

**HIGHLAND REDEVELOPMENT COMMISSION  
STUDY SESSION MINUTES  
WEDNESDAY, December 14, 2016**

Members of the Highland Redevelopment Commission (“RC”, “Commission”) met on Wednesday, December 14, 2016 at 6:07 PM in the Upper Conference Room within the Municipal Building at 3333 Ridge Road, Highland, Indiana. President Greg Kuzmar called the meeting to order. Minutes were prepared by Cecile Petro, Redevelopment Director.

**ROLL CALL:** Commissioners present included Greg Kuzmar, Kathy DeGuilio-Fox, Dominic Noce, Bill Leep, and Ed Dabrowski. Also in attendance were Attorney Carol Green-Fraley and Redevelopment Director Cecile Petro.

**General Substance of the Discussion**

**Discussion with Clerk-Treasurer Regarding Available Fund**

Before the meeting, Clerk-Treasurer Michael Griffin informed the Director that he was unable to attend the meeting, but will provide information at a later date.

**8620 Kennedy Avenue**

Attorney Green-Fraley presented a Purchase Agreement with the owners of 8620 Kennedy Avenue. The closing date is scheduled for December 19, 2016. Taxes will be pro-rated and there will be an assignment of leases.

**Possible Tax Increment Financing Projects**

Commissioners discussed the latest information on two possible Tax Increment Financing (TIF) projects. The Director stated that two developers will be looking for gap funding once their projects are fully planned. Commissioners Kuzmar and Leep will be part of a Committee to review Tax Increment Financing funding for projects. Attorney Green-Fraley will look into case law regarding the use of TIF funds.

**2711 & 2717 Condit Street**

Attorney Green-Fraley reported that she has communicated once again with the attorney for the owners of 2711 & 2717 Condit to seek information on the owners’ willingness to accept a Right of First Refusal agreement. No response has been received.

Study Session ended at 7:18 PM for the Public Meeting.

**HIGHLAND REDEVELOPMENT COMMISSION  
PUBLIC MEETING  
December 14, 2016**

The Highland Redevelopment Commission (“Commission”, “RC”) met in a Public Meeting on December 14, 2016 at 7:19 PM in the Upstairs Conference Room within the Municipal Building at 3333 Ridge Road, Highland, Indiana. President Kuzmar called the meeting to order. Taking minutes for the meeting was Director Petro.

**ROLL CALL:**

Present on roll call included Redevelopment Commissioners Greg Kuzmar, Ed Dabrowski, Dominic Noce, Bill Leep, and Kathy DeGuilio-Fox. Also in attendance were Attorney Carol Green-Fralely, Town Councilman Steve Wager, School Town of Highland Commissioner Pat Krull, and Director Cecile Petro.

**MINUTES OF PREVIOUS SESSIONS:**

Commissioner Leep made a motion to approve the minutes as written for the Public Meeting and Study Session of November 9, 2016. Commissioner Noce seconded the motion. **Motion carried by unanimous voice vote.**

**PUBLIC COMMENTS: None**

**SPECIAL ORDERS: None**

**COMMUNICATIONS: None**

**UNFINISHED BUSINESS AND GENERAL ORDERS:**

Commissioner DeGuilio-Fox made a motion to Approve Resolution 2016-26, *a Resolution of the Highland Redevelopment Commission to Provide Reimbursement for a Façade Improvement Grant to Mr. Dan Lewis for Property Located at 8020 Kennedy Avenue.* Commissioner Dabrowski seconded the motion. **Motion passed by unanimous voice vote.**

Commissioner Noce made a motion to Approve Resolution 2016-27, *A Resolution of the Highland Redevelopment Commission Ratifying a Contract and Counter Offers to Purchase the Real Estate Known as 8620 Kennedy Avenue, Highland, Indiana and Located in the Theatre District A/K/A the Arts and Cultural District of Highland, Indiana.* Commissioner DeGuilio-Fox seconded the motion. **Motion carried by unanimous voice vote.**

Commissioner Dabrowski made a motion to *Cancel the Regularly Scheduled Study Session of December, 2016.* Commissioner Leep seconded the motion. **Motion passed by unanimous voice vote.**

Commissioner Leep made a motion to *Approve Payments for Musicians at the Farmers’ Market in 2017.* Commissioner Dabrowski seconded the motion. **Motion carried by unanimous voice vote.**

Commissioner DeGuilio-Fox made a motion to *Direct the Redevelopment Director to Prepare a Request for Proposals for a Market Study to Identify the Need for Senior Housing in Highland, Indiana.* Commissioner Dabrowski seconded the motion. **Motion passed by unanimous voice vote.**

Commissioner Leep made a motion to *Accept the Preliminary Site Assessment Report for Kennedy Avenue & Main Street in Highland, Indiana.* Commissioner Noce seconded the motion. **Motion carried by four yes votes, zero no votes, and one abstention. Commissioner DeGuilio-Fox abstained.**

**NEW BUSINESS: None**

**ACTION TO PAY ACCOUNTS PAYABLE VOUCHERS:**

Commissioner Dabrowski made a motion to pay account payables as prepared in the amount of \$42,442.69. Commissioner DeGuilio-Fox seconded the motion. **Motion carried by unanimous voice vote.**

**(On December 15, 2016, a mistake was detected on the account payables docket. A \$2000.00 blanket purchase order was inadvertently included on the original docket and removed on December 16, 2016.)**

**BUSINESS FROM THE COMMISSIONERS:**

President Kuzmar thanked all of the Redevelopment Commissioners for their service and passion for their community during the past year. In addition, he also thanked the Director for her work and extra time that she devoted to the Commission's work during the year. This was supported by Commissioner Noce.

**NEXT MEETING:**

The next Public Meeting will be held on January 11, 2017, at 7:00 PM. A Study Session will precede the meeting at 6:00 PM and it may reconvene following the Public meeting. The next full Study Session will be held on January 25, 2017 at 6:00 PM. The next Highland Main Street meeting will be held on Thursday, January 5, 2017 at 6:30 PM. All meetings will take place in the town hall.

**ADJOURNMENT:** Commissioner Noce made a motion to adjourn the meeting. Commissioner Leep seconded the motion. **Motion carried by unanimous voice vote to adjourn the meeting at 7:29 PM.**

**HIGHLAND REDEVELOPMENT COMMISSION  
STUDY SESSION RECONVENED**

**December 14, 2016**

The Highland Redevelopment Commission (“Commission”, “RC”) reconvened at 7:30 PM in the Upper Conference Room of the Municipal Building at 3333 Ridge Road, Highland, Indiana.

**ROLL CALL:** Present on silent roll call included Commissioners: Greg Kuzmar, Dominic Noce, Kathy DeGuilio-Fox, Bill Leep, and Ed Dabrowski. Also in attendance were Attorney Carol Green-Fraley, School Town of Highland Commissioner Pat Krull, and Director Petro.

**General Substance of the Study Session**

**Town Theatre**

The Director stated that she sent the Invitation to Bid for the construction and remodel of the Town Theatre to two newspapers and the architect sent it to many contractors. All inquiries for the bid package are to be sent to the architect. The bids will be open on Monday, January 16, 2017 at noon. A presentation to the Town Council has tentatively been set for Monday, January 23, 2017 and a vote will follow at another Town Council Plenary Session.

**8630 Kennedy Avenue**

President Kuzmar provided an update on the progress of the Façade Improvement Grant to the owners of 8630 Kennedy Avenue. The owners have experienced some delays due to compliance issues.

**8608 Kennedy Avenue**

Attorney Carol Green-Fraley stated that she will provide the name of another appraiser for 8608 Kennedy. She was unable to contact one of the original appraisers and after a letter was sent and no response was received, she stated that the Commission is now able to select another appraiser.

**2815 Jewett**

Commissioners discussed SIP Coffee house’s request to access 2817 Jewett through adjoining walls to start another business. All agreed that this could be accomplished after a written agreement was prepared that outlined the Commission’s concerns. Some of those concerns included 1) the owner will return the building to the original state when/if the owner terminates the lease and if the Commission desires it at that time, and 2) the work will need to be overseen by an engineer and approved by the Building Commissioner.

Study Session ended at 8:01 PM.

**Resolution No. 2016-26**

**A RESOLUTION OF THE HIGHLAND REDEVELOPMENT  
COMMISSION TO PROVIDE REIMBURSEMENT FOR A FAÇADE  
IMPROVEMENT GRANT TO MR. DAN LEWIS FOR PROPERTY  
LOCATED AT 8020 KENNEDY AVENUE**

WHEREAS, the Highland Redevelopment Commission (the "Commission"), governing body of the Town of Highland Department of Redevelopment (the "Department"), and the Redevelopment Area of the Town of Highland, Indiana (the "Redevelopment District"), exists and operates under the provisions of the Redevelopment of Cities and Towns Act of 1953 which has been codified in IC 36-7-14, as amended from time to time (the "Act"); and

WHEREAS, the Commission on May 28, 1997, adopted Resolution No. 1997-01 declaring the Highland Redevelopment Area to be an area in need of redevelopment within the meaning of the Act; and

WHEREAS, Resolution No. 1997-01 was confirmed by the Commission with the adoption of Resolution No. 1997-02 on July 8, 1997; and

WHEREAS, Subsequent Resolutions, No. 2003-01, No. 2005-11, No. 2006-10, No. 2007-08, and No. 2008-09 confirmed expansion of the Redevelopment Area; and

WHEREAS, the Commission accepted the 2007 Comprehensive Plan for the Highland Redevelopment Area on March 14, 2007; and

WHEREAS, the Commission has prepared, developed and approved the Supplement to the Highland Municipal Code, Section 214.180: RD-Redevelopment District (Architectural and Design Standards and Guidelines for the Redevelopment Area); and

WHEREAS, the Commission from time to time may develop a program to improve the downtown; and

WHEREAS, the Commission through its 2016 budget approved the Façade Improvement Grant Program which is intended to provide financial assistance for significant exterior building façade improvement in the Highland Downtown Redevelopment Area; and

WHEREAS, the goal of the program is to attract retail growth, additional business traffic, and catalyze investment through improved aesthetics; and

WHEREAS, Mr. Dan Lewis originally applied for a grant totaling \$30,000.00, of which and not to exceed 30% or \$9,000.00, would be reimbursed to him upon completion of the work with approved receipts. This amount was approved with Resolution No. 2016-09 on March 9, 2016 by the Redevelopment Commission. However, upon completion of the work, the actual total was \$26,560.76 and the total to be reimbursed would be the 30% not to exceed amount of \$7,968.23.

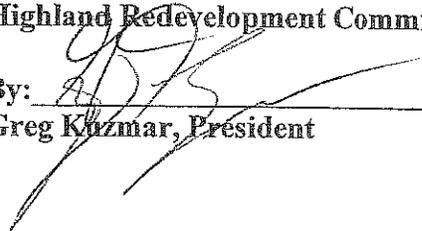
All property taxes must be paid and up to date and there shall be no liens against the property.

NOW, THEREFORE, BE IT RESOLVED by the Highland Redevelopment Commission as follows:

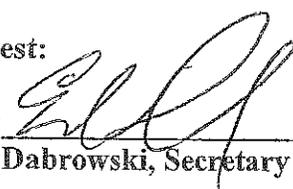
1. That the Commission finds and determines that it will be of public utility and benefit to approve reimbursement to Mr. Dan Lewis for a Façade Improvement Grant for property located at 8020 Kennedy Avenue.
2. The original project cost applied for was \$30,000.00, while the actual project cost was \$26,560.76.
3. That the Commission will provide up to and not to exceed reimbursement of \$7,968.23, based upon the final total project cost of \$26,560.76.
4. That all reimbursements have been delivered and received by the Commission and all property taxes are paid and up to date and no liens have been filed on the property.
5. That this Resolution shall be in full force and effect after its adoption by the Commission.

**ADOPTED AND APPROVED at a meeting of the Highland Redevelopment Commission held on the 14th day of December 2016.**

Highland Redevelopment Commission

By:   
\_\_\_\_\_  
Greg Kuzmar, President

Attest:

By:   
\_\_\_\_\_  
Ed Dabrowski, Secretary

**C Petro**

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**From:** C Petro <CPetro@highland.in.gov>  
**Sent:** Wednesday, November 30, 2016 3:03 PM  
**To:** 'Highland Glass'  
**Cc:** lryskamp@highland.in.gov  
**Subject:** RE: invoice for the sign

Dear Dan,

Here are the final invoices that I have received from you:

|                               |                          |                                |
|-------------------------------|--------------------------|--------------------------------|
| Merrillville Awning           | (awning)                 | \$ 3,276.50                    |
| Doppler Glass                 | (Glass & Doors)          | \$ 5,736.50                    |
| Calumet Masonry               | (lintels & CMU)          | \$ 3,380.00                    |
| Calumet Masonry               | (stone veneer & labor)   | \$12,000.00                    |
| Champion Prop. Services, Inc. | (Consulting & rendering) | \$ 1,430.00                    |
| Buy Sign Letters              | (Sign letters)           | \$ 737.76                      |
| Total                         |                          | \$26,560.76 X 30% = \$7,968.23 |

Your reimbursement will be on the December 14<sup>th</sup> Redevelopment Commission meeting agenda. Thank you for participating in the Façade Improvement Grant program!

Sincerely,  
Cecile

Cecile LaCombe Petro  
Highland Redevelopment Director  
3333 Ridge Road  
Highland, Indiana 46322  
219-972-7598 (p)  
219-972-5097 (f)

**From:** Highland Glass [mailto:highlandglass@sbcglobal.net]  
**Sent:** Wednesday, November 30, 2016 8:28 AM  
**To:** 'C Petro' <CPetro@highland.in.gov>  
**Subject:** RE: invoice for the sign

Here are the new invoices for the signage.

*Thank you.*

*Brandi Hackney  
Highland Glass, Inc.  
219-923-4328*

**From:** C Petro [mailto:CPetro@highland.in.gov]  
**Sent:** Monday, November 28, 2016 6:05 PM

**To:** 'Highland Glass'  
**Subject:** invoice for the sign  
**Importance:** High

Dan,

Could you please send me the final paid invoice for the sign? I will need it by Wednesday morning in order to get your payment into the system for approval by the Commission next week.

Thanks,

Cecile

Cecile LaCombe Petro

Highland Redevelopment Director

3333 Ridge Road

Highland, Indiana 46322

219-972-7598 (p)

219-972-5097 (f)

**From:** Highland Glass [<mailto:highlandglass@sbcglobal.net>]

**Sent:** Tuesday, November 01, 2016 3:06 PM

**To:** 'C Petro' <[CPetro@highland.in.gov](mailto:CPetro@highland.in.gov)>

**Subject:** Dan Lewis

Please see attached invoices for Highland Glass/Dan Lewis.

*Thank you.*

*Brandi Hackney  
Highland Glass, Inc.  
219-923-4328*



1420 East 91st Drive  
 Merrillville, IN 46410  
 P: 219.736.9800

# Invoice

| Date      | Invoice # |
|-----------|-----------|
| 8/18/2016 | 160815    |

| Bill To  |
|--|
| Highland Glass, Inc<br>8020 Kennedy Ave.<br>Highland, IN 46322 |

| Ship To   |
|---|
| Highland Glass, Inc.<br>8020 Kennedy Ave.<br>Highland, IN 46322 |

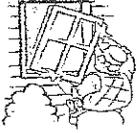
| P.O. Number    | Terms     | Rep | Ship      | Via       |
|----------------|-----------|-----|-----------|-----------|
| Highland Glass | See Below | GS  | 8/18/2016 | Our Truck |

| Description                                    | Amount   |
|--|----------|
| FABRICATE & INSTALL:                           |          |
| DIMENSIONS:                                    |          |
| FRAME:   |          |
| FABRIC:  |          |
| GRAPHICS:                                      |          |
| BOTTOM:  |          |
| LIGHTS:  |          |
| PRICE:   |          |
| Add:   |          |
| TERMS:   |          |
| Three (3) Traditional Style Awnings            |          |
| 2 @ 13' 5" Wide x 2' Drop x 3' Projection      |          |
| 1 @ 8' 10" Wide x 2' Drop x 3' Projection      |          |
| Welded Aluminum Tubing, Mill Finish, Unpainted |          |
| Sunbrella Acrylic Canvas                       |          |
| None   |          |
| Open   |          |
| None   |          |
| Permit   | 3,000.00 |
| 50% Deposit, Balance Due Upon Completion       | 276.50   |

Phone: 219.736.9800  
 Fax: 219.736.9100  
 Email: info@awningguy.com

Thank you for your business!

|                         |             |
|-------------------------|-------------|
| <b>Subtotal</b>         | \$3,276.50  |
| <b>Total</b>            | \$3,276.50  |
| <b>Payments/Credits</b> | -\$1,500.00 |
| <b>Balance Due</b>      | \$1,776.50  |



Doppler Glass Inc.

8020A Kennedy Ave  
Highland, IN 46322

Phone # 219-923-5611

# Invoice

|           |           |
|-----------|-----------|
| Date      | Invoice # |
| 4/29/2016 | 2269      |

|  |
|--|
| Bill To  |
| Highland Glass<br>8020 Kennedy Ave<br>Highland, IN 46322 |

| Description  | Qty | Terms        | P.O. No.          |
|--|-----|--------------|-------------------|
|  |     | Rate         | Amount            |
| Furnish new storefront and glass openings using 2 x 4-1/2 bronze thermally broken aluminum manufactured by Old Castle BE |     | 2,753.80     | 2,753.80T         |
| Doors to be medium stile - stock 3' x 7' with sidelites and transoms   |     |              |                   |
| Glass to be 1" Low-E; tempered where required  |     | 971.90       | 971.90T           |
| Installation   |     | 1,750.00     | 1,750.00          |
| Sales Tax  |     | 7.00%        | 260.80            |
|  |     | <b>Total</b> | <b>\$5,736.50</b> |



## Calumet Masonry Company

9219 U.S. 41 SUITE E, HIGHLAND, IN. 46322

OFFICE (219)923-6179      FAX (219)923-8239

MOBILE (219)746-9190

DATE: 7/20/16

PURCHASER: DAN LEWIS

JOB ADDRESS: HIGHLAND GLASS

This invoice reflects labor and material to complete the installation of new lintels above the doors and windows. Also the replacement of new 8" CMU to fill in any openings and cracked CMU.

TOTAL INVOICE \$3,380.00

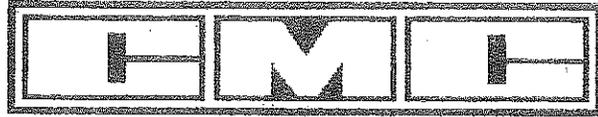
*In default of payment when due, Purchaser agrees to pay 1 1/2 % service charge per month, collection cost and attorney fees.*

Proposed by: CALUMET MASONRY COMPANY  
by: \_\_\_\_\_

*Accepted*

Representative: JOSH HOLDER

Billing Address: \_\_\_\_\_



**Calumet Masonry Company**  
9219 U.S. 41 SUITE E, HIGHLAND, IN. 46322  
OFFICE (219)923-6179      FAX (219)923-8239  
MOBILE (219)746-9190

## INVOICE

DATE: 8/5/2016

PURCHASER: DAN LEWIS

JOB ADDRESS: HIGHLAND GLASS, KENNEDY AVE.

This invoice reflects materials and labor to complete the stone veneer at Highland Glass on Kennedy Ave.

Also included in this invoice is repair work to the existing building to prepare for stone work.

TOTAL INVOICE \$12,000.00

Champion Property Services, LLC  
 10769 Broadway, Crown Point, IN 46307  
 championpsinc@gmail.com



ELIZAVIA INVOICE # 141

| SHIP TO        | SHIP TO | INSTRUCTIONS |
|----------------|---------|--------------|
| Highland Glass | Same    | Deliver      |

INVOICE

|   |  |        |
|---|--|--------|
| 1 | On-site consulting for letter install  | \$1430 |
| 1 | Photo Rendering of Building with Letters on it...to scale to show end result |        |
| 1 | Mounting Pattern for above letters... DOES NOT INCLUDE INSTALLATION          |        |

PAID IN FULL

|                     |               |
|---------------------|---------------|
| SUBTOTAL            | \$1430        |
| SALES TAX           |               |
| SHIPPING & HANDLING |               |
| <b>TOTAL DUE</b>    | <b>\$1430</b> |

Thank you for your business!

**Highland Glass**

**From:** BuySignLetters <sales@buysignletters.com>  
**Sent:** Friday, November 11, 2016 11:41 AM  
**To:** Dan Lewis; sales@buysignletters.com  
**Subject:** Sign Letter Order Confirmation and Invoice / Please verify that all the information is correct



A Division Of Sign Designs Inc.  
dba Buysignletters.com  
P.O. Box 701376  
Wabasso, FL 32970



A Division Of Sign Designs Inc.  
dba Buygrommets.com  
P.O. Box 701376  
Wabasso, FL 32970

Your order is in production and scheduled to ship no later than 11/18.

Your Order Confirmation/Invoice appears below. Please read and verify that all the information is correct. If there are any changes necessary; please contact us immediately.

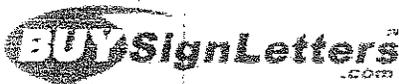
Track your order status online by clicking on your production tracking number here [3897277](#) or in the invoice below or enter your tracking number in the Order Status section of our website.

NOTE: Please allow 24 to 48 hours for your order to appear in the tracking database on our website. The database is updated Monday - Friday at 8:00 a.m. Central time.

We appreciate your business and look forward to serving you in the future.

Best Regards  
Sign Designs, Inc.  
dba [www.BuySignLetters.com](http://www.BuySignLetters.com)  
[Sales@buysignletters.com](mailto:Sales@buysignletters.com)

\*\*\*\*\*Note: The charge for this order on your credit card statement will appear under the name of Sign Designs, Inc.\*\*\*\*\*



A Division Of Sign Designs Inc.  
dba Buysignletters.com  
772-581-8810 office  
P.O. Box 701376  
Wabasso, FL 32970

**Invoice**



A Division Of Sign Designs Inc.  
dba Buygrommets.com  
772-388-9691 office  
P.O. Box 701376  
Wabasso, FL 32970

| Date       | Order # | Tracking # |
|------------|---------|------------|
| 11/11/2016 | 72738   | 3897277    |

| Bill To   |
|---|
| Dan Lewis<br>Highland Glass<br>8020 Kennedy Ave<br>Highland, IN 46322 |

| Ship to  |
|--|
| Highland Glass<br>Highland Glass<br>8020 Kennedy Ave<br>Highland, IN 46322 |

| Terms        | Via                           | Tracking # | UPS Tracking # | USPS Tracking # | FedEx Tracking # |
|--------------|-------------------------------|------------|----------------|-----------------|------------------|
| Paid in Full | 2 Day Air Continental US Only | 3897277    |                |                 |                  |

| Product Description  | Quantity | Unit Price | Amount   |
|--|----------|------------|----------|
| <p>Formed Plastic Letters-Optima 15" Height: 15"   Average width: 11 3/4"   Approximate Depth: 1 1/2"   Stroke: 1 1/4" - 2 1/4"   Lower Case Height: 10 1/2"</p> <p>Features/Options: Stud/Pad Combo Duranodic Bronze (#3130)</p> <p>Please type the NUMBERS or LETTERS the way you want them to read in UPPER or LOWER case for this Font. HIGHLAND GLASS</p> <p>Total Characters=13 - <a href="#">Click Here to Add Installation Pattern</a></p> | 1        | \$449.02   | \$449.02 |

|  |   |         |         |
|--|---|---------|---------|
| <p>Formed Plastic Letters-Optima 6" Height: 6"   Average width: 4 5/8"   Approximate Depth: 3/4"   Stroke: 1/2" - 7/8"   Lower Case Height: 4 1/4"</p> <p>Features/Options: Stud/Pad Combo Duranodic Bronze (#3130)</p> <p>Please type the NUMBERS or LETTERS the way you want them to read in UPPER or LOWER case for this Font. Est. 1983</p> <p>Total Characters=8 - <a href="#">Click Here to Add Installation Pattern</a></p> | 1 | \$97.54 | \$97.54 |
|--|---|---------|---------|

|                                     |   |         |         |
|-------------------------------------|---|---------|---------|
| Formed 6 Inch Installation Pattern  | 1 | \$32.00 | \$32.00 |
| Formed 15 Inch Installation Pattern | 1 | \$52.00 | \$52.00 |

|   |  |                  |                 |
|---|--|------------------|-----------------|
| <b>Thank you for your business!</b>   |  | <b>Shipping:</b> | <b>\$107.20</b> |
| Please check your order immediately upon receipt. Any errors or missing items must be reported to us within 15 days of receipt to be rectified.   |  | <b>Tax:</b>      | <b>\$0.00</b>   |
| Important Notice to Purchaser The following is in lieu of all warranties, express or implied. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for its intended use and user assumes all risk and liability whatsoever in connection therewith. |  | <b>Total:</b>    | <b>\$737.76</b> |

**RESOLUTION NO. 2016 - 27**

**Resolution of the Highland Redevelopment Commission ratifying a Contract and counter offers to purchase the real estate known as 8620 Kennedy Avenue, Highland, Indiana and located in the Theatre District A/K/A the Arts and Culture District of Highland, Indiana.**

**WHEREAS,** the Highland Redevelopment Commission (the "Commission"), exists and operates under the provisions of the Redevelopment of Cities and Towns Act in I.C.36-7-14, as amended from time to time (the "Act"); and

**WHEREAS,** the Highland Redevelopment Commission is authorized to negotiate and enter into contracts by statute; and

**WHEREAS,** the Highland Redevelopment Commission has obtained two appraisals which were compared to comparable sales in the immediate area;

**WHEREAS,** the Highland Redevelopment Commission has received, reviewed, negotiated and accepted an offer and counter offer to purchase real estate for the property at 8620 Kennedy Avenue, Highland, Indiana for the amount of \$245,000.00 subject to the proration of taxes and existing leases;

**WHEREAS,** the Highland Redevelopment Commission has determined that the counter offer to purchase said real estate is acceptable;

**WHEREAS,** the offer to purchase said real estate is necessary for the Theater District project A/K/A the Arts and Cultural District as proposed in its plan;

**NOW, THEREFORE,** be it resolved as follows:

That it is in the best interest of the Town of Highland to ratify and approve the contract for purchase of real estate for the property at 8620 Kennedy Avenue, Highland, Indiana.

That the Highland Redevelopment commission hereby authorizes its attorney on their behalf to perform all acts necessary to purchase the said real estate at 8620 Kennedy Avenue subject to restrictions and proration's as set out in the contract and the Fidelity National Title Commitment # 920162598 attached hereto and marked Exhibit A;

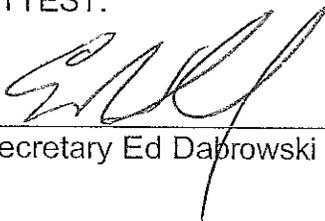
That the Highland Redevelopment Commission hereby directs the Clerk Treasurer for the Town of Highland to dispense the funds necessary to complete this purchase as set out in the closing statement covering this transaction;

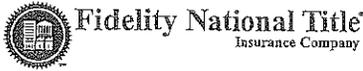
Adopted and Approved at a meeting of the Highland Redevelopment Commission held on the 14<sup>th</sup> day December, 2016.

HIGHLAND REDEVELOPMENT COMMISSION

BY:   
\_\_\_\_\_  
President Greg Kuzniar

ATTEST:

  
\_\_\_\_\_  
Secretary Ed Dabrowski



Fidelity National Title Company, LLC  
11364 Broadway  
Crown Point, IN 46307

Direct All Inquiries to:  
Customer Service  
(219)663-5160 Fax: (219)662-1511  
wehelp@fnf.com

### TITLE INSURANCE COMMITMENT

Order No.: 920162598

Effective Date: October 07, 2016 at 8:00 a.m.

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#### Schedule A

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**1. Policy or Policies to be issued:**

ALTA Owner's-06/17/06

**Proposed Insured:** the Town of Highland, Indiana by and through its  
Redevelopment Commission

**Amount:** \$147,500.00

**2. The estate or interest in the land described or referred to in this Schedule and covered herein is a Fee Simple and title thereto is at the effective date hereof vested in:**

8620 Kennedy, LLC

**The land referred to in this Commitment is described in Exhibit "A" attached hereto and made part hereof.**

Countersigned and Validated:

A handwritten signature in cursive script, appearing to read "James Taylor".

Authorized Signature



**SCHEDULE B - SECTION 1  
REQUIREMENTS**

The following are the requirements to be complied with:

Item (a) Payment to or for the account of the grantors or mortgagors of the full consideration for the estate or interest, mortgage or lien to be insured.

Item (b) Proper instrument(s) creating the estate or interest to be insured must be executed and duly filed for record, to wit:

1. Duly authorized Limited Liability Company Warranty Deed executed by authorized parties vesting fee simple title to the proposed insured owners, as shown in Schedule A.
2. Disclosure of Sales Information form(s) prescribed by the State Board of Tax Commissioners pursuant to IC 6-1.1-5.5 to be filed with the Auditor's Office. Strict compliance must be followed using the most recent version of the Indiana Sales Disclosure.
3. The Company should be furnished a Vendors Affidavit.
4. The search did not disclose any open mortgages or deeds of trust of record, therefore the Company reserves the right to require further evidence to confirm that the property is unencumbered, and further reserves the right to make additional requirements or add additional items or exceptions upon receipt of the requested evidence.
5. The Company will require the following documents for review prior to the issuance of any title insurance predicated upon a conveyance or encumbrance from the entity named below:  
Limited Liability Company: 8620 Kennedy, LLC
  - a) A copy of its operating agreement, if any, and any and all amendments, supplements and/or modifications thereto, certified by the appropriate manager or member
  - b) If a domestic Limited Liability Company, a copy of its Articles of Organization and all amendments thereto with the appropriate filing stamps
  - c) If the Limited Liability Company is member-managed, a full and complete current list of members certified by the appropriate manager or member
  - d) If less than all members, or managers, as appropriate, will be executing the closing documents, furnish evidence of the authority of those signing.

The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

**SCHEDULE B - SECTION 2  
EXCEPTION**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Rights or claims of parties in possession not shown by public records.
2. Easements, or claims of easements, not shown by public records.
3. Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the title that would be disclosed by an accurate and complete land survey of the land.
4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
5. Taxes or special assessments which are not shown as existing liens by the public records.
6. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed insured acquires for value of record the estate or interest or mortgage thereon covered by this commitment.
7. Property taxes for the year 2016 due in 2017 are a lien not yet due and payable.
8. Taxes for the year 2015 due and payable in 2016 each half for \$1,271.33 are assessed in the name of 8620 Kennedy, LLC due and payable in May and November. May installment Paid. November installment Unpaid. Taxing Unit: 026-Highland. Assessed Value: Land- \$41,800.00; Improvements- \$64,700.00; Exemptions- \$0.00 . Tax Identification Number 45-07-21-327-021.000-026, Brief Legal Description: Highland S 50 ft of E 125 ft Block 12.

Note: If the November installment(s) of taxes are/were not paid by November 10, 2016, a penalty will be added.

Annual Assessment as set forth below:

Type of Assessment: Little Calumet River Basin  
Annual Amount: \$180.00, Paid

All future assessments are not yet due and payable.

NOTE: The real estate tax information set out above was taken from the County Data Processing Department computer system. This information, while believed to be accurate, at this time is subject to change without notice. Neither the Company nor its agent assumes or accepts any responsibility for loss, damage, cost or expense due to any change in the information reflected above.



9. The Company assumes no liability for increases in the amount of real estate taxes as shown above as a result of retroactive revaluation of the land and improvements, changes in the usage of the land or the loss of any exemption or deduction applicable to the land insured herein.
10. Any map/plat furnished is being done so as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land, and is not a survey of the land depicted. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances, location of easements, acreage or other matters shown thereon.
11. Terms and provisions of Resolutions of the Highland Redevelopment Commission, including but not limited to, those recorded as Documents 2003 129041 and 2008 047001.
12. Rights of tenants under unrecorded leases.
13. A judgment search has been made versus Town of Highland, Indiana by and through its Redevelopment Commission - (search is individually) - and none found.

END OF SCHEDULE "B"

INFORMATION NOTE #1

This Commitment is based upon a search and examination of the public record information by Fidelity National Title Company, LLC. Utilization of the information contained herein by any entity other than Fidelity National Title Company, LLC or a member of the Fidelity Family of Title Insurers for the purpose of issuing a title commitment or policy for any or all of the proposed insured named on Schedule A shall be considered a violation of the proprietary rights of Fidelity National Title Company, LLC.

INFORMATIONAL NOTE # 2

Provided that the transaction contemplated by the commitment is consummated by means of a closing conducted by the Company or through the medium of a closing protection letter, or a fee is paid pursuant to a Gap Insurance arrangement, Paragraph 6 of Schedule B, Section 2 of the commitment may be deleted and the policy, when issued, shall insure the Insured against loss or damage (including costs, attorney's fees and expenses) sustained or incurred by reason of defects, liens, encumbrances, adverse claims or other matters attaching or created subsequent to the Date of Commitment and prior to recordation of the insured mortgage.

INFORMATION NOTE #3

Effective July 1, 2006, any documents requiring a preparation statement which are executed or acknowledged in Indiana must contain the following affirmation statement as required by IC 36-2-11-15: "I affirm, under the penalties for perjury, that I have taken reasonable care to redact each Social Security Number in this document unless required by law. (Sign, Print or Type Name)." Additionally, pursuant to IC 35-2-7.5-6, a \$2.00 fee for each and every recorded document must be collected and deposited into the "County Identification Protection Fee" fund. Said fee has been collected by the county recorder since the law's inception in

2005 and will continue to be collected until further notice.

**INFORMATION NOTE #4:**

By virtue of I.C. 27-7-3.6, a fee of \$5.00 will be collected from the purchaser of the policy for each policy issued in conjunction with a closing. The fee should be designated in the 1100 series of the HUD form as a TIEFF (Title Insurance Enforcement Fund Fee) charge.

**INFORMATION NOTE #5:**

No search of Municipal Government Offices has been made with respect to unpaid sewage and water bills. Delinquent sewage and water charges, which have been certified, to the County Government for collection will be shown as a special exception in this commitment. Buyers or their representatives should contact the Municipal Government for any unpaid sewage and water bills.

**INFORMATION NOTE #6:**

If FIDELITY NATIONAL TITLE COMPANY, LLC serves as closing agent on this transaction, funds must be provided to FIDELITY NATIONAL TITLE COMPANY, LLC in compliance with the "Good Funds" Act, IC 27-7-3.7 et seq.

Note: Wiring instructions will be sent via encrypted mail.

**INFORMATION NOTE #8:**

Any documents being executed in conjunction with this transaction must be signed in the presence of an authorized Company employee, an authorized employee of an agent, or an authorized employee of the insured lender. If the above requirements cannot be met, please call the company at the number provided in this report.

**INFORMATION NOTE #9:**

If FIDELITY NATIONAL TITLE COMPANY, LLC serves as closing agent on any single family residential first lien purchase money mortgage transaction or refinancing transaction, it will be required that certain parties to the transaction provide to the closing agent, current Indiana licensing information to be entered into the Indiana Department of Insurance Data Base pursuant to IC 27-7-3-15.5. Failure to provide the information will result in fines and penalties to the parties failing to provide such information.

**NOTE:** Any exception contained herein omits any covenant or restriction, if any, including but not limited to those based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, source of income, gender, gender identity, gender expression, medical condition or genetic information, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law.

**EXHIBIT "A"**

The South 50 feet of the East 125 feet of Block 12 in the Original Town of Highland, as per plat thereof, recorded in Plat Book 1 page 86, in the Office of the Recorder of Lake County, Indiana.

920162598

**EXHIBIT A**

The South 50 feet of the East 125 feet of Block 12 in the Original Town of Highland, as per plat thereof, recorded in Plat Book 1 page 86, in the Office of the Recorder of Lake County, Indiana.

A. Settlement Statement

U.S. Department of Housing and Urban Development

OMB No. 2502-0265

|  |   |  |   |                |                             |  |
|--|---|--|---|----------------|-----------------------------|--|
| <b>B. Type of Loan</b>   |   |  |   | 6. File Number | 7. Loan Number              | 8. Mortgage Ins Case Number                          |
| 1. <input type="checkbox"/> FHA  | 2. <input type="checkbox"/> FmHA            | 3. <input type="checkbox"/> Conv Unins | 4. <input type="checkbox"/> VA  | 920162598      |                             |  |
| 5. <input type="checkbox"/> Conv Ins.  | 6. <input checked="" type="checkbox"/> Cash |  |   |                |                             |  |
| C. Note: This form is furnished to give you a statement of actual settlement costs. Amounts paid to and by the settlement agent are shown. Items marked "(p.o.c.)" were paid outside the closing; they are shown here for informational purposes and are not included in the totals. |   |  |   |                |                             |  |
| D. Name & Address of Borrower<br>The Town of Highland, Indiana by and through its<br>Redevelopment Commission<br>3333 Ridge Road<br>Highland, IN 46322   |   |  | E. Name & Address of Seller<br>8620 Kennedy, LLC<br>P.O. Box 124<br>Hobart, IN 46342  |                | F. Name & Address of Lender |  |
| G. Property Location<br><br>8620 Kennedy Avenue<br>Highland, IN 46322  |   |  | H. Settlement Agent Name<br>Fidelity National Title Company, LLC - Schererville<br>334 E. Lincoln Highway, Unit C<br>Schererville, IN 46375 Tax ID: 27-1896877<br>Underwritten By: Fidelity |                |                             | I. Settlement Date<br>12/19/2016<br>Fund: 12/19/2016 |
| J. Summary of Borrower's Transaction   |   |  | K. Summary of Seller's Transaction  |                |                             |  |
| 100. Gross Amount Due from Borrower  |   |  | 400. Gross Amount Due to Seller   |                |                             |  |
| 101. Contract Sales Price  | \$245,000.00                                |  | 401. Contract Sales Price   | \$245,000.00   |                             |  |
| 102. Personal Property   |   |  | 402. Personal Property  |                |                             |  |
| 103. Settlement Charges to borrower  | \$1,971.15                                  |  | 403.  |                |                             |  |
| 104.   |   |  | 404.  |                |                             |  |
| 105.   |   |  | 405.  |                |                             |  |
| Adjustments for items paid by seller in advance  |   |  | Adjustments for items paid by seller in advance   |                |                             |  |
| 106. City property taxes   |   |  | 406. City property taxes  |                |                             |  |
| 107. County property taxes   |   |  | 407. County property taxes  |                |                             |  |
| 108. Annual Assessments  |   |  | 408. Annual Assessments   |                |                             |  |
| 109.   |   |  | 409.  |                |                             |  |
| 110.   |   |  | 410.  |                |                             |  |
| 111.   |   |  | 411.  |                |                             |  |
| 112.   |   |  | 412.  |                |                             |  |
| 113.   |   |  | 413.  |                |                             |  |
| 114.   |   |  | 414.  |                |                             |  |
| 115.   |   |  | 415.  |                |                             |  |
| 116.   |   |  | 416.  |                |                             |  |
| 126. Gross Amount Due From Borrower  | \$246,971.15                                |  | 420. Gross Amount Due to Seller   | \$245,000.00   |                             |  |
| 200. Amounts Paid By Or in Behalf Of Borrower  |   |  | 500. Reductions in Amount Due to Seller   |                |                             |  |
| 201. Deposit or earnest money  |   |  | 501. Excess Deposit   |                |                             |  |
| 202. Principal amount of new loan(s)   |   |  | 502. Settlement Charges to Seller (line 1400)   |                |                             |  |
| 203. Existing loan(s) taken subject to   |   |  | 503. Existing Loan(s) Taken Subject to  |                |                             |  |
| 204.   |   |  | 504. Payoff of first mortgage to loan   |                |                             |  |
| 205.   |   |  | 505. Payoff of second mortgage to loan  |                |                             |  |
| 206.   |   |  | 506.  |                |                             |  |
| 207.   |   |  | 507.  |                |                             |  |
| 208.   |   |  | 508.  |                |                             |  |
| 209.   |   |  | 509.  |                |                             |  |
| Adjustments for items unpaid by seller   |   |  | Adjustments for items unpaid by seller  |                |                             |  |
| 210. City property taxes   |   |  | 510. City property taxes  |                |                             |  |
| 211. County property taxes 01/01/16 to 12/19/16  | \$2,625.95                                  |  | 511. County property taxes 01/01/16 to 12/19/16   | \$2,625.95     |                             |  |
| 212. Annual Assessments  |   |  | 512. Annual Assessments   |                |                             |  |
| 213.   |   |  | 513.  |                |                             |  |
| 214.   |   |  | 514.  |                |                             |  |
| 215.   |   |  | 515.  |                |                             |  |
| 216.   |   |  | 516.  |                |                             |  |
| 217.   |   |  | 517.  |                |                             |  |
| 218.   |   |  | 518.  |                |                             |  |
| 219.   |   |  | 519.  |                |                             |  |
| 220. Total Paid By/For Borrower  | \$2,625.95                                  |  | 520. Total Reduction Amount Due Seller  | \$2,625.95     |                             |  |
| 300. Cash At Settlement From/To Borrower   |   |  | 600. Cash At Settlement To/From Seller  |                |                             |  |
| 301. Gross Amount due from borrower (line 120)   | \$246,971.15                                |  | 601. Gross Amount due to seller (line 420)  | \$245,000.00   |                             |  |
| 302. Less amounts paid by/for borrower (line 220)  | \$2,625.95                                  |  | 602. Less reductions in amt. due seller (line 520)  | \$2,625.95     |                             |  |
| 303. Cash From Borrower  | \$244,345.20                                |  | 603. Cash To Seller   | \$242,374.05   |                             |  |

Section 5 of the Real Estate Settlement Procedures Act (RESPA) requires the following: • HUD must develop a Special Information Booklet to help persons borrowing money to finance the purchase of residential real estate to better understand the nature and costs of real estate settlement services; • Each lender must provide the booklet to all applicants from whom it receives or for whom it prepares a written application to borrow money to finance the purchase of residential real estate; • Lenders must prepare and distribute with the Booklet a Good Faith Estimate of the settlement costs that the borrower is likely to incur in connection with the settlement. These disclosures are mandatory.

Section 4(a) of RESPA mandates that HUD develop and prescribe this standard form to be used at the time of loan settlement to provide full disclosure of all charges imposed upon the borrower and seller. These are third party disclosures that are designed to provide the borrower with pertinent information during the settlement process in order to be a better shopper. The Public Reporting Burden for this collection of information is estimated to average one hour per response, including the time for reviewing instructions searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB control number. The information requested does not lend itself to confidentiality.

the Town of Highland, Indiana by and through its Redevelopment  
Commission

8620 Kennedy, LLC

By Carol Green Fraley, authorized signer

By Gabriela Robles

SETTLEMENT AGENT CERTIFICATION

The HUD-1 Settlement Statement which I have prepared is a true and accurate  
account of this transaction. I have caused the funds to be disbursed in  
accordance with this statement.

Settlement Agent \_\_\_\_\_ Date \_\_\_\_\_

Warning: It is a crime to knowingly make false statements to the United  
States on this or any other similar form. Penalties upon conviction can  
include a fine and imprisonment. For details see: Title 18 U.S. Code Section  
1001 and Section 1010.

Previous Editions are Obsolete

Page 3

form HUD-1 (3/86)  
Handbook 4305.2

May 20, 2016

RE: Preliminary Site Assessment Report  
Kennedy/Main Business Park  
SEH No. HIGHL 136675

# Preliminary Site Assessment Report

Kennedy/Main Business Park  
Highland, Indiana

SEH No. HIGHL 136675 4.00

May 20, 2016

Revised November 11, 2016

Ms. Cecile Petro, Director  
Redevelopment Commission  
Town of Highland  
3333 Ridge Road  
Highland, IN 46322

Dear Ms. Petro:

Please find enclosed the Preliminary Site Assessment Report for the Redevelopment Commission in the Town of Highland, Lake County, Indiana. This report presents an overview of the current site conditions and recommendations following a field visit performed on April 7th, 2016 completed by Heidi Kennedy and Ryan Kloth.

Thank you for the opportunity to provide wetland regulatory, stormwater management, and floodplain related services to the Redevelopment Commission of the Town of Highland. Short Elliott Hendrickson Inc. (SEH®) is pleased to provide you with this information for your records and review. If you have any questions, please contact me directly at 219.513.2608 or via e-mail at jruble@sehinc.com

Sincerely,



Jon Ruble, RLA  
Landscape Architect

HAK/RK

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# Preliminary Site Assessment Report

## Prepared for Town of Highland Redevelopment Commission

### 1.0 Introduction

SEH was hired by the Town of Highland Redevelopment Commission to develop a Preliminary Site Assessment Report for Kennedy Avenue/Main Street area that evaluates the floodplain, stormwater and potential wetland regulatory requirements and considerations for developing the site in the future. This report describes site conditions on April 7th, 2016, describes the data collected, and evaluates the technical site development requirements, and the applicable regulatory requirements if the Town sought development of the site in the future. The project considered three separate site development program "Alternatives" or options, based on input provided by the Town. These alternatives may be modified, combined and altered to best suit the Town's future development needs. Figures referred to in the text are included at the end of the report.

### 1.1 Site Description

The project site is located in Section 33 Township 38 North Range 9 West in the Town of Highland, Lake County, Indiana. The site is approximately 58 acres located north of Main Street and west of Kennedy Avenue. The project site consists primarily of residential properties, but four parcels have been developed with commercial uses, specifically a greenhouse, a landscaper and a construction company. The residential properties were developed back in the 1970's with deep lots that extend to the Spring Street Ditch. The homes are currently located near Kennedy Avenue and the rear yard of the residential properties remains generally undeveloped; please see Figure 1 which shows the site boundary.

### 2.0 Floodplain

#### 2.1 Description of Floodplain

The entire 58-acre site is within what is called a Zone AE floodplain. Zone AE is the risk zone that corresponds to the one-percent annual chance (100-Year) floodplain that is shown in the Flood Insurance Study (FIS) for Lake County, Indiana and Incorporated Areas. Whole foot Base Flood Elevations (BFE's), derived from a detailed hydraulic analysis, are shown at selected intervals within this zone. Figure 2 contains a copy of a FIRMette of the Flood Insurance Rate Map (FIRM) for the project area as part of the previously mentioned FIS (Panel 139 of 480). This FIRMette shows the floodplain in relation to the project area.

As can be seen Figure 2, the Zone AE floodplain completely encompasses the project site. A floodplain consists of two separate areas: the floodway which represents actively conveyed flow, like a stream or river, and the floodfringe which is the area outside of the floodway where floodwaters are stored. On Figure 2, the blue shaded area is the Zone AE Floodfringe associated with the Spring Street Ditch; the red hatched area is the Zone AE Floodway associated with the Spring Street Ditch. Lines with numbers shown on them are 100-Year BFE's generated from the hydraulic analysis used as part of the FIS. As shown, the BFE for

the northern portion of the site, FEMA Cross-Section F, is 620.5 NGVD (Nation Geodetic Vertical Datum), the BFE for the center of the site is 621 NGVD, the BFE for the southern portion of the site, FEMA Cross-Section G, is 621.6 NGVD.

## 2.2 Floodplain Regulations

The State of Indiana's Model Ordinance for Flood Hazard Areas requires developments within the floodplain to obtain a permit from the state. Article 5 of the Model Ordinance details provisions for flood hazard reduction and requires compensatory storage at a ratio of 1:1 for fill placed below the base flood elevation. Compensatory storage must be provided within the same property as where the fill is being placed. The Floodway Standards of the Model Ordinance also prohibits an increase of 0.15 feet or more in water surface elevation. The rule and regulations for Lake County and Chapter 15.55 Flood Damage Control of the Town of Highland, are consistent with the rule and regulations of the State's Model Ordinance, described above.

## 3.0 Stormwater Management

### 3.1 Stormwater Management Regulations

The State of Indiana, Lake County and Town of Highland have jurisdiction within the project area to regulate stormwater management. The following is a summary of key stormwater management regulations applicable to this project by the agencies having jurisdiction:

Immediately prior to construction, the State of Indiana requires the submittal of a Notice of Intent to discharge stormwater based on the acreage of the disturbed area. Although stormwater quality calculations are not required, an Erosion Control plan is necessary and for stormwater quantity the State does not require a full report but does require the submittal of calculations showing the post-development discharge compared to pre-development discharge.

Lake County requires the submittal of a Notice of Intent for coverage under NPDES discharges associated with Construction Activity and a stormwater management plan in compliance with Rule 5 for future development within a Town. For projects that impact more than one (1) acre of land, construction plans including the following must be submitted to the Soil and Water Conservation District for their review:

- Plans must include a project narrative.
- Include a Vicinity Map.
- Include an existing project site layout.
- Include a final project site layout.
- Include grading and drainage plans.
- A Stormwater Pollution Prevention Plan (SWPPP) must be included.
- A Publication/Public Notice in a local newspaper regarding construction activity that will commence for the project must be made.
- If the development is a private development, the project would need to be submitted through the town.

Under Chapter 15.55, Article III, Section 15.55.06 –Design Control Guidance, the Town of Highland requires a master drainage plan for development that utilizes the hydrologic model

TR-95 and U.S. Weather Bureau data for Chicago, Illinois to evaluate the proposed development. The Town requires that detention or retention of stormwater runoff not exceed 0.2 cubic feet per second for every acre of development during the 100-year storm event and reviews the capacity of the downstream receiving system to ensure flooding issues do not occur.

## 4.0 Wetlands

Prior to the field visit SEH reviewed the Soil Survey for Lake County (Appendix E), aerial photos from the Lake County GIS website (Figure 3) and the National Wetlands Inventory (Figure 4). The Lake County soil survey shows that a majority of the site has hydric soils and a seasonally high groundwater table (Figure 5). Review of historical aerial photos indicates that the site may have been farmed historically, but ceased to be cropped sometime after the 1980s. Lateral ditches that drain to Spring Street Ditch, are evident on aerial photos, and generally follow property lines. The National Wetlands Inventory does not show any mapped wetlands on the site. SEH also reviewed available climate data to determine if precipitation was normal at the site over the past three months. Appendix A contains a summary of the climate data for Midway Airport, the nearest station to Lake County with recorded climate data. The climate data for Midway Airport shows near normal precipitation over the months of January, February and March.

During the field visit on April 7<sup>th</sup>, 2016, there was standing water in the ditches and the soil was saturated to the surface, see site photos in Figure 6. Vegetation was at the site also appear to be predominantly hydrophytic vegetation such as Upright sedge (*Carex stricta* - OBL), Red Osier Dogwood (*Cornus alba* - FACW). The areas adjacent to the residential homes or industrial areas appear to contain Kentucky Blue Grass (*Poa pratensis* - FACU). While SEH did not conduct a wetland delineation at the time of the site visit and is relying on data collected from mapping resources and site observations, including soil pits, it appears that a large portion of the undeveloped areas would be wetland for the purposes of sections 401 and 404 of the Clean Water Act. Areas of approximate wetland limits are shown in Figure 12.

However, to confirm the areas of concern are in fact wetlands and prior to any further site planning, SEH recommends the Town have a wetland delineation conducted. If the areas do not meet wetland criteria, the state wetland regulations and federal wetland regulations do not apply. On the other hand, if these areas meet wetland criteria the wetland delineation will mark the boundaries of the wetlands and allow SEH and the Town of Highland to accurately determine the size the wetland and allow for an accurate assessment of future permitting Alternatives.

A wetland delineation should be conducted during the typical growing season, which is usually between the middle of April and the end of October. Wetland delineations must follow the required standards of the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and the Northcentral and Northeast Regional Supplement (January 2012). Wetland delineations are typically valid for five (5) years. SEH would recommend the wetland delineation for the site be performed following the selection of a preferred development Alternative by the Town.

### 4.1 Wetland Regulations

Projects that impact wetlands, through dredging or filling, must first determine if the wetlands are waters of the United States. A Section 404 Dredging and Fill permit is required from the

U.S. Army Corps of Engineers (USACE) and a Section 401 Water Quality Certification (401WQC) from the Indiana Department of Environmental Management (IDEM) for impacts to waters of the United States. If the wetland is not a waters of the United States, then a state isolated wetland permit from IDEM is necessary. The Section 404 program must determine if the nation's waters would be significantly degraded as a result of the project and if an Alternative exists that would avoid or minimize the impacts to the waters of the United States.

For projects that impact one (1) acre or less a regional general permit has been issued by the USACE in cooperation with IDEM to expedite the regulatory process for relatively minor projects. For projects that impact more than one (1) acre a Letter of Permission or Individual Permit may be required and a pre-application meeting is recommended. The permit process for projects that impact more than one (1) acre is more extensive often requiring a public notice and wetland mitigation. Wetland mitigation can be expensive and often requires applicants to buy credits from a private wetland mitigation bank or restore wetlands at another location in the watershed. The Indiana Department of Natural Resources (IN DNR) is also in the process of developing an in-lieu fee program, which would provide another Alternative for wetland mitigation in Indiana. In-lieu fee program would involve the payment of a fee to the IN DNR, who would then utilize that money to restore or enhance wetlands in the watershed.

SEH can work with the Town of Highland to identify the regulatory Alternatives that would reduce costs and minimize wetland impacts once a wetland delineation has been completed for the site.

## 5.0 Development Considerations

This report reviews three conceptual Alternatives for the site that were described during our meeting on April 7, 2016. The first Alternative would be to fully develop the 57.98 acres into a business park (Alternative 1). The next Alternative would be to extend Tully Street north through the site and develop commercial property along Kennedy Avenue. The remainder of the site would include the construction of a public works facility, parks and soccer field facility (Alternative 2). Finally, the final Alternative discussed was a public works facility, park and soccer field facility (Alternative 3). The final Alternative would not include development along Kennedy Avenue or extend Tully Street, but would include two access points off Kennedy Avenue for the public works facility and the park and soccer field facility. Figures 7-9 contain maps showing the general layout of each of the Alternatives.

The following is a summary of the assumptions used in the analysis of each Alternative:

- Alternative 1
  - The entire 57.98 acres slotted for the Business Park will be disturbed.
- Alternative 2
  - The maintained areas of the existing residential lots along the west side of Kennedy Avenue will coincide with the proposed commercial lots. A review of existing documentation and Google Maps indicates this distance off of the Kennedy Avenue right-of-way is approximately 270 feet.
  - The length of the proposed project (disturbed area) along Kennedy Avenue from a review of Google Maps is approximately 1,450 feet.

- For the Tully Street extension, the assumed pavement width was 30 feet and it was assumed another 20 feet on either side of the proposed road extension would be disturbed during construction.
- The Public Works facility would be 10 acres, it was assumed that another 10 percent, or 1 acre would be added as disturbed or a total of 11 acres disturbed.
- It was assumed that 4 regulation sized soccer fields would be implemented; a regulation sized soccer field is a maximum 130 yards long and a maximum 100 yards wide.
- As part of the soccer field complex, it was assumed that a ¼ acre concession area would be provided.
- Alternative 3
  - Assumed each access off of Kennedy Avenue was 30 feet in length and 20 feet on either side of the access drives was added as disturbed area during construction.
  - The length of each access drive off of Kennedy Avenue was assumed to be approximately 500 feet (based on Google review).

## 5.1 Analysis

### 5.1.1 Stormwater

The RFP also requested how much area would be required for the storage of stormwater. This was reviewed for each of the aforementioned Alternatives based on the applicable stormwater criteria. The criteria used for this determination was the criteria of the Town of Highland mentioned previously, "In regards to the detention/retention of stormwater runoff, the release rate of stormwater runoff from the site shall not exceed 0.2 cubic feet per second (cfs) per acre of development during the 100-Year storm event."

For Alternative 1, the disturbed area for the development would be 57.98 acres; based on this the maximum stormwater release rate from the developed site would be: 57.98 acres \*0.2 cfs/acre disturbed = 11.60 cfs. For Alternative 2, the disturbed area for the development would be 33.56 acres; based on this the maximum stormwater release rate from the developed site would be: 33.56 acres \*0.2 cfs/acre disturbed = 6.71 cfs. For Alternative 3, the disturbed area for the development would be 23.85 acres; based on this the maximum stormwater release rate from the developed site would be: 23.85 acres \*0.2 cfs/acre disturbed = 4.77 cfs.

To determine the required storage area and volume needed to be able to achieve the above release rates, HydroCAD Version 10.00, a hydrologic modeling software, developed in 2011 by HydroCAD Software Solutions, was used. Appendices B-D contain the HydroCAD model input and output for Alternatives 1-3. HydroCAD uses factors such as:

- Rainfall Depth-In our case, the 100-Year rainfall depth based on the U.S. Weather Bureau for this area, is 7.35 inches. Appendix F contains this information.
- Hydrologic Soil Groups-The existing soil groups in the project area include:
  - Wauveon Fine Sandy Loam
  - Watseka Loamy Sand
  - Rensselaer Loam

Per the USGS, these soils have a Hydrologic Soil Group of B/D. Appendix E provides the existing soil information used in the analysis. During the analysis for all three Alternatives, it was assumed that the existing pond at the far northwest portion of the site will remain and be used for potential stormwater storage. This existing pond area, 1.6 acres, was removed from the calculations.

HydroCAD also utilizes land cover to determine discharges and required storage, for Alternative 1, it was assumed that 70 percent of the 57.98 business park would be impervious, and 30 percent would be pervious; this is typical for the average business park. Figure 10 shows the drainage area(s) related to the site. To determine required storage a pond was also input into the models for each Alternative; sizes, volumes, and outlet configurations were input and revised until the required stormwater release rate was met. The quantities below provide an initial estimate for stormwater storage based on development assumptions, however are subject to change depending on the final site development plan.

- For Alternative 1, the required stormwater pond area to meet Town requirements is 4.8 acres with a storage volume of 21 acre-feet. The remaining acreage for development is approximately 53 acres.
- For Alternative 2, the required stormwater pond area to meet Town requirements is 1.5 acres with a storage volume of 6 acre-feet. The remaining acreage for development is approximately 32 acres.
- For Alternative 3, the required stormwater pond area to meet Town requirements is 1 acre with a storage volume of 4.5 acre-feet. The remaining acreage for development is approximately 23 acres.

It is important to note, the elevation of the existing groundwater table in this area. As shown in the aforementioned Figure 5, depth to groundwater at this location is shallow; this needs to be taken into consideration into the design of a future pond for the storage of stormwater runoff. It is recommended that a 2-foot thick clay pond liner be installed at any future pond to eliminate the interaction of groundwater and surface water runoff; installing the clay liner will allow the pond to function as intended. Figures 7-9 show potential proposed pond configurations that would satisfy the storage requirements. An example of the size of a required pond would be for Alternative 1, 21 acre-feet would be a pond that is approximately 5 acres in size with an approximate stormwater storage depth of 4-5 feet.

### 5.1.2 Floodplain

The RFP included a number of questions to be addressed by this report, it requested an analysis of how much area would be required for compensatory floodplain storage. This was reviewed for each of the aforementioned Alternatives based on State of Indiana criteria. To reiterate, Compensatory Storage must be provided at a 1:1 ratio if fill is placed below the BFE. Compensatory storage locations must be provided on the same property that the fill is being placed.

For each Alternative, the existing depth of fill required to bring the grade up to the BFE was determined by reviewing existing topography against the base flood elevations shown on the FIRM. Figure 11 shows the mapping used and the depths determined.

The depths of fill were multiplied by the disturbed areas for each Alternative to determine the amount (volume) of fill required; based on the 1:1 ratio, this is the required compensatory

storage volume. In addition, a proposed detention pond could be used as compensatory storage if a clay liner is utilized as part of the pond construction as described in the previous section. Utilizing the proposed pond as compensatory storage, the remaining compensatory storage required on the site for each Alternative is as follows:

- For Alternative 1, the required compensatory storage volume required to meet State requirements is 260,000 cubic yards (approx. 138 acre-feet).
- For Alternative 2, the required compensatory storage volume required to meet State requirements is 148,000 cubic yards (approx. 86 acre-feet).
- For Alternative 3, the required compensatory storage volume required to meet State requirements is 111,000 cubic yards (approx. 64 acre-feet).

Excavation within the project site would need to be performed to achieve the required amount of compensatory storage. For example, 138 acre-feet of storage would be an area approximately 13 acres in size with a depth of approximately 10 feet. Floodplain storage based on development assumptions, however are subject to change depending on the final site development plan. Reducing the amount of disturbance and development in any of these Alternatives will help reduce volumes required.

### 5.1.3 Wetlands

The RFP also requested an evaluation whether the soils would be suitable for development and whether there are wetlands in the area. The soils in this site are shown in Appendix E can generally be described as loamy sands. These soils may be suitable to utilize for development but further geotechnical testing is necessary to determine if the soils can be compacted sufficiently to support structures.

Despite the potential for soil suitability for development most of the undeveloped areas of the site, in other words the areas not currently in commercial development or maintained residential structures and lawn, would likely be considered wetland. Alternative 1 would involve the filling of most of the wetlands on the property for commercial development and excavation for compensatory storage to meet the State, County and Town stormwater and floodplain requirements. Alternative 2 would also likely involve filling or excavating a significant portion of the wetlands for commercial development and compensatory storage and for the development of the soccer fields, grading or impacts to wetlands would likely be necessary to fill the numerous ditches on the site and to provide a sufficient surface for recreational use.

Finally, Alternative 3 may result in the least wetland impacts, because the proposed public works facility could utilize an existing commercial facility and any structures for soccer fields and associated parking could potentially utilize the maintained residential areas of the site. If the number and location of the soccer fields could be reduced or located in areas that are currently developed, this Alternative may minimize wetland impacts. However, any soccer fields located in the central undeveloped portion of the site would likely still require filling of the existing ditches and grading to provide a sufficient surface for recreational use.

Although it is likely that all three Alternatives would require more than 1 acre of impact and wetland mitigation, Alternative 3 is likely to require the least amount of wetland impacts and wetland mitigation. Mitigation of wetlands would likely need to occur off-site. Mitigation ratios could be 1.2:1 (if in a private mitigation bank in the same watershed) or 1.45:1 (if outside the watershed or in-lieu credits). The Indiana DNR in-lieu program is not fully established at the

time of this report, however other states fees are typically around \$50,000 per acre. Wetland impacts should be further evaluated in during the design and engineering phase to minimize impacts where possible.

## 6.0 Conclusion

The purpose of the report was to evaluate the project area for potential development of the site considering potential limitations under the Federal, State, County and Local floodplain, stormwater and wetland regulations. The project considered three separate site development program "Alternatives" or options, based on input provided by the Town. These alternatives may be modified, combined and altered to best suit the Town's future development needs. After a site visit on April 7, 2016, review of the applicable regulations, maps and our analysis, Alternative 3, includes the least impacts and implementation costs per the topics reviewed under the scope of this report. Alternative 1 and 2 would likely require extensive wetland impacts due to the compensatory storage and stormwater requirements associated with the development.

Alternative 3 requires the least amount of stormwater and compensatory floodplain storage. From a metric standpoint, Alternative 3 is approximately 100,000 cubic yards of fill material which is estimated at approximately \$1.2 million for fill material and installation construction costs. Alternative 2 requires approximately 1.5 times the amount of fill for the site (approximately \$2 million construction cost) and Alternative 1 requires approximately 4-5 times the amount of fill (approximately \$6 million construction cost). This report assumes the existing soils are not suitable for structural fill, which should be verified through geotechnical soil borings and further investigation.

Although the capital costs for Alternatives 1 and 2 will likely be the greatest, these Alternatives provide the Town a greater return on investment through an increased and diversified tax base for the area. The three Alternatives that have been presented in this report can be changed, combined and altered to fit the needs of the Town. Further evaluation of stormwater, floodplain and wetland impacts would need to be further evaluated with the preferred site development plan of the Town.

| Alternative | Developable Acreage | Stormwater Area (acres) | Stormwater Storage Volume (acre-feet) | Floodplain Storage Volume (acre-feet) | Potential Required Site Fill (cubic yards) |
|-------------|---------------------|-------------------------|---------------------------------------|---------------------------------------|--|
| 1           | 53                  | 4.8                     | 21                                    | 138                                   | 450,000                                    |
| 2           | 32                  | 1.5                     | 6                                     | 86                                    | 150,000                                    |
| 3           | 23                  | 1.0                     | 4.5                                   | 64                                    | 100,000                                    |

## List of Figures

- Figure 1 – Site Boundary
- Figure 2 – FIRMette
- Figure 3 – Aerials
- Figure 4 – National Wetlands Inventory
- Figure 5 – NRCS High Groundwater Table
- Figure 6 – Site Photos
- Figure 7 – Alternative 1 Map
- Figure 8 – Alternative 2 Map
- Figure 9 – Alternative 3 Map
- Figure 10 – Site Drainage
- Figure 11 – Depth of Fill Map
- Figure 12 – Approximate Wetland Limits

FIGURE 1 - SITE BOUNDARY

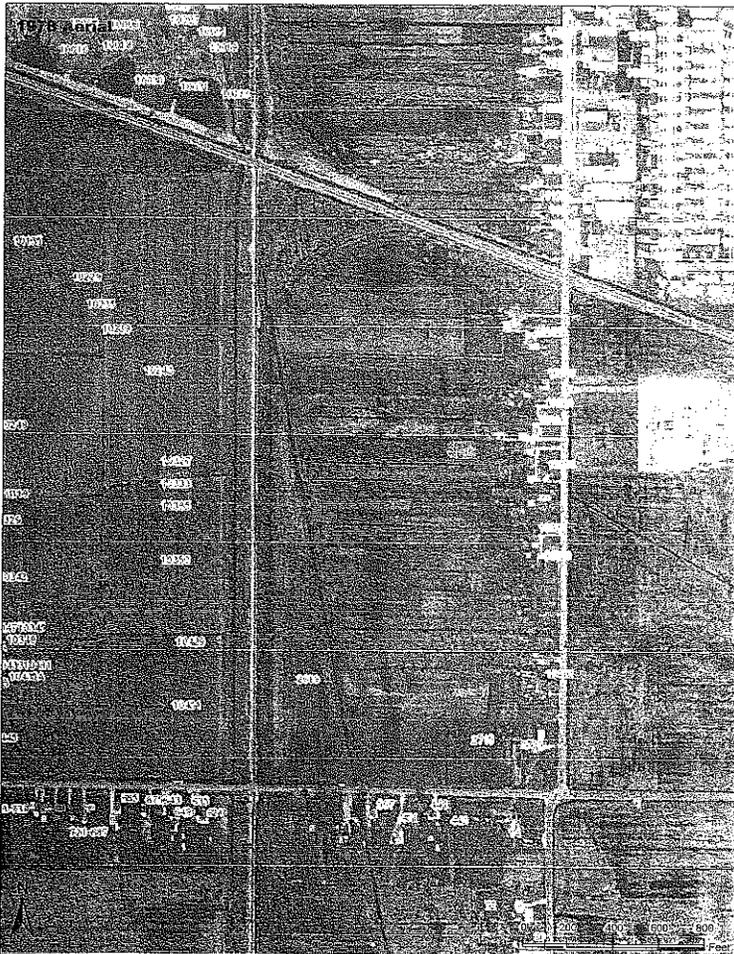
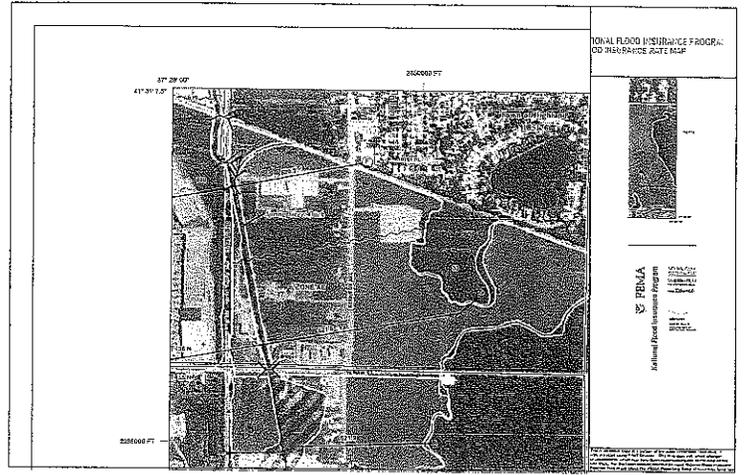
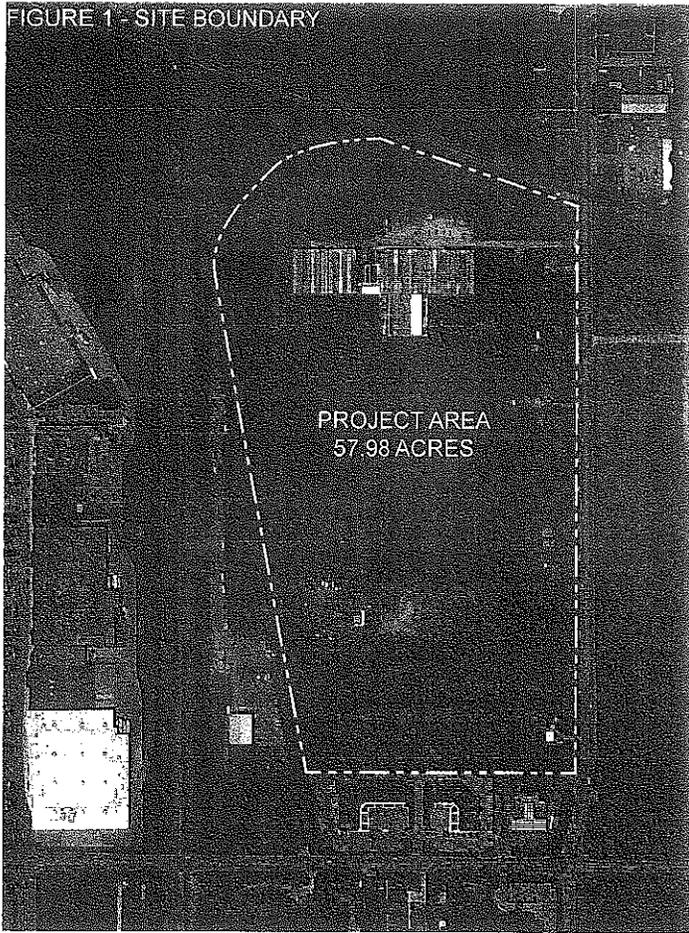


Figure 3  
Data Period: April 28, 2015  
Numbers shown on this map are current building addresses.

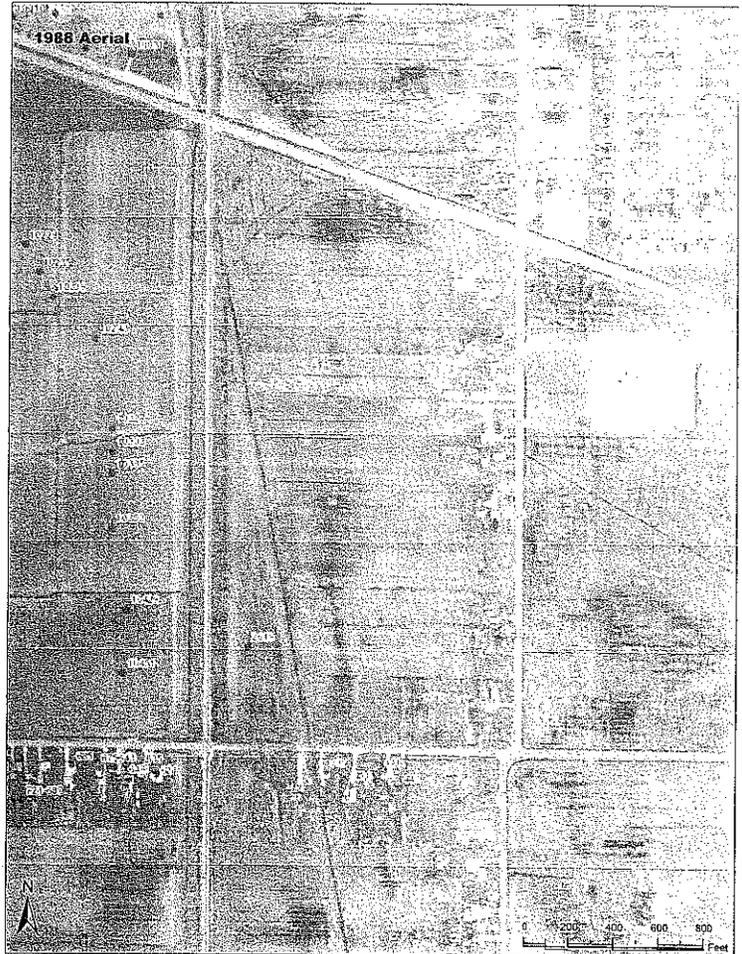
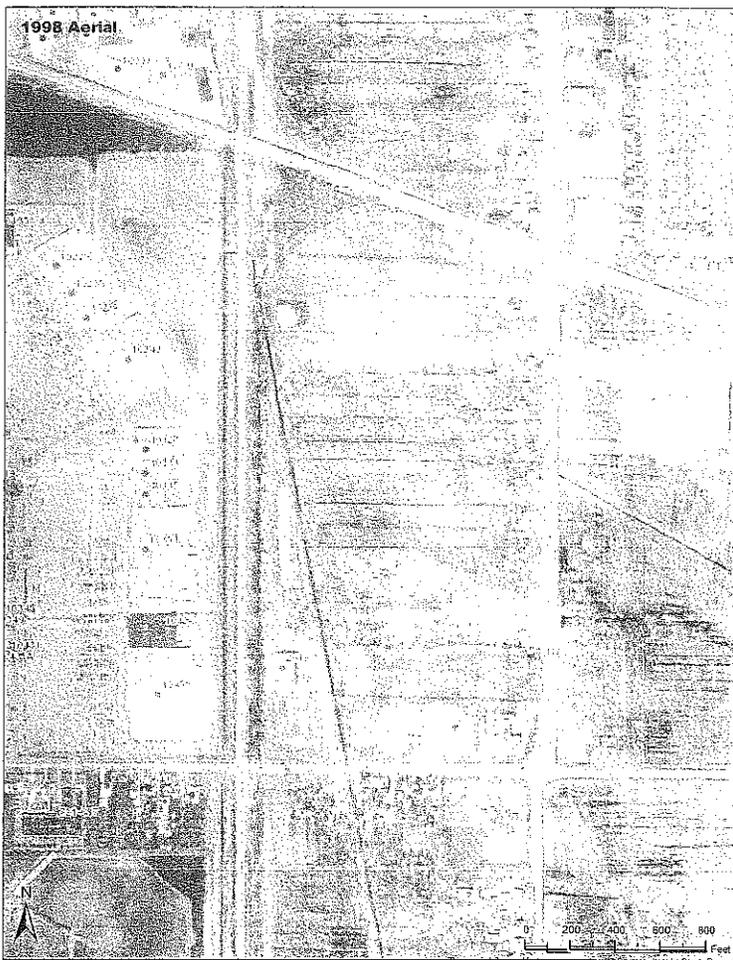


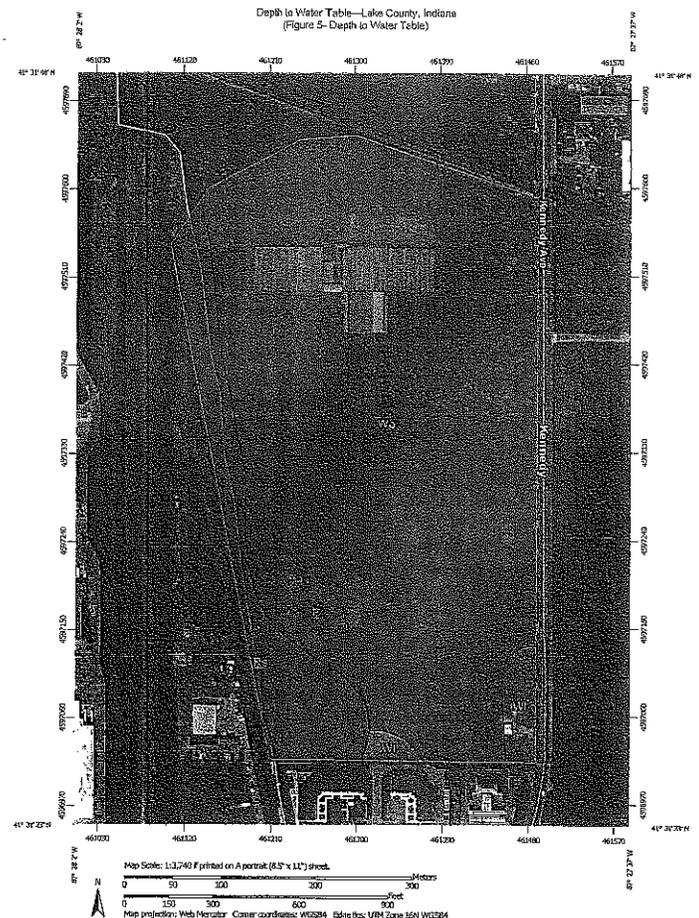
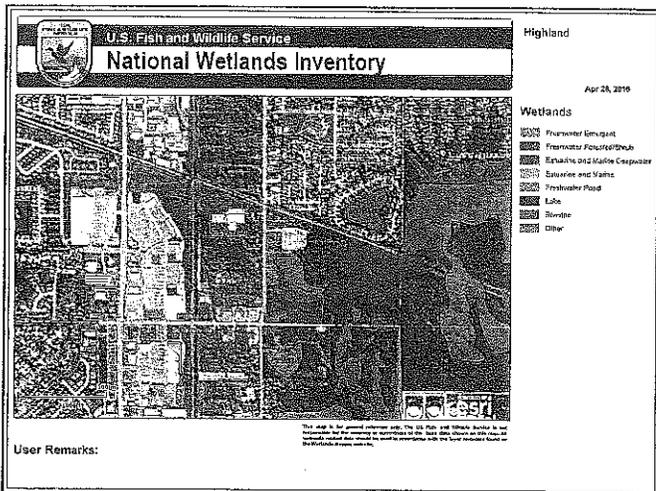
Figure 3  
Data Period: April 28, 2015  
Numbers shown on this map are current building addresses.



**Figure 3**  
 Date Printed: April 28, 2016  
 Numbers shown on this map are current building addresses.



**Figure 3- 2013 Aerial**  
 Date Printed: April 28, 2016  
 Numbers shown on this map are current building addresses.



Depth to Water Table

| Depth to Water Table— Summary by Map Unit — Lake County, Indiana (N089) |  |                      |              |                |
|---|--|----------------------|--------------|----------------|
| Map unit symbol   | Map unit name                                | Rating (centimeters) | Acres in ACI | Percent of ACI |
| R9  | Rensselaer loam, calcareous subsoil variant  | 15                   | 6.1          | 12.0%          |
| W1  | Watsieka loamy sand, moderately deep variant | 36                   | 1.3          | 2.6%           |
| W6  | Waukesha fine sandy loam                     | 15                   | 43.6         | 85.5%          |
| Totals for Area of Interest   |  |                      | 51.0         | 100.0%         |

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

- Units of Measure: centimeters
- Aggregation Method: Dominant Component
- Component Percent Cutoff: None Specified
- Tie-break Rule: Lower
- Interpret Nulls as Zero: No
- Beginning Month: January
- Ending Month: December

**MAP LEGEND**

**Area of Interest (AOI)**  
 Area of Interest (AOI)  
**Soil Rating Polygons**  
 0-25  
 25-50  
 50-100  
 100-150  
 150-200  
 > 200  
 Not rated or not available  
**Soil Rating Lines**  
 0-25  
 25-50  
 50-100  
 100-150  
 150-200  
 > 200  
 Not rated or not available  
**Soil Rating Points**  
 0-25  
 25-50  
 50-100  
 100-150  
 150-200  
 > 200

**MAP INFORMATION**

This soil surveys that comprise your AOI were mapped at 1:15,000.

**Warning:** Soil Map may not be used at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the extent of mapping and accuracy of soil line placement. The maps do not show the small areas of surrounding soils that could have been shown at a more detailed scale.

Please rely on the bar scales on each map sheet for map measurements.

Source of Data: Natural Resources Conservation Service Web Soil Survey URL: <http://websoilsurvey.nrc.usda.gov/ConsWeb/Survey> Web Version: (EP4033897)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the revision date(s) listed below.

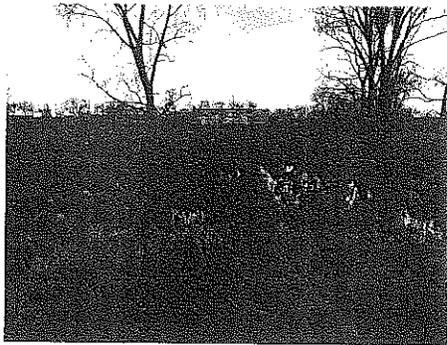
Soil Survey Area: Lake County, Indiana  
 Survey Area Data: Version 16, Sep 10, 2015

Soil map units are labeled (in space above) for map scales 1:50,000 or larger.

(Range) aerial images were photographed: Mar 13, 2013—Mar 28, 2013

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some slight shifting of map unit boundaries may be evident.

Figure 6— Representative Site Photos



South end of the site facing west.



Standing on south end of the site facing north.

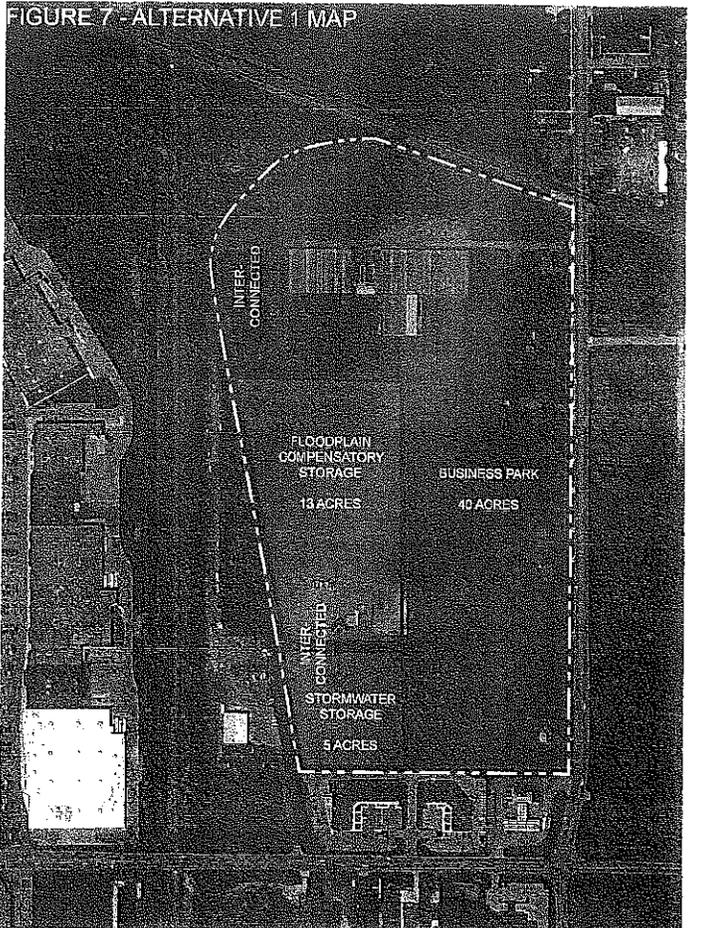


FIGURE 8 - ALTERNATIVE 2 MAP

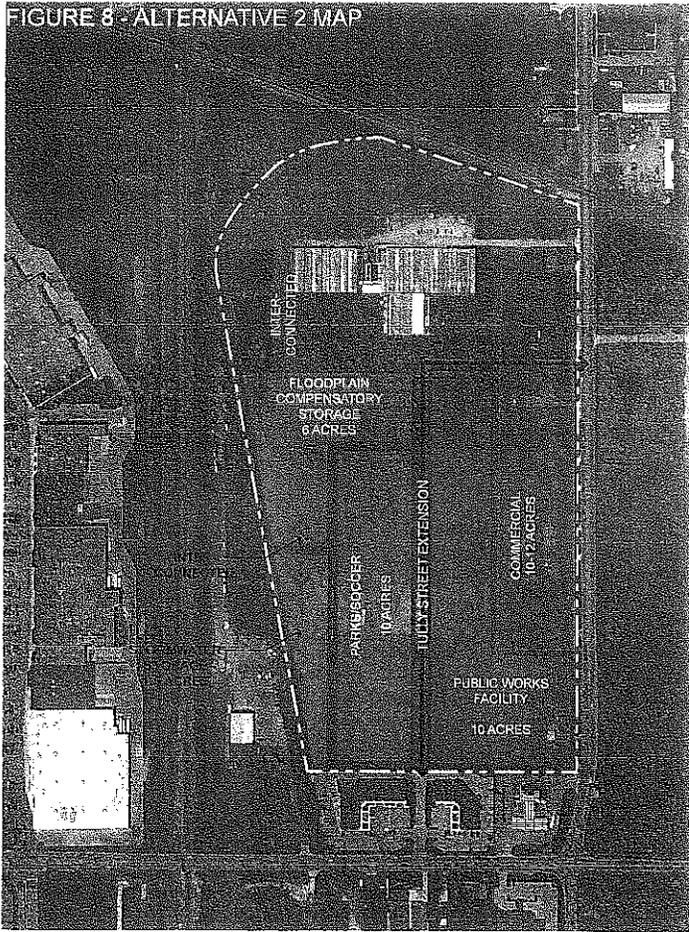


FIGURE 9 - ALTERNATIVE 3 MAP

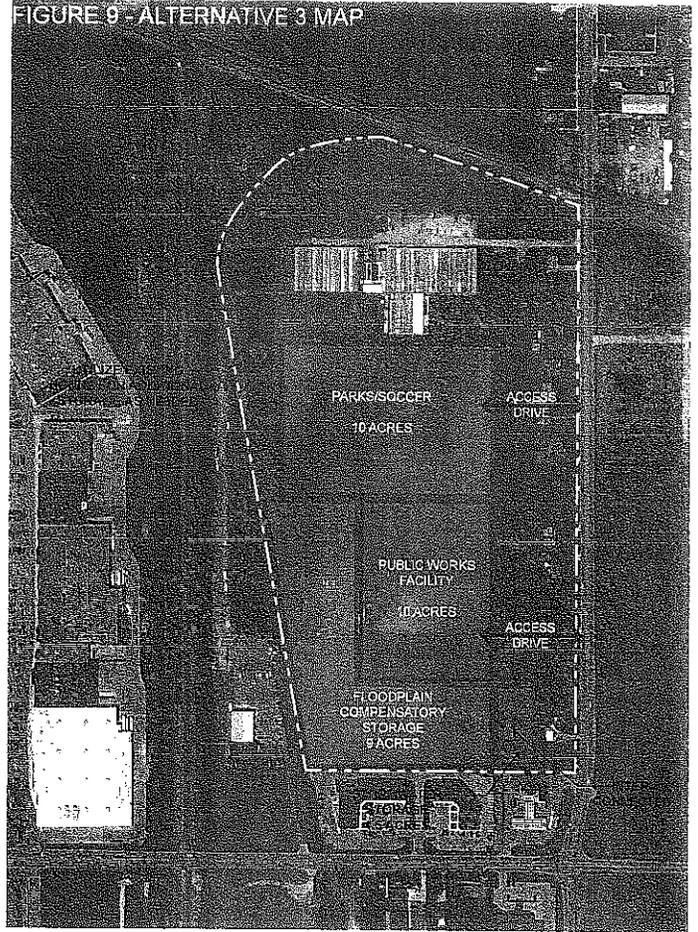


Figure 10: Site Drainage Watershed Map

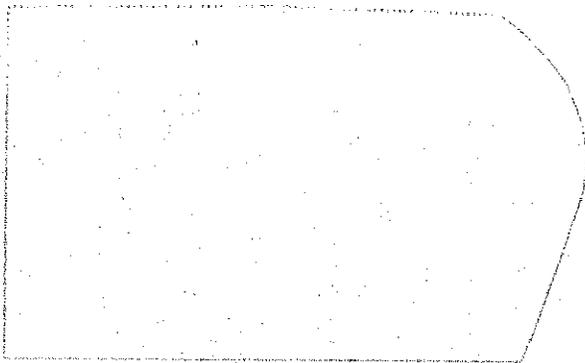
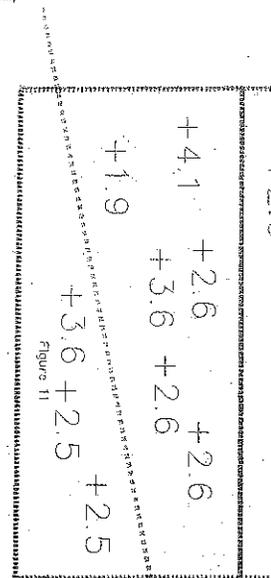


Figure 11: Depth of Fill Map (asoth)



G-621.6 NGVD



USDA Field Office Climate Data

Field Visit Date: April 7th, 2016

WETS Station : CHICAGO MIDWAY AP 3 SW, IL1577 Creation Date: 05/11/2016  
 Latitude: 4144 Longitude: D8747 Elevation: C0620  
 State FIPS/County(FIPS): 17031 County Name: Cook  
 Start yr. - 1971 End yr. - 2000

| Month            | Long-term rainfall records |        |                        | Rain fall | Condition: dry, wet, normal | Condition value | Month weight value | Product of previous two columns |
|------------------|----------------------------|--------|------------------------|-----------|-----------------------------|-----------------|--------------------|---------------------------------|
|                  | 3 yrs. in 10 less than     | Normal | 3 yrs. in 10 more than |           |                             |                 |                    |                                 |
| 1st prior month* | January                    | 1.12   | 1.95                   | 2.37      | 0.99                        | D               | 1                  | 3                               |
| 2nd prior month* | February                   | 1.13   | 1.78                   | 2.14      | 1.32                        | N               | 2                  | 4                               |
| 3rd prior month* | March                      | 1.77   | 2.83                   | 3.41      | 3.34                        | W               | 3                  | 1                               |
| Current month**  | April                      | 2.57   | 3.82                   | 4.56      | 0.89                        |                 |                    |                                 |

\*\* As of date of visit

\* Compared to photo date  
 Sum 10  
 Normal

Note: If sum is  
 6-9 then prior period has been drier than normal  
 10-14 then prior period has been normal  
 15-18 then prior period has been wetter than normal  
 Condition value:  
 Dry =1  
 Normal =2  
 Wet =3

| Month     | Temperature (Degrees F.) |      |           |      | Precipitation (Inches) |           |                     |       |
|-----------|--------------------------|------|-----------|------|------------------------|-----------|---------------------|-------|
|           | avg daily                |      | avg daily |      | 30% chance will have   |           | avg # of days total |       |
|           | max                      | min  | max       | min  | less than              | more than | w/1 snow or fall    | total |
| January   | 30.7                     | 16.2 | 23.5      | 1.95 | 1.12                   | 2.37      | 5                   | 11.4  |
| February  | 36.1                     | 21.3 | 28.7      | 1.78 | 1.13                   | 2.14      | 5                   | 9.2   |
| March     | 47.4                     | 30.6 | 39.0      | 2.83 | 1.77                   | 3.41      | 6                   | 5.7   |
| April     | 59.2                     | 40.2 | 49.7      | 3.82 | 2.57                   | 4.56      | 7                   | 1.1   |
| May       | 71.3                     | 50.9 | 61.1      | 3.86 | 2.41                   | 4.57      | 7                   | 0.0   |
| June      | 80.8                     | 60.7 | 70.8      | 4.16 | 2.94                   | 4.96      | 6                   | 0.0   |
| July      | 84.7                     | 66.3 | 75.5      | 3.82 | 2.82                   | 4.56      | 6                   | 0.0   |
| August    | 82.3                     | 63.0 | 73.7      | 3.21 | 2.17                   | 4.76      | 6                   | 0.0   |
| September | 75.1                     | 55.7 | 65.9      | 3.45 | 1.56                   | 4.21      | 6                   | 0.0   |
| October   | 63.2                     | 44.9 | 54.1      | 2.79 | 1.79                   | 3.35      | 6                   | 0.1   |
| November  | 48.0                     | 33.6 | 40.8      | 3.22 | 1.97                   | 3.90      | 7                   | 1.6   |
| December  | 35.6                     | 22.2 | 28.9      | 2.76 | 1.70                   | 3.33      | 5                   | 7.9   |
| Annual    | ---                      | ---  | ---       | ---  | 35.20                  | 41.05     | ---                 | ---   |
| Average   | 59.5                     | 42.4 | 51.0      | ---  | ---                    | ---       | 69                  | 37.0  |

GROWING SEASON DATES

| Probability  | Temperature   |                           |                           |
|--------------|---|---------------------------|---------------------------|
|              | 24 F or higher                                      | 28 F or higher            | 32 F or higher            |
|              | Beginning and Ending Dates<br>Growing Season Length |                           |                           |
| 50 percent * | 3/24 to 11/15<br>235 days                           | 4/3 to 11/5<br>213 days   | 4/15 to 10/24<br>191 days |
| 70 percent * | 3/19 to 11/20<br>246 days                           | 3/31 to 11/19<br>223 days | 4/10 to 10/29<br>201 days |

\* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1980-2016 prcp

Station : IL1577, CHICAGO MIDWAY AP 3 SW  
 Unit = inches

| yr | jan  | feb  | mar  | apr  | may  | jun  | jul  | aug  | sep  | oct  | nov  | dec  | annl  |
|----|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 80 |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 81 | 0.13 | 2.35 | 0.61 | 5.74 | 5.06 | 5.66 | 5.20 | 4.16 | 5.12 | 2.92 | 1.28 | 2.97 | 12.29 |
| 82 | 2.94 | 1.14 | 5.05 | 3.42 | 3.93 | 3.68 | 6.28 | 3.30 | 1.57 | 1.54 | 6.15 | 7.21 | 46.21 |
| 83 | 0.73 | 1.72 | 3.79 | 7.09 | 6.14 | 4.18 | 4.54 | 1.79 | 4.61 | 3.60 | 5.65 | 3.43 | 47.27 |
| 84 | 1.15 | 1.86 | 3.50 | 4.48 | 4.25 | 3.21 | 1.69 | 3.79 | 5.08 | 3.61 | 3.17 | 4.58 | 40.37 |
| 85 | 1.31 | 2.95 | 4.73 | 2.43 | 3.06 | 1.93 | 3.07 | 3.46 | 2.92 | 5.54 | 7.63 | 1.52 | 40.57 |
| 86 | 0.46 | 2.61 | 1.48 | 1.74 | 3.98 | 4.71 | 5.08 | 1.19 | 7.12 | 3.21 | 2.78 | 1.23 | 35.50 |
| 87 | 1.93 | 0.78 | 0.90 | 2.23 | 3.77 | 3.86 | 2.82 | 9.95 | 1.49 | 1.85 | 2.59 | 4.48 | 36.67 |
| 88 | 2.07 | 1.29 | 2.84 | 2.10 | 1.92 | 1.09 | 4.35 | 2.71 | 1.21 | 3.52 | 6.01 | 2.78 | 31.89 |
| 89 | 0.68 | 1.24 | 1.96 | 1.73 | 2.49 | 3.87 | 4.22 | 3.81 | 4.16 | 1.72 | 2.99 | 0.50 | 29.57 |

WETS Table

|    |      |       |      |      |       |       |       |      |       |      |      |      |       |
|----|------|-------|------|------|-------|-------|-------|------|-------|------|------|------|-------|
| 90 | 2.44 | 3.13  | 3.36 | 2.11 | 6.89  | 5.07  | 6.81  | 4.02 | 1.51  | 4.82 | 7.03 | 2.25 | 48.44 |
| 91 | 1.42 | 0.92  | 3.50 | 5.82 | 5.52  | 1.11  | 1.36  | 2.50 | 2.20  | 9.04 | 3.62 | 1.48 | 36.19 |
| 92 | 1.20 | 1.52  | 2.38 | 2.01 | 0.25  | 1.83  | 4.13  | 1.96 | 6.85  | 0.73 | 5.24 | 3.13 | 31.23 |
| 93 | 4.19 | 1.03  | 4.77 | 4.27 | 2.38  | 13.03 | 3.03  | 5.63 | 5.91  | 2.51 | 1.89 | 1.00 | 49.64 |
| 94 | 1.81 | 2.69  | 0.68 | 3.01 | 0.76  | 3.53  | 1.76  | 5.84 | 1.03  | 3.65 | 4.07 | 2.52 | 31.35 |
| 95 | 4.06 | 1.00  | 2.13 | 4.68 | 4.17  | 2.76  | 1.97  | 2.56 | 0.56  | 3.66 | 5.64 | 0.54 | 33.73 |
| 96 | 1.68 | 0.56  | 1.70 | 3.43 | 6.20  | 5.46  | 10.29 | 0.76 | 2.90  | 2.43 | 2.46 | 2.52 | 40.39 |
| 97 | 2.02 | 6.76  | 1.26 | 2.07 | 2.02  | 3.28  | 2.47  | 5.69 | 1.86  | 2.52 | 1.93 | 1.82 | 33.70 |
| 98 | 3.40 | 2.94  | 5.00 | 3.69 | 4.59  | 4.59  | 1.66  | 5.85 | 5.26  | 3.81 | 1.88 | 1.64 | 43.71 |
| 99 | 4.12 | 1.30  | 1.51 | 6.80 | 4.34  | 6.48  | 3.91  | 2.25 | 2.36  | 1.01 | 0.66 | 3.12 | 37.46 |
| 0  | 1.56 | 1.40  | 1.17 | 4.74 | 6.48  | 4.81  | 4.07  | 3.19 | 6.20  | 1.95 | 2.65 | 2.90 | 41.12 |
| 1  | 1.24 | 3.23  | 1.61 | 3.33 | 4.55  | 2.40  | 3.90  | 7.32 | 3.90  | 6.04 | 1.69 | 1.13 | 39.94 |
| 2  | 1.77 | 0.78  | 3.02 | 5.17 | 5.84  | 4.29  | 1.12  | 4.06 | 1.90  | 2.07 | 1.47 | 1.53 | 35.02 |
| 3  | 0.45 | 0.25  | 2.11 | 3.44 | 6.76  | 1.69  | 6.72  | 2.25 | 2.79  | 1.99 | 6.32 | 2.03 | 36.80 |
| 4  | 1.09 | 0.75  | 3.93 | 1.90 | 5.57  | 2.94  | 4.46  | 5.01 | 0.86  | 2.42 | 5.02 | 1.75 | 35.70 |
| 5  | 5.32 | 2.41  | 1.76 | 1.63 | 1.78  | 1.07  | 2.07  | 1.44 | 2.68  | 1.14 | 1.91 | 1.38 | 24.59 |
| 6  | 3.48 | 1.33  | 3.16 | 3.87 | 3.19  | 3.87  | 4.24  | 7.12 | 4.32  | 6.53 | 2.97 | 3.37 | 47.55 |
| 7  | 2.88 | 2.19  | 3.55 | 3.95 | 2.00  | 3.10  | 4.18  | 6.76 | 1.91  | 2.01 | 1.67 | 3.54 | 39.74 |
| 8  | 3.53 | 3.71  | 1.88 | 2.46 | 4.63  | 4.88  | 4.53  | 1.51 | 10.83 | 2.70 | 1.28 | 6.51 | 48.45 |
| 9  | 1.30 | 3.51  | 6.75 | 5.80 | 4.48  | 5.47  | 2.06  | 4.30 | 0.54  | 7.69 | 1.27 | 2.90 | 46.08 |
| 10 | 1.07 | 1.56  | 1.74 | 3.84 | 6.80  | 7.89  | 9.20  | 3.46 | 1.67  | 2.22 | 2.49 | 2.81 | 44.75 |
| 11 | 1.79 | M3.26 | 2.32 | 5.73 | 5.32  | 7.16  | 5.55  | 3.94 | 3.72  | 2.55 | 3.65 | 2.51 | 47.50 |
| 12 | 2.16 | 1.38  | 2.18 | 2.11 | 3.75  | 1.07  | 3.78  | 2.98 | 1.61  | 4.40 | 1.40 | 2.48 | 29.30 |
| 13 | 3.89 | 2.48  | 2.22 | 7.95 | 6.47  | 3.52  | 2.19  | 2.52 | 1.93  | 5.69 | 2.94 | 1.54 | 45.34 |
| 14 | 3.22 | 2.39  | 2.25 | 3.50 | 6.08  | 10.60 | 5.49  | 9.00 | 3.06  | 4.04 | 1.44 | 0.93 | 52.00 |
| 15 | 1.55 | 1.87  | 0.81 | 3.40 | 4.64  | M8.36 | 2.49  | 3.75 | 6.15  | 1.79 | 4.88 | 6.31 | 46.00 |
| 16 | 0.99 | 1.32  | 3.34 | 3.26 | M3.06 |       |       |      |       |      |      |      | 11.97 |

Product generated by ACIS - NOAA Regional Climate Centers.

Monthly Data between Specific Months  
 CHICAGO MIDWAY AP 3 SW (IL)  
 111577

| Date        | Monthly Sum/Averages |               |
|-------------|----------------------|---------------|
|             | Precipitation (in)   | Snowfall (in) |
| Jan-2015    | 0.99                 | 6.3           |
| Feb-2015    | 1.32                 | 6.6           |
| Mar-2015    | 3.34                 | 2.4           |
| Apr-2015    | 3.26                 | 1.2           |
| Sum:        | 8.91                 | 16.5          |
| Count:      | 4                    | 4             |
| Average:    | 2.23                 | 4.1           |
| Median:     | 2.29                 | 4.3           |
| Low Value:  | 0.99                 | 1.2           |
| High Value: | 3.34                 | 6.6           |

M = Missing

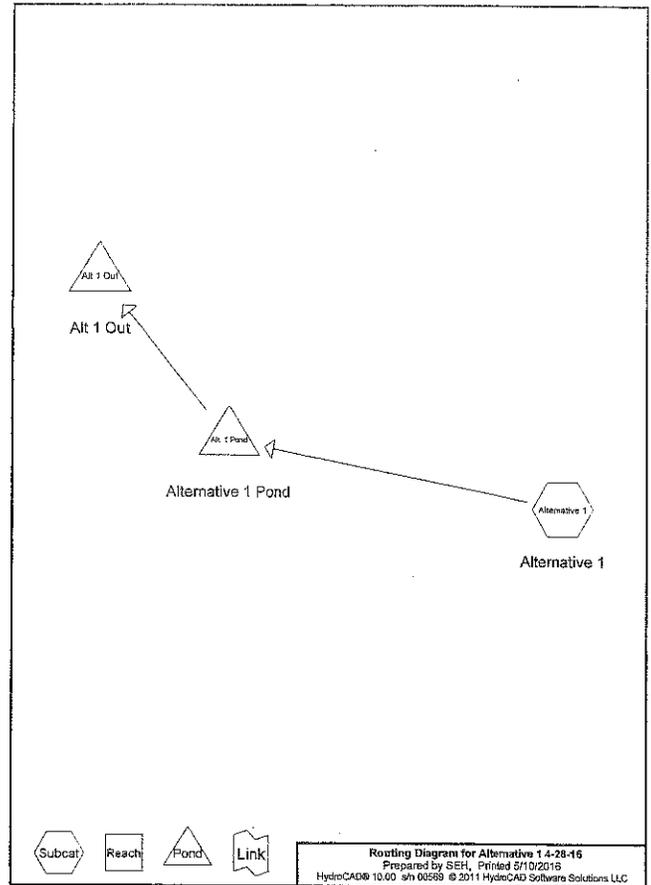
Y = Trace

Midwestern Regional Climate Center  
 cli-MATE: MRCC Application Tools Environment  
 Generated at: 5/11/2016 9:52:17 AM CDT



## Appendix B

### HydroCAD Model Input and Output – Alternative 1



#### Alternative 1 4-28-16

Prepared by SEH

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#### Project Notes

Highland Development-Alternative 1-57.98 acre Business Park

NOAA Atlas 14 Rainfall Depth-100-Year Depth-7.35 inches  
 Per Highland-Max release rate-0.2 cfs/acre disturbed during the 100-Year event. Use this to determine the area and volume needed for stormwater storage.

Assumed to-30 minutes.  
 HSG based on USGS Web Soil Survey.  
 Park assumed 70% Impervious/30% Pervious

Release rate during the 100-Year needs to be no greater than 11.60 acres.

Existing HSG-B/D

#### Alternative 1 4-28-16

Prepared by SEH

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#### Area Listing (all nodes)

| Area (acres) | CN | Description (subcatchment-numbers)            |
|--------------|----|---|
| 8.690        | 61 | >75% Grass cover, Good, HSG B (Alternative 1) |
| 8.700        | 80 | >75% Grass cover, Good, HSG D (Alternative 1) |
| 38.990       | 98 | Impervious Area, HSG B/D (Alternative 1)      |
| 56.380       | 90 | TOTAL AREA                                    |

Soil Listing (all nodes)

| Area (acres)  | Soil Group | Subcatchment Numbers |
|---------------|------------|----------------------|
| 0.000         | HSG A      |                      |
| 47.680        | HSG B      | Alternative 1        |
| 0.000         | HSG C      |                      |
| 8.700         | HSG D      | Alternative 1        |
| 0.000         | Other      |                      |
| <b>56.380</b> |            | <b>TOTAL AREA</b>    |

Ground Covers (all nodes)

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover           | Subcatchment Numbers |
|---------------|---------------|---------------|---------------|---------------|---------------|------------------------|----------------------|
| 0.000         | 38.990        | 0.000         | 0.000         | 0.000         | 38.990        | Impervious Area        | Alternative 1        |
| 0.000         | 8.690         | 0.000         | 8.700         | 0.000         | 17.390        | >75% Grass cover, Good | Alternative 1        |
| <b>0.000</b>  | <b>47.680</b> | <b>0.000</b>  | <b>8.700</b>  | <b>0.000</b>  | <b>56.380</b> | <b>TOTAL AREA</b>      |                      |

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points  
 Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
 Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment Alternative 1: Alternative 1 Runoff Area=56.380 ac 69.16% Impervious Runoff Depth=6.16"  
 Tc=40.0 min CN=71/98 Runoff=226.72 cfs 28.929 af

Pond Alt 1 Out: Alt 1 Out Inflow=8.99 cfs 28.894 af  
 Primary=8.99 cfs 28.894 af

Pond Alt. 1 Pond: Alternative 1 Pond Peak Elev=7.75' Storage=20.069 af Inflow=226.72 cfs 28.929 af  
 12.0" Round Culvert n=0.013 L=50.0' S=0.0100' /' Outflow=8.99 cfs 28.894 af

Total Runoff Area = 56.380 ac Runoff Volume = 28.929 af Average Runoff Depth = 6.16"  
 30.84% Pervious = 17.390 ac 69.16% Impervious = 38.990 ac

Summary for Subcatchment Alternative 1: Alternative 1

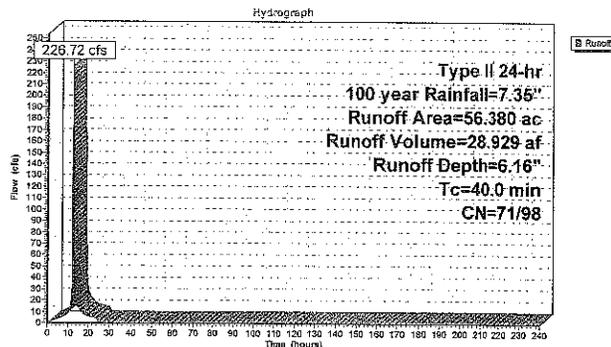
Runoff = 226.72 cfs @ 12.35 hrs, Volume= 28.929 af, Depth= 6.16"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-240.00 hrs, dt= 0.01 hrs.  
 Type II 24-hr 100 year Rainfall=7.35"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 38.990    | 98 | Impervious Area, HSG B/D      |
| 8.690     | 61 | >75% Grass cover, Good, HSG B |
| 8.700     | 80 | >75% Grass cover, Good, HSG D |
| 56.380    | 90 | Weighted Average              |
| 17.390    | 71 | 30.84% Pervious Area          |
| 38.990    | 98 | 69.16% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                |
|----------|---------------|---------------|-------------------|----------------|----------------------------|
| 40.0     |               |               |                   |                | Direct Entry, Direct Entry |

Subcatchment Alternative 1: Alternative 1

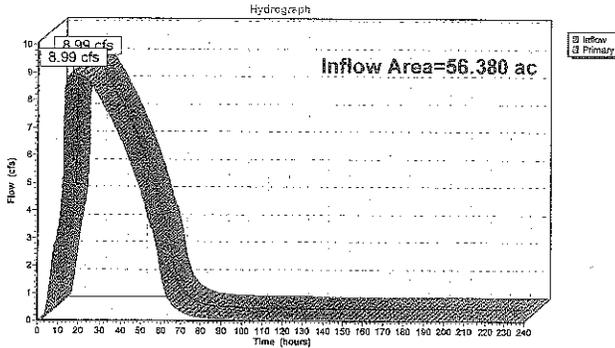


Summary for Pond Alt 1 Out: Alt 1 Out

Inflow Area = 56.380 ac, 69.16% Impervious, Inflow Depth > 6.15" for 100 year event  
 Inflow = 8.99 cfs @ 16.81 hrs, Volume= 28.894 af  
 Primary = 8.99 cfs @ 16.82 hrs, Volume= 28.894 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Pond Alt 1 Out: Alt 1 Out



Summary for Pond Alt. 1 Pond: Alternative 1 Pond

Inflow Area = 56.380 ac, 69.16% Impervious, Inflow Depth = 6.18" for 100 year event  
 Inflow = 226.72 cfs @ 12.35 hrs, Volume= 28.929 af  
 Outflow = 8.99 cfs @ 16.81 hrs, Volume= 28.894 af, Atten= 98%, Lag= 267.5 min  
 Primary = 8.99 cfs @ 16.81 hrs, Volume= 28.894 af

Routing by Sim-Route method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs  
 Peak Elev= 7.75' @ 16.81 hrs Surf.Area= 0.000 ac Storage= 20.069 af

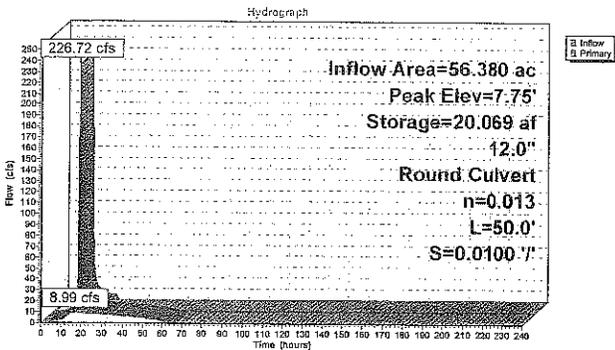
Plug-Flow detention time= 1,133.9 min calculated for 28.894 af (100% of inflow)  
 Center-of-Mass det. time= 1,133.1 min (1,919.6 - 786.6)

| Volume           | Invert                 | Avail. Storage | Storage Description            |
|------------------|------------------------|----------------|--------------------------------|
| #1               | 1.00'                  | 21.200 af      | Custom Stage Data Listed below |
| Elevation (feet) | Cum. Store (acre-feet) |                |                                |
| 1.00             | 0.000                  |                |                                |
| 2.00             | 1.400                  |                |                                |
| 3.00             | 3.450                  |                |                                |
| 4.00             | 6.000                  |                |                                |
| 5.00             | 9.050                  |                |                                |
| 6.00             | 12.600                 |                |                                |
| 7.00             | 16.650                 |                |                                |
| 8.00             | 21.200                 |                |                                |

| Device | Routing | Invert | Outlet Devices  |
|--------|---------|--------|---|
| #1     | Primary | 1.00'  | 12.0" Round CMP_Round 12" L= 50.0' Ke= 0.500<br>Inlet / Outlet Invert= 1.00' / 0.50' S= 0.0100 /' Cc= 0.900<br>n= 0.013, Flow Area= 0.79 sf |

Primary OutFlow Max=8.99 cfs @ 16.81 hrs HW=7.75' TW=0.00' (Dynamic Tailwater)  
 1=CMP\_Round 12" (Barrel Controls 8.99 cfs @ 11.45 fps)

Pond Alt. 1 Pond: Alternative 1 Pond



**Project Notes**

Highland Development-Alternative 2-Commercial property along Kennedy Avenue with a 10-acre Public Works facility, Tully Street extension, and Soccer Fields (Park) development.

NOAA Atlas 14 Rainfall Depth-100-Year Depth-7.35 inches  
 Per Highland-Max release rate-0.2 cfs/acre disturbed during the 100-Year event. Use this to determine the area and volume needed for stormwater storage.

Assumed to-60 minutes.

HSG based on USGS Web Soil Survey.

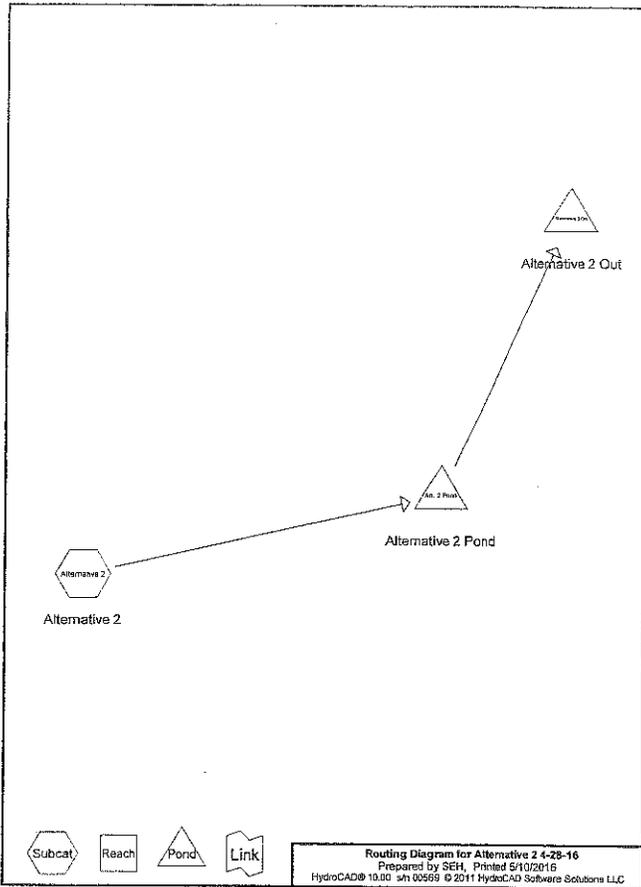
Commercial assumed 70% Impervious/30% Pervious

Public Works-85% Impervious/15% Pervious

1/2 acre concession area for the soccer fields

Release rate during the 100-Year needs to be no greater than 6.71 acres.

Existing HSG-B/D



**Area Listing (all nodes)**

| Area (acres) | CN | Description (subcatchment-numbers)            |
|--------------|----|---|
| 7.470        | 61 | >75% Grass cover, Good, HSG B (Alternative 2) |
| 7.470        | 80 | >75% Grass cover, Good, HSG D (Alternative 2) |
| 14.590       | 98 | Impervious Area, HSG B/D (Alternative 2)      |
| 29.530       | 84 | TOTAL AREA                                    |

**Soil Listing (all nodes)**

| Area (acres) | Soil Group | Subcatchment Numbers |
|--------------|------------|----------------------|
| 0.000        | HSG A      |                      |
| 22.080       | HSG B      | Alternative 2        |
| 0.000        | HSG C      |                      |
| 7.470        | HSG D      | Alternative 2        |
| 0.000        | Other      |                      |
| 29.530       |            | TOTAL AREA           |

Ground Covers (all nodes)

| HSG-A<br>(acres) | HSG-B<br>(acres) | HSG-C<br>(acres) | HSG-D<br>(acres) | Other<br>(acres) | Total<br>(acres) | Ground<br>Cover        | Subcatchment<br>Numbers |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------------|-------------------------|
| 0.000            | 14.590           | 0.000            | 0.000            | 0.000            | 14.590           | Impervious Area        | Alternativ<br>e 2       |
| 0.000            | 7.470            | 0.000            | 7.470            | 0.000            | 14.940           | >75% Grass cover, Good | Alternativ<br>e 2       |
| 0.000            | 22.060           | 0.000            | 7.470            | 0.000            | 29.530           | TOTAL AREA             |                         |

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points  
 Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
 Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment Alternative 2: Alternative 2 Runoff Area=29.530 ac 49.41% Impervious Runoff Depth=5.55"  
 Tc=60.0 min CN=71/98 Runoff=82.24 cfs 13.650 af  
 Pond Alt. 2 Pond: Alternative 2 Pond Peak Elev=7.56' Storage=5.283 af Inflow=82.24 cfs 13.650 af  
 Primary=6.51 cfs 4.575 af Secondary=14.39 cfs 9.074 af Outflow=20.90 cfs 13.649 af  
 Pond Alternative 2 Out: Alternative 2 Out Inflow=6.51 cfs 4.575 af  
 Primary=6.51 cfs 4.575 af  
 Total Runoff Area = 29.530 ac Runoff Volume = 13.650 af Average Runoff Depth = 5.55"  
 50.59% Pervious = 14.940 ac 49.41% Impervious = 14.590 ac

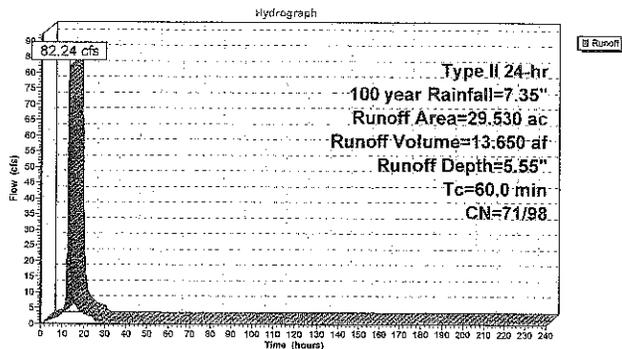
Summary for Subcatchment Alternative 2: Alternative 2

Runoff = 82.24 cfs @ 12.60 hrs, Volume= 13.650 af, Depth= 5.55"  
 Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-240.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 100 year Rainfall=7.35"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 14.590    | 98 | Impervious Area, HSG B/D      |
| 7.470     | 61 | >75% Grass cover, Good, HSG B |
| 7.470     | 80 | >75% Grass cover, Good, HSG D |
| 29.530    | 84 | Weighted Average              |
| 14.940    | 71 | 50.59% Pervious Area          |
| 14.590    | 98 | 49.41% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                |
|----------|---------------|---------------|-------------------|----------------|----------------------------|
| 60.0     |               |               |                   |                | Direct Entry, Direct Entry |

Subcatchment Alternative 2: Alternative 2



Summary for Pond Alt. 2 Pond: Alternative 2 Pond

Inflow Area = 29.530 ac, 49.41% Impervious, Inflow Depth = 5.55" for 100 year event  
 Inflow = 82.24 cfs @ 12.60 hrs, Volume= 13.650 af  
 Outflow = 20.90 cfs @ 13.71 hrs, Volume= 13.649 af, Atten= 75%, Lag= 86.5 min  
 Primary = 6.51 cfs @ 13.71 hrs, Volume= 4.575 af  
 Secondary = 14.39 cfs @ 13.71 hrs, Volume= 9.074 af

Routing by Sim-Route method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs  
 Peak Elev=7.56' @ 13.71 hrs Surf.Area= 0.000 ac Storage= 5.283 af  
 Plug-Flow detention time= 116.5 min calculated for 13.649 af (100% of inflow)  
 Center-of-Mass det. time= 116.5 min ( 935.9 - 819.4 )

| Volume | Invert | Avail.Storage | Storage Description            |
|--------|--------|---------------|--------------------------------|
| #1     | 1.00'  | 5.900 af      | Custom Stage Data Listed below |

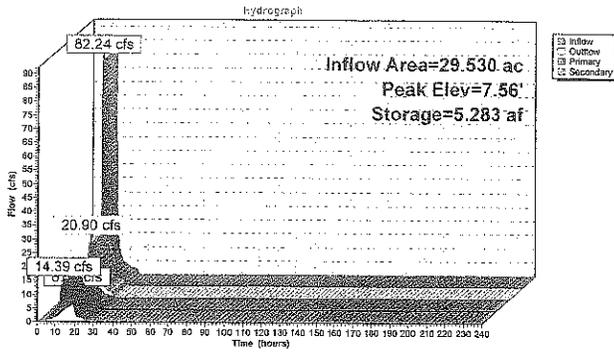
| Elevation (feet) | Cum.Store (acre-feet) |
|------------------|-----------------------|
| 1.00             | 0.000                 |
| 2.00             | 0.350                 |
| 3.00             | 0.650                 |
| 4.00             | 1.500                 |
| 5.00             | 2.300                 |
| 6.00             | 3.300                 |
| 7.00             | 4.500                 |
| 8.00             | 5.900                 |

| Device | Routing   | Invert | Outlet Devices  |
|--------|-----------|--------|---|
| #1     | Secondary | 1.00'  | 15.0" Round Culvert L= 50.0' Ke= 0.500<br>Inlet / Outlet Invert= 1.00' / 0.00' S= 0.0200 /' Cc= 0.900<br>n= 0.013, Flow Area= 1.23 sf |
| #2     | Primary   | 1.00'  | 10.0" Vert. Orifice/Grate C= 0.600  |

Primary OutFlow Max=6.51 cfs @ 13.71 hrs HW=7.56' TW=0.00' (Dynamic Tailwater)  
 2-Orifice/Grate (Orifice Controls 6.51 cfs @ 11.93 fps)

Secondary OutFlow Max=14.39 cfs @ 13.71 hrs HW=7.56' (Free Discharge)  
 1-Culvert (Inlet Controls 14.39 cfs @ 11.73 fps)

Pond Alt. 2 Pond: Alternative 2 Pond

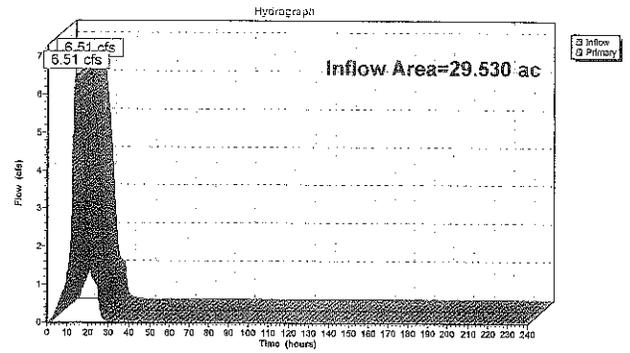


Summary for Pond Alternative 2 Out: Alternative 2 Out

Inflow Area = 29,530 ac, 49.41% Impervious, Inflow Depth = 1.86" for 100 year event  
 Inflow = 6.51 cfs @ 13.71 hrs, Volume= 4,575 af  
 Primary = 6.51 cfs @ 13.72 hrs, Volume= 4,575 af, Atten= 0%, Lag= 0.8 min

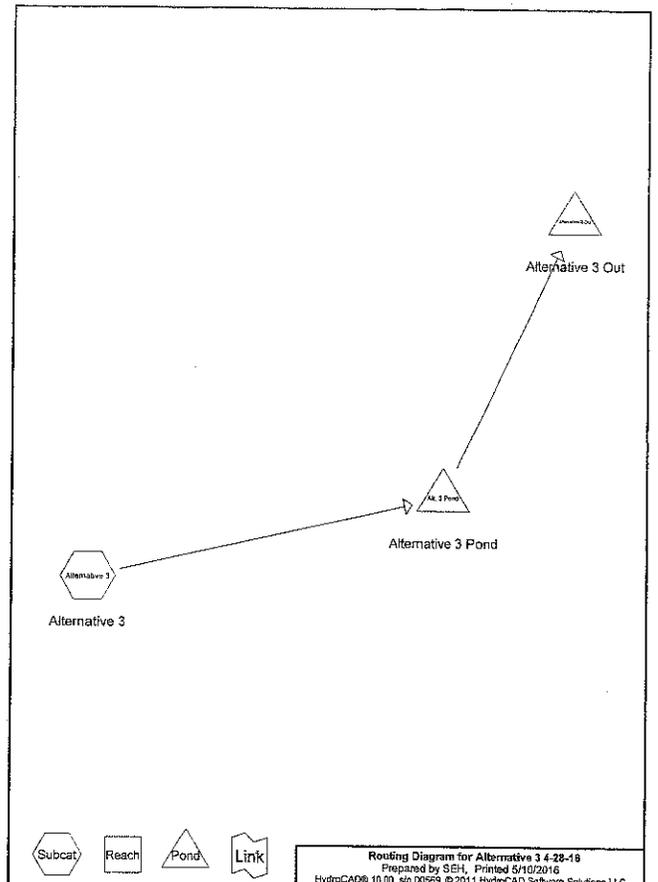
Routing by Sim-Route method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Pond Alternative 2 Out: Alternative 2 Out



### Appendix D

HydroCAD Model Input and Output – Alternative 3



**Project Notes**

Highland Development-Alternative 3-10-acre Public Works facility, and Soccer Fields (Park) development. Access to these locations from 2 locations off of Kennedy Avenue.

NOAA Atlas 14 Rainfall Depth-100-Year Depth-7.35 inches

Per Highland-Max release rate-0.2 cfs/acre disturbed during the 100-Year event. Use this to determine the area and volume needed for stormwater storage.

Assumed to-60 minutes.

HSG based on USGS Web Soil Survey

Public Works-85% Impervious/15% Pervious

1/2 acre concession area for the soccer fields (impervious)

Soccer fields-10.74 acres-Open Space

Release rate during the 100-Year needs to be no greater than 4.77 acres.

Existing HSG-B/D

**Area Listing (all nodes)**

| Area (acres) | CN | Description (subcatchment-numbers)            |
|--------------|----|---|
| 6.120        | 81 | >75% Grass cover, Good, HSG B (Alternative 3) |
| 6.120        | 80 | >75% Grass cover, Good, HSG D (Alternative 3) |
| 9.690        | 98 | Impervious Area, HSG B/D (Alternative 3)      |
| 21.930       | 83 | TOTAL AREA                                    |

**Soil Listing (all nodes)**

| Area (acres) | Soil Group | Subcatchment Numbers |
|--------------|------------|----------------------|
| 0.000        | HSG A      |                      |
| 15.810       | HSG B      | Alternative 3        |
| 0.000        | HSG C      |                      |
| 6.120        | HSG D      | Alternative 3        |
| 0.000        | Other      |                      |
| 21.930       |            | TOTAL AREA           |

**Ground Covers (all nodes)**

| HSG-A (acres) | HSG-B (acres) | HSG-C (acres) | HSG-D (acres) | Other (acres) | Total (acres) | Ground Cover           | Subcatchment Numbers |
|---------------|---------------|---------------|---------------|---------------|---------------|------------------------|----------------------|
| 0.000         | 9.690         | 0.000         | 0.000         | 0.000         | 9.690         | Impervious Area        | Alternative 3        |
| 0.000         | 6.120         | 0.000         | 6.120         | 0.000         | 12.240        | >75% Grass cover, Good | Alternative 3        |
| 0.000         | 15.810        | 0.000         | 6.120         | 0.000         | 21.930        | TOTAL AREA             |                      |

Time span=0.00-240.00 hrs, dt=0.01 hrs, 24001 points  
 Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
 Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment Alternative 3: Alternative 3 Runoff Area=21.930 ac 44.19% Impervious Runoff Depth=5.39"  
 Tc=60.0 min CN=71/98 Runoff=59.59 cfs 9.842 af

Pond Alt. 3 Pond: Alternative 3 Pond Peak Elev=7.56' Storage=4.132 af Inflow=59.59 cfs 9.842 af  
 Primary=4.19 cfs 3.245 af Secondary=9.21 cfs 6.596 af Outflow=13.41 cfs 9.841 af

Pond Alternative 3 Out: Alternative 3 Out Inflow=4.19 cfs 3.245 af  
 Primary=4.19 cfs 3.245 af

Total Runoff Area = 21.930 ac Runoff Volume = 9.842 af Average Runoff Depth = 5.39"  
 55.81% Pervious = 12.240 ac 44.19% Impervious = 9.690 ac

Summary for Subcatchment Alternative 3: Alternative 3

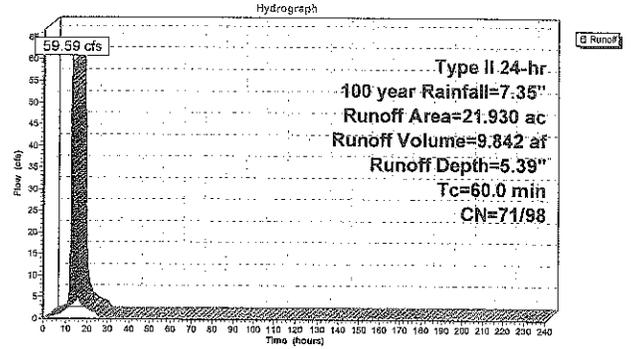
Runoff = 59.59 cfs @ 12.60 hrs, Volume= 9.842 af, Depth= 5.39"

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-240.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 100 year Rainfall=7.35"

| Area (ac) | CN | Description                   |
|-----------|----|-------------------------------|
| 9.690     | 98 | Impervious Area, HSG B/D      |
| 6.120     | 61 | >75% Grass cover, Good, HSG B |
| 6.120     | 80 | >75% Grass cover, Good, HSG D |
| 21.930    | 83 | Weighted Average              |
| 12.240    | 71 | 55.81% Pervious Area          |
| 9.690     | 98 | 44.19% Impervious Area        |

| Tc (min) | Length (feet) | Slope (ft/ft) | Velocity (ft/sec) | Capacity (cfs) | Description                |
|----------|---------------|---------------|-------------------|----------------|----------------------------|
| 60.0     |               |               |                   |                | Direct Entry, Direct Entry |

Subcatchment Alternative 3: Alternative 3



Summary for Pond Alt. 3 Pond: Alternative 3 Pond

Inflow Area = 21.930 ac, 44.19% Impervious, Inflow Depth = 5.39" for 100 year event  
 Inflow = 59.59 cfs @ 12.60 hrs, Volume= 9.842 af  
 Outflow = 13.41 cfs @ 13.83 hrs, Volume= 9.841 af, Atten= 78%, Lag= 73.6 min  
 Primary = 4.19 cfs @ 13.83 hrs, Volume= 3.245 af  
 Secondary = 9.21 cfs @ 13.83 hrs, Volume= 6.596 af

Routing by Sim-Route method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs  
 Peak Elev= 7.56' @ 13.83 hrs Surf.Area= 0.000 ac Storage= 4.132 af

Plug-Flow detention time= 148.0 min calculated for 9.841 af (100% of inflow)  
 Center-of-Mass det. time= 148.9 min ( 972.6 - 823.7 )

| Volume #1 | Invert | Avail.Storage | Storage Description            |
|-----------|--------|---------------|--------------------------------|
|           | 1.00'  | 4.550 af      | Custom Stage Data Listed below |

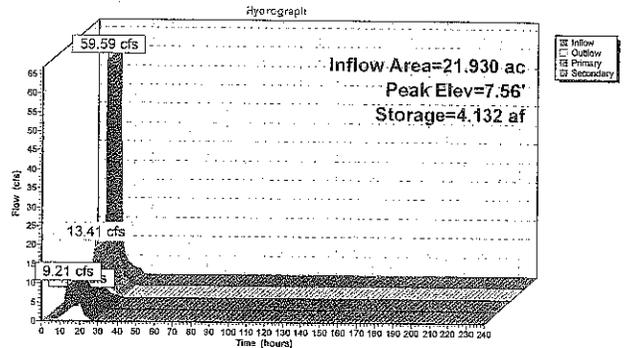
| Elevation (feet) | Cum.Store (acre-feet) |
|------------------|-----------------------|
| 1.00             | 0.000                 |
| 2.00             | 0.350                 |
| 3.00             | 0.800                 |
| 4.00             | 1.350                 |
| 5.00             | 2.000                 |
| 6.00             | 2.750                 |
| 7.00             | 3.600                 |
| 8.00             | 4.550                 |

| Device | Routing   | Invert | Outlet Devices  |
|--------|-----------|--------|---|
| #1     | Secondary | 1.00'  | 12.0" Round Culvert L= 50.0' K= 0.500<br>Inlet / Outlet Invert= 1.00' / 0.00' S= 0.0200' /' Cc= 0.900<br>n= 0.013, Flow Area= 0.79 sf |
| #2     | Primary   | 1.00'  | 8.0" Vert. Orifice/Grate C= 0.600   |

Primary OutFlow Max=4.19 cfs @ 13.83 hrs HW=7.56' TW=0.00' (Dynamic Tailwater)  
 2=Orifice/Grate (Orifice Controls 4.19 cfs @ 12.02 fps)

Secondary OutFlow Max=9.21 cfs @ 13.83 hrs HW=7.56' (Free Discharge)  
 1=Culvert (Barrel Controls 9.21 cfs @ 11.73 fps)

Pond Alt. 3 Pond: Alternative 3 Pond

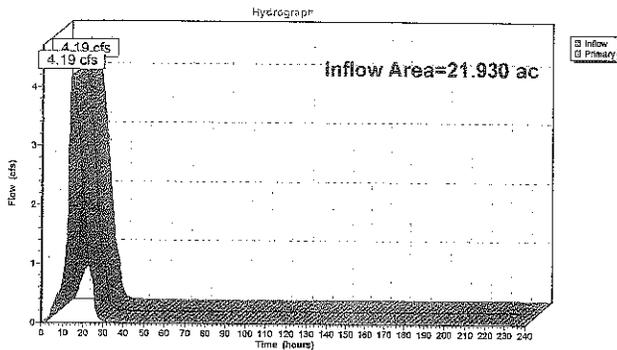


Summary for Pond Alternative 3 Out: Alternative 3 Out

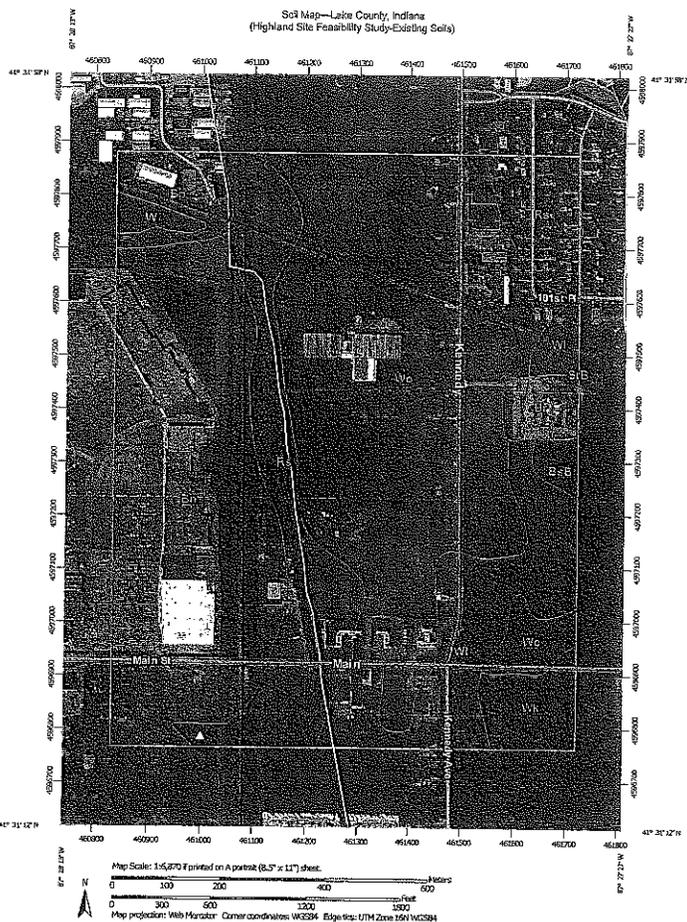
Inflow Area = 21.930 ac, 44.19% Impervious, Inflow Depth = 1.78" for 100 year event  
 Inflow = 4.19 cfs @ 13.83 hrs, Volume= 3.245 af  
 Primary = 4.19 cfs @ 13.84 hrs, Volume= 3.245 af, Atten= 0%, Lag= 0.6 min

Routing by Sim-Route method, Time Span= 0.00-240.00 hrs, dt= 0.01 hrs

Pond Alternative 3 Out: Alternative 3 Out



Appendix E  
 NRCS Soil Survey



Soil Map—Lake County, Indiana  
 (Highland Site Feasibility Study-Existing Soils)

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:15,000. Enlargement of maps beyond the scale of mapping can cause distortion and inaccuracy in mapping and accuracy of soil placement. The maps are not intended to show existing soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Sources of Maps: National Resources Conservation Service  
 National Wetlands Inventory: [www.fws.gov/nwi](http://www.fws.gov/nwi)  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Gauss equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Year: Lake County, Indiana  
 Soil Survey Date: Revision 16, Sep 10, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

USDA's aerial images were photographed: Mar 13, 2012—Mar 20, 2012

This is a planimetric map, on which the soil lines were compiled and digitized manually after the best available imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

**MAP LEGEND**

- Area of Interest (AOI)
- Area of Interest (AOI)
- Soil
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Other
- Special Poly Features
- Special Line Features
- Water Features
- Streams and Canals
- Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background
- Aerial Photography
- Marsh or Swamp
- Mire or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Silt or Clay
- Sandy Spot
- Severely Eroded Spot
- Shrub
- Silt or Silt
- Sodic Spot
- Spot Area
- Shrub Spot
- New Shrub Spot
- Wet Spot
- Other
- Special Poly Features
- Special Line Features
- Water Features
- Streams and Canals
- Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads
- Background
- Aerial Photography
- Marsh or Swamp
- Mire or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Silt or Clay
- Sandy Spot
- Severely Eroded Spot
- Shrub
- Silt or Silt
- Sodic Spot

Map Unit Legend

| Lake County, Indiana (N055)        |   |              |                |
|------------------------------------|---|--------------|----------------|
| Map Unit Symbol                    | Map Unit Name   | Acres in AOI | Percent of AOI |
| Bn                                 | Bone silty clay   | 63.7         | 26.0%          |
| Bp                                 | Borrow pls  | 7.1          | 2.9%           |
| BsB                                | Brens fine sand, 0 to 4 percent slopes                              | 2.1          | 0.9%           |
| Ra                                 | Rensselaer loam, calcareous subsoil variant                         | 37.6         | 15.3%          |
| SrB                                | Sparta fine sand, silty clay loam substratum, 0 to 4 percent slopes | 0.0          | 0.0%           |
| Ur                                 | Urban land  | 4.2          | 1.7%           |
| W                                  | Water   | 1.9          | 0.9%           |
| Wk                                 | Watscka loamy fine sand   | 6.7          | 2.7%           |
| Wl                                 | Watscka loamy sand, moderately deep variant                         | 27.8         | 11.3%          |
| Wo                                 | Wauseon fine sandy loam   | 94.2         | 38.4%          |
| <b>Totals for Area of Interest</b> |   | <b>245.1</b> | <b>100.0%</b>  |

Appendix F  
100-Year Rainfall Depth

NOAA ATLAS 14 POINT PRECIPITATION FREQUENCY ESTIMATES: IN

DATA DESCRIPTION  
Data type: precipitation depth Units: english Time series type: annual duration

SUBJECT LOCATION  
1. Name(s):  
a) Enter location (decimal degrees, use "N" for N and "W" for W): latitude: longitude: submit  
b) Select station (click here for list of stations used in frequency analysis for this station)

2. Use map:  
a) Select location (from search or double click)  
b) Other set station location  
c) Show station on map

LOCATION INFORMATION:  
Name: Highland, Indiana, US  
Latitude: 41.5525°  
Longitude: 87.4658°  
Elevation: 916 ft

POINT PRECIPITATION FREQUENCY (PF) ESTIMATES  
WITH 50% CONFIDENCE INTERVALS & 50% CONFIDENCE POINT PRECIPITATION  
NOAA Atlas 14, Volume 2, Version 3

| Duration | 1     | 2     | 5     | 10    | 25    | 50    | 100   | 500   | 1000   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 5-min    | 0.362 | 0.427 | 0.533 | 0.605 | 0.771 | 0.945 | 1.100 | 1.310 | 1.510  |
| 15-min   | 0.531 | 0.625 | 0.782 | 0.895 | 1.157 | 1.420 | 1.630 | 1.940 | 2.210  |
| 30-min   | 0.712 | 0.835 | 1.035 | 1.180 | 1.510 | 1.840 | 2.110 | 2.540 | 2.870  |
| 1-hr     | 0.925 | 1.080 | 1.330 | 1.510 | 1.940 | 2.370 | 2.700 | 3.240 | 3.670  |
| 2-hr     | 1.170 | 1.360 | 1.660 | 1.870 | 2.410 | 2.940 | 3.370 | 4.010 | 4.540  |
| 3-hr     | 1.410 | 1.630 | 2.000 | 2.240 | 2.870 | 3.500 | 3.930 | 4.670 | 5.200  |
| 4-hr     | 1.650 | 1.900 | 2.320 | 2.580 | 3.310 | 4.040 | 4.470 | 5.310 | 5.840  |
| 6-hr     | 1.990 | 2.280 | 2.800 | 3.080 | 3.930 | 4.760 | 5.190 | 6.130 | 6.660  |
| 8-hr     | 2.330 | 2.650 | 3.250 | 3.540 | 4.500 | 5.430 | 5.860 | 6.900 | 7.430  |
| 12-hr    | 2.820 | 3.180 | 3.850 | 4.150 | 5.210 | 6.240 | 6.670 | 7.810 | 8.340  |
| 18-hr    | 3.410 | 3.810 | 4.600 | 4.910 | 6.070 | 7.200 | 7.630 | 8.870 | 9.400  |
| 24-hr    | 4.000 | 4.430 | 5.300 | 5.620 | 6.890 | 8.120 | 8.550 | 9.890 | 10.420 |

PF tabular PF graphical Supplementary information

PDS-based precipitation frequency estimates with 50% confidence intervals (in inches)

| Duration | 1     | 2     | 5     | 10    | 25    | 50    | 100   | 500   | 1000   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 5-min    | 0.362 | 0.427 | 0.533 | 0.605 | 0.771 | 0.945 | 1.100 | 1.310 | 1.510  |
| 15-min   | 0.531 | 0.625 | 0.782 | 0.895 | 1.157 | 1.420 | 1.630 | 1.940 | 2.210  |
| 30-min   | 0.712 | 0.835 | 1.035 | 1.180 | 1.510 | 1.840 | 2.110 | 2.540 | 2.870  |
| 1-hr     | 0.925 | 1.080 | 1.330 | 1.510 | 1.940 | 2.370 | 2.700 | 3.240 | 3.670  |
| 2-hr     | 1.170 | 1.360 | 1.660 | 1.870 | 2.410 | 2.940 | 3.370 | 4.010 | 4.540  |
| 3-hr     | 1.410 | 1.630 | 2.000 | 2.240 | 2.870 | 3.500 | 3.930 | 4.670 | 5.200  |
| 4-hr     | 1.650 | 1.900 | 2.320 | 2.580 | 3.310 | 4.040 | 4.470 | 5.310 | 5.840  |
| 6-hr     | 1.990 | 2.280 | 2.800 | 3.080 | 3.930 | 4.760 | 5.190 | 6.130 | 6.660  |
| 8-hr     | 2.330 | 2.650 | 3.250 | 3.540 | 4.500 | 5.430 | 5.860 | 6.900 | 7.430  |
| 12-hr    | 2.820 | 3.180 | 3.850 | 4.150 | 5.210 | 6.240 | 6.670 | 7.810 | 8.340  |
| 18-hr    | 3.410 | 3.810 | 4.600 | 4.910 | 6.070 | 7.200 | 7.630 | 8.870 | 9.400  |
| 24-hr    | 4.000 | 4.430 | 5.300 | 5.620 | 6.890 | 8.120 | 8.550 | 9.890 | 10.420 |

GL Number Invoice Line Desc Vendor Invoice Description Amount Check #

Fund 094 Redevelopment General

| GL Number                                | Invoice Line Desc               | Vendor                   | Invoice Description                   | Amount    | Check # |
|--|---------------------------------|--------------------------|---------------------------------------|-----------|---------|
| 094-0000-20003                           | D/S GENERAL LETTERHEAD 2 BOXES  | BAXTER PRINTING INC      | D/S GENERAL LETTERHEAD 2 BOXES        | 23.80     |         |
| 094-0000-20003                           | REIMBURSEMENT- OFFICE SUPPLIES  | CECILE PETRO (R)         | REIMBURSEMENT- OFFICE SUPPLIES        | 20.99     |         |
| 094-0000-20004                           | REIMBURSEMENT HMS SIDEWALK STEN | JULIE TARSON             | REIMBURSEMENT HMS SIDEWALK STENCILS   | 275.00    |         |
| 094-0000-31001                           | LEGAL FEES-MUNICIPAL FILE       | GREEN & KUCHEL, PC       | LEGAL FEES- MUNICIPAL WORK            | 936.00    |         |
| 094-0000-31001                           | LEGAL FEES-MUNICIPAL FILE       | GREEN & KUCHEL, PC       | LEGAL FEES- MUNICIPAL FILE            | 612.00    |         |
| 094-0000-31001                           | LEGAL FEES-BID DOCUMENTS        | GREEN & KUCHEL, PC       | LEGAL FEES-BID DOCUMENTS              | 774.00    |         |
| 094-0000-31001                           | LEGAL FEES-FIG-8630 KENNEDY     | GREEN & KUCHEL, PC       | LEGAL FEES- FIG-8630 KENNEDY          | 54.00     |         |
| 094-0000-31004                           | MEMBERSHIP TICKETS- NOVEMBER    | HIGHLANDGRIFITH CHAMBER  | LEGAL FEES- MUNICIPAL FILE            | 2,000.00  |         |
| 094-0000-32002                           | 2017 MEMBERSHIP DUES            | HIGHLANDGRIFITH CHAMBER  | MEMBERSHIP LUNCH NOV PETRO/RYSKAMP    | 30.00     |         |
| 094-0000-33002                           | REIMBURSEMENT- MILEAGE          | LANCE RYSKAMP (R)        | 2017 MEMBERSHIP DUES                  | 64.40     |         |
| 094-0000-34023                           | PRINTING- BUSINESS CARDS        | BAXTER PRINTING INC      | REIMBURSEMENT- MILEAGE                | 14.38     |         |
| 094-0000-34023                           | HEALTH                          | TOWN OF HIGHLAND INS FUN | PRINTING- BUSINESS CARDS              | 55.00     |         |
| 094-0000-35008                           | LIFE                            | TOWN OF HIGHLAND INS FUN | 12/16 D/S REDEVELOPMENT HEALTH PREMIO | 1,393.03  |         |
| 094-0000-35008                           | UTILITIES-8618 KENNEDY-THRU 11/ | NORTHERN IN PUBLIC SERVI | 12/16 D/S REDEVELOPMENT HEALTH PREMIO | 6.64      |         |
| 094-0000-35008                           | STORM-2605 CONDIT-THRU 11/30/16 | TOWN OF HIGHLAND UTILITI | UTILITIES-8618 KENNEDY-THRU 11/23/16  | 25.84     |         |
| 094-0000-45200                           | REDEVELOP GEN TRANSFER GROSS    | TOWN OF HIGHLAND UTILITI | STORM-2605 CONDIT-THRU 11/30/16       | 20.28     |         |
| 094-0000-45200                           | REDEVELOP GEN TRANSFER GROSS    | PAYROLL ACCOUNT          | STORM-8618 KENNEDY- THRU 11/30/16     | 81.34     |         |
| 094-0000-45200                           | REDEVELOP GEN TRANSFER GROSS    | PAYROLL ACCOUNT          | 11/11PRL D/S TRANSFER REDEVELOPMENT   | 3,994.90  | 26020   |
| 094-0000-45200                           | REDEVELOP GEN TRANSFER GROSS    | PAYROLL ACCOUNT          | 11/25PRL D/S TRANSFER REDEVELOPMENT   | 4,419.46  | 26163   |
| 094-0000-45200                           | REDEVELOP GEN TRANSFER GROSS    | PAYROLL ACCOUNT          | 12/9PRL D/S TRANSFER REDEVELOPMENT    | 4,079.74  | 26184   |
| Total For Dept 0000                      |                                 |                          |                                       | 18,880.80 |         |
| Total For Fund 094 Redevelopment General |                                 |                          |                                       | 18,880.80 |         |

Fund 096 Redevelopment Capital

| GL Number                                | Invoice Line Desc                | Vendor                   | Invoice Description                    | Amount    | Check # |
|--|----------------------------------|--------------------------|--|-----------|---------|
| 096-0000-31005                           | TT ARCHITECT/ENGINEER FEES       | MORRIS ARCHITECT PLANNER | TT ARCHITECT/ ENGINEER FEES            | 13,263.80 |         |
| 096-0000-31005                           | TT ARCH/ENGINEER EXPENSES        | MORRIS ARCHITECT PLANNER | TT ARCH/ENGINEER EXPENSES              | 158.10    |         |
| 096-0000-31007                           | LIGHTS IN JEWETT PARKING AREA    | MIDWESTERN ELECTRIC INC  | LIGHTS IN JEWETT PARKING AREA          | 1,780.00  |         |
| 096-0000-31007                           | UTILITIES-2821 JEWETT-THRU 11/2  | NORTHERN IN PUBLIC SERVI | UTILITIES-2821 JEWETT-THRU 11/23/16    | 117.81    |         |
| 096-0000-31007                           | UTILITIES-2811 JEWETT-THRU 11/2  | NORTHERN IN PUBLIC SERVI | UTILITIES-2811 JEWETT-THRU 11/23/16    | 140.88    |         |
| 096-0000-31007                           | UTILITIES-8610 KENNEDY-THRU 11/  | NORTHERN IN PUBLIC SERVI | UTILITIES-8610 KENNEDY-THRU 11/23/16   | 54.51     |         |
| 096-0000-31007                           | STORM-8610 KENNEDY-THRU 11/30/16 | TOWN OF HIGHLAND UTILITI | UTILITIES-8610 KENNEDY-THRU 11/23/16   | 20.28     |         |
| 096-0000-31007                           | STORM-8612 KENNEDY-THRU 11/30/1  | TOWN OF HIGHLAND UTILITI | STORM-8612 KENNEDY-THRU 11/30/16       | 20.28     |         |
| 096-0000-34002                           | FIG REIMBURSEMENT-8020 KENNEDY   | HIGHLAND GLASS           | FIG REIMBURSEMENT- 8020 KENNEDY        | 7,968.23  |         |
| 096-0000-39019                           | LEGAL FEES-PURCHASE- 2711/2717   | GREEN & KUCHEL, PC       | LEGAL FEES- PURCHASE- 2711/2717 CONDI  | 180.00    |         |
| 096-0000-39019                           | LEGAL FEES-PURCHASE OFFER-8620   | GREEN & KUCHEL, PC       | LEGAL FEES- PURCHASE OFFER-8620 KENNED | 702.00    |         |
| 096-0000-39019                           | LEGAL FEES-PURCHASE-2711/2717 C  | GREEN & KUCHEL, PC       | LEGAL FEES-PURCHASE-2711/2717 CONDI    | 270.00    |         |
| 096-0000-39019                           | LEGAL FEES-PURCHASE-8620 KENNED  | GREEN & KUCHEL, PC       | LEGAL FEES-PURCHASE-8620 KENNEDY       | 666.00    |         |
| Total For Dept 0000                      |                                  |                          |  | 25,341.89 |         |
| Total For Fund 096 Redevelopment Capital |                                  |                          |  | 25,341.89 |         |

INVOICE GL DISTRIBUTION REPORT FOR TOWN OF HIGHLAND  
EXP CHECK RUN DATES 11/11/2016 - 12/15/2016  
BOTH JOURNALIZED AND UNJOURNALIZED OPEN AND PAID  
BANK CODE: 07

GL Number                      Invoice Line Desc                      Vendor                      Invoice Description                      Amount                      Check #

Fund Totals:

Fund 094 Redevelopment                      18,880.80  
Fund 096 Redevelopment                      25,341.89

Total For All Funds:                      44,222.69