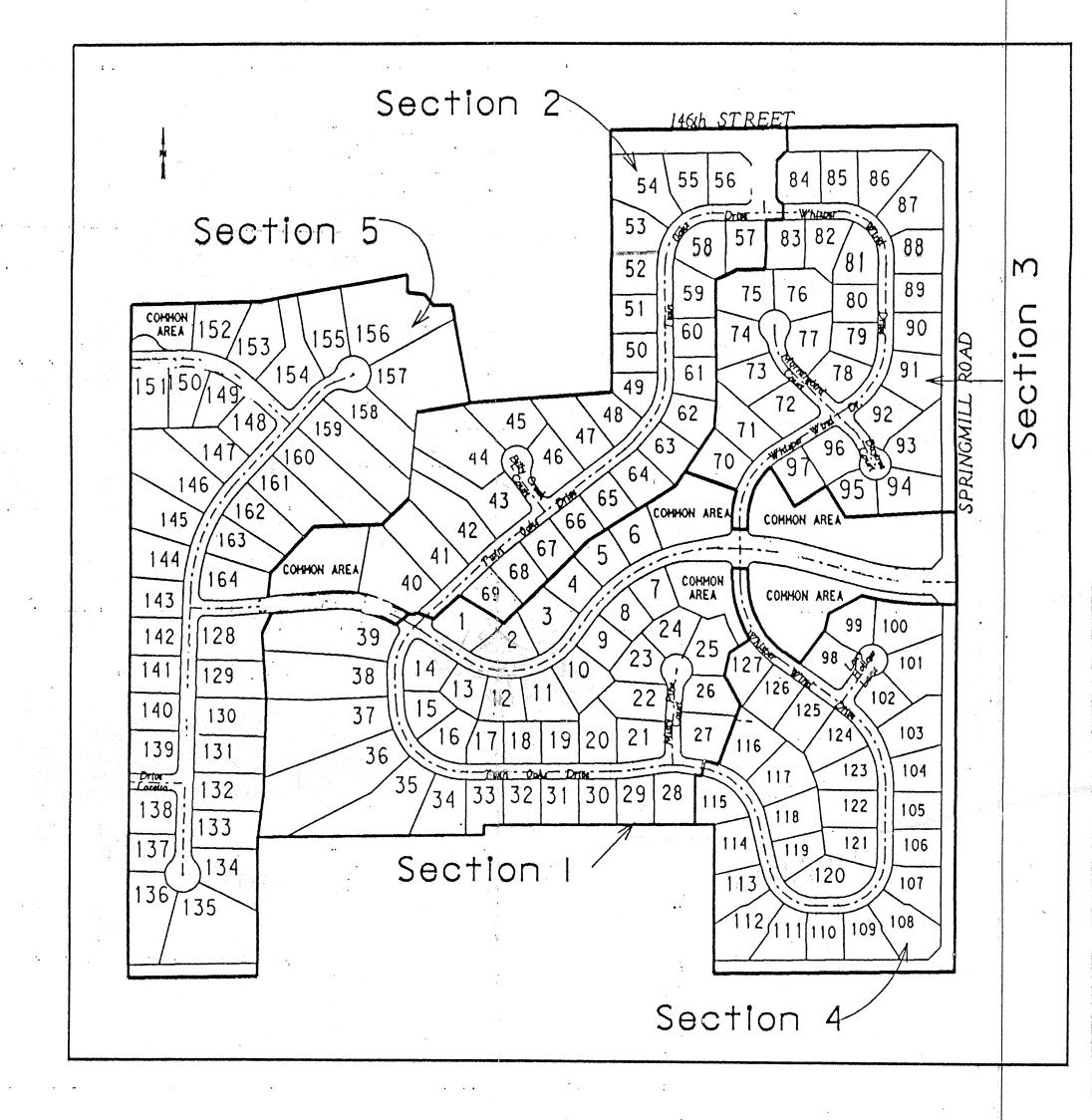
	•	
SHEET NO.	REVISIONS	
33-43	2/22/93 Revise San, Sewer Inverts	1 100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
51	2/22/93 Revise San, Sewer Bedding Details	
3-9,26-30,	3/12/93 See Sheets	
47 48	3/12/93 See Sheets	
1,3-8,27,	3/28/93 See Sheets	
1-52	4/9/93 Change Subd. name i Street Names	
3-8, 8 <i>8,</i> 10,14, <u>'5144.88, 87, 88</u>	4/20/93 See Sheets	
41,47	4/20/93 See Sheets	
49	4/30/93 See Sheet	
4,13,21,33,38	6/3/93 See Sheets	
4.8A,ZI	7/30/93 See Sheets	

NOTES:

CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PERMIT ISSUING AGENCIES WITHIN THE TIME FRAME SPECIFIED BY THAT AGENCY PRIOR TO BEGINNING CONSTRUCTION.

ANY ALTERATIONS TO THESE PLANS NOT AUTHORIZED BY MSE ENGINEERING AND NOT IN ACCORDANCE WITH THE PLANS AND RECORDS ON FILE AT MSE ENGINEERING OFFICES SHALL RELIEVE MSE ENGINEERING OF RESPONSIBILITY FOR OVERALL ACCURACY OF PLANS.

CONSTRUCTION PLANS FOR



PLANS PREPARED FOR

DART DEVELOPMENT CORP 14122 SPRINGMILL ROAD CARMEL, IN 46032 (317)844-4451

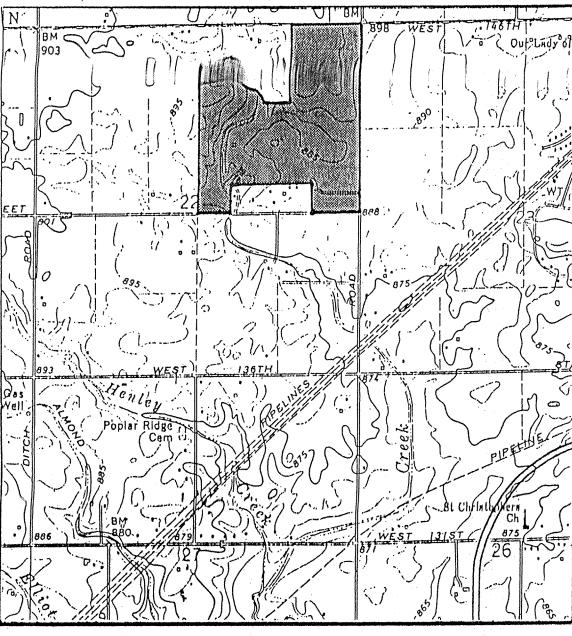
PREPARED BY

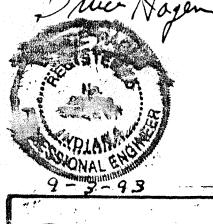
MSE Corporation 941 North Meridian Indianapolis, IN 46204 317 634-1000

Asbuilt Listing Ronds West, Section 1 Owner: Dart Corporation

Engineer: MSE Corporation

	Con	tractor	• :	Harvey Construction	
	Lot	1	166	' Southeast of manhole # 216, 65' of 6" pipe, 6' deep.	
	LOT	2	92'	East Of manhole # 240. 60! of 6" nine 6' deen	
	Lot	3	184	'Northeast of manhole # 239, 70' of 6" pipe, 6' deep. 'Northeast of manhole # 239, 70' of 6" pipe, 6' deep.	
	Lot	4	197	' Northeast of manhole # 239, 70' of 6" pipe, 6' deep.	
	LOE	ð.	40.	NOTTNEAST Of manhole # 238, 70' of 6" pipe, 6' deep.	
	Lot	6	58'	Northeast of manhole # 238, 70' of 6" pipe, 6' deep	
	Lot	7	59'	Northeast of manhole # 238, 6' of 6" pipe, 6' deep.	
		8	289	Northeast of manhole # 238, 6' of 6" pipe, 6' deep. Northeast of manhole # 239, 6' of 6" pipe, 6' deep.	
	Lot	y	1/1	' Northeast of manhole # 239. 6' of 6" nine 6' deen	
	Lot	10	63'	Northeast of manhole # 239, 6' of 6" pipe, 6' deep. 'East of manhole # 240, 6' of 6" pipe, 6' deep.	1
	Lot	11	172	'East of manhole # 240, 6' of 6" pipe, 6' deep.	
	Lot	12	34 '	Kast OX manhole # 240. 6' of 6" nine 6' deen	
1	Lot				
4	LOT	14	701	' SOUTMEAST Of manhole # 216. 6' of 6" pipe 6' deep	
•	LOL	70	03	SOUTHWAST Of Manhole # 205. 65' of 6" pipe. 6' deep.	
	LOC	10	90'	Southeast of manhole # 205, 65' of 6" pipe, 6' deep.	
	TOL	10	211	'East of manhole # 217, 70' of 6" pipe, 6' deep. 'East of manhole # 217, 70' of 6" pipe, 6' deep.	
	Lot	10	551	Fact of manhole # 217, 70' of 6" pipe, 6' deep.	
1	Lot	20	551	East of manhole # 218, 80' of 6" pipe, 6' deep.	
	Lot	21	118	East of manhole # 218, 80' of 6" pipe, 6' deep. 'North of manhole # 219, 80' of 6" pipe, 6' deep.	
,	Lot	22	272	North of manhole # 210 1001 as climber	
1	Lot	23	282	North of manhole # 219, 100' of 6" pipe, 6' deep. North of manhole # 219, 100' of 6" pipe, 6' deep. North of manhole # 220, 30' of 6" pipe, 6' deep. North of manhole # 219, 25' of 6" pipe, 6' deep.	
- 1	Lot	24	351	North of manhole # 220, 201 of 6" pipe, 6' deep.	
	Lot	25	364	North of manhole # 219 25' of 6" nine 61 door	
!	Lot	26	251	' North of manhole # 219, 6' of 6" pipe, 6' deep.	
ĺ	Lot	27	107	'North of manhole # 219, 6' of 6" pipe, 6' deep.	
į	Lot	28	368	North of manhole # 219, 6' of 6" pipe, 6' deep. 'North of manhole # 219, 6' of 6" pipe, 6' deep. 'East of manhole # 218, 12' of 6" pipe, 6' deep. 'East of manhole # 218, 6' of 6" pipe, 6' deep. 'East of manhole # 218, 6' of 6" pipe, 6' deep.	
	Lot	29	251	' East of manhole # 218, 6' of 6" pipe, 6' deep.	
	20.	50	200	past of mannote # 210, 0, of p. bibe, p. deep.	
	Lot	31	373	' Mast OI manhole # 217. 6' of 6' pipe 6' deep	
	Lot	32	293	' East of manhole # 217. 6' of 6" nine 6' deen	
		33	170	East of manhole # 217, 6' of 6" pipe, 6' deep.	
	Lot	J4	42'	Bast Of Manhole # 217, 6' of 6" pine 6' deen	
	Lot	35	162	' Southeast of manhole # 205, 6' of 6" pipe, 6' deep.	
	Lot	30	0/:	SOUTHEAST Of Manhole # 205, 30' of K" nine K' deen	
	Lot	3/	08.	NOTTN Of Manhole # 205, 6' of 6" pipe. 6' deep	
	LOT	38	160	'North of manhole # 205, 6' of 6" nine 6' deen	
	DOE TA+	.1 4	7 / X	' North of menhala # 305 Cl =c cu	
	Lot	70	214	· NOITA OI Mänhole # 237. 80' of 6" nine 6' deen	
	HUE	11	440	' North of manhole # 237, 80' of 6" pipe, 6' deep.	





Sanitary and Storm

Sections 1-4 are to be approved and constructed at this time. Section 5 to be approved and constructed at a later date.



CERTIFIED THIS 14-14 DAY OF April Registered Professional Land Surveyor No. 50441 - Indiana



PROJECT DATA ACRES: 123.288 LOTS : 164 LOTS/ACRE : 1.33

JOB No. 114-0522 SHEET 1 OF \$2/8



- A. The Contractor shall be responsible for obtaining or verifying that all permits and approvals are obtained from the respective city, county and state agencies prior to
- B. It shall be the Contractor's responsibility to determine the exact location of all existing utilities in the vicinity of the construction area prior to starting construction.
- The Contractor shall be responsibile for notification and coordination of all construction with the respective utility companies.
- D. It shall be the responsibility of the Developer and Contractor to maintain quality control throughout the project; sailure to do so may result in removal and replacement of defective work. It is recommended that the Developer have a qualified inspector on the job site at all times during construction.
- E. It is essential that the work performed in conjunction with this project be installed according to these specifications. The Engineer will be required to certify that certain portions of this project were completed as per the construction plans. Therefore it is necessaary to obtain approval and acceptance by the local, county, and state agencies that the construction was completed in compliance with these plans and
- The designation A.S.T.M. shall refer to the American Society of Testing and Materials standards. The latest revision of listed A.S.T.M. standards shall prevail.
- The designation I.N.D.O.T. shall refer to the Indiana Department of Transportation Standard Specifications dated 1988 and all subsequent revisions.

CLEARING AND GRUBBING

- Clearing and grubbing shall consist of cutting, removal and satisfactory disposal of all trees, down timber, brush, projecting roots, stumps, rubbish, boulders, broken concrete, fencing (as designated), and other material on the project site and within the boundary as shown on the Construction Documents and/or as designated by
- Special care shall be taken to insure that trees to be left remaining in the project area shall not receive limb, bark or root injuries. When such injuries occur, all rough edges of scarred areas shall be removed in accordance with accepted horticultural practice and the scars coated thoroughly with an asphaltum base tree paint.
- C. All "unsultable material" from clearing operations stated in Item II-A shall be removed to disposal area(s) off the project site; unless a Bury Pit is utilized. Bury Pits shall not be located below proposed building or pavement areas nor below proposed drainage structures or impoundment areas. Written permission of project owner must be obtained for bury pit construction on site.
- D. Materials thall not be disposed of by burning unless approved by the local Fire Marshall.

TREE REMOVAL AND PROTECTION

- A. Trees shall be removed from the project site only in areas occupied by roadway and surfaced areas in accordance with specifications of the City of Carmel.
- Trees shall be removed from the project site as directed by the Developer and so
- C. Trees shall be removed from the project site where they interfere with the placement of storm or sanitary sewers.
- The Contractor shall endeavor to save and protect trees of value and worth which do not Impair construction of improvements as designated. In the event cut or fill exceeds 0.5 foot over the root area, the Developer shall be consulted with respect to protective measures to be taken, if any, to preserve such trees.
- The Contractor shall be responsible for determining the method of protection of tops, trunks and roots of existing trees on the project site which are to remain.. Existing trees exposed to potential damage shall be boxed, fenced or otherwise protected before any adjacent work is started. Earth, construction material, and equipment shall not be stockpiled or stored within the spread of branches. Branches which need to be removed or are broken shall be neatly trimmed and scars shall be covered with
- F. See note II-B.

STRIPPING OF TOPSOIL

- A. The Contractor shall verify that all topsoil has been removed in the areas to be occupied by road, walks and designated building areas. Topsoil shall be removed to a depth of 6 inches or deeper, if necessary, to assure the removal of vegetation matter where required.
- Topsoil shall be kept separated from sultable fill materials and shall not be used as fill under pavement and/or building areas.
- C. Topsoil shall be stored at a location where it does not interfere with construction operations. Excess topsoil shall be removed from the site. Topsoil storage areas shall be approved in writing by the Owner.
- D. Topsoil shall be reasonably free from subsoil debris and stones.

V. GRADING

- The Contractor shall perform all grading operations to bring subgrades, after final compaction, to the grades required for site improvement.
- Subgrade shall be proofrolled with appropriate equipment and all spongy and otherwise unsuitable material shall be removed and replaced with suitable material.
- Subgrade for streets shall be prepared in compliance with Hamilton County. Subgrade for streets shall be compacted to 100% of standard proctor in the upper 6" of depth. Depths of embankment below the upper 6" shall be compacted to 95% of standard proctor. See Pavement Construction Section XI.
- D. All fill material shall be formed from soil free of deleterious material. Prior to placement of fill, a sample of the proposed fill material should be submitted to the soils engineer for his approval. The fill material should be placed in layers not to exceed eight (8") inches in loose thickness and should be spread and dried to a moleture content which will permit proper compaction.
- All fill material in areas outside of building and pavement areas shall be compacted lightly and protected from crosion. Areas of building construction shall not have unsuitable material placed in that location, and fill shall be compacted in accordance with the Soils Engineer's report (minimum of 95% standard proctor).

SANITARY SEWER CONSTRUCTION

- Standard specifications of the Clay Waste District and Indiana Department of Highways shall apply for all work and materials. Pipe shall be installed in accordance with Section 715.
- Sanitary sewer pipe shall be PVC in accordance with ASTM D-3034 (S.D.R. 35) and ASTM 2321. PVC pipe shall have grooved bell and gasket. The pipe shall be made of PVC plastic having a cell classification of 12454B.
- PVC sewer fittings shall conform to the requirements of ASTM D-3034-89 specification. Fittings in sizes through 8" shall be molded in one piece with elastomeric joints and minimum socket depths as specified in sections 6.2 and 7.3.2. Fittings 10" and larger shall be molded or fabricated in accordance with section 7.11 with manufacturers standard pipe bells and gaskets. Wall thickness of fittings shall be SDR 26 as defined in section 7.4.1 of the specifications. Gaskets for elastomeric joints shall be molded with a minimum crosssectional area of 0.20 square inches and conform to ASTM F-477 specification. Fittings shall be manufactured by Harco or aqual.
- 4. All sanitary manholes shall be "precast concrete" manholes in accordance with ASTM C-478 and Section 720. O-Rings shall conform to C-443. Kent Seal or equivalent shall also be applied to all joints and between riser rings and castings. Manhole step spacing shall be no more than 16-inches.
- 5. Butyl rubber coating shall be applied around each manhole joint from 6-inches above to 6-inches below each joint. The appropriate primer shall be applied prior to applying the rubber coating. Inside joints to be filled with precoat plug
- 6. The casting elevations are set by plan. However, the castings are to be adjusted in the field by the Engineer's representative, should a discrepancy occur between plan grade and existing grade. New manhole ring and cover shall be installed to establish grade. Maximum height of adjusting rings shall be 12-inches.
- 7. Backfill around all structures and all cuts under paved areas with granular material. Trenches opening within 5-feet of paved roadways shall be backfilled with granular material in accordance with Section 211. Backfill under sidewalks shall be granular, unless the walks are constructed a minimum of 6 months after backfill has been in-place.
- 8. The Contractor shall be responsible for verifying that all state highways, city and county permits have been obtained by the developer prior to start of construction.
- 9. The Contractor shall be required to furnish the developer's Engineer with a set of prints, marked in red pencil, showing actual sewer location and invert, to include lateral location, depth and length. Such "as-built" prints must be received by the Engineer before the final contract payment can be authorized. The sanitary sewer laterals and stubs termination shall be indicated on the surface with a metal fence post set immediately above said termination point.
- 10. All sanitary sewer lines upon completion will be required to pass an infiltration weir test and a low pressure air test, unless otherwise directed by the Engineer. Said test shall be conducted according to NCPI Standard Method, and shall be witnessed by an Engineer and a representative of the Clay Waste District.
- 11. Defaction tests shall be performed on all flexible* pipe after the final backfill has been in-place at least 30 days. No pipe shall exceed a vertical deflection of 5 percent deflection test results. (*The following are considered non-flexible pipes: concrete pipe, ductile iron pipe and cast iron pipe.) The deflection test shall be performed with a nine-point mandrel. Proving rings shall be available.
- 12. All mandrel testing shall be observed by a Professional Engineer for certification and a representative of the Clay Waste District.
- 13. The ends of laterals are to be plugged tight with a braced plastic disc or cap capable of withstanding a low pressure air test without leakage.
- 14. Bedding for flexible pipe shall be No. 8 crushed stone from 6-inches below the pipe to 12-inches above the pipe. Bedding for rigid pipe shall be No. 8 crushed stone from 6-inches below the pipe to the spring line of the pipe and from this point to 12-inches above shall be fill sand or equivalent. Manholes shall be placed on no less than 6-inches of No. 8 crushed stone bedding.
- 15. Water and sewer line crossings and separations shall be in accordance with Ten States! Standards.
- 16. Trench shall be opened sufficiently ahead of pipe laying to reveal obstructions, and shall be property protected and/or barricaded when left unattended.
- 17. No water shall be permitted to flow into the sanitary sewer system during construction. Contractor shall utilize a pump to keep the water level below the pipe. Pump discharge shall be directed to a storm outlet. Any pipe entering existing sewers shall be plugged, until such time as all tests on the sewers have been completed and the lines have passed all punch
- 18. All sewer laterals installed by the mainline Contractor shall
- be bedded the same as the main line sewer. 19. Forty-eight (48) hours notice shall be given to the Clay Regional Waste District prior to the start of sewer construction. Also, 48-hours notice shall be given prior to any testing done on the sewer.
- 20. Manhole castings shall be stamped "SANITARY SEWER" (Neenah Casting R 1642 or equal) and be self-sealing type. Waterproof castings shall be Neenah R-1916-F1 and stamped "Sanitary"
- 21. The minimum slope for sewer acceptance by the Clay Township

Regional Hases District are:	
Size of Pipe	Minimum Constructed Slope
8-inch	0.40%
10-inch	0.28%
12-inch	0.221
15-inch	0.15%

22. The Contractor shall provide measurements of the slope of the sewer for each manhole section as construction progresses. Such measurements shall be certified by a Registered Land Surveyor or Engineer and be available on-site for observation by the District's Inspector. No more than three manhole sections can be constructed in advance of such measurements.

18-inch

23. In the event the Contractor does not meet the minimum slopes, the sewer section and any other affected sewer sections shall be reconstructed to meet such minimum slopes.

VII. EROSION PROTECTION DURING CONSTRUCTION

- A. The Contractor shall provide adequate erosion protection measures during construction.
 - Rip-rap at locations designated on the plans.
- Swales draining the site shall be mulch seeded or sodded and Contractor shall be responsible for establishing grass cover.
- Construction operations conducted on private or city-owned property shall be neatly finish graded and mulch seeded.

VIII. STORM SEWER CONNECTION

storm sewer construction.

- A. Storm sewer structures shall comply with current specifications of the City, County
- and all agencies with respect to design and quality of construction. B. All storm sewer construction inside public right-of-way, either existing or proposed, shall be in accordance with the Hamilton County specifications. Contractor shall notify the Hamilton County Surveyor forty-eight hours prior to commencement of
- C. 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
- 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.
- E. Manholes, catchbasins, and inlets may be precast concrete or poured in place
- F. Precast concrete and steel for manholes and inlets shall be in accordance with
- G. Castings shall be as shown on the Structure Data Table.
- Oranular backfill shall be required for all crossings under pavement areas, per the Hamilton County specifications.

A. Water Line

- 1. See Sanitary Sewers Notes for vertical and horizontal separations (Note VI-1-1
- 2. All water lines shall be in accordance with the Standards and Specifications of the Indiana State Board of Health and the Hamilton Western Utilities. Sterilization of water mains shall be in accordance with the Indiana State Board of Health and the Hamilton Western Utilities for procedures and time of treatment.
- 3. Pressure tests for the water system shall be done in accordance with manufacturer's recommendations and the Hamilton Western Utilities specifications.
- 4. Granular backfill shall be required for all utility crossings under pavement areas. See Section VI-W.
- Where private water lines are shown on the contract plans the pipe materials shall meet the Hamilton Western Utilities specifications.
- Thrust blocks shall be installed in accordance with the details contained within the plans or the Hamilton Western Utilities standard specifications as applicable.
- 7. Felt material not to exceed 3/8 inch thick shall be placed between pipes and concrete thrust blocks.
- All valves and appurtenances for domestic and fire protection water mains shall be approved by the Underwriters Laboratories and Factory Mutual for critical

Electric and Telephone

- 1. Conduit shall be required for all crossings under pavement areas.
- 2. Oranular backfill shall be required for all crossings under pavement areas and three fect beyond the edge of the pavement.
- 3. Concrete pads for electric and telephone transformers shall be set at the approximate ground grade as shown on the Site Development Grading Plans.

X. GRANULAR BACKFILL

Shall be inaccordance with I.N.D.O.T. Standard Specifications.

XI. PAYEMENT CONSTRUCTION

- A. All pavement construction shall be in accordance with the plans and specifications and conform to the minimum standards of Hamilton County.
- B. Subgrade shall be prepared in compliance with Section 207.02 of the I.N.D.O.T. standard specifications. No traffic shall be permitted on the prepared subgrade prior
- C. Backfilling of utility trenches with granular material under pavement areas is required and shall conform to Hamilton County specifications.
- D. Contractor shall notify Hamilton County forty-eight hours prior to commencement of street construction within any existing or proposed right-of-way.

XII. CONCRETE CURB AND WALKS

- A. See Detail Sheet for type and details. Curbs and walks within existing or proposed right-of-way shall be constructed in accordance with Hamilton County specifications.
- B. Concrete shall be ready mixed Portland cement conforming to A.S.T.M. C-150. Aggregate shall conform to A.S.T.M. C-33. Compressive strength of concrete at 28 days shall be 4000 p.s.l. Where required, reinforcement shall be welded steel wire fabric conforming to A.S.T.M. A-185.
- C. Application
 - Place concrete only on a moist, compacted subgrade or base free from loose material. Place no concrete on muddy or frozen subgrade.
 - Concrete shall be deposited so as to require as little rehandling as practical. When concrete is to be placed at an atmospheric temperature of 35+/-F. or less, Paragraph 702.10 of the I.N.D.O.T. Specifications, 1988 edition, shall
 - Except as otherwise specified, cure all concrete by one of the methods described in Section 501.17 of the I.N.D.O.T. Specifications, 1988 edition.

XIII. FINISH GRADING AND SEEDING (Developer shall designate location if

- Topsoil or approved fill shall be spread over the rough grade to a depth sufficient to insure finish grades are met after rolling and settlement. The minimum thickness of the topsoil shall not be less than 4". New grades shall slope uniformly between levels established on the plans. Intersections of new grades with existing grades shall be uniform and smooth.
- B. Fertilizer and agricultural limestone shall be spread uniformly over the area to be seeded and mixed into the top two inches of soil with a disk harrow, rotary tiller, or other approved equipment. Fertilizer shall be spread at the rate of 800 pounds per acre and agricultural limestone at the rate of one-half ton per acre, unless otherwise
- C. A seeding mixture in stripping, cut, or fill areas shall be applied at a rate of 90 pounds per acre with a mixture as follows: 18 lbs. Kentucky Bluegrass, 18 lbs. Park Kentucky Bluegrass, 18 lbs. Delta Kentucky Bluegrass, 10 lbs. Pennlawn Fescue and 26 lbs. Annual Ryegrass. Wood cellulose fibre, straw or mulch, as approved by the Engineer, shall be applied at a rate of 3/4 tons per acre.

XIV. LIME MODIFIED SOIL (Developer shall designate location if required.)

- The use of Lime Modification shall be used to improve the upper 12" of subgrade that does not conform to Section 207 of the 1988 I.N.D.O.T. Specifications. The lime used shall be "Polyhydrated Lime, Code 'L'", as manufactured by Mississippi Lime, or equal. The following construction procedures shall be utilized,
- The subgrade shall be placed to the proper grade.
- Lime shall be dry placed on the subgrade at an application rate of 24 to 36 pounds per square yard as directed by the Engineer. The lime and soil shall then be mixed by tractor-drawn disc harrows, scarifiers, rotary mixers, or front end loaders equipped with bucket teeth. Several passes shall be made to a depth of 12" as directed by the Engineer.
- Initial compaction shall be performed with a sheepsfoot roller. The soil and lime shall be compacted in 6" lifts until the proper grade is obtained. Grading will be accomplished by blading the excess to one lane and compacting the mixed lime and soil in the 6" lifts. The final passes shall be made with a steel wheel or pneumatic-tired roller as approved by the Engineer.
- 4. The density of the soil-lime mixture will be determined by the City of Carmel near the end of the finishing operations. Any portion of the soil-lime mixture not passing the density requirements shall be determined by the City of Carmel In accordance with AASHTO T-191.
- When compaction of the lime-soil mixture is nearing completion, the surface shall be sloped to the required lines, grades, and cross section, and compaction continued using a steel wheeled roller until the minimum specified density is
- The surface shall be maintained in a moist condition by means of a fine spray of water during all finishing operations. The treated material shall be maintained in a moist condition by sprinkling with water for a period of seven days. Traffic of all types shall be kept off the lime modified soil for seven days, or thereafter until in the opinion of the Engineer the lime-modified soil will support traffic without being damaged. When allowed on the subgrade, traffic shall exercise further care in driving over it so as not to tear up the subgrade.
- Caution: Lime and lime mixtures are caustic in nature. The manufacturer of the lime shall be consulted to determine what special precautions are required to project the skin, and particularly the eyes.

XVI. REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, ETC.

Revisions and Dates:

2-25-93 Rev San Sewer Specs

- A. Pavement removal shall consist of the removal and satisfactory disposal of bituminous pavement of the total of any combination of base, binder and surface course of any pavement on a rigid base (including the base).
- B. Prior to performing the work of pavement removal at locations indicated on the plans, or where directed, cement concrete pavement to be removed shall be cut with a power driven concrete saw along designated lines. Sawing shall be such that any portion of the pavement to remain in place will not be damaged. Any portion that is damaged or removed outside the designated lines shall be replaced by the Contractor, at his expense.

XVII. SEALING CRACKS AND JOINTS IN BITUMINOUS PAVEMENT

Designed by:

Drawn by:

Checked by

Dole February 8, 1993

A. Reflection dracks and joints, both longitudinal and transverse, as well as checked, cracked and alligatored areas shall be scaled using from 0.10 to 0.15 gallon per square yard of AE-90 or AE-150 bituminous material and covering with either No. 14-2 or No. 17 sand, The cracks, joints and alligatored areas shall be cleaned by blowing with compressed air or other suitable means prior to the placing of the bituminous sealing material. The bituminous material shall be allowed to penetrate the cracks and joints in the existing surface and any surplus shall be squeegeed back and forth over the area to refill them. Any excess material shall be squeegeed off the pavement. The sealed surface shall be covered with approximately 5 pounds of sand per square yard.

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Structure Number

208-246

Structure Number

STRUCTURE DATA TABLE STORM SEWER

STRUCTURE DATA TABLE SANITARY SEWER

Structure Type

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Manhole Type "C"

Casting Structure Type R-3501-N Inlet Type "A" Inlet Type "A" (modified) R-3516 R-3501-N Manhole Type "B"

End Section

R-3516 Manhole Type "B" R-1772-A Manhole Type "B" R-4342 Inlet Type "A" Inlet Type "A" (modified) R-3516 R-3516 Manhole Type "B" End Section R-3516 R-3516 R-1772-A Manhole Type "B"

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Sheel Mo.:

Casting

R-1642

R-1916-F1

R-1642

R-1642

R-1642

Inlet Type "B" (modified) Inlet Type "B" (modified) Special Structure End Section Inlet Type "A" (modified) R-3516 End Section End Section End Section Inlet Type "A" R-4342 Inlet Type "A" (modified) R-3516 R-3516 Manhole Type "B" No Structure Manhole Type "B" Manhole Type "B'

R-4342 R-4342 R-4342 Manhole Type "B" End Section Inlet Type "A" (modified) R-3516 Inlet Type "B" (modified) R-3516 R-4342 Manhole Type "B" End Section R-4342 Inlet Type "A" End Section ----End Section R-3501-N Inlet Type "A" Inlet Type "A" R-3501-N Manhole Type "B" R-3516 End Section R-1772-A Manhole Type "B" Manhole Type "B" R-1772-A

Manhole Type "B" R-4342 No Structure R-3516 Inlet Type "B" (modified) Inlet Type "B" (modified) R-3516 Manhole Type "B" R-4342 Manhole Type "B" R-1772-A Manhole Type "B" R-3501-N Manhole Type "B" R-3501-N Manhole Type "B" End Section Inlet Type "A" (modified) R-3516 Inlet Type "B" (modified) R-3516 Manhole Type "B" R-4342

End Section Inlet Type "A" (modified) R-3516 Manhole Type "B" R-3501-N Inlet Type "B" (modified) R-3516 End Section R-4342 Manhole Type "B" Manhole Type "B" R-4342 Inlet Type "B" (modified) R-3516 Inlet Type "A" (modified) R-3516 No Structure Inlet Type "A" R-4342 Manhole Type "B" R-1772-A

Inlet Type "A" R-3501-A Inlet Type "B" (modified) R-3516 Manhole Type "B" R-4342 R-4216-D Special Structure R-3501-N Manhole Type "B" Manhole Type "B" R-3501-N Manhole Type "B" R-4342 Inlet Type "B" (modified) R-3516 Inlet Type "B" (modified) R-3516 End Section End Section Inlet Type "B" (modified) R-3516 Inlet Type "B" (modified) R-3516

Inlet Type "B" (modified)

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Manhole Type "B'

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Na Structure Manhole Type "B"

Inlet Type "B"

Inlet Type "A"

End Section

Inlet Type "A"

End Section

Inlet Type "A" (modified) Manhole Type "B"

Inlet Type "B" (modified)

Inlet Type "B" (modified) R-3516 End Section End Section R-3150 Inlet Type "B" Inlet Type "B" R-3150 End Section End Section R-3150 Inlet Type "B" R-3150 Inlet Type "A" End Section R-4342 Manhole Type "B' R-4216-D Special Structure End Section

R-3516

R-3516

R-3516

R-3516

R-3516

R-1772-A

R-4342

R-4342

R-3516

R-3516

R-4342

R-4342

R-3501-N

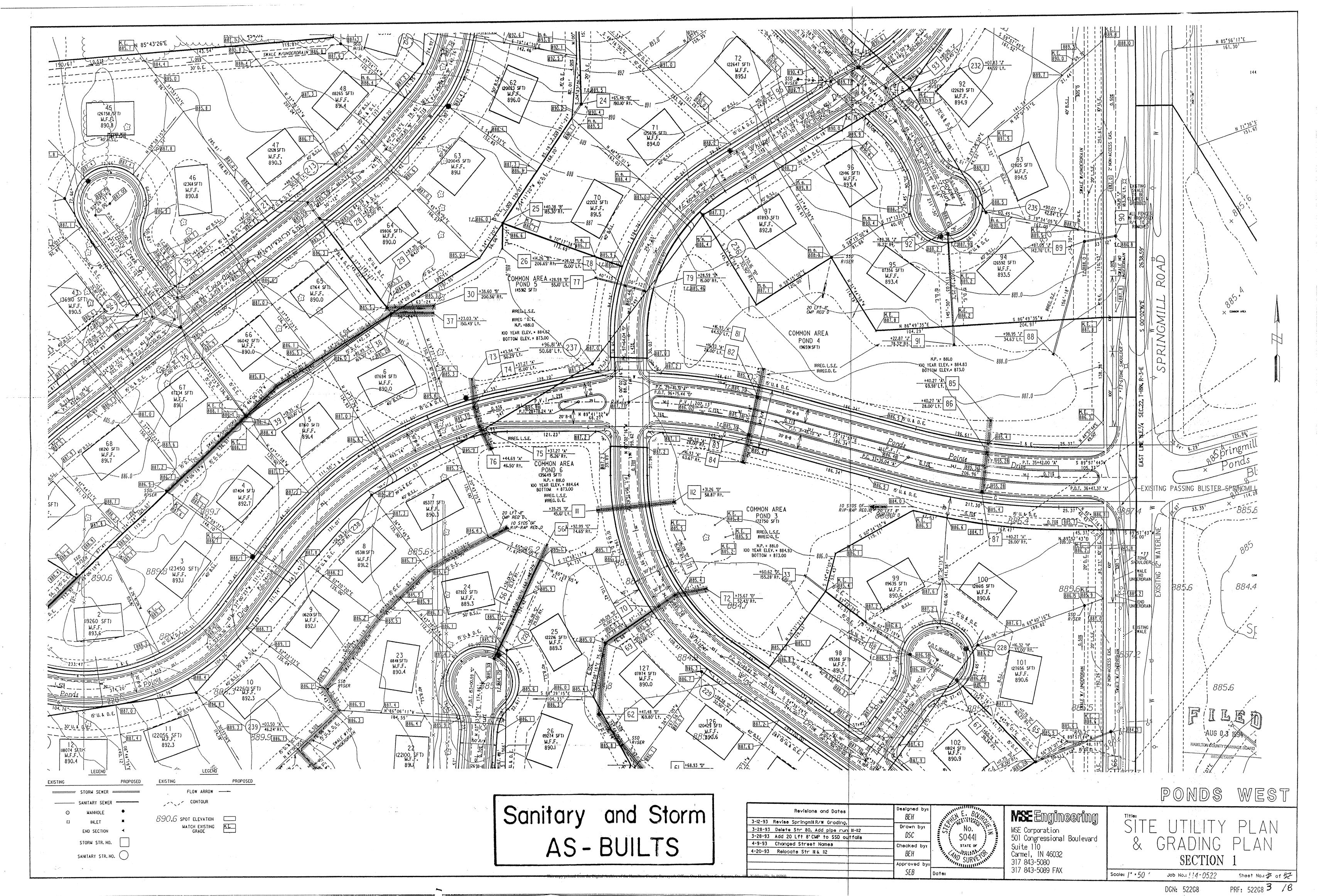
HAMILTON COUNTY DRAINAGE BOARD

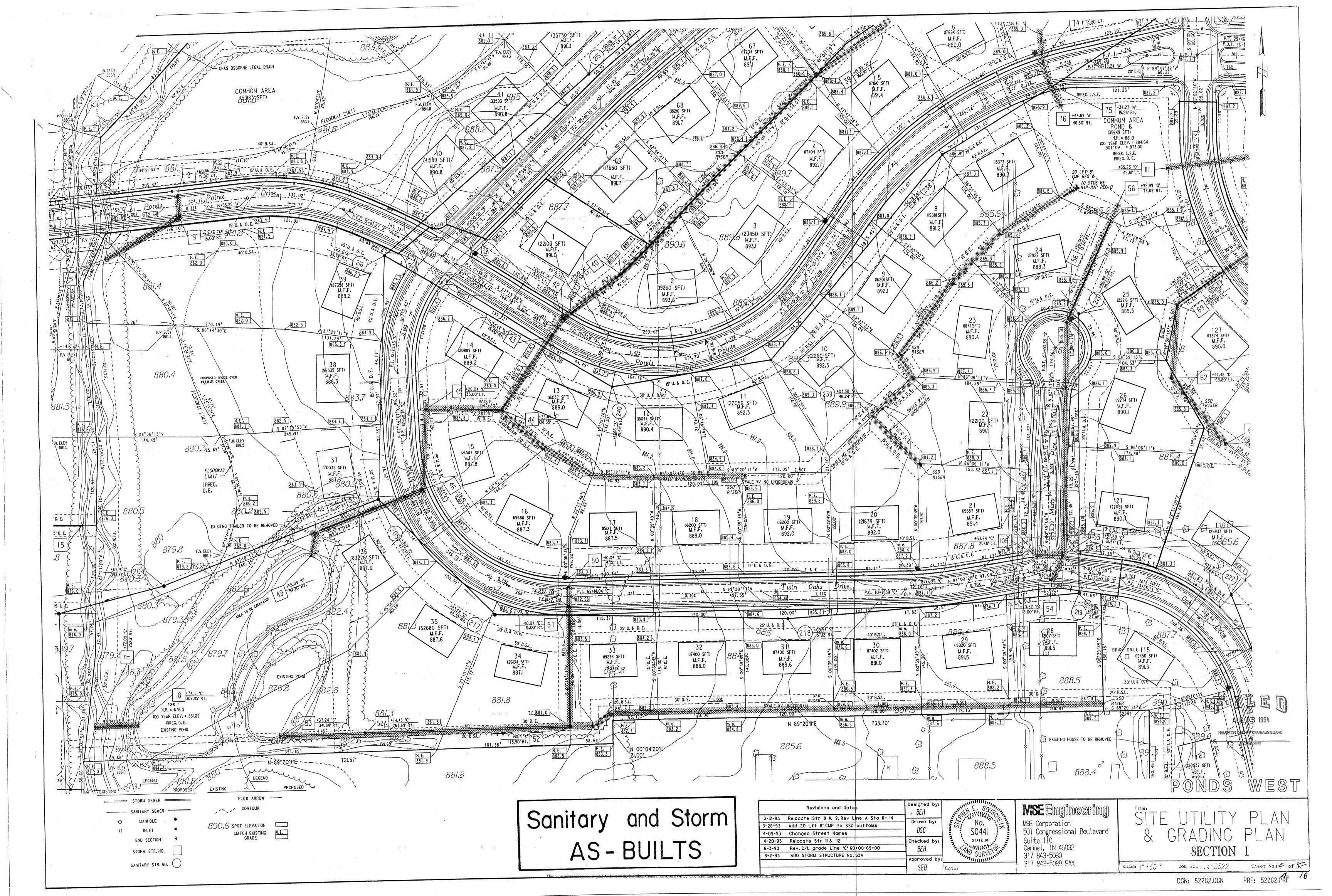
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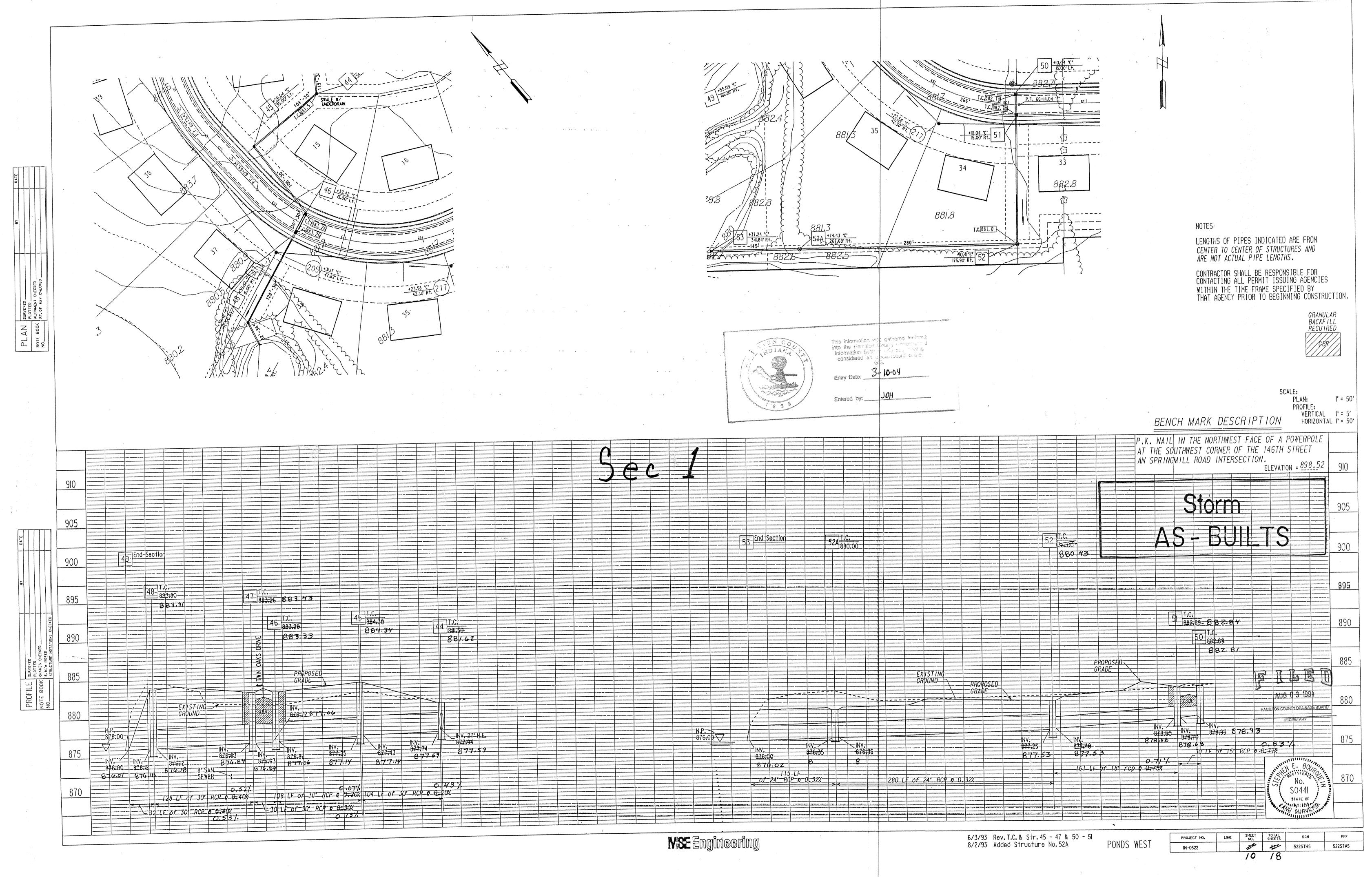
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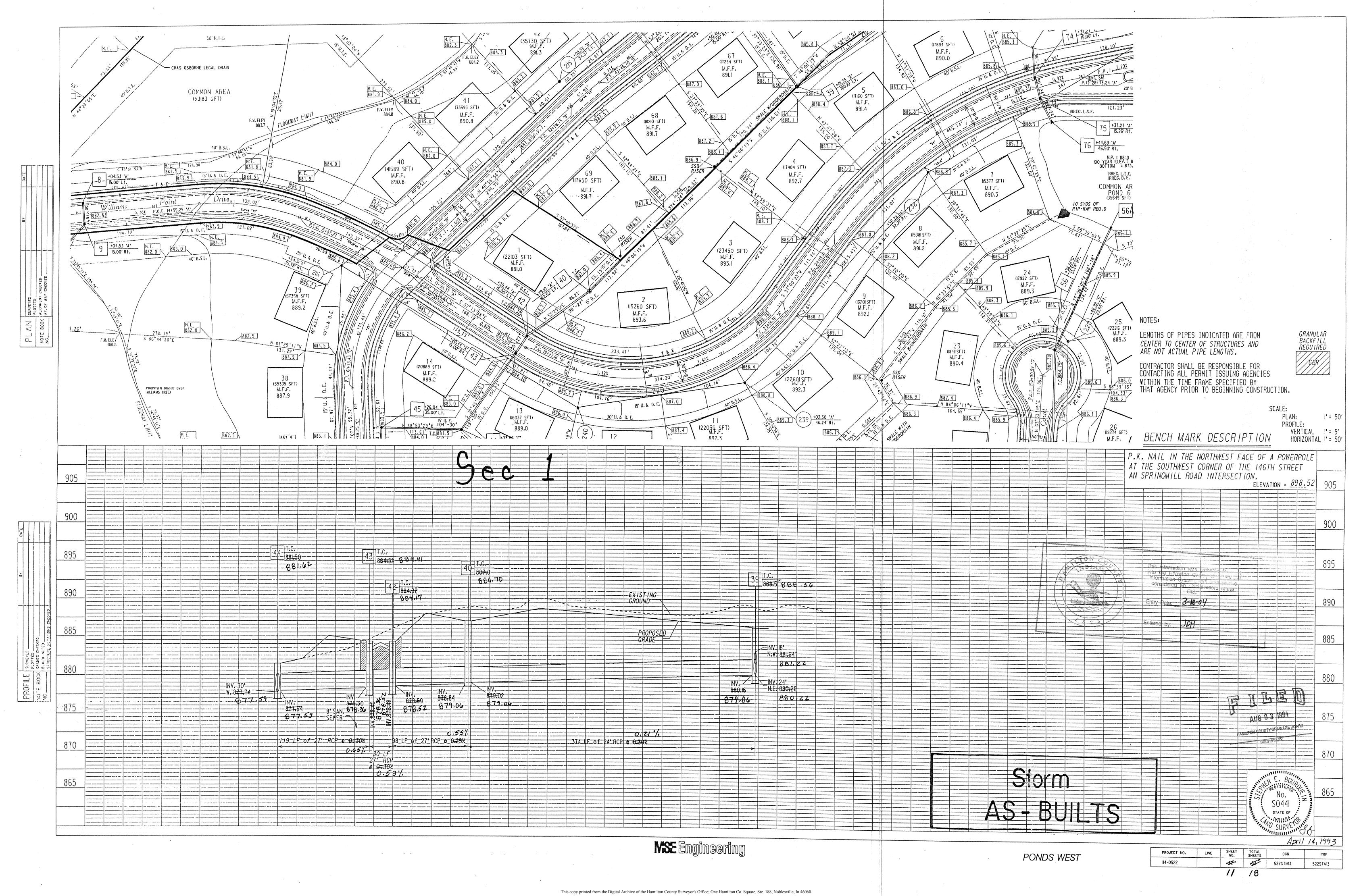
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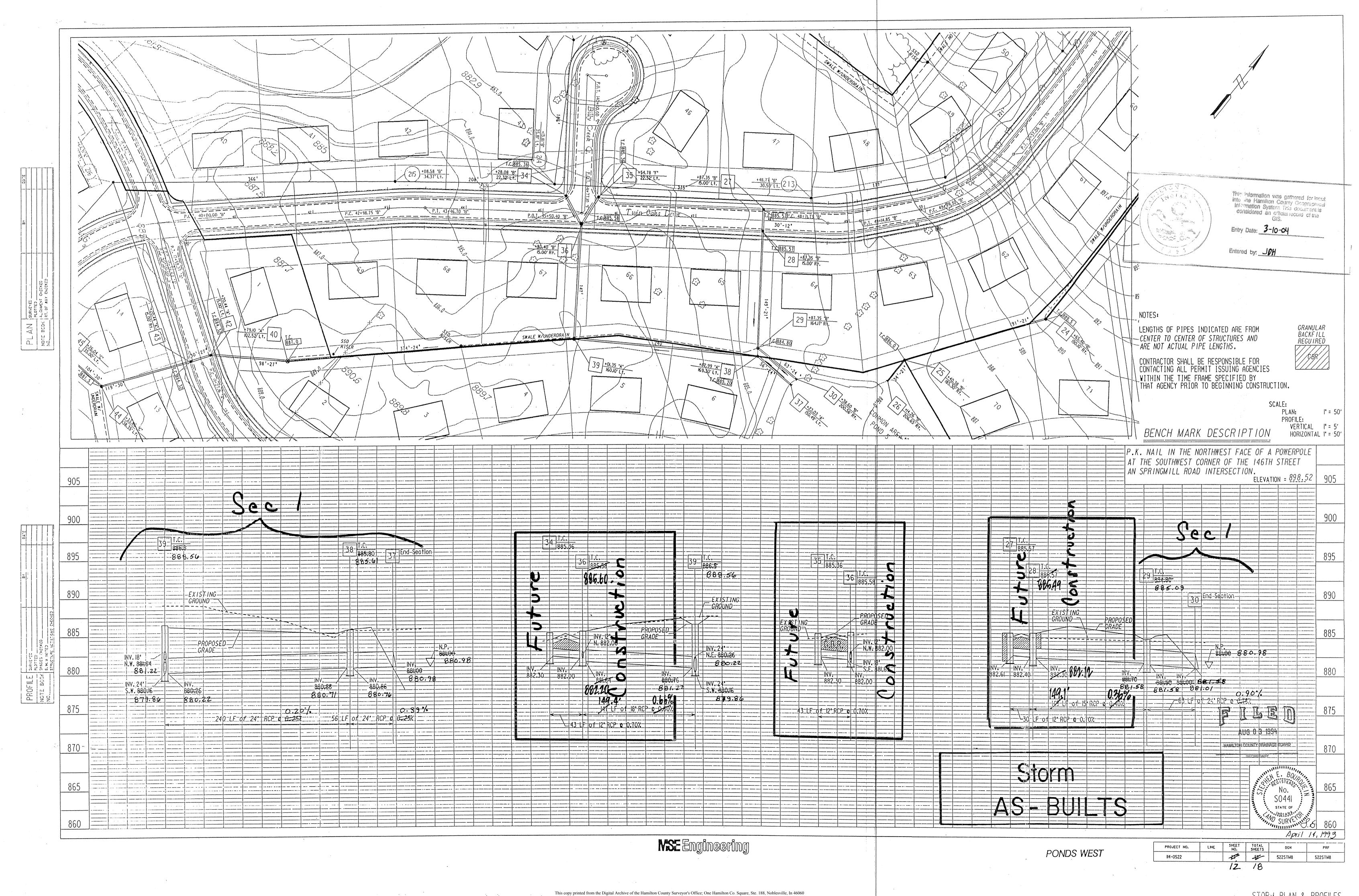


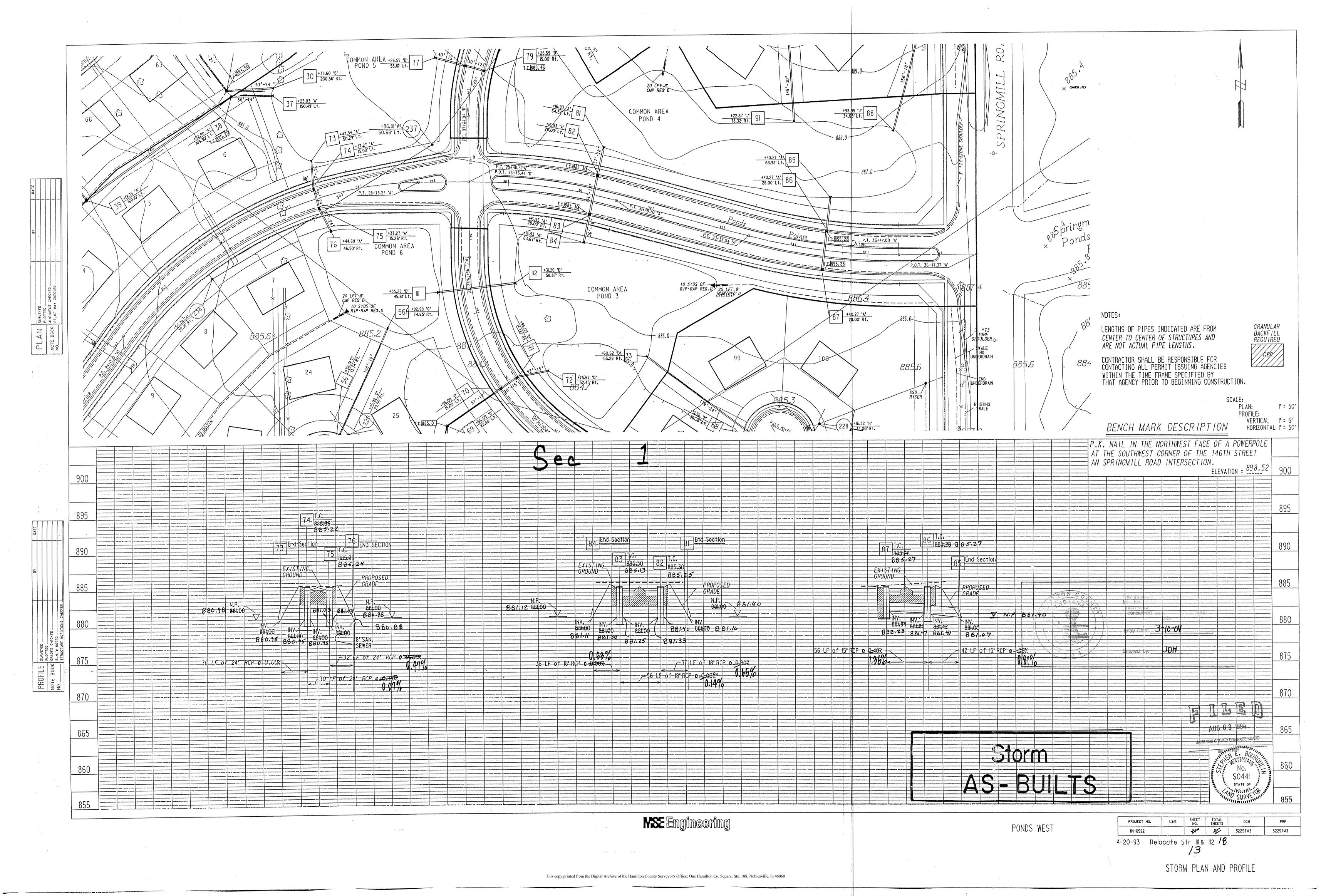


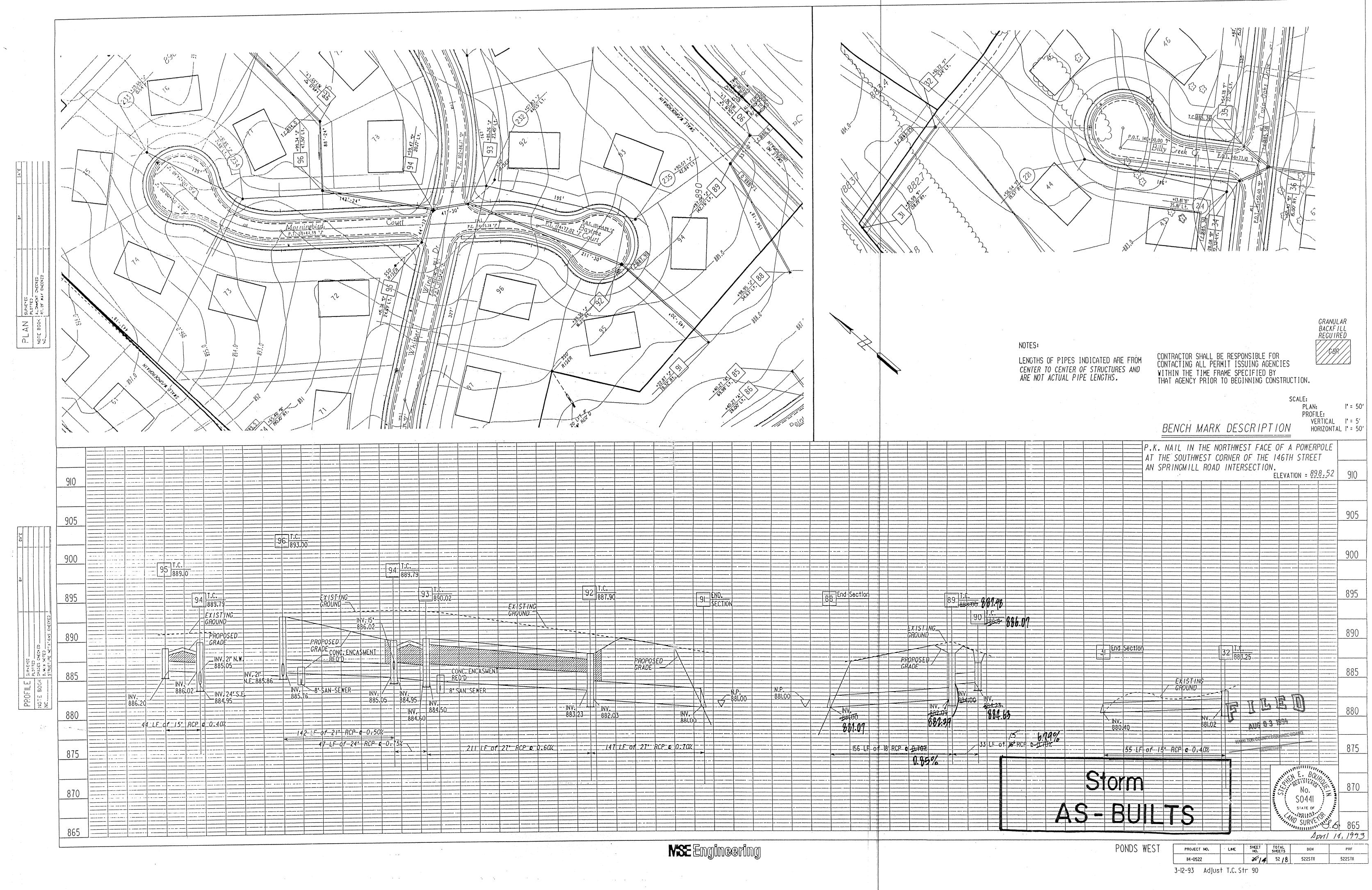


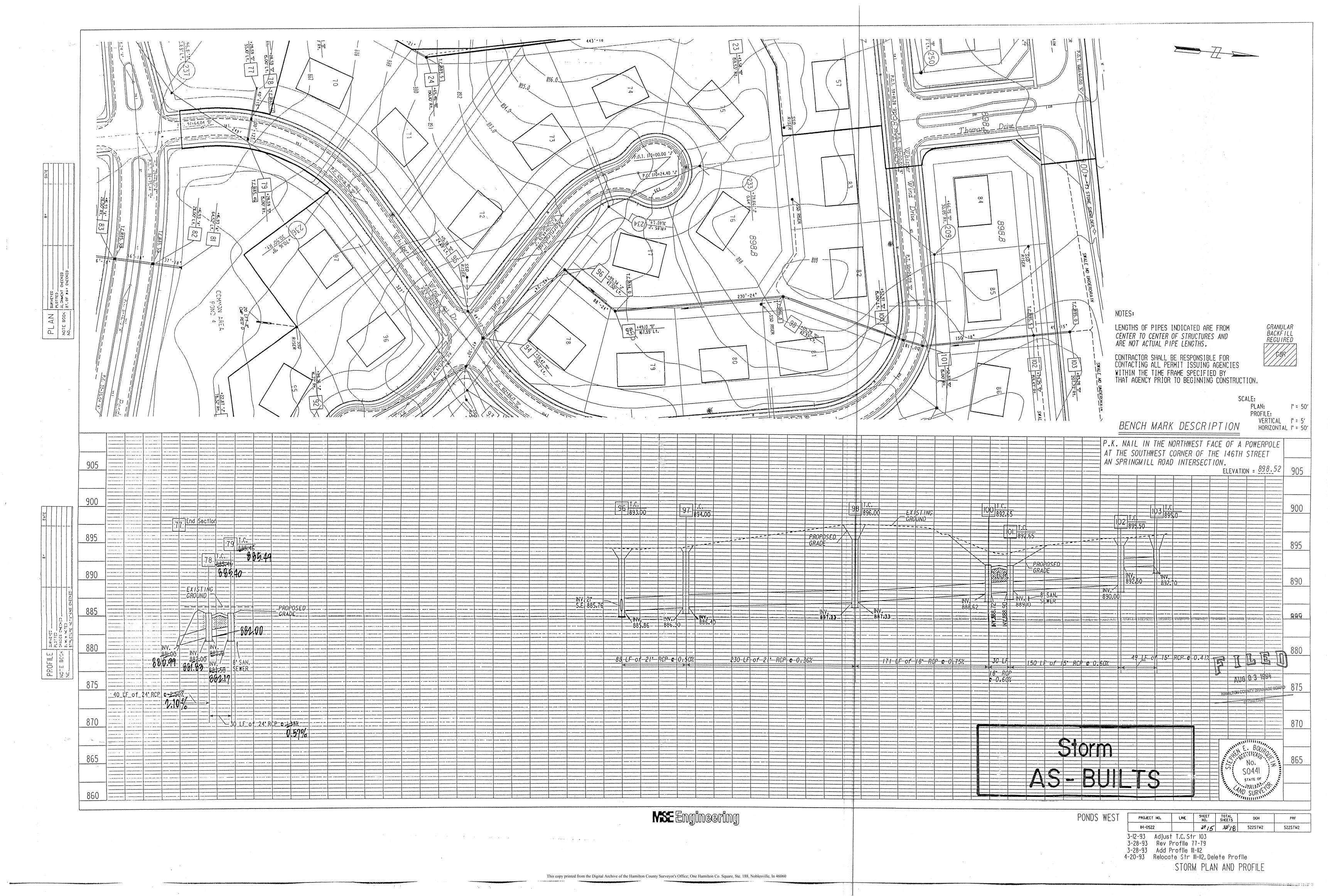
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Kenton C. Ward, CFM Surveyor of Hamilton County Phone (317) 776-8495 Fax (317) 776-9628

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

Map Correction-Field Verification

Drain Number: #254

Drain Length: 11,709

Drain Name: Ponds West: Section 1 Arm

Change + / -: -121

Date: 05-28-2009

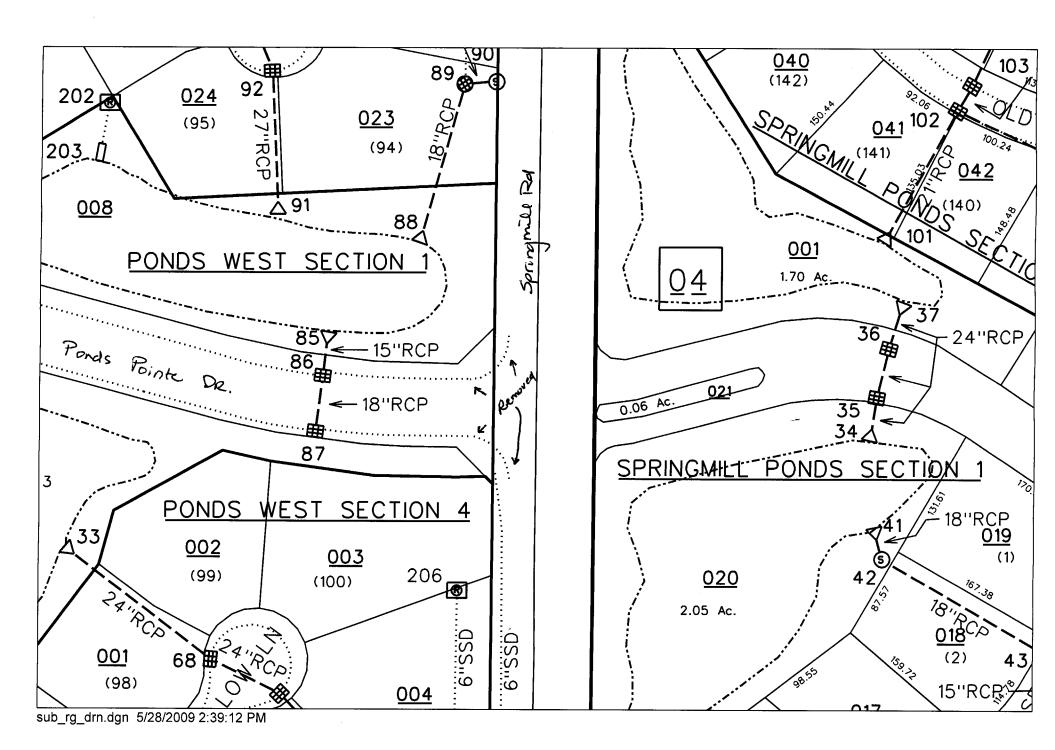
New Length: 11,588

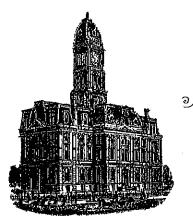
Verified By: SLM & LMC

Notes & Sketch:

The road improvements made to Springmill Rd in 1997 removed 121 feet of 6" SSD at the entrance of Ponds Pointe Dr.

Suzanne L. Mills GIS Specialist







Kenton C. Ward, CFM Surveyor of Hamilton County Phone (317) 776-8495 Fax (317) 776-9628 Suite 188 One Hamilton County Square Noblesville, Indiana 46060-2230

Map Correction-Field Verification

Drain Number: #315

Drain Length: 11,588

Drain Name: Ponds West Sec. 1

Change + / -: 226

Date: 03-10-2020

New Length: 11,814

Verified By: SLM, SAB

Notes & Sketch: See attached

Drainage Complaint investigation revealed 327 feet of 6" SSD was installed with the development in 1993 that was not shown on the current mapping. This run of SSD shows on the development plan. It was field verified with this investigation. It starts at the northeast corner of lot 18 and runs north west across the rear yards of lot 17, 16, and 15. The SSD outlets into structure 44. Also, when comparing 6" SSD totals with that of the previous reports, it was over reported in length by 101 feet.

Suzanne L. Mills GIS Specialist

