

SPRING PARK



Jeffrey D Mueller, PE
VANDERBURGH COUNTY SURVEYOR

Room 325 Civic Center Complex
1 NW Martin Luther King Jr Blvd
Evansville, IN 47708-1880
Phone (812) 435-5210
Fax (812) 435-5023

Mr. Ryan Schultz
PO Box 3646
501 Main Street
Suite 305
Evansville, IN 47708

January 28, 2019

Regarding: Relocation of Pedestrian Access

Dear Mr. Schultz,

This office is in receipt of your letters dated December 31, 2018 and January 25, 2019 regarding approval of consent to move the Pedestrian Access over an existing Public Utility and Drainage Easement. With the clarification that no alteration will be done to the existing drainage easement this office has no objection to the movement of the pedestrian easement to the proposed location.

Should you have any questions, please feel free to contact me at the letterhead address.

Respectfully yours


Jeffrey D. Mueller

Cc: File-Spring Park
Ron London-APC



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Mr. Ryan Schultz
PO Box 3646
501 Main Street
Suite 305
Evansville, IN 47708

January 10, 2019

Regarding: Relocation of Pedestrian Access

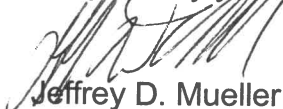
Dear Mr. Schultz,

This office is in receipt of your letter dated December 31, 2018 regarding approval of consent to move the Pedestrian Access over an existing Public Utility and Drainage Easement. While this office recognizes that it would be possible for both easements to exist, the following information will be required in order to move forward with your request.

- Provide an engineered drawn cross section showing the entire current easement (on lots 6 and 7), the proposed easement and the centerline of any existing/proposed drainage swale and improvements (trail, paved walk, etc.) proposed within the Pedestrian Easement. If no improvements are planned (especially within that part of the Pedestrian Access that lies over the drainage easement) than state so on the drawing.
- A cover letter to the Vanderburgh Drainage Board seeking a request to a revision to the Approved Drainage Plan, with the approval date of the original final drainage plan, seeking the modification.

Upon review of the submittal, the requested modification will be submitted to the Drainage Board for their approval. Should you have any questions, please feel free to contact me at the letterhead address.

Respectfully yours



Jeffrey D. Mueller

Cc: File-Spring Park
Ron London-APC



KAHN, DEES, DONOVAN & KAHN, LLP
Attorneys & Counselors at Law



Ryan M. Schulz
rschulz@kddk.com

December 31, 2018

*Via Electronic Mail &
USPS Certified Mail*

Jeffrey Mueller, Vanderburgh County Surveyor
Drainage Easement
1 NW Martin Luther King Jr. Blvd
Room 325 Civic Center Complex
Evansville, IN 47708

**RE: Approval for Relocation of Pedestrian Access Easement: Lot 7 of Spring Park
Subdivision, Evansville, Indiana**

Dear Mr. Mueller:

Our firm represents Rachel Rowe, the owner of Lots 7 and 8 in the Spring Park Subdivision, Section A, which is located in Evansville, Indiana. Our client is in the process of relocating a pedestrian access easement ("Pedestrian Access Easement"), which is currently along the boundary between Lot 7 and 8. The proposed new location of the Pedestrian Access Easement is adjacent to and south of the north line of Lot 7 in the Spring Park Subdivision. Our client is seeking to relocate the Pedestrian Access Easement in order to build a home on the lot.

For your convenience, we have enclosed a copy of the survey prepared by Easley Engineering indicating the proposed new location of the Pedestrian Access Easement as Exhibit "A". We are also enclosing a copy of the plat map to show the current location of the Pedestrian Access Easement and the utility easements located along Lots 7 and 8 in the Spring Park Subdivision, Section A as Exhibit "B". As you can see by reviewing Exhibit "B", the Pedestrian Access Easement currently travels through the utility easement. The proposed new location simply moves the easement from the middle of Lots 7 and 8 to the highlighted portion of Lot 7.

The Area Plan Commission requested that we notify each utility and request their consent to the proposed relocation of Pedestrian Access Easement. On behalf of our client, we request your approval to simply move the current location of the Pedestrian Access Easement. Please confirm your consent to the relocation of the Pedestrian Access Easement on or before by Friday, January 18, 2019, so that we may get the relocation completed as soon as possible. Should you have any questions or wish to discuss, please call or email me. Thank you in advance for your assistance.

Very truly yours,

KAHN, DEES, DONOVAN & KAHN, LLP

Ryan M. Schulz
rschulz@kddk.com

**RECEIVED BY THE
VANDERBURGH COUNTY
SURVEYOR'S OFFICE
1-4-19 CA**

RMS/MDM421058
Enclosures

EXHIBIT "A"

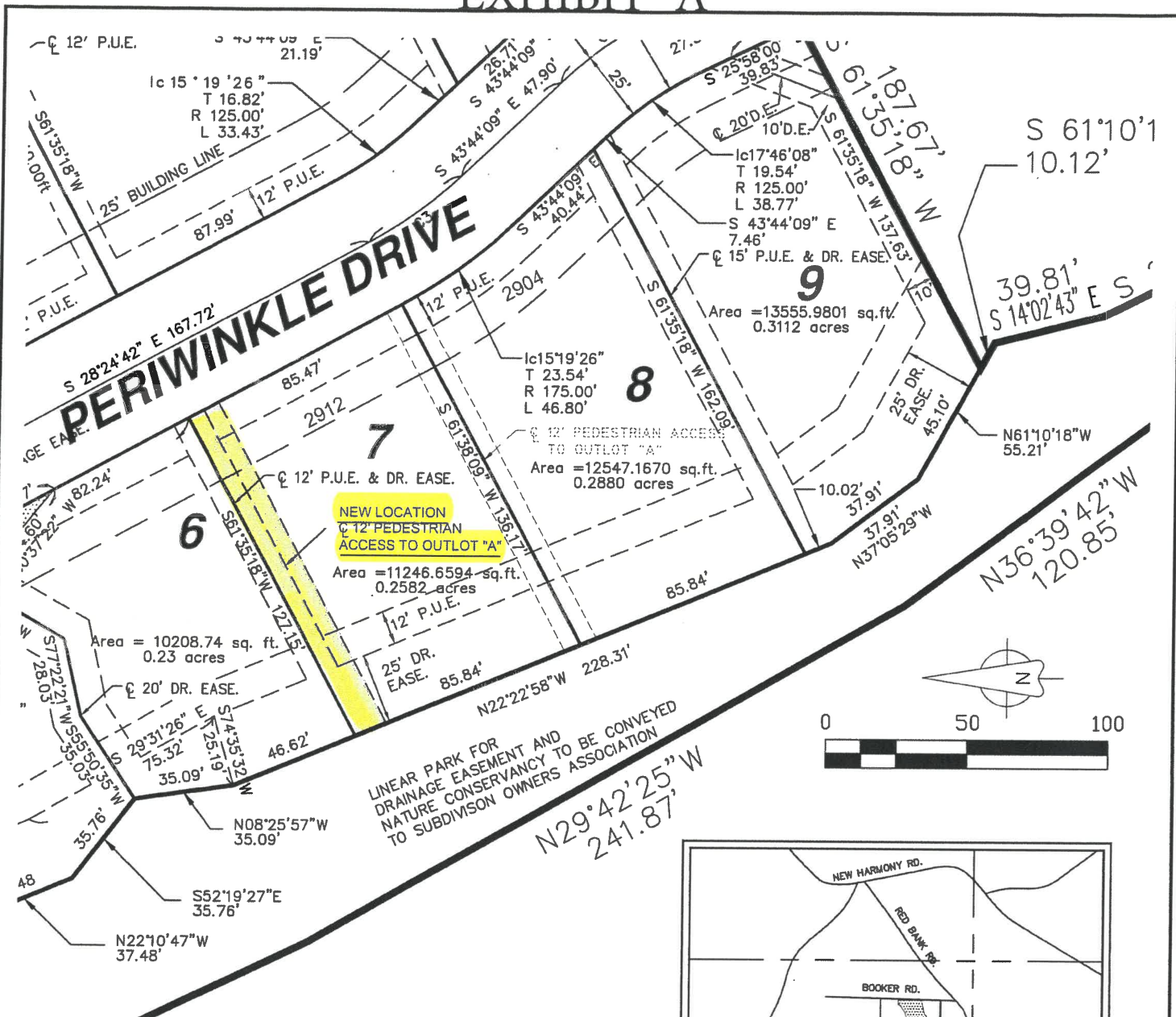
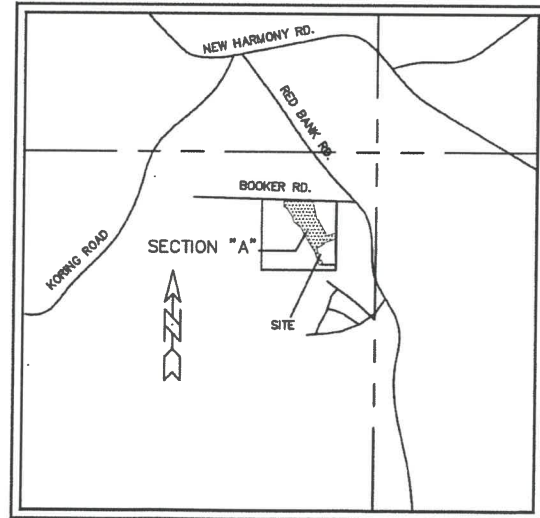


EXHIBIT "A"

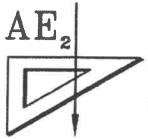
RELOCATION SKETCH OF A PEDESTRIAN ACCESS EASEMENT FROM THE PLATTED BETWEEN LOTS 7 AND 8 TO A NEW LOCATION ADJACENT TO AND SOUTH OF THE NORTH LINE OF LOT 7 IN SPRING PARK SECTION "A" AS RECORDED IN PLAT BOOK P, PAGE 157 IN THE OFFICE OF THE RECORDER OF VANDERBURGH COUNTY, INDIANA

RECEIVED BY THE
VANDERBURGH COUNTY
SURVEYOR'S OFFICE
1-4-19



LOCATION MAP

DRAWN BY: tjk
DATE: 6/8/18
DWG. NO.:
APPROVED BY:



ANDY EASLEY ENGINEERING
CIVIL ENGINEERING LAND SURVEYING
1133 W. MILL ROAD EVANSVILLE, INDIANA 47710

CLIENT: RACHEL K. ROWE
LOCATION: 2904 AND 2912 PERIWINKLE
PROJECT: RELOCATION OF PEDESTRIAN ACCESS EASEMENT
COUNTY: VANDERBURGH

EXHIBIT "B"

SPRING PARK SUBDIVISION SECTION "A"

98-16025

RECEIVED FOR RECORD
 11:56 AM
 MAY 11, 1998
 SETTY J. HERMANN RECORDER
 VANDERBURGH COUNTY
 CTRL # 0099

Legal Description

Part of the East Half of the Northeast Quarter of the Northeast Quarter of Section 16, Township 8 South, Range 11 West of the Second Principal Meridian, in Perry Township, Vanderburgh County, Indiana, and more particularly described as follows:

Diagram of the Northeast Corner of said East Half of Northeast Quarter of the Northeast Quarter of Section 16, Township 8 South, Range 11 West of the Second Principal Meridian, in Perry Township, Vanderburgh County, Indiana, and more particularly described as follows:

1st. NORTH 01 Degree 55 Minutes 46 Seconds WEST a distance of 104.44 Feet thence

2nd. SOUTH 70 Degree 33 Minutes 01 Seconds WEST a distance of 219.28 Feet thence

3rd. SOUTH 29 Degree 43 Minutes 00 Seconds EAST a distance of 10.47 Feet thence

4th. SOUTH 61 Degree 59 Minutes 10 Seconds WEST a distance of 107.12 Feet thence

5th. SOUTH 01 Degree 10 Minutes 10 Seconds EAST a distance of 107.12 Feet thence

6th. SOUTH 14 Degree 02 Minutes 45 Seconds EAST a distance of 50.00 Feet thence

7th. SOUTH 24 Degree 59 Minutes 52 Seconds EAST a distance of 50.00 Feet thence

8th. SOUTH 17 Degree 45 Minutes 52 Seconds WEST a distance of 50.00 Feet thence

9th. SOUTH 04 Degree 48 Minutes 14 Seconds EAST a distance of 92.18 Feet thence

10th. SOUTH 19 Degree 26 Minutes 47 Seconds WEST a distance of 14.28 Feet thence

11th. NORTH 09 Degree 26 Minutes 17 Seconds WEST a distance of 52.53 Feet thence

12th. NORTH 19 Degree 04 Minutes 23 Seconds WEST a distance of 50.00 Feet thence

13th. NORTH 03 Degree 59 Minutes 12 Seconds WEST a distance of 50.00 Feet thence

14th. NORTH 29 Degree 42 Minutes 29 Seconds WEST a distance of 241.27 Feet thence

15th. NORTH 29 Degree 59 Minutes 19 Seconds WEST a distance of 100.00 Feet thence

16th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 29.28 Feet to a point on the West line of the Northeast Quarter of the Northeast Quarter of said Section thence

17th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

18th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence

19th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

20th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence

21th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

22th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence

23th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

24th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence

25th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

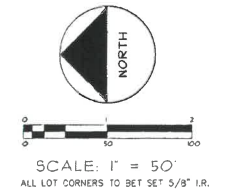
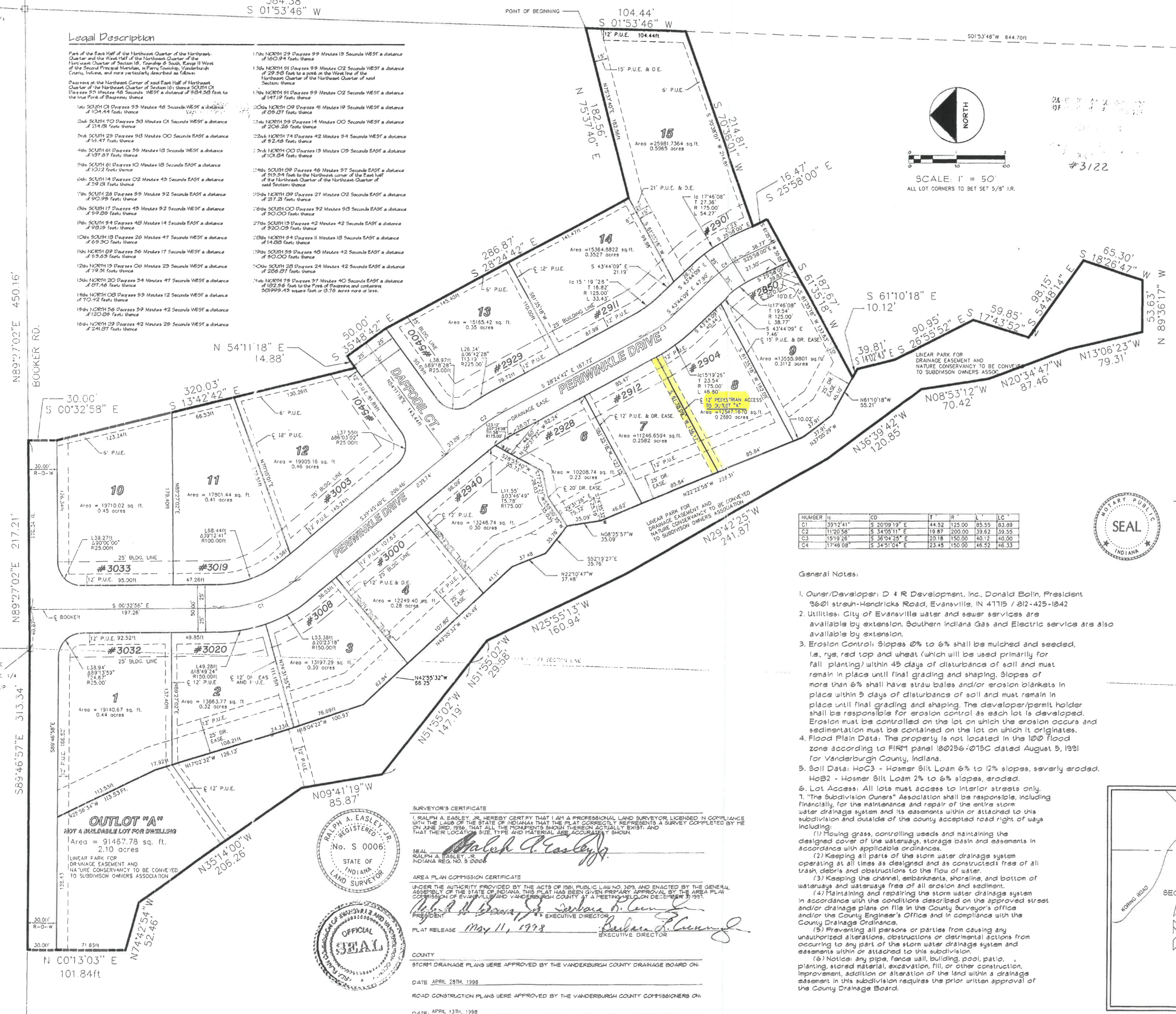
26th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence

27th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

28th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence

29th. NORTH 09 Degree 41 Minutes 19 Seconds WEST a distance of 09.07 Feet thence

30th. NORTH 51 Degree 59 Minutes 02 Seconds WEST a distance of 147.08 Feet thence



OWNERS CERTIFICATE

THE UNDERSIGNED OWNERS OF THE REAL ESTATE SHOWN AND DESCRIBED HEREON DOES HEREBY PLAT AND SUBDIVIDE SAID REAL ESTATE AS SHOWN AND DESIGNATES THE SAME AS SPRING PARK SUBDIVISION SECTION "A". ALL ROADS SHOWN AND NOT PREVIOUSLY DEDICATED ARE HEREBY DEDICATED TO PUBLIC USE.

STRIPS OF GROUND, OF THE WIDTH SHOWN ON THIS PLAT AND MARKED "PUBLIC UTILITY EASEMENT" ARE HEREBY DEDICATED TO PUBLIC UTILITIES FOR THE INSTALLATION, MAINTENANCE, OPERATION, ENLARGEMENT, AND REPAIR OF THE UTILITY FACILITIES, WHETHER ABOVE OR BELOW GROUND, WITH THE RIGHT TO TRIM OR REMOVE AT THE DISCRETION OF THE PUBLIC UTILITY, TREES OR OVERHANGING BRANCHES, BUSHES, UNDERBUSH, AND OBSTRUCTIONS, NO STRUCTURES OTHER THAN SUCH UTILITY FACILITIES SHALL BE LOCATED WITHIN SAID STRIPS OF LAND AND ANY FENCE LOCATED WITHIN SAID STRIPS OF LAND IS SUBJECT TO REMOVAL BY A PUBLIC UTILITY, WITHOUT LIABILITY, IN THE USE OF SAID EASEMENT BY SAID UTILITY.

STRIPS OF GROUND MARKED "PUBLIC UTILITY AND DRAINAGE EASEMENT" ARE DEDICATED FOR SURFACE WATER AND/OR SUBSURFACE WATER DRAINAGE IN ADDITION TO PUBLIC UTILITIES PROVIDED, HOWEVER THAT NO ABOVE GROUND PARTS OF SUCH FACILITIES SHALL BE PLACED WITHIN THE BANKS OF DRAINAGE DITCHES OR SWALES IN SUCH A MANNER TO IMPED THE FLOW OF WATER.

STRIPS OF GROUND MARKED "DRAINAGE EASEMENTS" ARE DEDICATED FOR SURFACE WATER AND/OR SUBSURFACE WATER PROVIDED, HOWEVER THAT PUBLIC UTILITIES ARE HEREBY PERMITTED TO CROSS SUCH DRAINAGE EASEMENTS WITH UTILITY FACILITIES AND PROVIDED THAT SUCH FACILITIES ARE NOT PLACED IN SUCH A MANNER TO IMPED THE FLOW OF WATER.

STRIPS OF GROUND MARKED "PUBLIC UTILITY AND DRAINAGE EASEMENT" ARE DEDICATED FOR SURFACE WATER AND/OR SUBSURFACE WATER DRAINAGE IN ADDITION TO PUBLIC UTILITIES PROVIDED, HOWEVER THAT NO ABOVE GROUND PARTS OF SUCH FACILITIES SHALL BE PLACED WITHIN THE BANKS OF DRAINAGE DITCHES OR SWALES IN SUCH A MANNER TO IMPED THE FLOW OF WATER.

STRIPS OF GROUND MARKED "DRAINAGE EASEMENTS" ARE DEDICATED FOR SURFACE WATER AND/OR SUBSURFACE WATER PROVIDED, HOWEVER THAT PUBLIC UTILITIES ARE HEREBY PERMITTED TO CROSS SUCH DRAINAGE EASEMENTS WITH UTILITY FACILITIES AND PROVIDED THAT SUCH FACILITIES ARE NOT PLACED IN SUCH A MANNER TO IMPED THE FLOW OF WATER.

Donald L. Bolin
 DONALD L. BOLIN, PRESIDENT, 3621 STRUEH-HENDRICKS RD., EVANSVILLE, IN 47115
Rachael L. Bolin
 RACHAEL L. BOLIN, SECRETARY, 3621 STRUEH-HENDRICKS RD., EVANSVILLE, IN 47115
 NOTARY CERTIFICATE



NUMBER	C	CD	T	R	L	LC
C1	39°12'41"	S 20°09'19" E	44.52	125.00	85.55	83.89
C2	11°30'58"	S 34°35'11" E	19.87	200.00	39.62	39.55
C3	15°19'26"	S 64°54'52" E	23.45	150.00	10.12	10.12
C4	17°46'08"	S 34°51'04" E	23.45	150.00	46.52	46.33

- General Notes:**
- Owner/Developer: D & R Development, Inc., Donald Bolin, President, 3621 Strueh-Hendricks Road, Evansville, IN 47115 / 212-425-1842
 - Utilities: City of Evansville water and sewer services are available by extension. Southern Indiana Gas and Electric service are also available by extension.
 - Erosion Control: Slopes 0% to 6% shall be mulched and seeded, i.e. ryegrass and wheat (which will be used primarily for fall planting) within 45 days of disturbance of soil and must remain in place until final grading and shaping. Slopes of more than 6% shall have straw bales and/or erosion blankets in place within 5 days of disturbance of soil and must remain in place until final grading and shaping. The developer/permit holder shall be responsible for erosion control on each lot to be developed. Erosion must be controlled on the lot on which the erosion occurs and sedimentation must be contained on the lot on which it originates.
 - Flood Plain Data: The property is not located in the 100 flood zone according to FIRI panel 180256-015C dated August 5, 1991 for Vanderburgh County, Indiana.
 - Soil Data: HoC3 - Hoamer Silt Loam 6% to 12% slopes, severely eroded. HoB2 - Hoamer Silt Loam 2% to 6% slopes, eroded.
 - Lot Access: All lots must access to interior streets only.
 - The Subdivision Owners' Association shall be responsible, including financially, for the maintenance and repair of the entire storm water drainage system and its easements within or attached to this subdivision and outside of the county accepted road right of ways including:
 - Mowing grass, controlling weeds and maintaining the designed cover of the waterways, storage basin and easements in accordance with applicable ordinances.
 - Keeping all parts of the storm water drainage system operating at all times as designed and as constructed free of all trash debris and obstructions to the flow of water.
 - Keeping the channel, embankments, shoreline, and bottom of waterways and waterways free of all erosion and sediment.
 - Maintaining and repairing the storm water drainage system in accordance with the conditions described on the approved street and/or drainage plans on file in the County Surveyor's office and/or the County Engineer's Office and in compliance with the County Drainage Ordinance.
 - Preventing all persons or parties from causing any unauthorized alterations, obstructions or detrimental actions from occurring to any part of the storm water drainage system and easements within or attached to this subdivision.
 - Notice: any pipe, fence wall, building, pool, patio, planting, stored material, excavation, fill, or other construction, improvement, addition or alteration of the land within a drainage easement in this subdivision requires the prior written approval of the County Drainage Board.

OUTLOT "A"
 NOT A BUILDABLE LOT FOR DWELLING
 Area = 91467.78 sq. ft.
 2.10 acres
 LINEAR PARK FOR DRAINAGE EASEMENT AND NATURE CONSERVANCY TO BE CONVEYED TO SUBDIVISION OWNERS ASSOCIATION



SURVEYOR'S CERTIFICATE

I, RALPH A. EASLEY, JR. HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR LICENSED IN COMPLIANCE WITH THE LAWS OF THE STATE OF INDIANA THAT THE PLAT ACCURATELY REPRESENTS A SURVEY COMPLETED BY ME ON JUNE 19TH, 1998, THAT ALL THE MONUMENTS SHOWN THEREON ACTUALLY EXIST, AND THAT THEIR LOCATION, SIZE, TYPE AND MATERIAL ARE CORRECTLY SHOWN.

Ralph A. Easley, Jr.
 RALPH A. EASLEY, JR.
 INDIANA REG. NO. S 0006

AREA PLAN COMMISSION CERTIFICATE

UNDER THE AUTHORITY PROVIDED BY THE ACTS OF 1981 PUBLIC LAW NO. 309, AND ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF INDIANA, THIS PLAT HAS BEEN GIVEN PRELIMINARY APPROVAL BY THE AREA PLAN COMMISSION OF EVANSVILLE AND VANDERBURGH COUNTY AT A MEETING HELD ON DECEMBER 3, 1997.

Donald L. Bolin
 DONALD L. BOLIN, PRESIDENT

Barbara A. Cummings
 BARBARA A. CUMMINGS, EXECUTIVE DIRECTOR

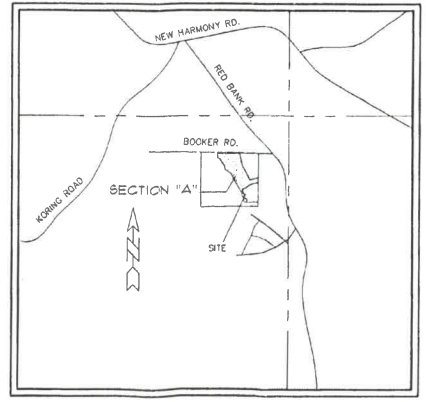
PLAT RELEASE May 11, 1998

ROAD CONSTRUCTION PLANS WERE APPROVED BY THE VANDERBURGH COUNTY DRAINAGE BOARD ON:
 DATE: APRIL 28TH, 1998

ROAD CONSTRUCTION PLANS WERE APPROVED BY THE VANDERBURGH COUNTY COMMISSIONERS ON:
 DATE: APRIL 13TH, 1998

WITNESS MY HAND AND NOTARIAL SEAL THIS 5 DAY OF May, 1998.
 MY COMMISSION EXPIRES with 24 months NOTARY PUBLIC
 4-15-2000 *W. H. H. H. H.* PRINTED NAME
 A RESIDENT OF VANDERBURGH COUNTY

P-157



NOTE:
 THE OWNER / DEVELOPER SHALL PROVIDE TO THE PURCHASER OF EACH LOT WITHIN THE SUBDIVISION AN ENVIRONMENTAL DISCLOSURE STATEMENT SETTING FORTH THE HISTORIC PRESENCE OF LEAD PELLET CONCENTRATION WITHIN THE SUBDIVISION, THE DEVELOPER'S REMEDIATION PLAN AND A LEAD WARNING STATEMENT IN A FORM ACCEPTABLE TO THE VANDERBURGH COUNTY DEPARTMENT OF HEALTH PRIOR TO THE CONVEYANCE OF THE LOT.

Addendum to plat recorded May 11, 1998.

VANDERBURGH COUNTY SURVEYOR'S OFFICE
 1-4-19 CA

LOCATION MAP

SCALE: 1" = 2000'

APC # 7-S-97

C:\VP717-142 MAY MAY 4 08:44:54 1998 EASLEY ENGINEERS



Jeffrey D Mueller, PE
VANDERBURGH COUNTY SURVEYOR

Room 325 Civic Center Complex
1 NW Martin Luther King Jr Blvd
Evansville, IN 47708-1880
Phone (812) 435-5210
Fax (812) 435-5023

Mr. Justin Shofstall
Project Manager
Andy Easley Engineering
Evansville, IN 47710

October 15, 2015

Regarding: Vacation of Drainage Easements in Spring Park Section C
Subdivision

Dear Mr. Shofstall,

In reference to your email to this office dated July 10, 2015 regarding certain vacation requests in Spring Park Section C, please note the following:

- The Vanderburgh County Surveyor does not have any proposed drainage facilities in the Drainage Easements that are proposed to be vacated.
- The Vanderburgh County Surveyor agrees to release its rights in the area that is proposed to be vacated.

Should you have any questions, please feel free to contact me at the letterhead address.

Respectfully yours


Jeffrey D. Mueller

Cc: File-Spring Park Section C

Mueller, Jeffrey

From: Justin Shofstall <justin@easleyengineering.com>
Sent: Friday, July 10, 2015 3:02 PM
To: Mueller, Jeffrey; Stoll, John
Subject: Spring Park Section C - Easement vacation and dedication
Attachments: exhibit-dedicate.pdf; exhibit-vacate.pdf; R-017.pdf

Gentlemen,

Attached, please find the following

1. Copy of the recorded plat of Spring Park "C"
2. Easement Vacation exhibit (at scale on 11x17)
3. Easement Dedication exhibit (at scale on 11x17)

Lots 26, 27, and 28 of Spring Park Sec "C", (2821, 2815, and 2814 Periwinkle Drive respectively) had a drainage easement dedicated at a larger than needed 20' wide easement for an overland ditch.

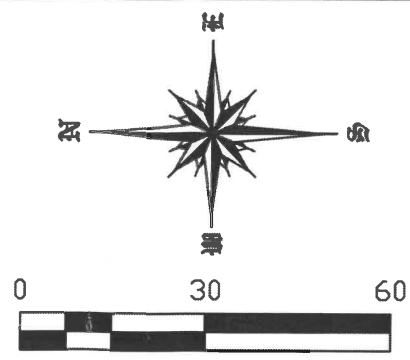
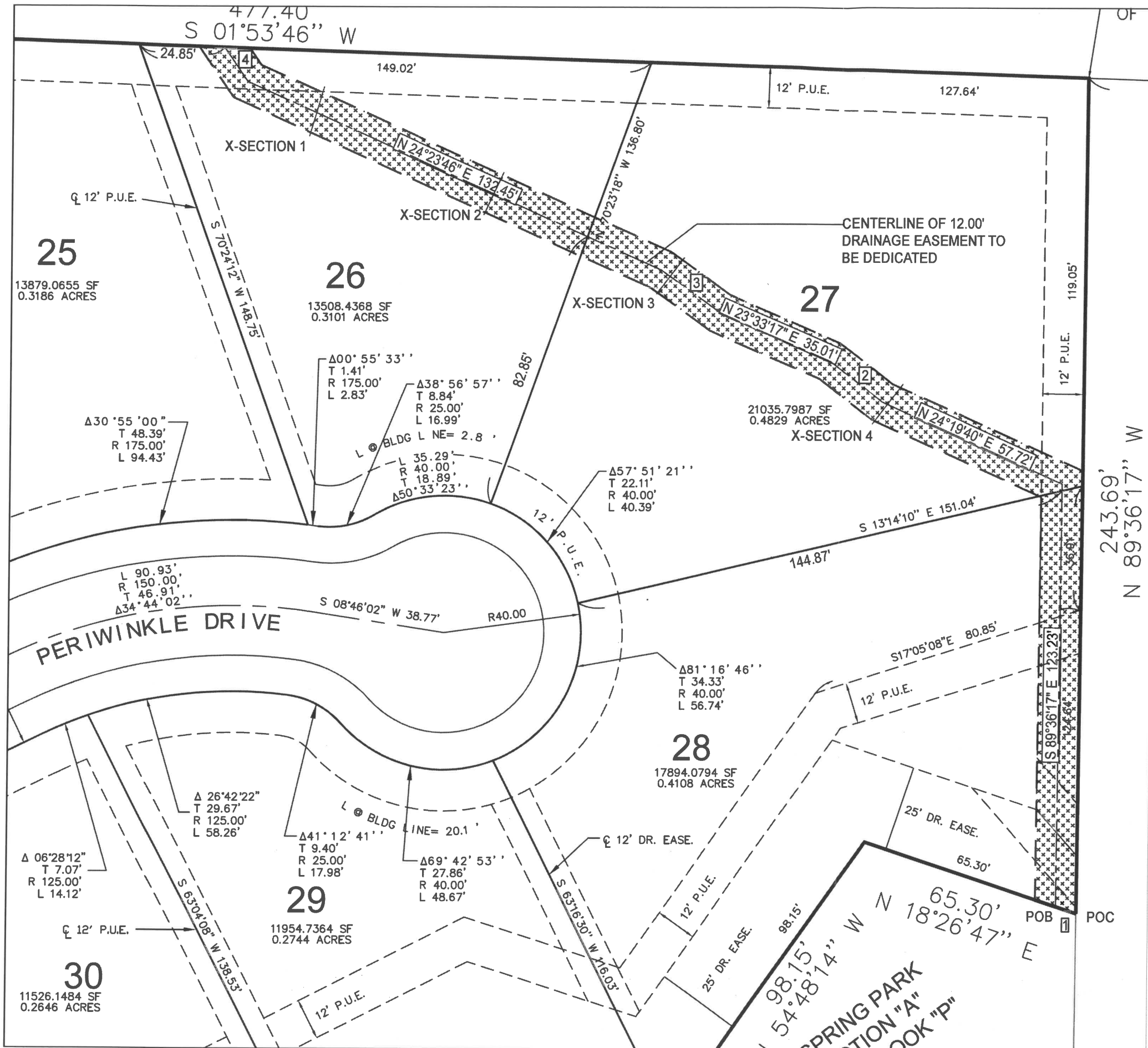
Over the years as Spring Park has been developed, cleared, and future lots prepared for sale, the developer has removed much of the overgrowth and brush from the lots. To date, the existing ditch is much smaller and was able to be located accurately in the field.

D&R Development, subdivision developer and owner, would like to vacate the existing drainage easement and dedicate a new drainage easement over the ditch at it's real world position. This allows Lots 26 and 27 to have more accessible building sites from the roadway versus the proposed building sites as per the current plat and easement location.

As this will require easement vacation procedures before the County Commissioners and Attorney, letters of support and denial will be required from both your offices prior to filing the paperwork.

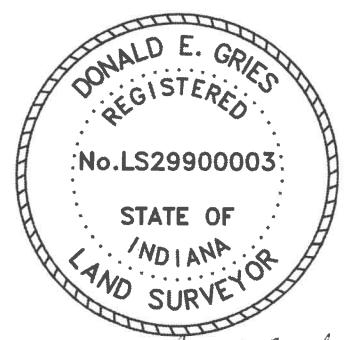
If you have any questions, please contact me at your convenience.

Justin Shofstall
ANDY EASLEY ENGINEERING, INC.
1133 W. Mill Road, Suite 205
Evansville, IN 47710
phone (812) 424-2481
fax (812) 425-3463



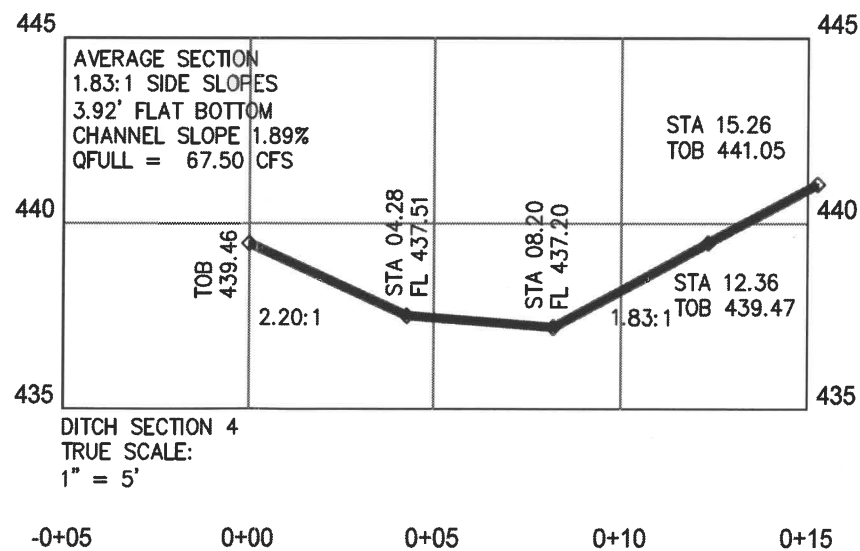
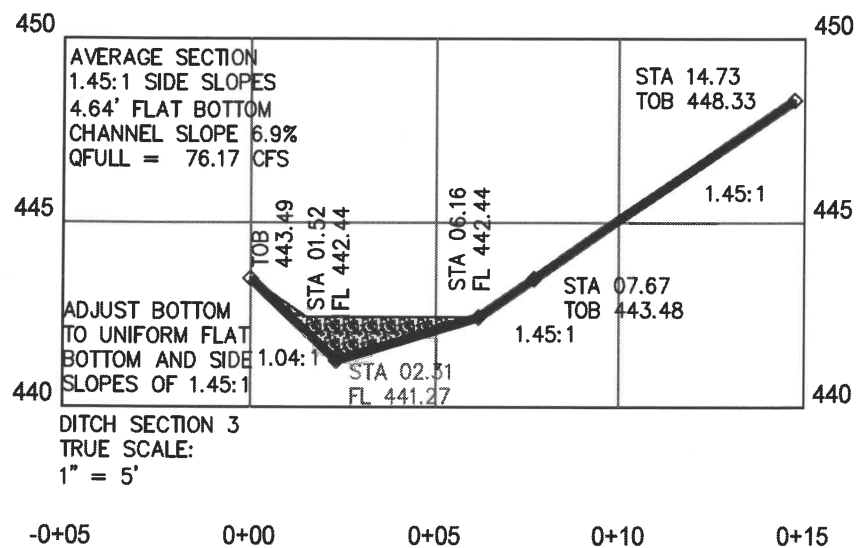
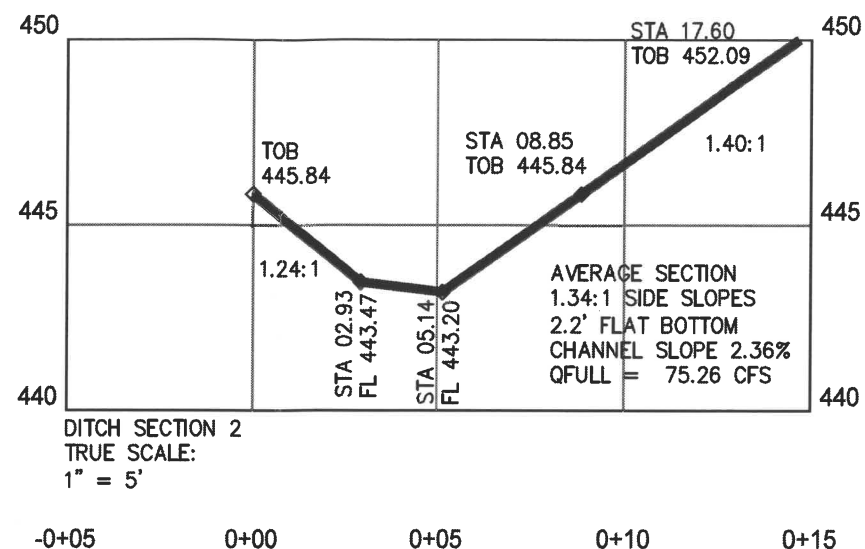
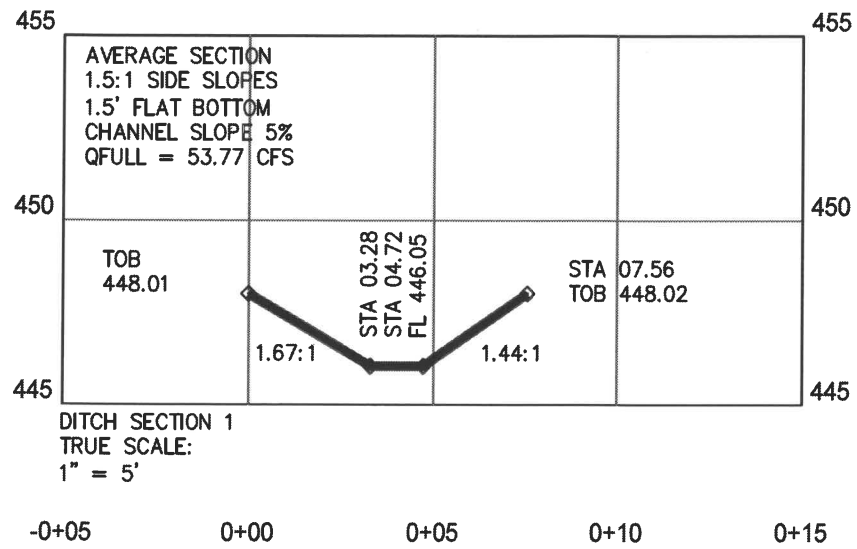
CROSS SECTION LOCATIONS OF EXISTING DITCH. DITCH IS LOCATED AT THE TOE OF AN EXISTING EMBANKMENT WITH TYPICAL WESTSIDE SANDSTONE OUTCROPPINGS. STONE SIDESLOPES OR BOTTOMS SHALL NOT BE RIP-RAPPED. MINIMUM 6" DIAMETER HAND LAID RIP-RAP SHALL BE USED AT ALL EARTHEN EMBANKMENTS.

APPROVED
 SEP 01 2015
 VANDERBURGH COUNTY
 DRAINAGE BOARD



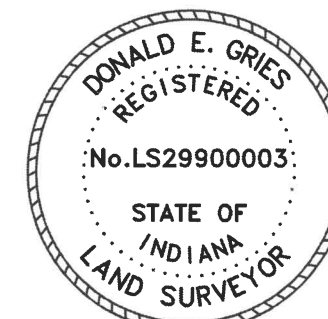
Donald E. Gries

AE2 ANDY EASLEY ENGINEERING CIVIL ENGINEERING (812) 424-2481 LAND SURVEYING EVANSVILLE, INDIANA 47710 1133 WEST MILL ROAD	CROSS-SECTION LOCATION SPRING PARK SEC. "C" 2814, 2815, & 2821 PERIWINKLE DRIVE VANDERBURGH CO., IN
	DRAWN BY: [] CHECKED BY: [] DATE: 07-08-2015 PROJECT NO.: 717 REVISIONS: [] SCALE: 1" = 30' SHEET NO.: C1.0



ALL FLOWS ARE BASED ON RIP-RAP LINED CHANNELS. MINIMUM 6" DIAMETER RIP-RAP SHALL BE PLACED AT ALL LOCATIONS WHERE NO STONE BEDROCK IS EXPOSED. EXISTING SLOPES TO REMAIN AS IS.

APPROVED
SEP 01 2015
VANDERBURGH COUNTY
DRAINAGE BOARD



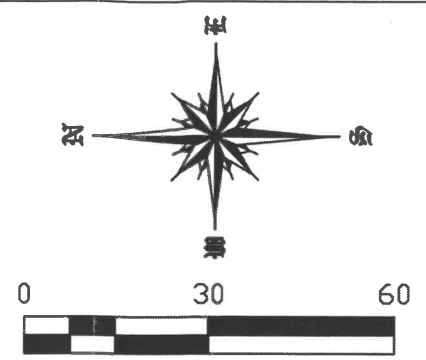
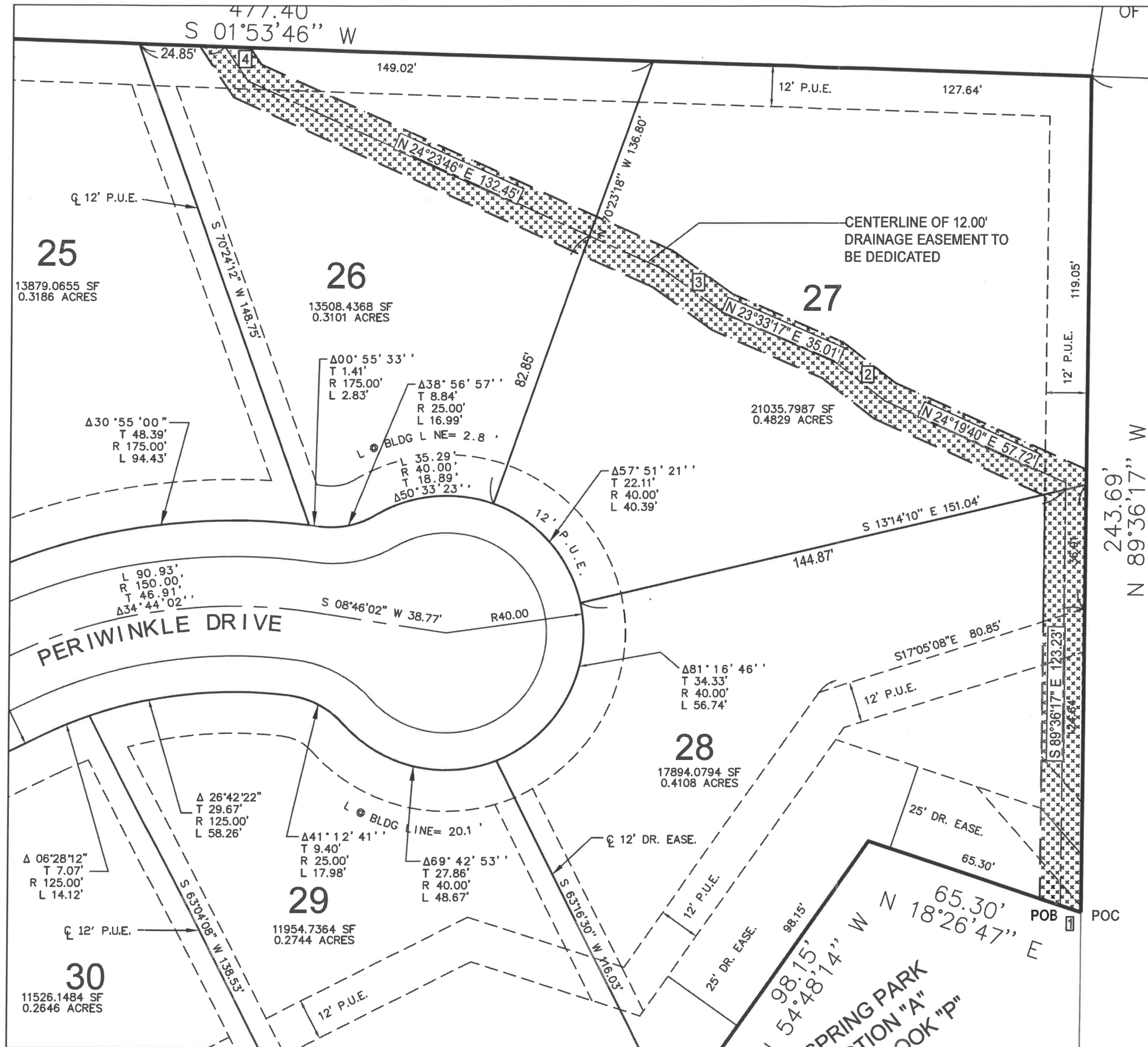
Donald E. Gries

AE₂ **ANDY EASLEY ENGINEERING**
CIVIL ENGINEERING (812) 424-2461 LAND SURVEYING EVANSVILLE, INDIANA 47710
1133 WEST MILL ROAD

CROSS-SECTION LOCATION
SPRING PARK SEC. "C"
2814, 2815, & 2821 PERIWINKLE DRIVE
VANDERBURGH CO., IN

DATE: 07-06-2015	DRAWN BY: Jm	CHECKED BY: DEG	SCALE: AS NOTED
PROJECT NO: 717	REVISIONS		

SHEET NO.:
C1.1



DRAINAGE EASEMENT TO BE DEDICATED

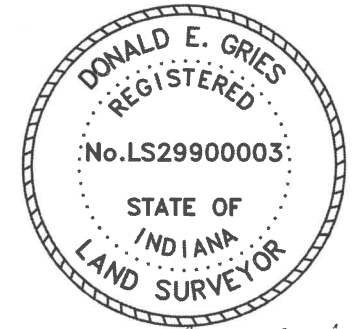
PART OF LOTS 26, 27, AND 28 OF SPRING PARK SECTION "C" AS RECORDED IN PLAT BOOK R, PAGE 17 IN THE OFFICE OF THE RECORDER OF VANDERBURGH COUNTY, INDIANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID LOT 28, THENCE ALONG THE WEST LINE OF SAID LOT 28 NORTH 18°26'47" EAST 6.31'; TO THE POINT OF BEGINNING; THENCE ALONG THE CENTERLINE OF A 12.00' WIDE DRAINAGE EASEMENT

1. SOUTH 89°36'17" EAST 123.23'; THENCE
2. NORTH 24°19'40" EAST 57.72'; THENCE
3. NORTH 37°44'05" EAST 19.41'; THENCE
4. NORTH 23°33'17" EAST 35.01'; THENCE
5. NORTH 35°38'48" EAST 21.51'; THENCE
6. NORTH 24°23'46" EAST 132.45'; THENCE
7. NORTH 55°50'50" EAST 11.96' TO A POINT IN THE EAST LINE OF SAID LOT 26, THE SIDELINES OF THE EASEMENT BEING PROLONGED OR SHORTENED TO CONFORM WITH THE GRANTOR'S PROPERTY LINE.

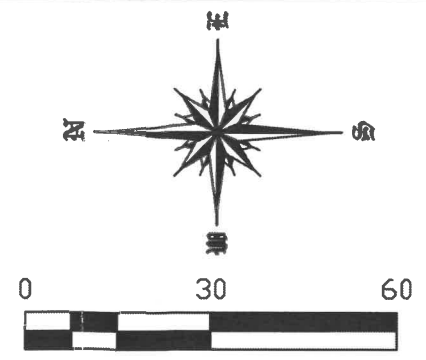
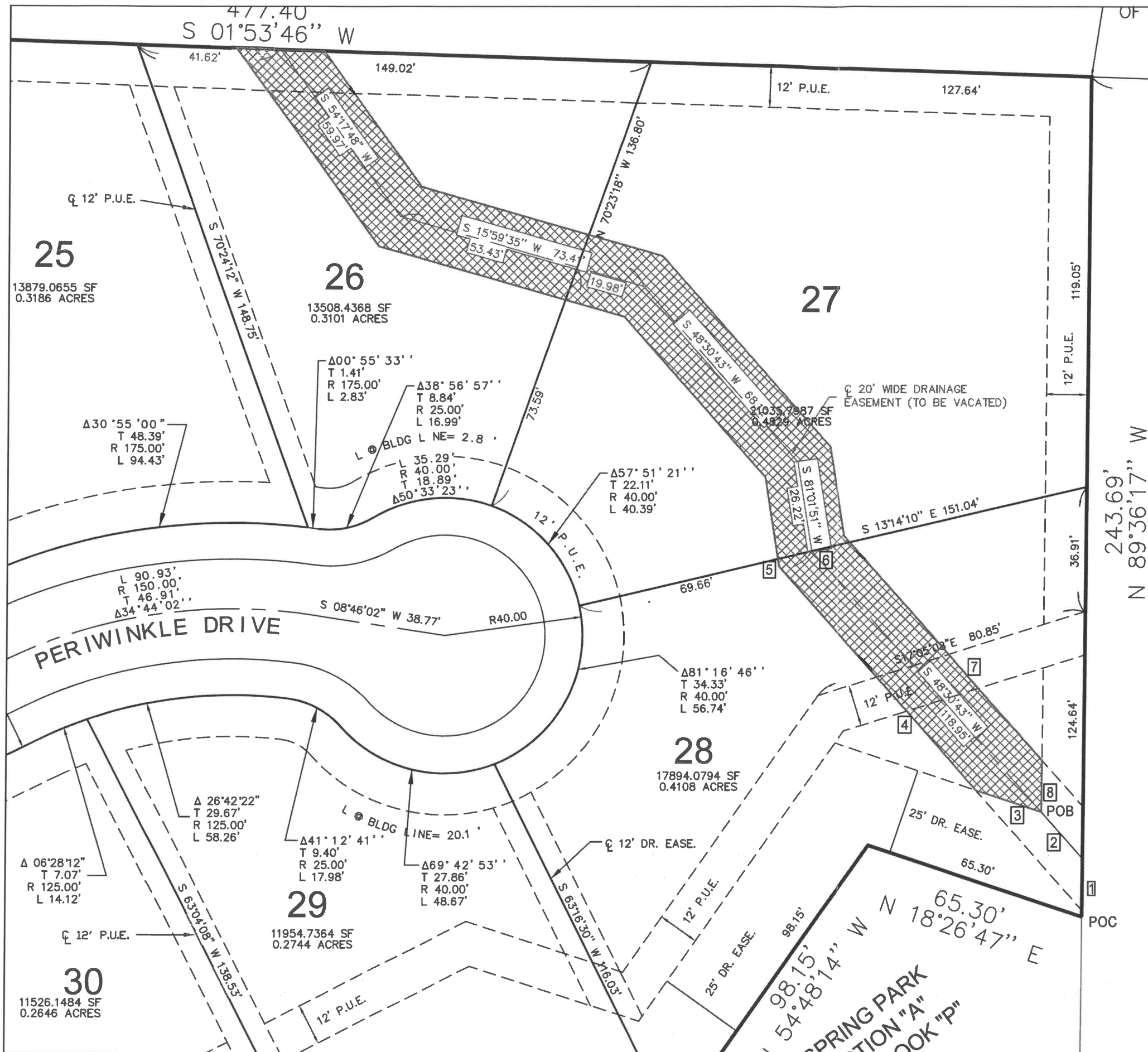
LINE TABLE

1. N 18°26'47" E 6.31'
2. N 37°44'05" E 19.41'
3. N 35°38'48" E 21.51'
4. N 55°50'50" E 11.96'



Donald E. Gries

	<p style="text-align: center;">ANDY EASLEY ENGINEERING CIVIL ENGINEERING (812) 424-2481 LAND SURVEYING EVANSVILLE, INDIANA 47710</p>
<p>DEDICATION EXHIBIT SPRING PARK SEC. "C" 2814, 2815, & 2821 PERIWINKLE DRIVE VANDERBURGH CO., IN</p>	
<p>DATE: 07-08-2015 DRAWN BY: JES PROJECT NO.: 717 CHECKED BY: DEB REVISIONS: SCALE: 1" = 30'</p>	
<p>2 OF 2</p>	



DRAINAGE EASEMENT TO BE VACATED

ALL OF THAT DRAINAGE EASEMENT WITHIN LOTS 26 AND 27 OF SPRING PARK SECTION "C" AS RECORDED IN PLAT BOOK R, PAGE 17 IN THE OFFICE OF THE RECORDER OF VANDERBURGH COUNTY, INDIANA.

ALSO PART OF THE DRAINAGE EASEMENT WITHIN LOT 28 OF SPRING PARK SECTION "C" AS RECORDED IN PLAT BOOK R, PAGE 17 IN THE OFFICE OF THE RECORDER OF VANDERBURGH COUNTY, INDIANA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID LOT 28, THENCE ALONG THE SOUTH LINE OF SAID LOT 28 SOUTH 89°36'17" EAST 16.82'; THENCE NORTH 48°30'43" EAST 17.97' TO THE POINT OF BEGINNING; THENCE

1. NORTH 18°26'47" EAST 19.96'; THENCE
2. NORTH 48°30'43" EAST 86.62'; THENCE
3. NORTH 81°01'51" EAST 2.17' TO THE EAST LINE OF SAID LOT 28; THENCE ALONG SAID EAST LINE
4. SOUTH 13°14'10" EAST 21.38'; THENCE
5. SOUTH 48°30'43" WEST 84.45'; THENCE
6. NORTH 89°36'17" WEST 14.98' TO THE TRUE POINT OF BEGINNING.

LINE TABLE

1. S 89°36'17" E 16.82'
2. N 48°30'43" E 17.97'
3. N 18°26'47" E 19.96'
4. N 48°30'43" E 86.62'
5. N 81°01'51" E 2.17'
6. S 13°14'10" E 21.38'
7. S 48°30'43" W 84.45'
8. N 89°36'17" W 14.98'



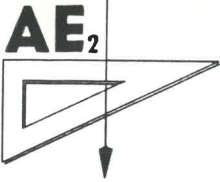
Donald E. Gries

ANDY EASLEY ENGINEERING
 CIVIL ENGINEERING (812) 424-2481 LAND SURVEYING
 EVANSVILLE, INDIANA 47710

VACATION EXHIBIT
SPRING PARK SEC. "C"
2814, 2815, & 2821 PERIWINKLE DRIVE
VANDERBURGH CO., IN

DATE: 07-08-2015
 PROJECT NO: 717
 REVISIONS:

1 OF 2



ANDY EASLEY ENGINEERING, INC.

1133 WEST MILL ROAD
EVANSVILLE, INDIANA 47710
TELEPHONE (812) 424-2481
FACSIMILE (812) 425-3463
E-MAIL: easley@evansville.net
www.easleyengineering.com

CIVIL ENGINEERS
LAND SURVEYORS
REGISTERED IN
INDIANA • KENTUCKY • ILLINOIS
RALPH A. EASLEY, JR., P. E.

April 7, 2003

Mr. John Stoll
Vanderburgh County Engineer
Old Court House
Suite 307
Evansville, IN 47708

RE: Spring Park Section "C"

Dear Mr. Stoll,

Please find attached, a set of the construction record plans of Don Bolin's **Spring Park**. Mr. Bolin has ask that we make an official request to your office to accept the street and drainage portion of Section "C".

The cost of the street Improvements for Section "C" is: \$19,055.00
The cost of drainage improvements for Section "C" is: \$6,330.00

The only work remaining to be completed is the sidewalks in Section "C" and continued erosion control measures.

You may direct any questions or comments concerning this development to me.

Sincerely,

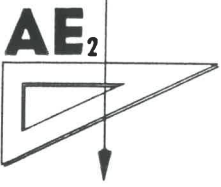
Thomas J. Keith
Staff Engineer
Andy Easley Engineering, Inc.

cc: Don Bolin
Bill Jeffers

RECEIVED BY THE
VANDERBURGH COUNTY
SURVEYOR'S OFFICE

4/8/03

Bj



ANDY EASLEY ENGINEERING, INC.

1133 WEST MILL ROAD
EVANSVILLE, INDIANA 47710
TELEPHONE (812) 424-2481
FACSIMILE (812) 425-3463
E-MAIL: easley@evansville.net
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CIVIL ENGINEERS
LAND SURVEYORS
REGISTERED IN
INDIANA • KENTUCKY • ILLINOIS
RALPH A. EASLEY, JR. P. E.

April 7, 2003

Mr. John Stoll
Vanderburgh County Engineer
Old Court House
Suite 307
Evansville, IN 47708

RE: Spring Park Section "B"

Dear Mr. Stoll,

Please find attached, a set of the construction record plans of Don Bolin's *Spring Park*. Mr. Bolin has ask that we make an official request to your office to accept the sidewalk portion of Section "B".

The cost of sidewalk improvements in Section "B" is: \$6,000.00

The only work remaining to be completed is the sidewalks in Section "C" and continued erosion control measures.

You may direct any questions or comments concerning this development to me.

Sincerely,

Thomas J. Keith
Staff Engineer
Andy Easley Engineering, Inc.

cc: Don Bolin
Bill Jeffers

RECEIVED BY THE
VANDERBURGH COUNTY
SURVEYOR'S OFFICE

4/8/03



VANDERBURGH COUNTY ENGINEERING DEPARTMENT

201 Northwest Fourth Street • Suite 307
Old Vanderburgh County Courthouse
Evansville, Indiana 47708-1358
Tel. (812) 435-5773
FAX (812) 435-5676

February 6, 2001

Mr. Don Bolin
9601 Strueh-Hendricks Road
Evansville, IN 47712

RE: Spring Park Subdivision Section A

Dear Mr. Bolin:

As was requested by Mr. Tom Keith of Easley Engineering, another inspection has been completed in section A of Spring Park Subdivision. This inspection was done to check the condition of the drainage facilities located outside of street right of way. As can be seen in the enclosed pictures, this inspection indicated that the swales located out of the right of way are not in a stable condition as of yet. It was found that additional grading and/or seeding is needed for these swales. As a result, the letter of credit for this work cannot be released as of yet.

Please contact me if you have any questions regarding this.

Sincerely,

John Stoll, P.E.
Vanderburgh County Engineer

cc: Tom Keith, Easley Engineering
Bill Jeffers, Vanderburgh County Surveyor



STRUCTURE L BEEHIVE



DRAINAGE SWALE 5



STRUCTURE E



DRAINAGE SWALE 4



DRAINAGE SWALE 3



**Area Plan Commission
Evansville-Vanderburgh County**

Civic Center Complex Room 312
1 NW Martin Luther King Jr. Blvd.
Evansville, IN 47708

Phone: 812/435-5226 Fax: 812/435-5237

**APC Notification
&
Response Form**

(For Subdivisions)

Date of Notice: Tuesday, August 15, 2000
Please return by: Friday, August 25, 2000

Plat submitted for recording

Agency & Contact:

Bill Jeffers
County Surveyor
Civic Center Complex Room 325
1 NW Martin Luther King Jr. Blvd.
Evansville IN 47708
Phone: 812/435-5210 Fax:

Subject: Docket #7-S-97 File Date: 01/22/1997
Spring Park Section B
Engineer: Andy Easley
Andy Easley Engineering
1133 W Mill Road
Evansville IN 47710
Phone: 812/424-2481 Fax: 812/425-3463

Please review this notification and/or attached plat and indicate your response below. Give a detailed explanation when necessary. Date and sign this form and return to APC, also FORWARD A COPY TO THE ENGINEER OF RECORD. If you have any questions, please contact this office.

- This agency does not have a comment on this project.
- We want more information on this project, although no conflict is indicated.
- We desire a conference with the applicant for the reasons stated below.
- This agency endorses this project.
- This agency rejects this project for the reason stated below.
- Additional comments and/or information is attached.
- Drainage plans are not required for this project.
- Preliminary drainage plans were approved on: _____.
- Final drainage plans were approved on: 4/28/1998.

Enter date sent or faxed to Engineer: _____ By: _____

Reviewed By: _____

Bill Jeffers

Date: _____

8/15/2000

**Area Plan Commission
Evansville-Vanderburgh County**

Civic Center Complex Room 312
1 NW Martin Luther King Jr. Blvd.
Evansville, IN 47708
Phone: 812/435-5226 Fax: 812/435-5237

**APC Notification
&
Response Form**

(For Subdivisions)

Date of Notice: Wednesday, July 5, 2000
Please return by: Monday, July 17, 2000

Plat submitted for recording

Agency & Contact:
Bill Jeffers
County Surveyor
Civic Center Complex Room 325
1 NW Martin Luther King Jr. Blvd.
Evansville IN 47708
Phone: 812/435-5210 Fax:

Subject: Docket #7-S-97 File Date: 01/22/1997
Spring Park Section B
Engineer: Andy Easley
Andy Easley Engineering
1133 W Mill Road
Evansville IN 47710
Phone: 812/424-2481 Fax: 812/425-3463

Please review this notification and/or attached plat and indicate your response below. Give a detailed explanation when necessary. Date and sign this form and return to APC, also FORWARD A COPY TO THE ENGINEER OF RECORD. If you have any questions, please contact this office.

- This agency does not have a comment on this project.
- We want more information on this project, although no conflict is indicated.
- We desire a conference with the applicant for the reasons stated below.
- This agency endorses this project.
- This agency rejects this project for the reason stated below.
- Additional comments and/or information is attached.
- Drainage plans are not required for this project.
- Preliminary drainage plans were approved on: _____.
- Final drainage plans were approved on: _____.

PLEASE, ONCE AND FINALLY, CORRECT
GENERAL NOTE # 6(C). TO READ
PER ORDINANCE AND AS REPEATEDLY
WORDED AS PROVIDED BY OUR OFFICE

Enter date sent or faxed to Engineer: _____ - By: _____

Reviewed By:



Date: 7/6/2000

SPRING PARK SUBDIVISION SEC. A
REQUESTING
FINAL DRAINAGE PLAN APPROVAL

04/27/98

This site is very hilly and has experienced severe erosion prior to development. The development plans divide the parent tract thirty small lots served by streets set at grades as steep as ten percent.

The increased volume of runoff after development from streets, driveways, houses and patios will travel at higher velocities and reach the main receiving stream (a natural creek) undetained at the West boundary of the project.

The plan is to detain the increased volume of runoff in the natural creek channel behind two check dams constructed of rip rap gabions. The stored water will be released as a controlled flow rate through weirs in the check dams.

Due to the steep, highly erodible terrain and the density of development upstream of the detention facilities, the Vanderburgh County Surveyor's office has reviewed the plans with a great deal of scrutiny.

The following comments are presented to be entered into the record so that there is no misunderstanding as to the Surveyor's apprehensions about drainage problems that could plague this development unless the utmost care is taken to implement all details of the drainage plan and erosion control plan for this project.

In some cases, additional measures may have to be implemented when unanticipated conditions are encountered during and/or after development of Spring Park.

The county surveyor expects the developer and his engineer to assume responsibility for developing contingency plans and shop drawings as such unanticipated conditions are encountered, and to submit such plans and drawing to the county surveyor for filing with the approved final plans.

In addition, since we anticipate unavoidable plan changes, we will require an "as built" set of drainage plans (per ordinance requirement) to be submitted at completion of the project. The as builts will be filed with the original plans and made available to the individual property owners and the "subdivision owners association" when needed for maintenance and repairs.

1. First, an oversight occurred during review that resulted in the omission of an easement for that part of a drainage pipe which lies outside street right-of-way in front of Lot 6. The pipe runs diagonally across the Northeast corner of the lot and needs an easement added to the plat. An emergency overflow channel also is needed along the top of the pipe just like the one on Lot 9 to prevent over-the-curb flow from running down the driveway into the garage or against the foundation of the house.

Since the site is not in a FEMA designate "Zone A" finished floor elevations set 2 feet above the 100 year flood are not required by law. Observation of the site over the past two years has revealed some flooding outside the East bank of the creek. Additional water will enter the creek undetained and then be held behind the check dams up to 3 feet higher than prior to developement during extreme rainfall events.

Therefore we feel responsible to notify the Board and the developer that we are very apprehensive about basements along the creek; and we are generally apprehensive about basements on all lots numbered 1 through 14 for the following reasons:

2. We are apprehensive about a basement under the house on Lot 13 due to its proximity to Swale #1. The swale carries off-site drainage through the lot and the driveway might act as a dam causing water to back up into basement window wells. The engineer for the project has inserted a note on the drawing indicating a need for a depressed saddle in the driveway to allow high flow to cross the driveway without flooding the house foundation.

The engineer should be consulted for exact construction details and grade staking when the drive is poured, and extreme care should be taken to install the drive according to such details and grade stakes.

3. Our concern about a basement on Lot 14 is due to the extremely close proximity of the house foundation to Swale #1. It has been our experience that when open swales are this close to a house, the buyer either convinces the builder to pipe the ditch or alters the ditch himself after the house is built. In most cases the pipe is undersized for heavy storms, and the ditch flows back up into the crawl space vents or down into basement window wells.

4. Our concern about a basement on Lot 12 is due to potential over-the-curb flow from the street inlet during heavy storms running down the driveway into the garage or across the yard into basement window wells. Again, extreme care must be exercised to follow the details provided for yard grading.

5. Our apprehension about basements for the rest of the lots numbered 1 through 11 is due to:

a. The basement walk-outs will face the creek. The consulting engineer set the elevation for the basement floors at two feet above the top of the creek bank at the lowest end of each yard.

While this may be sufficient, we remain apprehensive due to the unknown effect the check dams will have on the elevation of flood water during an extreme event after development increases runoff into the creek.

Therefore, we feel the developer should have his engineer determine a more exact expected high water elevation if and when a basement is planned for any lot numbered 1 through 11.

6. A very detailed erosion control plan based on the Indiana Handbook for Erosion Control has been made a part of this drainage plan due to the severely eroded condition of the site and the anticipated impact of development at this location.

All erosion control measures shown on the plan should be implemented along with the drainage facilities and should be maintained stable throughout development. Detailed drawings and narratives are available upon request.

When the individual lots are turned over to the homeowners, the individual property owners may wish to continue to maintain erosion control methods shown on the plan.

The homeowners association who will be responsible for the repair and maintenance of the drainage facilities definitely should have all pertinent detail drawings, narrative literature, etc. related to the erosion control plan.

7. The grading details shown in one (1) foot contours on the drainage plan are intended to assist the developer in preparing the site for construction of houses.

After the house foundations are set, post construction yard grading must take place to create sufficient dirt grades away from the foundations to prevent flooding of crawl spaces and basement. Notes and detail drawings are in the plans to assist the house builders in creating such yard grades.

Additional protective yard grading and landscaping may be necessary due to individual house designs, additions, swimming pools, patios, and other unanticipated conditions encountered in the field.

Most importantly, homeowners should not alter protective grades nor obstruct swales and other drainage features intended to convey storm water away from foundations especially emergency overflows from Street One down into the creek.

8. All maintenance and repair of all storm water facilities outside of county accepted street rights-of-way like ditches, pipes, rock chutes at the ends of pipes, rip rap ditch revetment, swales, protective yard grades, emergency overflows from the street and between the houses, the creek, the check dams in the creek, and the common area land on both sides of the creek will remain the responsibility of the individual lot owners and the "subdivision owners association."

While the county surveyor and other agents of county government remain available to provide copies of drainage plan details, erosion control methods, etc., it will be the lot owners and their association who bears the responsibility for the care and repair of the facilities.


The fact is, conditions change after county inspectors view and recommend acceptance or approval of finished streets and drainage facilities. Many changes are unauthorized and never brought to our attention until they cause severe problems. Individual lot owners are notified on the plat of their responsibility to prevent unauthorized alterations of the drainage facilities.

10. A significant "natural surface watercourse" exists on the South side of Lot 24. A note is on the plan explaining its importance and care. Extreme care should be taken to prevent obstruction and/or erosion of this area.

Another watercourse exists Lot 17 and Lots 21 & 22. The same care to protect it from erosion and obstruction is needed. However, the watercourse on Lot 24 is much more critical due to its proximity to the house foundation and the fact it dumps directly into the street.

These notes are entered into the record of this meeting to inform all concerned parties of certain apprehensions and concerns of the county surveyor as the reviewing and recommending agency for this plan.

A copy of these comments will be provided to the developer(s) of Spring Park and his/her/their consulting engineer by hand or by registered mail on April 27, 1998.


Bill Jeffers
Chief Deputy Surveyor
Vanderburgh County Surveyor
812-435-5117

Also - developer ~~should~~ SHOULD CONSULT HIS
ENGINEER AND THE COUNTY ENGINEER
ABOUT ADVISABILITY OF INSTALLING
AT LEAST 2 MORE STREET INLETS
NEAR INTERSECTION OF STREET 2
AND STREET 3 TO CAPTURE GUTTER
FLOW BEFORE IT HITS 10% down grade
MJA 4/27/98

LETTER OF TRANSMITTAL

Andy Easley Engineering
 1133 W. MILL ROAD
 EVANSVILLE, INDIANA 47710
 PHONE (812) 424-2481

DATE: 4-2-98	JOB NO.: 717
ATTENTION: BILL JEFFERS	
RE: SPRING PARK SECTION "A"	
SPRING PK.	

TO: VANDERBURGH SURVEYORS OFFICE
 CIVIC CENTER COMPLEX
 EVANSVILLE, IN 47708

TO WHOM IT MAY CONCERN:

WE ARE SENDING YOU

ATTACHED UNDER SEPERATE COVER VIA HAND DELIVERY THE FOLLOWING ITEMS:

- SHOP DRAWINGS PRINTS PLANS SAMPLES SPECIFICATIONS
- COPY OF LETTER CHANGE ORDER OTHER

COPIES	DATE	NO:	DESCRIPTION
1	4-22-98	SET	BLUELINE PRINTS

THESE ARE TRANSMITTED as checked below:

- FOR APPROVAL APPROVED AS SUBMITTED RESUBMIT _____ COPIES FOR APPROVAL
- FOR YOUR USE APPROVED AS NOTED SUBMIT _____ COPIES FOR DISTRIBUTION
- AS REQUESTED RETURNED FOR CORRECTIONS RETURN _____ CORRECTED PRINTS
- FOR REVIEW AND COMMENT OTHER

FOR BIDS DUE _____, 19____ PRINTS RETURNED AFTER LOAN TO THIS OFFICE

REMARKS:

BILL, I HAVE TRIED TO TAKE CARE OF ALL THE ITEMS YOU HAD LISTED, BUT I'M SURE I MISSED SOMETHING. THE FIRST SHEET INDICATES GRADES FOR THE DEVELOPMENT EXCAVATING CONTRACTOR BUT NOT THE FINISHED GRADES FOR THE LOTS. DUE TO THE SLOPES ON THIS SIGHT, EACH SIGHT WILL REQUIRE SPECIFIC GRADING TO ASSURE PROPER DRAINAGE. THE FINAL DETAILS SHEET PROVIDES A "TYPICAL" PLAN FOR EACH UPSLOPE AND DOWNSLOPE LOTS THAT WILL PUT THE BURDEN ON THE INDIVIDUAL HOME CONTRACTOR. I DON'T KNOW THAT I CAN DO BETTER.

PLEASE CALL ME IF YOU HAVE ANY QUESTIONS OR COMMENTS.

SINCERELY,

THOMAS J. KEITH



CC: GENE WARREN

THOMAS KEITH

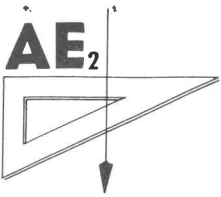
STORM SEWER DESIGN SHEET - RATIONAL METHOD

PROJECT SPRINGS PARK DATE 4-22-90 SHEET 1 OF 1

ENGINEER EMBLEY ENGE. DESIGN STORM 2.5 MANNINGS n 0.01

Line Number	Upstream Manhole	Downstream Manhole	Length (Ft)	C ₁	A ₁ (Acres)	C ₁ A ₁	ΣA ₁ C ₁	t ₁ (min)	i [inches/hr]	Q (CFS)	D (inches)	Pipe Slope (%)	Pipe Capacity (CFS)	Velocity (Ft/Sec)	Travel Time (min)	Rim Elevation Upstream	Rim Elevation Downstream	Invert Elevation Upstream	Invert Elevation Downstream	Upstream Pipe Cover	Downstream Pipe Cover	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	B	29	.55	1.61	.88	.88	15	5.03	4.42	12"	1%	4.63	5.83		460.09	460.09	457.50	457.21			
	B	K	118		1.17	1.10	.98		5.03	4.9	12"	5.6%	10.96	13.9		440.09	—	457.21	450.60			
	C	P	31		4	2.2	2.2		5.03	11.1	15"	3.5%	15.7	12.8		457.55	457.55	456.18	455.70			
	D	L	78		4	2.2	4.4		5.03	22.1	15"	6.9%	22.1	18.9		457.55	456.50	455.70	450.27			
	E	F	29		1	1.55	1.55		5.03	2.8	12"	1%	4.63	5.83		458.49	458.49	456.22	455.13			
	F	L	50		0.23	1.3	1.68		5.03	3.4	12"	16.7%	18.9	24.1		458.49	456.50	455.73	450.27			
	L	M	48		—	—	5.1		5.03	25.6	18"	7.9%	34.38	21.7		456.5	—	450.27	446.47			
	G	H	29		3.0	1.65	1.65		5.03	8.3	12"	3.20	8.3	1.21		456.51	456.51	454.31	453.28			
	H	N	54		0.1	1.05	1.70		5.03	4.5	12"	3.40	8.5			456.51	456.50	453.38	451.53			
	H	P	160		—	—	1.70		5.03	8.5	12"	9.3%	8.5			456.50	—	451.53	436.65			
	R	I	28		0.9	1.49	1.49		5.03	2.5	12"	30.5	25.5	32.4		444.88	443.85	441.56	433.0			
	I	Q	118		0.1	1.05	1.54		5.03	2.7	12"	4.5%	9.8	12.5		443.85	—	433.0	427.68			

Figure 7.1 Storm Sewer Design Sheet - Rational Method



ANDY EASLEY ENGINEERING, INC.

1133 W. MILL ROAD
EVANSVILLE, INDIANA 47710
TELEPHONE (812) 424-2481

CIVIL ENGINEERS
LAND SURVEYORS
REGISTERED IN
INDIANA - KENTUCKY - ILLINOIS
RALPH A. EASLEY, JR. P. E.

March 26, 1998

Mr. Bill Jeffers
Vanderburgh County Surveyor's Office
Civic Center Complex
Martin Luther King Jr. Blvd.
Evansville, Indiana 477

RE: Spring Park Subdivision SECTION A

Dear Bill,

On our drainage submittal for the above referenced subdivision, we had indicated a new 30" RCP to replace an existing 18" CMP culvert that crosses Booker Road at the Northwest corner of the subdivision. The County has, since then, installed a new 24" CMP in tandem with the existing 18". I have ran the hydraulics on this new situation and feel that there is no need to replace this tandem culvert since it has more capacity than our planned 30 RCP.

If you have any questions please give me a call.

Thanks

Thomas J. Keith
Easley Engineering

enclosure

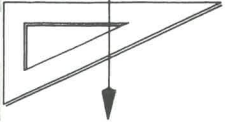
SEWER PIPES

Enter up to 10 pipes.

Enter <Return> only for flowrate and diameter to end.

FLOWRATE (CFS)	DIAMETER (IN)	FRICITION (FT ^{1/6})	SLOPE (%)	VELOCITY (FPS)
8.53	18.00	0.0240	2.25	4.83
18.38	24.00	0.0240	2.25	5.85
22.21	30.00	0.0110	0.21	4.53

AE₂



ANDY EASLEY ENGINEERING

1133 W. MILL ROAD
EVANSVILLE, INDIANA 47710
PHONE (812) 424-2481

LETTER OF TRANSMITTAL

TO VANDERBURGH CO. SURVEYOR
CIVIL CENTER COMPLEX
EVANSVILLE, IN 47711

DATE <u>JULY 23, 1997</u>	JOB NO.
ATTENTION	
RE: <u>EROSION CONTROL PLAN</u> <u>SPRING PARK SUB. SEC. A</u>	

GENTLEMEN:

WE ARE SENDING YOU Attached Under separate cover via USPS the following items:

Shop drawings Prints Plans Samples Specifications

Copy of letter Change order _____

COPIES	DATE	NO.	DESCRIPTION
<u>1</u>		<u>COPY</u>	<u>NOTICE OF INTENT LETTER</u>
<u>1</u>		<u>SET</u>	<u>EROSION CONTROL PRACTICES</u>
<u>1</u>		<u>PRINT</u>	<u>EROSION CONTROL PLAN</u>

THESE ARE TRANSMITTED as checked below:

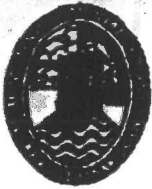
- For approval Approved as submitted Resubmit _____ copies for approval
- For your use Approved as noted Submit _____ copies for distribution
- As requested Returned for corrections Return _____ corrected prints
- For review and comment _____
- FOR BIDS DUE _____ 19 _____ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO DON BOLIN

SIGNED: Angie Ruyis

If enclosures are not as noted, kindly notify us at once.



**Indiana Department of Environmental Management
Notice of Intent (NOI)
Storm Water Runoff Associated with Construction Activity
NPDES General Permit Rule 327 IAC 15-5 (Rule 5)**

Submission of this Notice of Intent letter constitutes notice that the operator is applying for coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit Rule for Storm Water Discharges Associated with Construction Activity (see 327 IAC 15-2-5 (c) for definition of operator). Permitted operators are required to comply with all terms and conditions of the General Permit Rule 327 IAC 15-5 (Rule 5).

Construction Project:

Name: Spring Park Subdivision County: Vanderburgh

SIC Code or Description of Project: single family homes

Location: East Booker Road west of Red Bank Road

Operator Name: Don Bolin Phone: 812/985 7993

Company Name: _____

Complete Address: 9601 Strueh Hendricks Road, Evansville, Indiana 47715

Contact Person (if different from above): _____

Complete Address (if different from above): _____

Phone: _____

Affiliation with operator: _____

Ownership Status: (check one) Federal _____ State _____ Public (other than Federal or State) _____

Private Other _____

Location: Latitude & Longitude _____ Or Quarter NE Section 16

Township 6 Range 11

Name of Receiving Water (and if applicable, name of municipal operator of storm sewer):

Unnamed tributary to Carpenter Creek

Please note: Even if a retention pond is present on the property, the name of the nearest possible receiving water is required.

Acres: Total acres: 16.37 Acres to be Disturbed: 12

Timetable: Start Date: August 1997 Estimated End Date: August 1998

Please note: The operator is responsible for all construction activities within the boundaries of the project until all construction is complete. If individual lots are to be sold within a subdivision or commercial park, the operator should consider developing contractual agreements to bind lot buyers and builders to compliance with the Soil Erosion Control Plan established by the operator, and to indemnify the operator for any violations. An example of a contractual clause of this nature may be obtained by contacting IDEM, Office of Water Management, Rule 5 Desk at 317/232-8760.

State Form 47487 (1-96)

(Continued on Reverse Side)

Exclusions From Coverage Under the General Permit:

1. Storm water discharges excluded by any provision of 327 IAC 15-2-3
2. Storm water discharges to an outstanding state resource water as listed in 327 IAC 2-1-2(3) or to an exceptional use resource water defined in 327 IAC 2-1-11(b)

Soil Erosion Control Plan Certification:

By signing this Notice of Intent letter, I, the operator, certify the following:

- A. The erosion control measures included in the Soil Erosion Control Plan comply with the requirements of 327 IAC 15-5-7 and 15-5-9 and the plan complies with applicable state, county, and local erosion control requirements;
- B. The erosion control measures will be implemented in accordance with the plan;
- C. The appropriate state, county, or local erosion control authority and the county Soil and Water Conservation District (SWCD) office have been sent a copy of the erosion control plan for review; and
- D. Implementation of the erosion control measures will be conducted by personnel trained in erosion control practices.

Operator Responsibility Statement:

By signing this Notice of Intent letter, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Operator Donald V. Baker, Jr. Date 7-24-97

In addition to this form, completed in full, please submit the following:

- proof of publication in a newspaper of general circulation in the affected area notifying the public that a construction activity is to commence, including the start date, end date, and location of the project, and the name and address or phone number of the contact person;
- \$100 check or money order payable to the Indiana Department of Environmental Management.

Mail to: Indiana Department of Environmental Management
Office of Water Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
Attention: Permits Section, Storm Water Desk

Questions regarding Soil Erosion Control Plan development or implementation may be directed to your local SWCD or Department of Natural Resources office. Questions regarding the Notice of Intent may be directed to the Rule 5 contact person at 317/232-8760 or 800/451-6027. The NOI should be submitted only after your Soil Erosion Control Plan has been submitted to your local SWCD. Any person initiating earth disturbing activity before submittal of the Erosion Control Plan, the NOI, and the \$100 filing fee is considered to be operating without a permit and subject to enforcement and penalty under IC 13-7-10-5, IC 13-7-12, IC 13-7-11, or any combination thereof.

EROSION CONTROL PROCEDURES
SPRING PARK SUBDIVISION

BRIEF SITE DESCRIPTION:

- A. The existing site is mostly wooded with steep slopes.
- B. The site is surrounded by residential lots. Adjacent owners will be notified of construction.
- C. All houses built on site will be single family homes.
- D. The soils are silt loams. They are deep. Permeability is moderate to slow. Erosion problems exist.
- E. The property is not located in the 100 year flood zone as per the Flood Insurance Rate Map panel 75 of 100 dated August 5, 1991. Drainage plans including discharge, have been submitted to the Vanderburgh County Surveyor's Office and Drainage Board.
- F. All of the stormwater discharge drains to a stream West of the property which is an unnamed tributary to Carpentier Creek.
- G. Existing contours are shown on the Erosion Control Plan. Finished floor elevations are also shown on the Erosion Control Plan.
- H. There is no evidence that stormwater will enter the groundwater.

CONSTRUCTION SEQUENCE SCHEDULING: (refer to legend on plan drawing)

- A. Construction of streets and sewers is scheduled to begin August 1997. Upon completion of the streets and sewers, individual lots will be ready for construction. The lot construction, however, will be dependent upon sale of the lots and future owners wishes.
- B. Each disturbed area will be stabilized as soon as possible according to measures listed below.
- C. All future lot owners will be notified of their responsibilities regarding erosion control.

D. Site Development

1. Install Temporary Gravel Construction Entrance according to Practice 3.01* prior to any excavation.
2. Stockpile soil as indicated on plan according to Practice 3.02*.
3. Install and maintain Silt Fence according to Practice 3.74* as indicated on plan.
4. Remove any sediment from roads daily by shoveling or sweeping, as needed.
6. Seed/Sod/Mulch site according to Practices 3.11, 3.14 and 3.15* after completion of utility and road improvements. Slopes less than 6% shall be seeded and mulched, slopes 6% and greater shall be sodded.
7. Install and maintain Rip-Rap according to Practice 3.16* as indicated on plan.
8. Install gravel curb inlet protection at the storm drain inlets according to practice 3.61*.

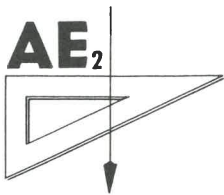
E. Lot Development

1. Install Temporary Gravel Construction Entrance according to Practice 3.01* on each lot prior to home construction.
2. Install and maintain Silt Fence according to Practice 3.74* as indicated on plan.
3. Remove any sediment from street daily by shoveling or sweeping as needed.
4. Seed/Sod/Mulch any lot after home is completed according to Practices 3.12, 3.14 and 3.15*. Slopes less than 6% shall be seeded and mulched, slopes 6% or greater shall be sodded.
5. Before seeding or mulching roughen the surface according to practice 3.03*.

Contractor's Note:

If, at any time during construction, an erosion problem arises, take measures needed to correct the situation. Contact the Vanderburgh County Soil & Water Conservation District if assistance is required.

Details attached



ANDY EASLEY ENGINEERING

1133 W. MILL ROAD
EVANSVILLE, INDIANA 47710
TELEPHONE (812) 424-2481

CIVIL ENGINEERS
LAND SURVEYORS
REGISTERED IN
INDIANA - KENTUCKY - ILLINOIS
RALPH A. EASLEY, JR., P. E.

July 22, 1997

Mr. Bill Jeffers
Vanderburgh County Surveyor's Office
Civic Center Complex
Martin Luther King Jr. Blvd.
Evansville, Indiana 477

RE: Revisions to Drainage Plans for Spring Park (SECTION A)

Dear Bill,

This letter is in response to our meeting of July 22. I have tried to address all the items you have listed at this meeting and would like to offers these comments:

1. Plan and Profile sheets for all three streets have been provided.
2. A section for the swale with surface treatment for that swale between lots 5 and 6 has been provided on the detail sheet.
3. An Erosion Control Plan has been prepared for this site and should aid in examining how we intend to address this problem.
4. The Top of Bank and the Flowline of the stream has been included on the Drainage Plan.

I believe this takes care of all the items we discussed. Please contact me if you see anything I might have left out or if there are any other revisions necessary.

Thanks

Thomas J. Keith
Easley Engineering

Bill Jeffers

Post-it* Fax Note	7671	Date	# of pages
To	JIM WILLIAMS	From	BLAINE
Co./Dept.		Co.	APC
Phone #		Phone #	
Fax #	421-2116	Fax #	

RETURN TO:

AREA PLAN COMMISSION

RM. 312 CIVIC CENTER COMPLEX
 1 NW MARTIN LUTHER KING BLVD.
 EVANSVILLE, IN 47708
 Phone: 812/435-5226 FAX: 812/435-5237

DATE: JANUARY 22, 1997	DOCKET NO.: 7-S-97
TO: WATER & SEWER ENGINEERING DEPARTMENT Jim Williams 1930 Allens Lane Evansville, IN 47720 Phone: 812/421-2130	TITLE: SPRING PARK SECTION A

Please review the attached summary notification and/or plat and indicate your response below. Give a detailed explanation when necessary. If you have any questions, please contact this office.

RESPONSE IS DUE BY: AS SOON AS POSSIBLE

- 1. This agency does not have a comment on this project.
- 2. We want more information on the project although no conflict is indicated.
- 3. We desire a conference with the applicant (explain below).
- 4. The applicant should be informed of certain laws and regulations which affect this project as explained below.
- 5. This agency endorses this project.
- 6. This agency rejects this project.
- 7. See comments attached.

WATER - REQUIRED EXTENSION & LETTER OF CREDIT.

SEWER - ADJACENT SEWERS ARE NOT ACCEPTED AND REQUIRE AS-BUILTS, EASEMENT, INSPECTION & OWNERSHIP VERIFICATION.

- HOLD FOR VERIFICATION OF SEWER ACCEPTANCE

RECEIVED

JAN 28 1997

AREA PLAN COMMISSION

- AN ACCEPTABLE ROUTE HAS BEEN DETERMINED. ACQUISITION OF EASEMENTS & PERMITS ARE THE RESPONSIBILITY OF THE ENGINEER & DEVELOPER DLW 7-22-97

REVIEWED BY: James H. Williams

DATE: 1-24-97

RECEIVED

JUL 23 1997

AREA PLAN COMMISSION

DRAINAGE STUDY FOR
SPRING PARK SUBDIVISION SECTION A

SITE DESCRIPTION

The planned subdivision is located in Vanderburgh County, West of Red Bank Road and South of Booker Road.

This planned development is situated within a larger watershed which contributes 31.22 additional acres of runoff. The proposed site consists of 15.2 acres which drains into an on site stream. This un-named tributary to Carpenter Creek runs along the west side of the development and has a rock bottom.

The existing condition of the property is mostly heavily wooded with very steep grades. Please consult primary plat for soils map.

EXISTING GEOMETRY

Area of watershed = 46.40 acres

$$C_u = 0.36$$

$$H = 585 - 425 = 160'$$

$$L = 3700'$$

$$S = 160/3700 = 0.043 = 4.3\%$$

Due to the length of the watershed, Kerby's formula may not be used. Time of concentration is determined by use of nomograph attached.

$$T_c = 30 \text{ minutes}$$

$$i_{10} = 3.226" / \text{hr.}$$

$$Q_u = C * i * A = 0.36 * 3.226 * 46.40 = 53.887 \text{ CFS}$$

This runoff is directed toward the rock bottom stream that runs along the west side of the proposed development.

DEVELOPED CONDITIONS

NEW STRUCTURES (30)*(2500)	= 75,000 @ 0.95 =	71,250
NEW PAVEMENT (STREETS)	= 53,919 @ 0.95 =	51,223
NEW WALKS, PATIOS, ETC.	= 15,375 @ 0.95 =	14,606
NEW PAVEMENT (DRIVEWAYS)	= 19,200 @ 0.95 =	18,240
LAWN AREA	= 562,081 @ 0.40 =	224,832

380,151

$$C_d = 380,151 / 717,400 = 0.53$$

0.53 > 0.36 - detention/retention must be investigated
See form 800 for required calculation.

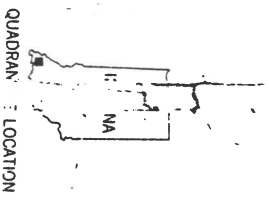
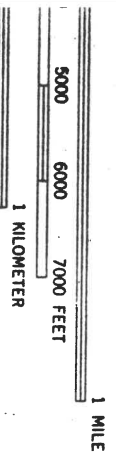
Storage required = 0.06 acre-feet = 2,613 cubic feet.

Detention to contained in stream with two gabion dams as shown on the drainage plan. Release of the undeveloped runoff shall be provided by a weir on each gabion dam with geometry as provided on the drainage detail sheet. In the event of an emergency, overflow to the stream will be provided by flow over the top of the gabion dam/weir. Weir calculations are attached.

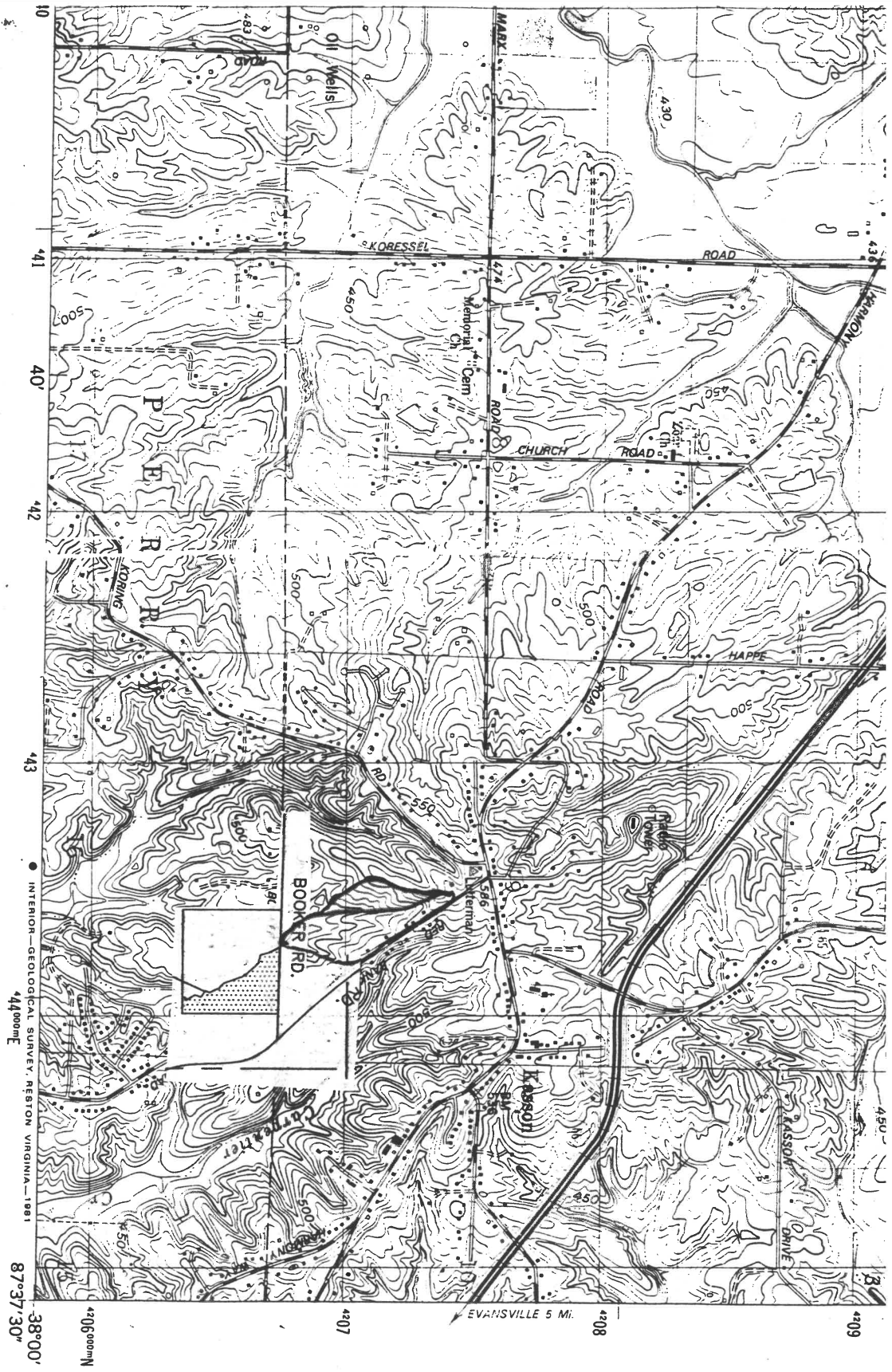
In addition, the existing 18 CMP under Booker Road that discharges into the above referenced rock bottom stream is undersized for the 25 year event. It is proposed to replace this culvert with a new section of 30" ADS-N12 at 0.48%. The existing discharge = 31.22 acres * 0.36 * 3.646"/hr = 40.98 CFS. New 30" ADS-N12 @ 0.48% = 41 CFS.

ACCURACY STANDARDS
 STON, VIRGINIA 22092.
 INDIANAPOLIS, INDIANA 46204
 THIS IS AVAILABLE ON REQUEST

FEET
 UM OF 1929



- ROAD CLASSIFICATION**
- Primary highway, hard surface
 - Secondary highway, hard surface
 - Unimproved road
 - Interstate Route
 - U. S. Route
 - State Route



KASSON, IND.
 N3800-W8737.5/7.5
 1981

DMA 3460 II SW-SERIES V851

(EVANSVILLE SOUTH)
 3463 I NE

STORM SEWER DESIGN SHEET - RATIONAL METHOD

PROJECT BOLIN'S SPRING PAVE DATE 2-2-97 SHEET 1 OF 1

7-6

ENGINEER TJK DESIGN STORM 25 MANNINGS n 0.01

Line Number	Upstream Manhole	Downstream Manhole	Length (Ft)	C ₁	A ₁ (Acres)	C ₂ A ₂	Q ₁ (min)	Q ₂ (min)	Q ₃ (CFS)	Q ₄ (inches/hr)	Pipe Slope (%)	Pipe Capacity (CFS)	Velocity (Ft/Sec)	Travel Time (min)	Rim Elevation Upstream	Rim Elevation Downstream	Invert Elevation Upstream	Invert Elevation Downstream	Upstream Pipe Cover	Downstream Pipe Cover
1	A	B	30	.55	1.61	.83	.89	15	5.09	4.44	12	4.5	5.73		460.07	460.07	457.5	457.21	22	23
2	B	C	26		.17	.04	.98	15		4.9	12	5.0	6.37		460.07	457.3	457.21	455.05		
3	C	D	101							4.9	12				457.3	(450.6)	455.05	450.6		
4	D	E	30		1.86	1.02	1.02			5.1	12	5.7	7.2		459.38	459.38	457.13	456.70		
5	E	F	89		2.12	1.33	2.35			11.8	15	24.7	21.1		459.38	449.9	456.70	447.65		
6	F	G	30		1.00	.55	.55			2.8	12	4.5	5.73		458.47	458.47	456.22	455.93		
7	G	H	49		1.23	.13	.68			3.4	12	19.04	24.2		458.47	449.9	455.93	447.65		
8	H	I	48												449.9	446.74	447.65	446.74		
9	I	J	30		1.10	.41	.61			3.1	12	4.5	5.73		454.33	454.33	452.08	451.79		
10	J	K	38		.04	.05	.64			3.3	12	15.25	19.43		454.33	449.92	451.79	447.67		
11	K	L	130							3.3	12	17	21.9		449.92	435.13	447.67	433.13		
12	L	M	57		0.88	.48	.48			2.4	12	5.15	6.5		449.63	442.13	444.0	441.56		
13	M	N	124		0.11	.06	.54			2.7	12	17	21.9		442.13	427.68	441.56	427.68		

Figure 7.1 Storm Sewer Design Sheet - Rational Method

1287.60 1267.40

WEIRS

ENTER UP TO 10 WEIRS.

ENTER <RETURN> ONLY FOR FLOWRATE AND LENGTH TO END.

FLOWRATE (CFS)	LENGTH (FT)	COEFF (-)	HEAD (FT)
50.13	7.0	2.645	1.94
50.13	3.6	2.830	2.89

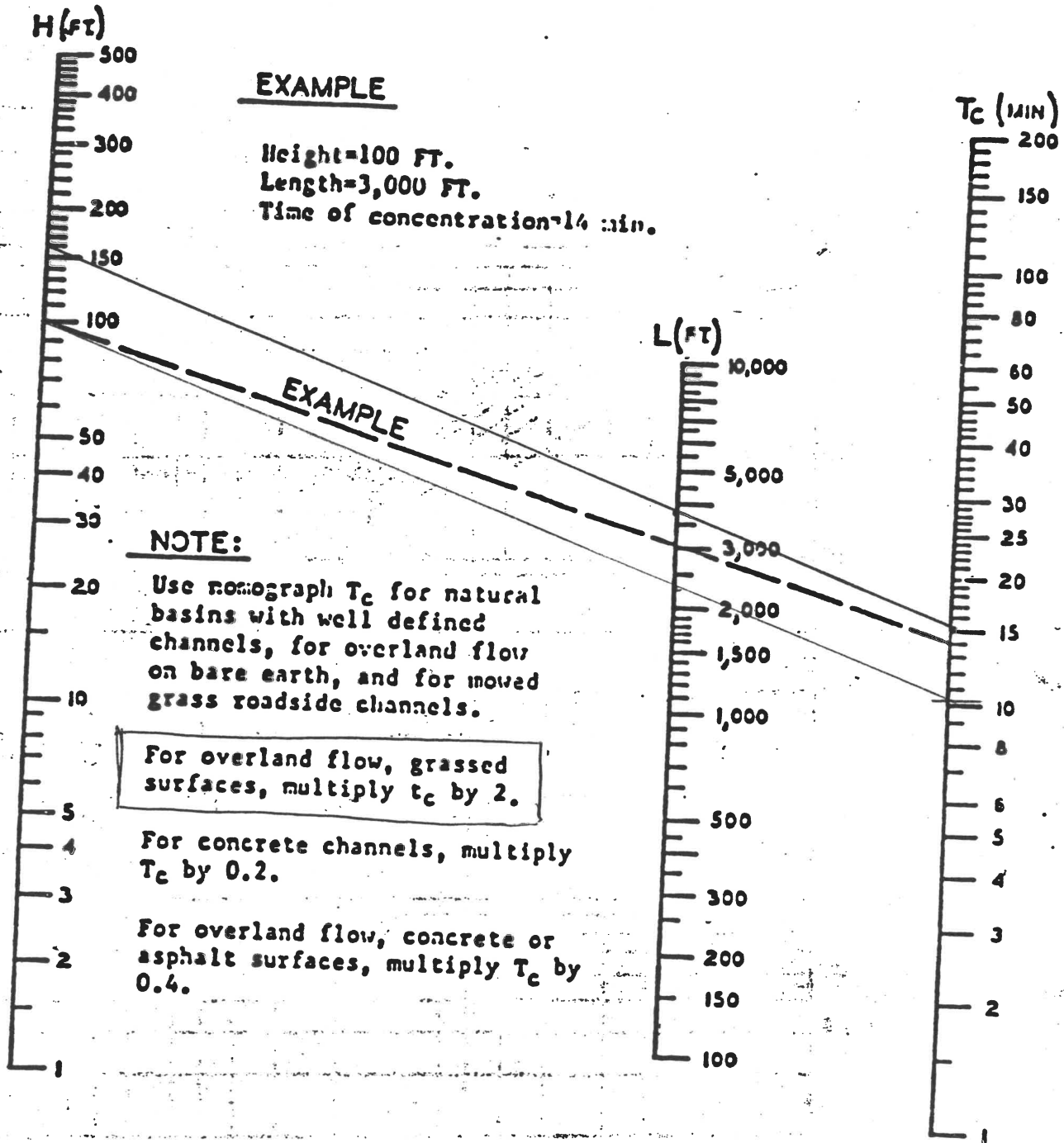


Figure 2. Nomograph for Determining Time of Concentration (developed from the Kirpich Equation). (1)

(1) From Ordinance 81-16; Tippecanoe County, Indiana, A General Ordinance Establishing Storm Drainage and Sediment Control, November 1981.

$T_c = 30$ MINUTES

2-8-97

**DRAINAGE STUDY FOR
SPRING PARK SUBDIVISION SECTION A**

SITE DESCRIPTION

The planned subdivision is located in Vanderburgh County, West of Red Bank Road and South of Booker Road.

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The existing condition of the property is mostly heavily wooded with very steep grades. Please consult primary plat for soils map.

EXISTING GEOMETRY

Area of watershed = 46.40 acres

$C_u = 0.36$

$H = 585 - 425 = 160'$

$L = 3700'$

$S = 160/3700 = 0.043 = 4.3\%$

Due to the length of the watershed, Kerby's formula may not be used. Time of concentration is determined by use of nomograph attached.

$T_c = 30$ minutes

$i_{10} = 3.226'' / \text{hr.}$

$Q_u = C \cdot i \cdot A = 0.36 \cdot 3.226 \cdot 46.40 = 53.887$ CFS

This runoff is directed toward the ditch that runs along the west side of the proposed development.

DEVELOPED CONDITIONS

NEW STRUCTURES (40)*(2500)	= 100,000 @ 0.95 =	95,000
NEW PAVEMENT (STREETS)	= 53,695 @ 0.95 =	51,010
NEW WALKS, PATIOS, ETC.	= 20,500 @ 0.95 =	19,475
NEW PAVEMENT (DRIVEWAYS)	= 25,600 @ 0.95 =	24,320
LAWN AREA	= 441,593 @ 0.40 =	176,637

366,442

$C_d = 366,442 / 661,388 = 0.55$

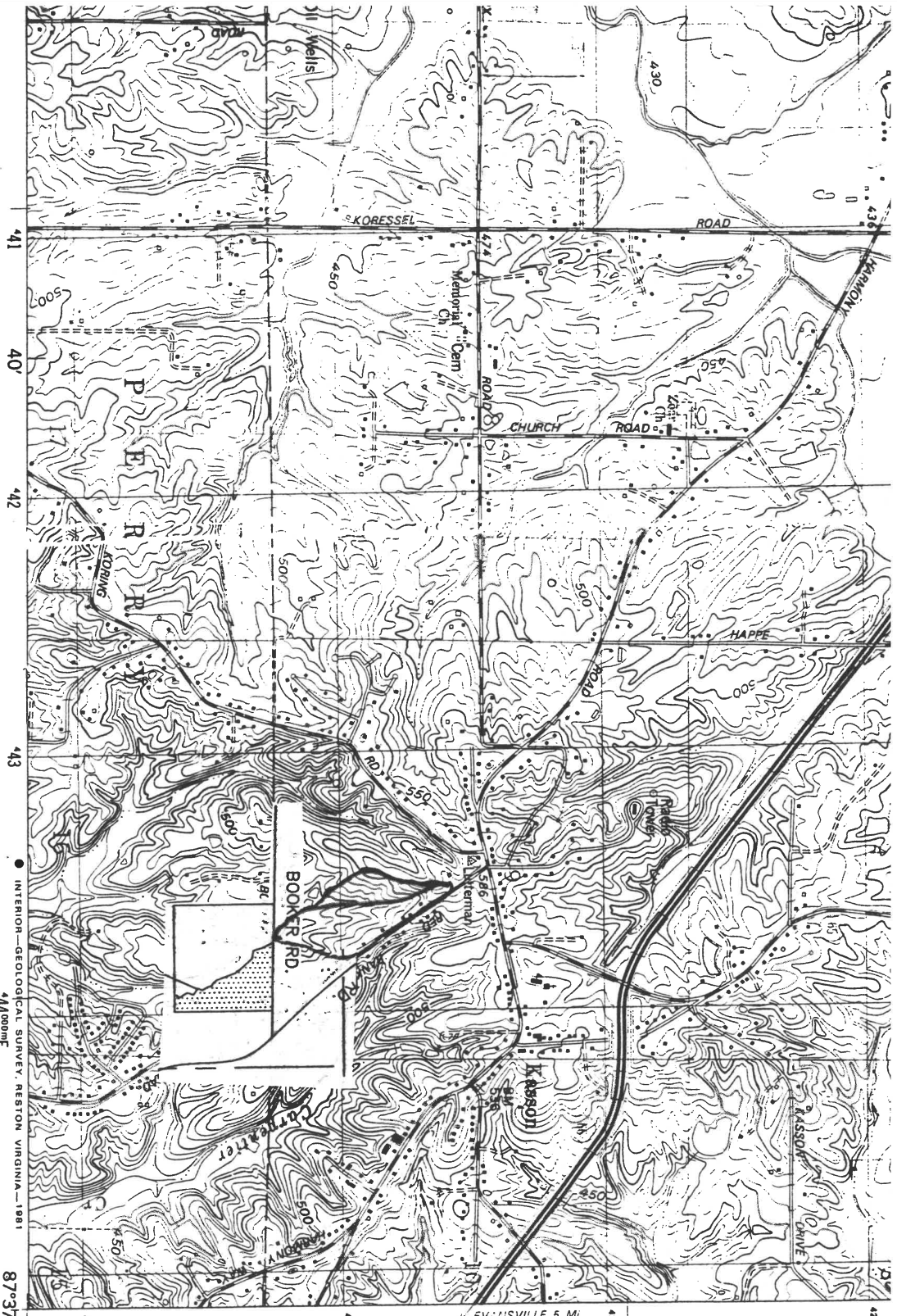
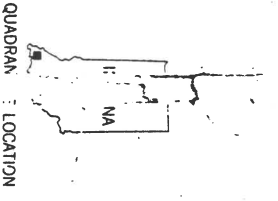
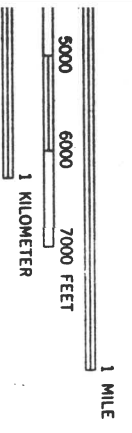
0.55 > 0.36 - detention/retention must be investigated
See form 800 for required calculation.

Storage required = 0.04 acre-feet = 1,919 cubic feet.

Detention to contained in stream with off site drainage easement. Release structure to be 36" RCP set at 0.39% grade to release 54 CFS. Emergency overflow to be provided by 6'x6' grate on top of release box, set at an elevation of 428.30. Emergency spillway elevation shall be 429.00. Discharge out of release to be provided by 48" RCP AT 0.30% to release 102.28 CFS which is sufficient to pass the 25 year event.

URACY STANDARDS
 ON, VIRGINIA 22092.
 INDIANAPOLIS, INDIANA 46204
 IS AVAILABLE ON REQUEST

1 OF 1929



ROAD CLASSIFICATION

- Primary highway, hard surface
- Secondary highway, hard surface
- Unimproved road
- Light-duty road, hard or improved surface
- U. S. Route
- State Route

KASSON, IND.

N3800-W8737.5/7.5

1981

DMA 3480 II SW-SERIES V851

(EVANSVILLE SOUTH)
 3489 I NE

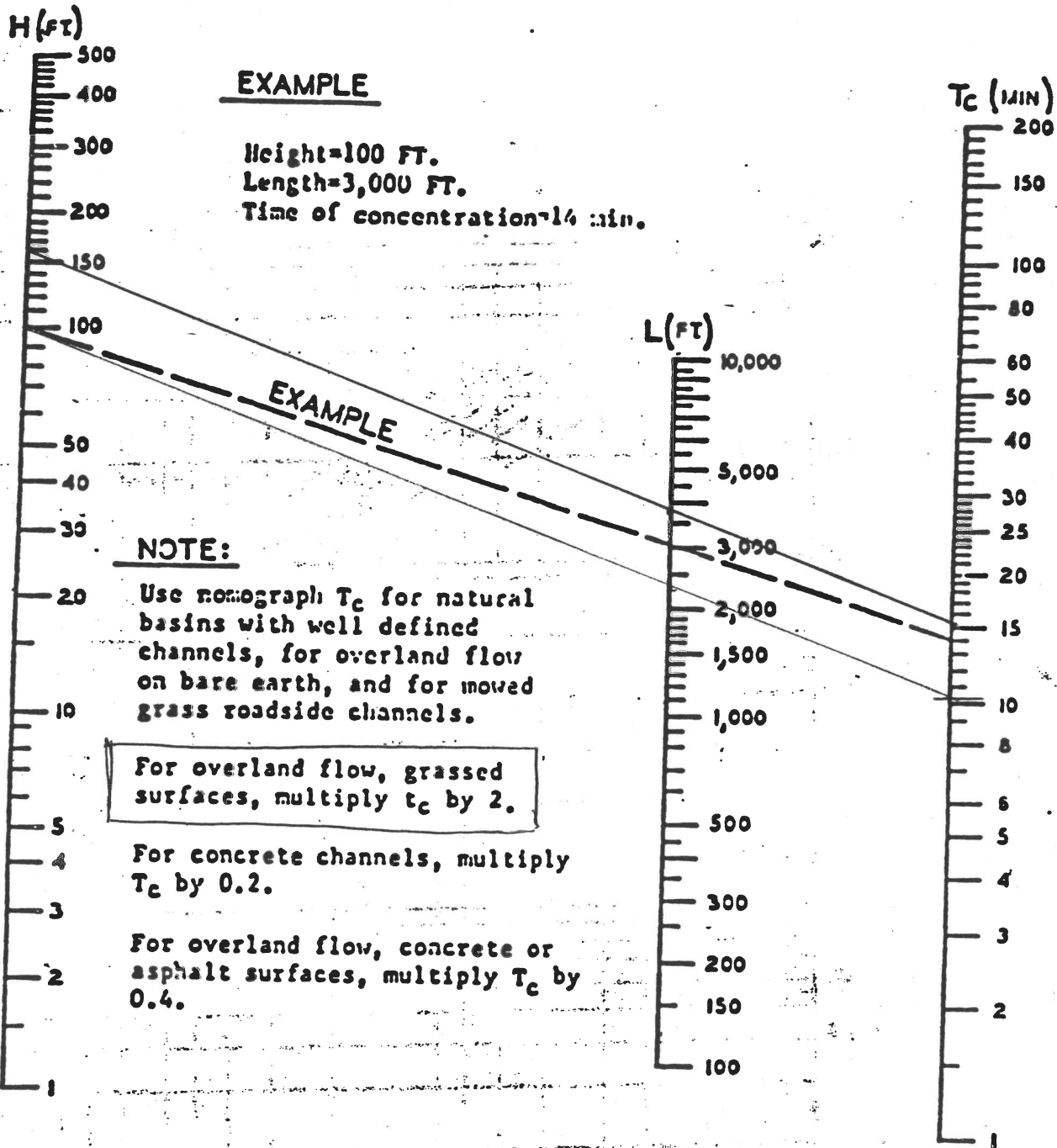


Figure 2. Nomograph for Determining Time of Concentration (developed from the Kirpich Equation). (1)

(1) From Ordinance 81-18, Tippecanoe County, Indiana, A General Ordinance Establishing Storm Drainage and Sediment Control, November 1981.

$T_c = 30$ MINUTES

Project SPRING PARK Detention Facility Design Return Period 25 yrs.

Designer T. J. K. Release Rate Return Period 10 yrs.

Watershed Area ~~53~~ 46.4 acres

Time of Concentration (undeveloped watershed) 30 minutes

Rainfall Intensity (i_U) 3.224 inches/hr

Undeveloped Runoff Coefficient (C_U) 0.34

Undeveloped Runoff Coefficient ($O = C_U i_U A_U$) 53.887 cfs

Developed Runoff Coefficient (C_D) 0.55

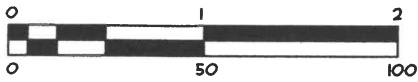
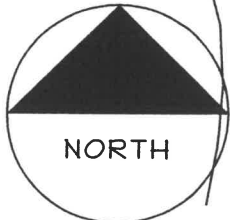
$A_D = 15.2$ ACRES

Storm Duration t_d (hrs.)	Rainfall Intensity i_d (inches/hr)	Inflow Rate $I(t_d)$ $(C_D i_d A_D)$ (cfs)	Outflow Rate O $(C_U i_U A_U)$ (cfs)	Storage Rate $I(t_d) - O$ (cfs)	Required Storage $I(t_d) - O \frac{t_d}{12}$ (acre-ft)
0.083	7.208	60.259	53.887	6.372	0.04
0.167	5.925	49.533		—	
0.250	5.033	42.076			
0.500	3.646	30.481			
1.00	2.078	17.372			
2.00	1.400				

Donald Bolin
9601 STRUEB-HENDRICKS RD.
Evansville, IN 47715
ZONED: R-1

FINAL RETENTION SURFACE: Elev. 426.3
FILL VOLUME = 77.40 CU YD
FILL VOLUME = 2,090 CU FT

HATCHED AREA REPRESENTS
AREA OF INUNDATION AT 426.30



SCALE: 1" = 50'

OFFSITE DRAINAGE BASEMENT

RELEASE STRUCTURE
(SEE DETAIL)

STRUCTURE: "Q"
TYPE: END SECTION
RIM: *
I.E.: 430.76

STRUCTURE: "I"
TYPE: STREET INLET
RIM: 438.00
I.E.: 435.75

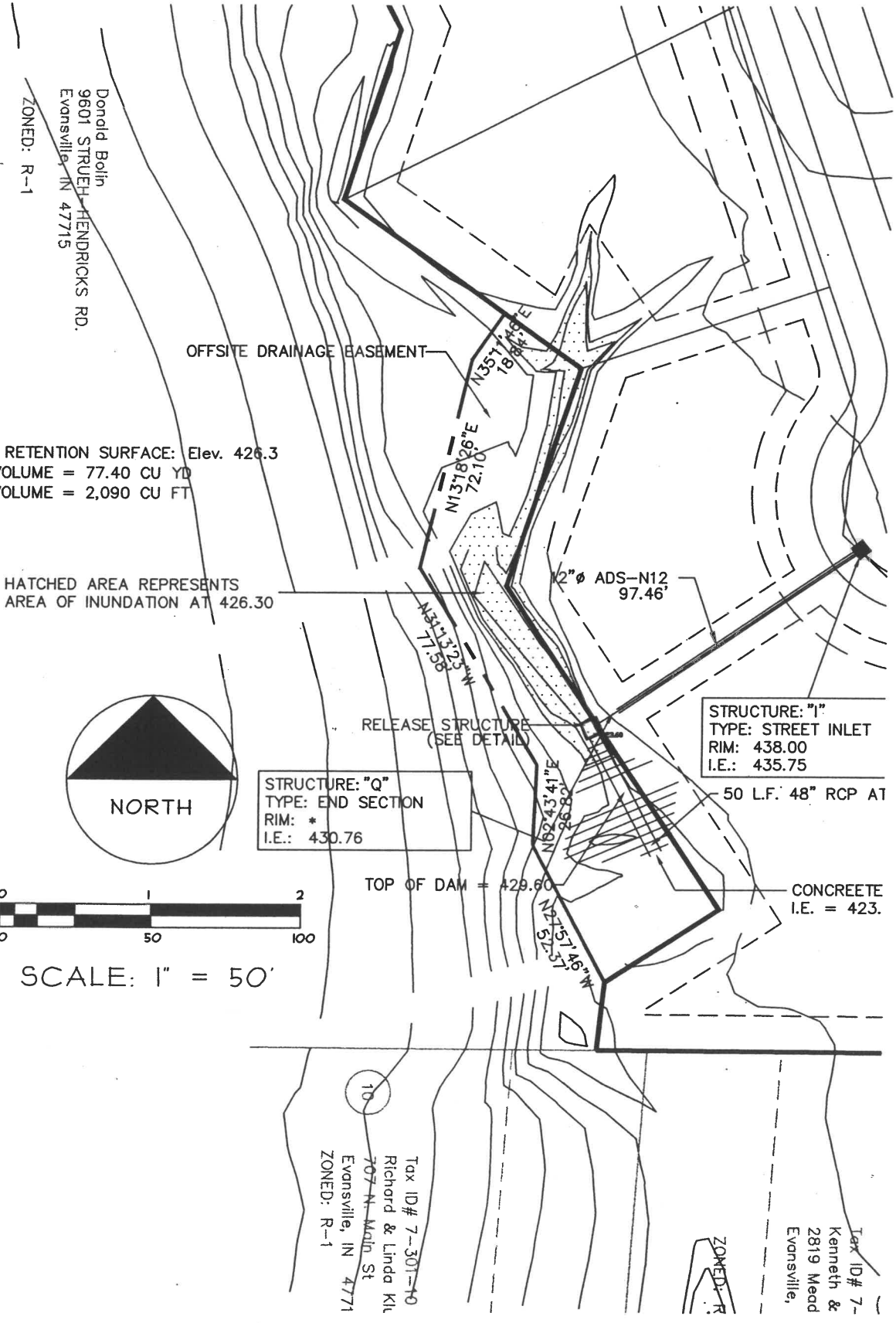
50 L.F. 48" RCP AT

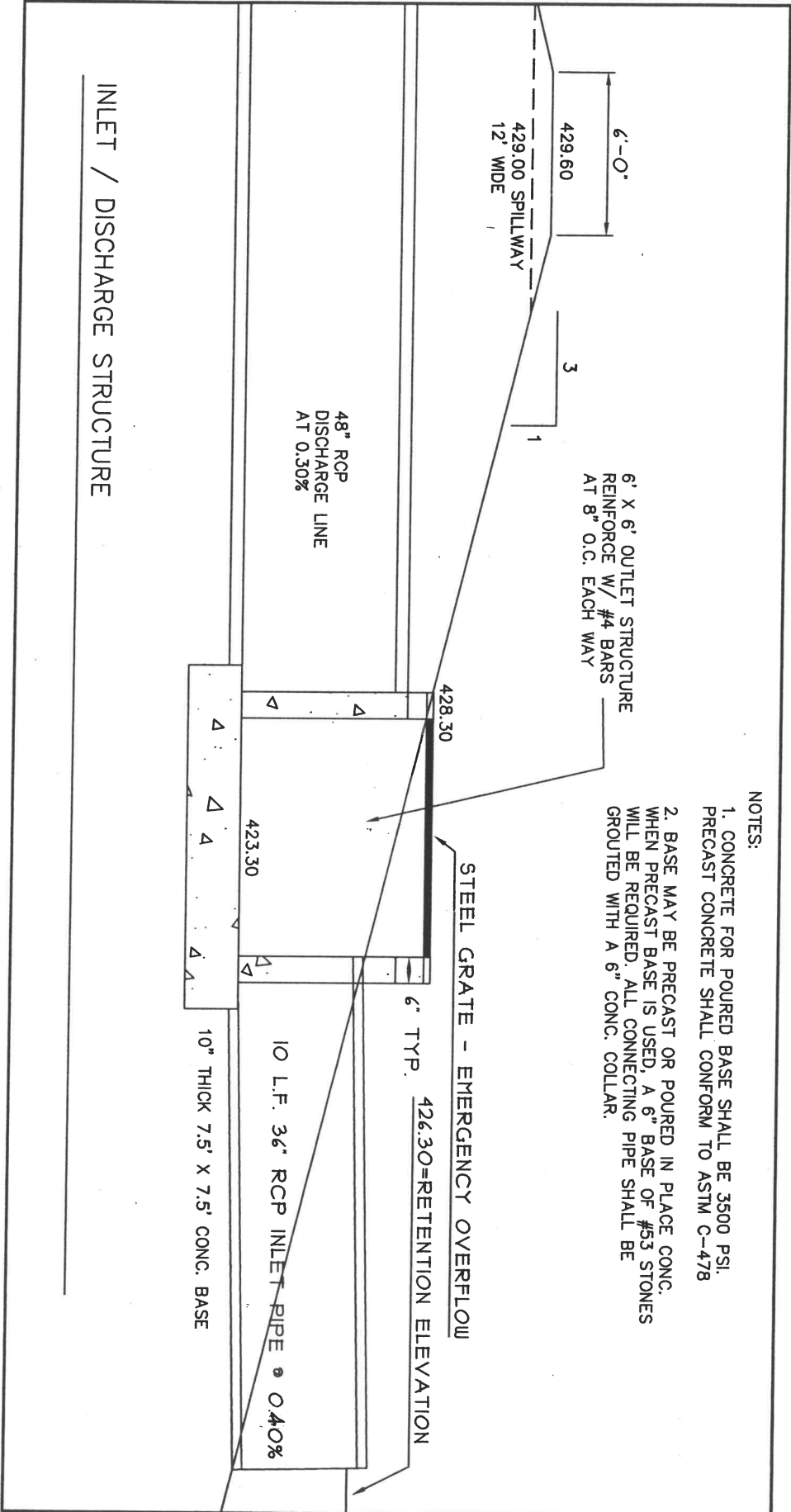
CONCRETE
I.E. = 423.

TOP OF DAM = 429.60

Tax ID# 7-301-10
Richard & Linda Kil
707 N. Main St
Evansville, IN 4771
ZONED: R-1

Tax ID# 7-
Kenneth &
2819 Mead
Evansville,





NOTES:

1. CONCRETE FOR POURED BASE SHALL BE 3500 PSI. PRECAST CONCRETE SHALL CONFORM TO ASTM C-478
2. BASE MAY BE PRECAST OR POURED IN PLACE CONC. WHEN PRECAST BASE IS USED, A 6" BASE OF #53 STONES WILL BE REQUIRED. ALL CONNECTING PIPE SHALL BE GROUTED WITH A 6" CONC. COLLAR.

SEWER PIPES

Enter up to 10 pipes.

Enter <Return> only for flowrate and diameter to end.

FLOWRATE (CFS)	DIAMETER (IN)	FRICITION (FT ^{1/6})	SLOPE (%)	VELOCITY (FPS)
54.00	36.00	0.0100	0.39	7.64

<Shift> <Prt Sc> print

<Return> repeat

<Space Bar> back to menu

SEWER PIPES

Enter up to 10 pipes.

Enter <Return> only for flowrate and diameter to end.

FLOWRATE (CFS)	DIAMETER (IN)	FRICITION (FT ^{1/6})	SLOPE (%)	VELOCITY (FPS)
02.28	48.00	0.0100	0.30	8.14

STORM SEWER DESIGN SHEET - RATIONAL METHOD

PROJECT BOLIN'S SPRINGS PARK DATE 2-2-97 SHEET 1 OF 1

7-6

Line Number	Upstream Manhole	Downstream Manhole	Length (Ft)	C ₁	A ₁ (Acres)	C ₁ A ₁	Z ₁ /C ₁	t ₁ (min)	i [inches/hr]	Q (CFS)	8 in. Pipe Diameter	Pipe Slope (%)	Pipe Capacity (CFS)	Velocity (Ft/Sec)	Travel Time (min)	Rim Elevation Upstream	Rim Elevation Downstream	Invert Elevation Upstream	Invert Elevation Downstream	Upstream Cover	Downstream Cover	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	B	30	.55	1.61	.83	.87	15	5.09	4.44	12	1.0	4.5	5.73		460.07	460.07	457.5	457.21			
2	B	C	26		.17	.09	.98	15		4.9	12	8.65	5.0	4.37		460.07	457.3	457.21	455.05			
3	J	K	101							4.9	12	4.41				457.3	(450.6)	455.05	450.6			
4	C	D	30		1.86	1.02	1.02			5.1	12	1.5	5.7	7.2		459.38	459.38	457.13	456.70			
5	D	L	89		2.42	1.33	2.35			11.8	15	10.17	11.7	9.7		459.38	449.9	456.70	447.65			
6	E	F	30		1.00	.55	.55			2.8	12	1.0	4.5	5.73		458.47	458.47	456.22	455.93			
7	F	L	49		1.23	.13	.68			3.4	12	16.9	4.5	5.73		458.47	449.7	455.93	447.65			
8	L	M	48													449.9	446.74	441.65	446.74			
9	G	H	30		1.10	.41	.61			3.1	12	1.0	4.5	5.73		454.33	454.33	452.08	451.79			
10	H	N	38		.09	.05	.64			3.3	12	10.84	4.5	5.73		454.33	449.92	451.79	447.67			
11	N	P	130							3.3	12	11.18				449.92	435.13	447.67	433.13			
12	I	Q	98		1.77	.97	.97			4.8	12	1.5	5.7	7.2		438.00	430.76	435.75	430.76			

Figure 7.1 Storm Sewer Design Sheet - Rational Method

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