



VILLAGE OF CLARENDON HILLS

April 18, 2013 Storm Event

**Clarendon Hills, DuPage
County, Illinois**

Prepared for

Village of Clarendon Hills
1 N. Prospect Avenue
Clarendon Hills, IL 60514

July 2013

Prepared by

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CBBEL Project No. 13-0200

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EXECUTIVE SUMMARY

This report compiles and presents available information associated with the flooding that occurred throughout the Village of Clarendon Hills (Village) during the morning of April 18, 2013 and outlines future engineering work associated with the development of flood mitigation measures. This flooding event severely impacted Village residents who incurred devastating damages to their homes and yards from the flooding. The intense storm event began late night on April 17, 2013 and continued through the morning hours of April 18, 2013. The impacted residents were invited to attend a stormwater meeting on May 8, 2013 at Prospect School. At this meeting, Village staff and consultants presented details on the existing drainage system and meet in small groups with the residents to obtain site specific information on their flood experience. At this meeting, the Village provided flooding questionnaires to the residents. The floodprone areas were identified by watershed including Flagg Creek (Blue Lake, Park Avenue and N. 55th Street), Salt Creek and Salt Creek – Ogden Avenue. Based on the forty-one (41) flooding questionnaires received, approximately 70% of reported structure flooding was caused by overland flow entering the homes through a basement window or doorway. The source of the flood waters was street and yard ponding and overflow from the Hinsdale Golf Club. The ponding occurs when the capacity of existing storm sewers and roadside ditches are exceeded and the floodwaters have no adequate overland flow route. Future studies will evaluate potential flood mitigation measures for each of the known floodprone areas with a goal of developing a recommended master drainage improvement plan.

STUDY OBJECTIVE

An intense storm event occurred during the late night of April 17, 2013 and early morning hours of April 18, 2013. This storm resulted in widespread flooding throughout the Village of Clarendon Hills (Village). The types of flooding that were experienced by Village residents included street inundation, front and rear yard inundation, basement and first floor flooding from overland flow sources, basement seepage and sanitary sewer backup. The study objectives area as follows:

1. Document available rainfall data
2. Stormwater Meeting
3. Collection and review of flooding questionnaires
4. Field Survey of High Water Marks (HWMs)
5. Preliminary determination of flooding causes
6. Development of future study scope and potential flood mitigation improvement alternatives

RAINFALL DATA

The Village's rain gage malfunctioned during this storm event. The following rain gages near the Village reported readings during the April 18, 2013 storm event:

- USGS Salt Creek at 22nd Street Gage (3.5 miles northeast of Village Hall)
- ISWS Lemont Gage (6.2 miles south of Village Hall)

Table 1 summarizes the April 18, 2013 storm event rainfall pattern from these two gages.

Table 1

April 18, 2013 Storm Event Rainfall Data

Rain Gage	April 17, 2013		April 18, 2013		Total		Peak Intensity – April 18, 2013	
	Depth (inches)	Duration (hours)	Depth (inches)	Duration (hours)	Depth (inches)	Duration (hours)	Depth (inches)	Time
USGS Salt Creek	2.89	10	3.59	9.5	6.48	19.5	1.02	6:15 am – 6:45 am
ISWS Lemont	1.97	10	1.82	10	3.79	20	0.21	6:15 am – 6:45 am

Figure 1 shows the locations of these rain gages.



Figure 1 - April 18, 2013 Rainfall Totals

Based on the reported street inundation depths and the inundation timing, it is our opinion that the Village experienced rainfall closer what was reported at the Oak Brook rainfall gage.

STORMWATER MEETING

The Village held a public stormwater meeting on May 8, 2013 at the Prospect School. This meeting provided information on how the Village's drainage system functions, why flooding occurred during the April 18, 2013 storm event, discuss the many drainage improvements that the Village has completed, discussed potential future drainage improvements and potential funding avenues. The Village has completed the following drainage improvements:

- 1988 – Village increases Prospect Park Stormwater Storage by constructing pump evacuated basins.
- 1999 – Colfax Avenue Storm Sewer to Park Avenue Storage Basin (from 15-inch to 24-inch)
- 1999 – Middle School Construction - Prospect Park Storage Facility Outlet Sewer Replaced (12-inch to 36-inch)
- 2001 – Park Avenue Storage Basin Improvements
 - 2 acre-feet (652,000 gallons) of additional storage volume
 - New stormwater Pump Station
- 2002 – Blue Lake Outlet Structure replaced and 1 acre-foot of storage added.

After the Village presentation, discussions were held with the residents by watershed. The residents provided valuable information associated with their individual flooding experiences. The Village provided a flooding questionnaire (**copy is located in Appendix 1**) to the residents. The following exhibits were presented at this meeting:

- **Exhibit 1 – Village Watersheds**
- **Exhibit 2 – Salt Creek Watershed**
- **Exhibit 3 – Flagg Watershed**

FLOODING QUESTIONNAIRE

The flooding questionnaire asked questions concerning the frequency, type and depth of flooding that the resident experienced in the April 18, 2013 storm event and previous storm events.

The Village has received 41 completed flooding questionnaires. The results of the flooding questionnaires have been summarized by subwatershed and are included in **Appendix 1**. **Exhibit 4** shows the location of the subwatersheds. Table 2 summarizes the number of flood questionnaires received by subwatershed.

Table 2
Flooding Questionnaires by Subwatershed

Subwatershed	Number of Flooding Questionnaires Received
Salt Creek	11
Salt Creek – Ogden Avenue Outlet	5
Flagg Creek – Blue Lake	12



Flagg Creek – Park Avenue	6
Flagg Creek – N. 55 th Street	7

The following are a listing of streets by subwatershed which flooding questionnaires were received:

- Salt Creek
 - Chicago Avenue
 - Middaugh Road
 - Oxford Avenue
 - N. Prospect Avenue
 - Walnut Street
- Salt Creek Ogden Avenue Outlet
 - Columbine Drive
 - Stonegate Road
 - Traube Avenue
 - Woodstock Avenue
- Flagg Creek – Blue Lake
 - Burlington Avenue
 - Hiawatha Drive
 - Iroquois Avenue
 - Tuttle Avenue
- Flagg Creek – Park Avenue
 - Chestnut Avenue
 - Colfax Avenue
 - Ridge Avenue
- Flagg Creek – N. 55th Street
 - 55th Street
 - Hudson Avenue
 - Ruby Avenue
 - Walker Avenue

Based on the flooding questionnaires responses, the cause of flooding during the April 18, 2013 storm event is summarized in **Table 3**.

Table 3
April 18, 2013 Flooding Causes

Flooding Cause	Flagg Creek*			Salt Creek*	
	Blue Lake	Park Ave.	N. 55 th St.	Salt Creek	Salt Creek – Ogden
Overland Flow	9	3	3	8	3
Sanitary Sewer Backup	3	2	2	2	2
Seepage	4	1	3	3	2
Sump Pump Failure	0	0	1	4	1
No Flooding	1	2	1	0	0

* Multiple Answers

The results of the flooding questionnaire indicate that for the properties reporting flooding during the April 18, 2013 storm event, the primary cause of structure flooding (70%) was overland flow entering the homes through a

basement window or doorway. The source of the flood waters was street and yard ponding and overflow from the Hinsdale Golf Club. The secondary cause of flooding (16%) was seepage into basements from yard. The final cause of flooding (14%) was sanitary backup or sump pump failure.

FIELD SURVEY OF HWMS

A field survey of various high water marks (HWM) associated with April 18, 2013 storm event was completed to defined the inundation areas high water level (HWL) based on information and photographs provided in the flooding questionnaires. **Table 4** summarizes the surveyed HWLs. The field surveyed HWL will be used in future study phases to calibrate the hydrologic/hydraulic models. Once the hydrologic/hydraulic models are calibrated, they can be used to quantify the benefits from various flood reduction alternatives.

Table 4
April 18, 2013 Storm Event HWLs

Location	Subwatershed	Surveyed HWL (ft- NAVD88)	Location of High Water Mark Surveyed
132 Mohawk	Flagg Creek – Blue Lake	733.2	Garage Entrance Door
132 Mohawk	Flagg Creek – Blue Lake	733.3	Street Sign
136 Iroquois	Flagg Creek – Blue Lake	733.2	Fire Hydrant – NE Corner Iroquois & Burlington
320 55 th Street	Flagg Creek – N. 55 th Street	736.9	Garage Door
367 Ruby Street	Flagg Creek – N. 55 th Street	730.4	Street
321 Hudson Street	Flagg Creek – N. 55 th Street	731.8	Garage
440 Colfax Avenue	Flagg Creek – Park Avenue	723.1	A/C Pad Rear Yard
Richmond/Colfax Avenue	Flagg Creek – Park Avenue	723.8	Street
442 Colfax Avenue	Flagg Creek – Park Avenue	723.0	Rear yard fence
446 Ridge Avenue	Flagg Creek – Park Avenue	724.2	Garage
236 Middaugh Road	Salt Creek	717.5	Garage Door
237 Middaugh Road	Salt Creek	717.5	Front Yard
241 Middaugh Road	Salt Creek	717.6	Front Yard
234 Oxford	Salt Creek	739.1	Street
124 Oxford	Salt Creek	729.1	Front Yard

The following exhibits show the approximate April 18, 2013 storm event inundation for floodprone areas within the Village:

- **Exhibit 5 – Flagg Creek – Blue Lake**
- **Exhibit 6 – Flagg Creek – Park Ave.**
- **Exhibit 7 – Flagg Creek – N. 55th Street**
- **Exhibit 8 – Salt Creek – Prospect Park**
- **Exhibit 9 – Salt Creek – Middaugh Road Area**
- **Exhibit 10 – Salt Creek – Naperville Road Area**

PRELIMINARY DETERMINATION OF FLOODING CAUSES

The following is a summary of the general cause of the reported flooding in each watershed:

Flagg Creek Watershed

Blue Lake

This 225 acre subwatershed drains to Blue Lake. This subwatershed area includes 110 acres located within the Village of Westmont. The collected stormwater in Blue Lake is conveyed southward under the railroad tracks into the Park Avenue storm sewer. This storm sewer is also the outlet for the Park Avenue stormwater basin. Within the subwatershed, stormwater flows north to south towards Burlington Avenue and then eastward to Blue Lake. The ability for Blue Lake to discharge stormwater is limited when the Park Avenue storm sewer fills. Blue Lake will exceed its capacity flooding Burlington Avenue and backing up stormwater to the west. Low lying street sags will fill with stormwater which reaches elevations which result in yard flooding and then home flooding.

Park Avenue

The Village of Westmont's Dallas Street stormwater basin is located west of Richmond Avenue, between Ridge Avenue and Colfax Avenue. This basin stores stormwater from 163 acres within the Village of Westmont. The outflow from the Dallas Street stormwater basin is conveyed by storm sewer to the Park Avenue stormwater basin which outlets into the Park Avenue storm sewer. The outflow from the Dallas Street stormwater basin is reduced as the Park Avenue stormwater basin fills. Because of the limited storage capacity and the reduced outlet capacity during storm events, the Dallas Street stormwater basin will overtop during severe storm events resulting in flooding of Richmond Street, the adjacent residential yards and homes. When the Park Avenue stormwater basin fills, inundation of the rear yards of Colfax Avenue homes will occur.

N. 55th Street

This area is located north of 55th Street, west of Walker Avenue, south of Ruby Street and east of Western Avenue. As the storm sewer system capacity is exceeded, inundation of the streets and yards of this area occurs. Excess stormwater from 55th Street has been reported to drain into this area. The surrounding inundation results in basement flooding through seepage and sewer backup. Yards of homes surrounding Hosek Park are also inundated when Hosek Park becomes inundated.

Salt Creek Watershed

Salt Creek

The area south of Chicago Avenue drains to the stormwater basins located within Prospect Park which drains northward into Hinsdale Golf Club through a 36-inch storm sewer. As the basin fills during severe storm events, it can reach a high water level that will overtop Oxford Avenue resulting in street and yard flooding in this area. The homes in this area reported basement flooding during the April 18, 2013 storm event. Within the Hinsdale Golf Club there is berm along the end of the driving range that allows stormwater to be stored upstream of the homes on Middaugh Road. During the April 18, 2013 storm event, major areas of the golf club were inundated by stormwater. A storm sewer conveys flow from the area behind the berm eastward towards Middaugh Road and Walnut Street. When the capacity of the stormwater storage area behind the golf club berm is exceeded, stormwater will flow along an overland flow route eastward towards the homes on Middaugh Road and then Walnut Street. This overland flow will result in street, yard and home flooding.



Salt Creek - Ogden Avenue Outlet

The Village area located north of Naperville Road drains eastward by storm sewer into the Hinsdale Golf Club. The storm sewer system continues northeastward in the Village of Clarendon Hills area located south of Ogden Avenue. When this storm sewer system capacity is exceeded, stormwater will inundate the streets, yards, homes and golf course.

The above describes larger connected floodprone areas within the Village. We recognize that there are other isolated incidences of flooding throughout the Village.

DEVELOPMENT OF FUTURE SCOPE AND POTENTIAL MITIGATION IMPROVEMENT ALTERNATIVES

Flagg Creek Watershed

A XP-SWMM hydrologic and hydraulic model was previously developed for the Flagg Creek watershed by DuPage County. This model will be enhanced to show more detail in the areas of known flooding problems. The model will be calibrated using the surveyed April 18, 2013 HWMS. The calibrated model will be used to evaluate potential flood mitigation alternatives including expansion of the storage within the existing stormwater basins (Dallas Street, Park Avenue, Blue Lake and Hosek Park). The expansion of the Hosek Park stormwater basin would allow the potential for better drainage for the N. 55th Street area and to accommodate outflows from the Dallas Street stormwater basin. For the area on Burlington Avenue, potential storage options will be evaluated. Non-structural measures (floodproofing and buyout) will also be evaluated.

Chestnut/Burlington Avenue Alley Pump Station

The existing alley pump station capacity will be evaluated based on the April 18, 2013 storm event.

Salt Creek Watershed

An existing hydrologic model of the Prospect Park area will be expanded to include the entire watershed tributary to IL Route 83 including the storm sewer system through Hinsdale Golf Club and Middaugh Road. The model will account for the existing storage available in Prospect Park and the Hinsdale Golf Club. The model will be calibrated using the surveyed April 18, 2013 storm event high water marks. The calibrated model will be used to evaluate potential flood mitigation alternatives including the expansion of existing storage areas (Prospect Park and Hinsdale Golf Club) and the establishment of a more suitable overland flow route through the Middaugh Road and Walnut Street area. Non-structural measures (floodproofing and buyout) will also be evaluated.

Salt Creek - Ogden Avenue Outlet

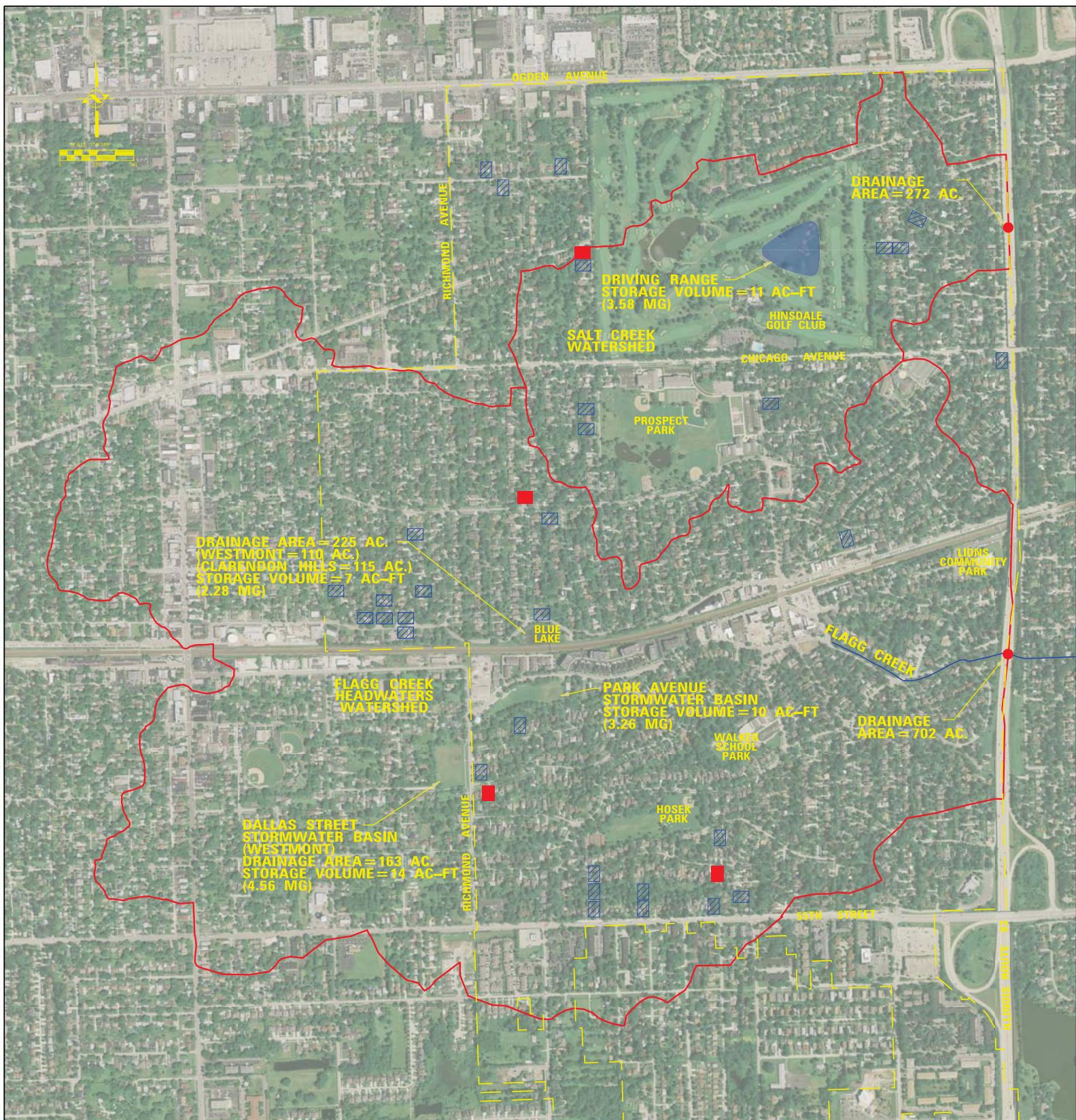
No hydrologic and hydraulic model exists for this subwatershed. A new hydrologic and hydraulic model will be prepared and calibrated to the filed surveyed April 18, 2013 HWMS. This model will account for the existing storage volume located within the Hinsdale Golf Club. The calibrated model will be used to evaluate potential conveyance and storage alternatives that reduce the risk of future flooding to the floodprone Village areas.

FUTURE STUDY COSTS

The following is a range for study costs for use by the Village of Clarendon Hills in developing future budgets. These study costs do not include preparation of engineering plans, permitting or construction observation services. The study will also evaluate the use of a Supervisory Control and Data Acquisition (SCADA) system to allow Village of Clarendon Hills staff control of components of the stormwater system.

Flagg Creek Watershed	\$ 150,000-\$180,000
Salt Creek Watershed	\$ 100,000-\$120,000
Salt Creek - Ogden Avenue Outlet Subwatershed	\$ 60,000-\$80,000





NO.	DATE	NATURE OF REVISION		CHKD.
DSGN.	ORD.	PROJECT No.	13-0200	EXHIBIT 1
DWN.	EAT	CLIENT:		
CHKD.	ORD	VILLAGE OF CLARENDON HILLS		
SCALE	1" = 350'	EN PROSPECT AVENUE		
DATE	7/30/2013	CLARENDON HILLS, ILLINOIS 6054		
TITLE: VILLAGE WATERSHEDS				
 CHRISTOPHER B. BURKE ENGINEERING LTD. 9575 West Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 823-0500				

* INFORMATION FROM FLOODING QUESTIONNAIRES

OGDEN AVENUE

RICHMOND AVENUE

DRAINAGE AREA = 272 AC.

DRIVING RANGE
STORAGE VOLUME = 11 AC-FT
(3.58 MG)

SALT CREEK
WATERSHED

HINSDALE GOLF CLUB

CHICAGO AVENUE

PROSPECT PARK

LIONS
COMMUNITY
PARK

FLAGG CREEK

ILLINOIS ROUTE 83

SCALE

1" =

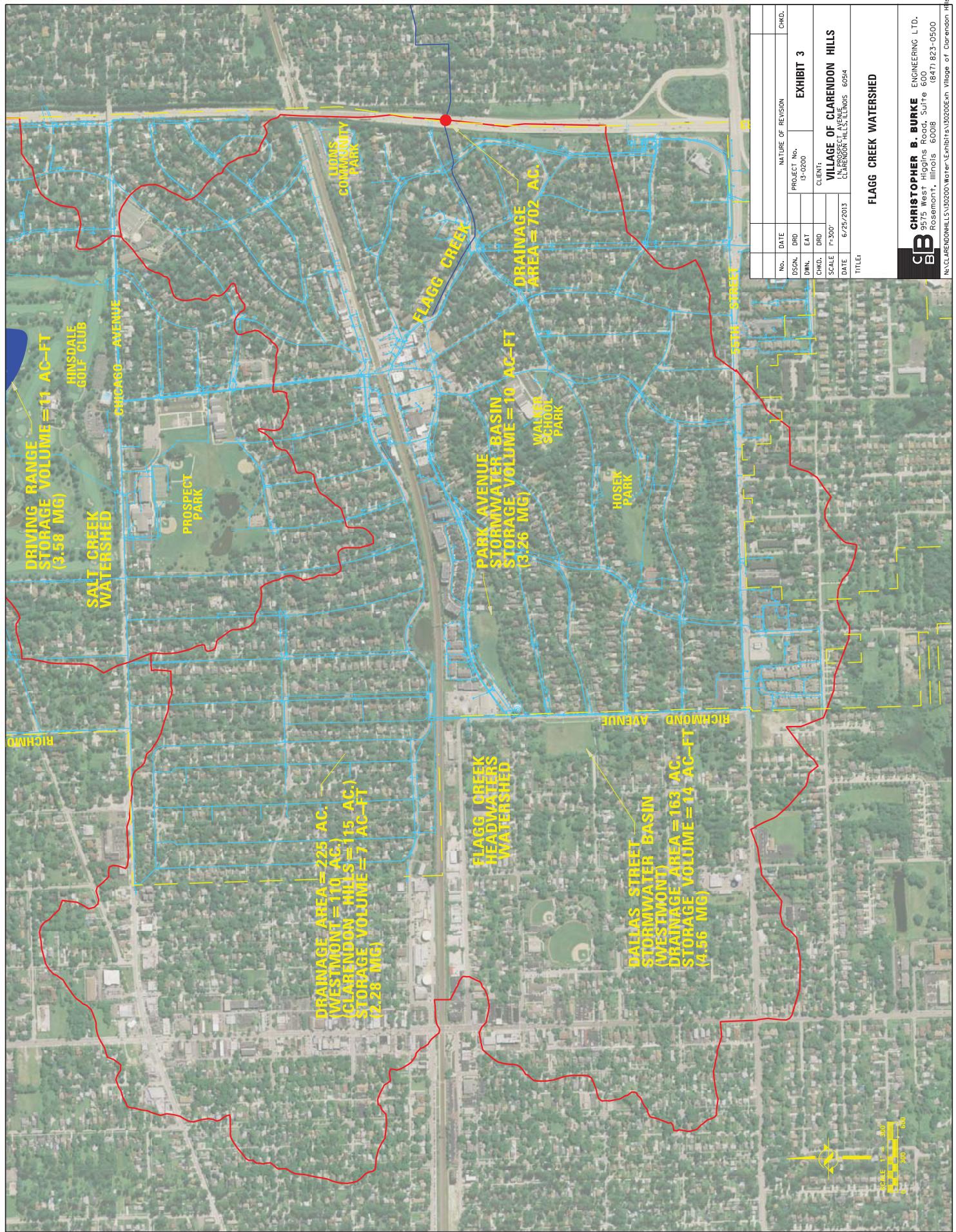
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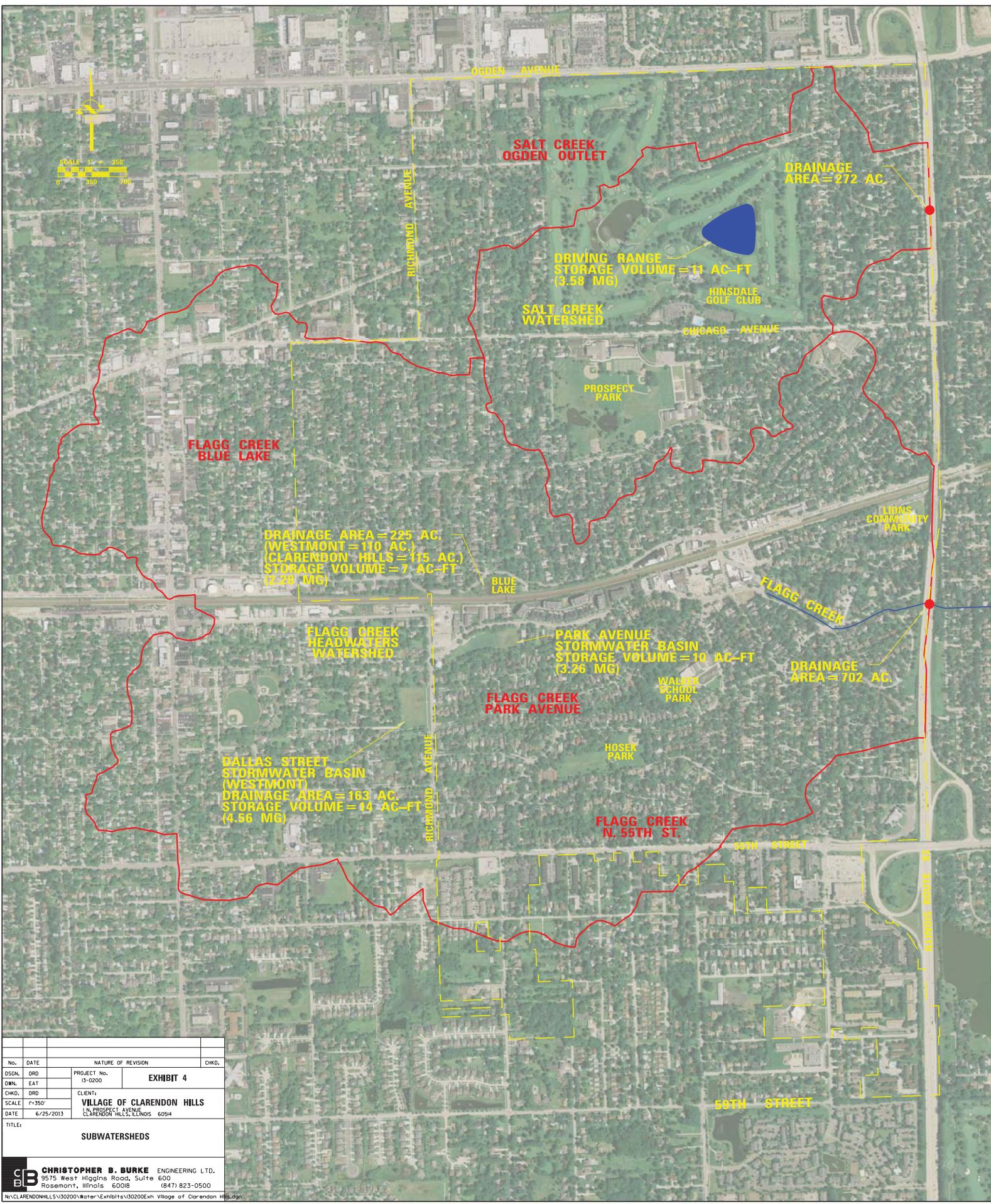
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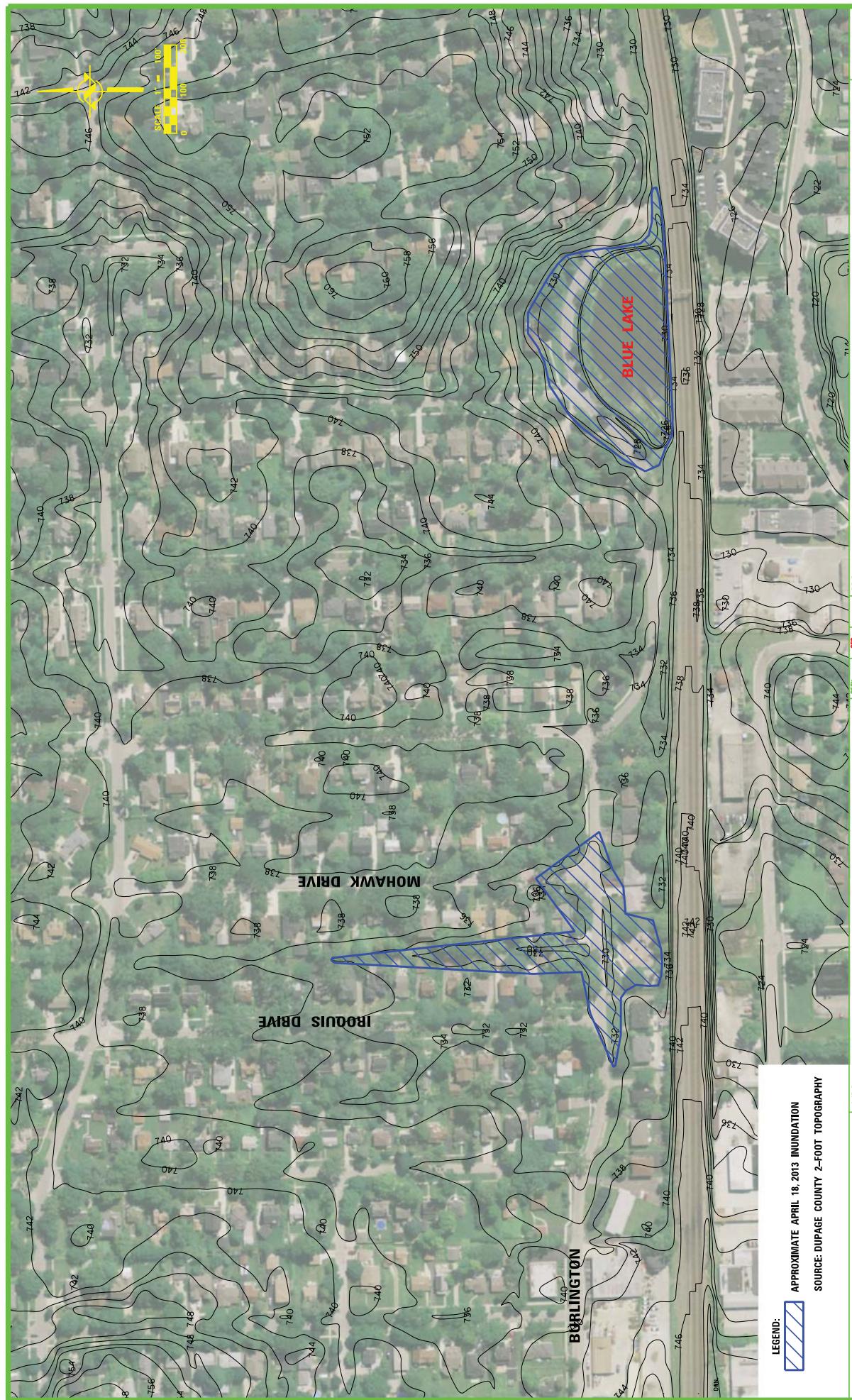
170'

340'

No.		DATE		NATURE OF REVISION		CHKD.				
DSGN.	DRD.	PROJECT NO.		EXHIBIT 2						
DWN.	EAT.	13-0200								
CHKD.	DRD.									
SCALE	1"=110'									
DATE	6/26/2013									
TITLE:										
SALT CREEK WATERSHED										
Christopher B. Burke Engineering Ltd. 9575 West Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 823-0500										

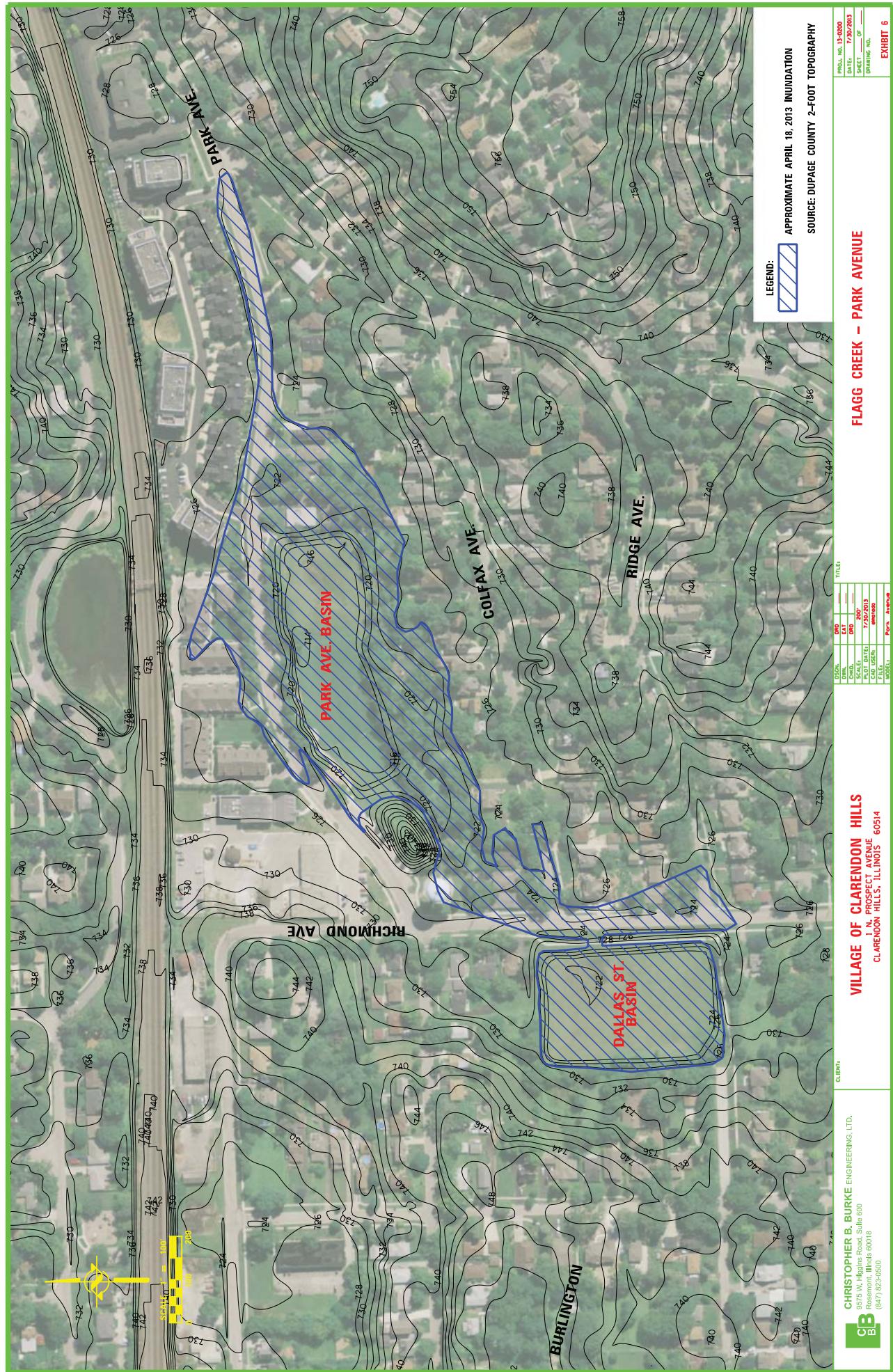


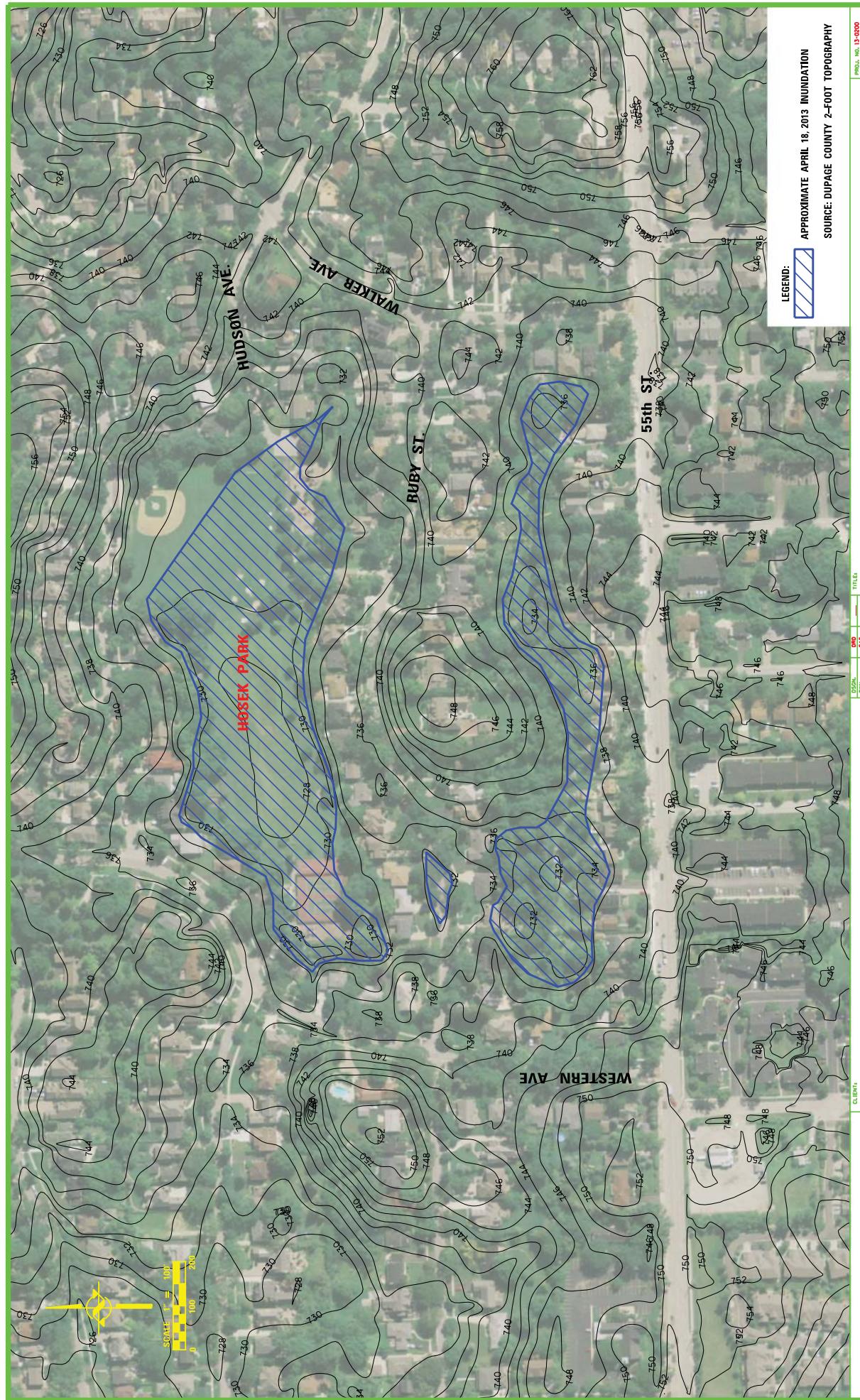




PROJ. NO. 5-9200	
DATE: 7/26/2013	
SHEET 08 OF 08	
DRAWING NO. 0007	
CADD FILE: 7/26/2013	
EMAIL: 60514@illinoisedge.org	
PHONE: (847) 823-0500	
FAX: (847) 823-0500	
RE: CLARENDON HILLS 2013 INUNDATION	
Flagg Creek - Blue Lake	

EXHIBIT 5





VILLAGE OF CLARENDON HILLS
1 N. PROSPECT AVENUE
CLARENDON HILLS, ILLINOIS 60514

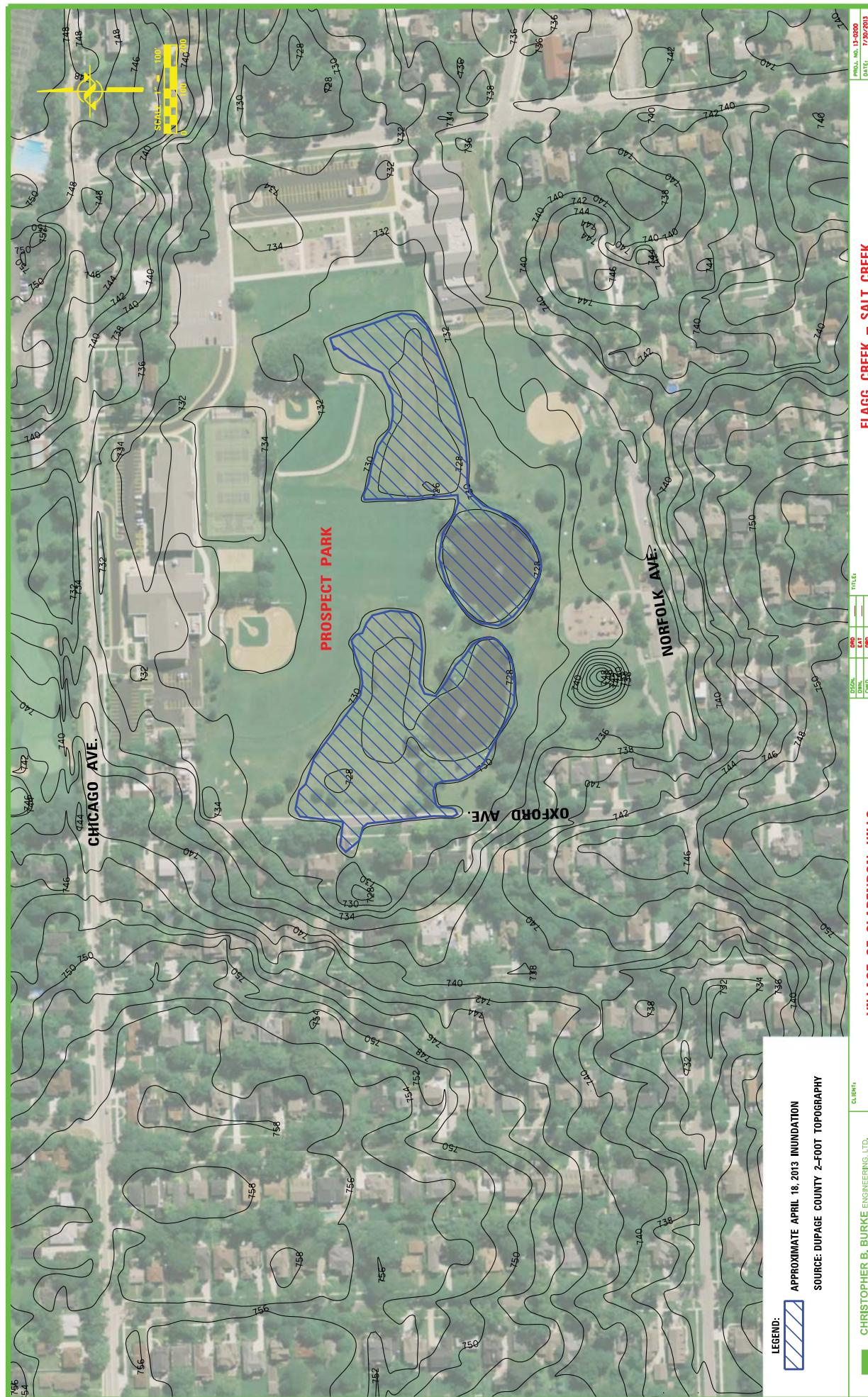
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CREDO	DRD	—
SCALE	200'	—
PLOT DATE	7/30/2013	—
CAD USER	emotodo	—
FILE	—	—
MODIFICATIONS	—	—

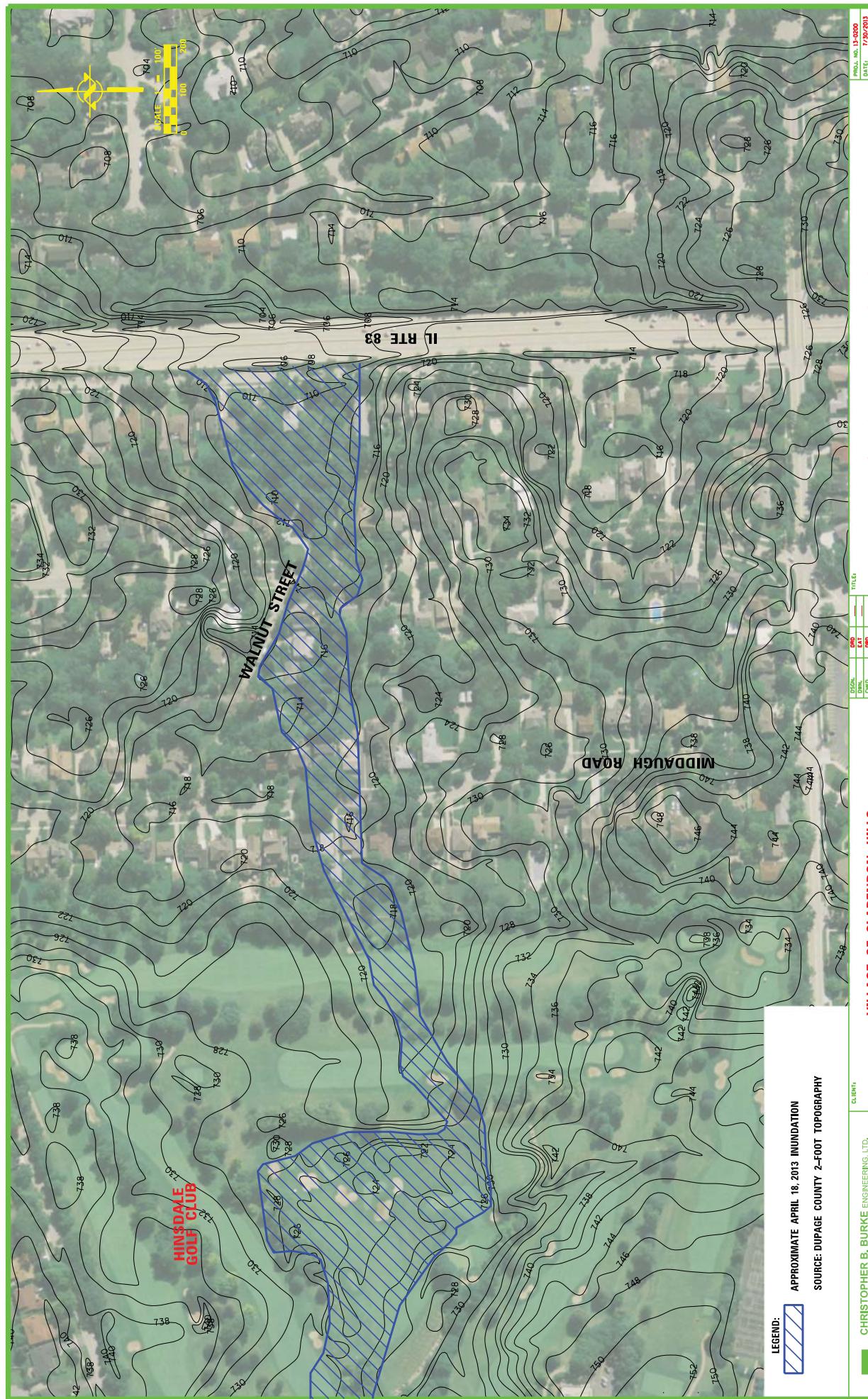
CHRISTOPHER B. BURKE ENGINEERING,
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

FLAGG CREEK – N. 55th STREET

EXHIBIT 7

CLARENTHONHILLS\J0200\Water\Exhibits\J0200Exhibit N 55th St.dgn







VILLAGE OF CLARENDON HILLS FLOODING QUESTIONNAIRE

The purpose of this questionnaire is to help the Village of Clarendon Hills identify areas with flooding problems. Although completing this questionnaire is voluntary, your response will help to determine potential solutions. This information will be used for internal planning purposes only and will not be distributed. Please return this questionnaire to the address at the end of the form.

Name: _____

Address: _____

Telephone: Home: _____ Cell: _____

E-mail: _____

1. How long have you lived at this address? _____ Years
2. Do you have a basement? _____ Yes _____ No
If yes, do you have a sump pump? _____ Yes _____ No
3. Do you have a below street level garage entrance? (driveway pitched down from the street to the garage entrance) _____ Yes _____ No
4. How many times have you experienced flooding in your home? _____
5. If you have experienced flooding, please fill out the table below to the extent you can. What was the depth of flooding per occurrence? Please indicate the depth of water in either the basement or on the first floor. How long were flood waters present?

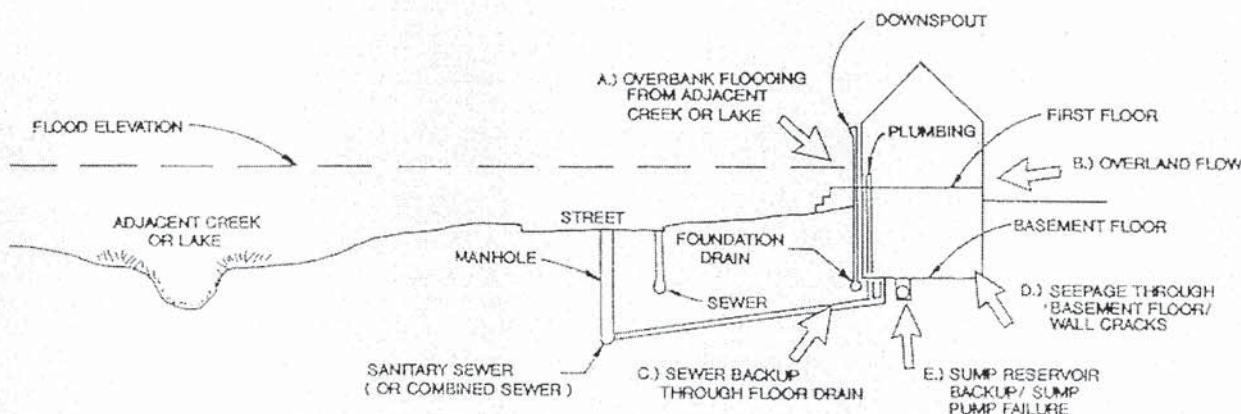
Flood Event (date)	Depth of Flooding (feet)		High Water Mark ¹ (please check this box if available)	Duration of Flood (hours)
	In Basement	On the 1st Floor		

¹ 'High Water Mark' refers to the peak level reached by flood waters outside your home.

6. Flooding in your home occurs from what source? (See Figure Below)

- A. Overbank flooding from adjacent creek or pond
- B. Overland flow through: (please check each appropriate flooding source)
 - basement window
 - doorway
 - other (please describe) _____
- C. Sanitary Sewer backup through floor drain
- D. Seepage through basement floor and/or wall cracks
- E. Sump pump failure
- F. Other. If other, please describe source: _____

- G. Unsure



7. Please write any additional comments below. Photos of flooding or sketches of the house and floodwaters in the area are also helpful. If hard copies of photos are submitted, please include a written description and date the pictures were taken. Photos will be returned upon request.

Please Return Questionnaire to:

Village of Clarendon Hills

1 N. Prospect Avenue

Clarendon Hills, IL 60514

Attention: Michael D. Millette, PE

OR scan and e-mail to: mmillette@clarendonhills.us

U:\My Documents\storm water\FloodQuestionnaire.docx

Watershed	Sub-Watershed	Address	Last Name	How long have you lived at this address	Below Street Level Garage	How many times did you receive flooding?	Flood Event Date	On First Floor	High Water Mark	Duration (hrs)	Overbank Flooding	Overland Flow	Basement Doorway	Window	Sanitary Sewer Backup	Sump Pump Failure	Other	Remark	Photos
1	Flag Creek	Blue Lake	127 Troquois Drive	Concoran	8	Y	3	4/18/2013	2.5'	4.6"	12	X							Flooding from front & rear ditch
2	Flag Creek	Blue Lake	127 Troquois Drive	Sternberg	3	Y	5'	4/18/2013	5'	24"	10	X							Street and yard flooding
3	Flag Creek	Blue Lake	133 Troquois Drive	Hoover	30	Y	4-5	4-18-13	X	69"	5-6	X							Water surrounded house 1' from entering
4	Flag Creek	Blue Lake	105 Troquois Drive	McNameara	26	Y	2	4/18/2013	X	5.5"	48	X							Park filled, water previously went to park
5	Flag Creek	Blue Lake	136 Troquois Drive	West	10	Y	4	4/18/2013	X	2"	10-2013	X							Street Flooding
6	Flag Creek	Blue Lake	411 Burlington Avenue	Mazzolini	16	N	2	4/18/2013	3"	4' (BM)	14								
7	Flag Creek	Blue Lake	132 Mohawk Drive	Cramer	11	N	2	4/18/2013	3"	4' (BM)	10-2006	X							Burlington Flooded 4:30 am
8	Flag Creek	Blue Lake	132 Mohawk Drive	Troha	1	N	1	4/18/2013	3"	4' (BM)	11-2003	X							High water by 7:30 am
9	Flag Creek	Blue Lake	36 Turtle Avenue	Killion	27	Y	1	4/18/2013	12"	6"	24"	24							Street & Yard Flooding
10	Flag Creek	Blue Lake	128 Hiawatha Drive	Reiner	42	Y	2	4/18/2013	6"	6"	3							Back Yard flooding	
11	Flag Creek	Blue Lake	7 Woodstock Avenue	Vanderwoude	9	Y	4	4/18/2013	5"	20"	12	X						Backyard filled with Water	
12	Flag Creek	Blue Lake	101 Woodstock Avenue	Watchesen				7-2011	6"	96	6-2011	6"	72						Power outage - 2011
								6/26/2005	6"										Across Street from Blue Lake

Watershed	Sub-Watershed	Address	Last Name	How Long Have You Lived at This Address	Below Street Level	How Many Times Did You Receive Flooding?	Flood Event (date)	In Basement	On First Floor-Garage	High Water Mark	Duration (hrs)	Overbank Flooding	Basement Doorway	Overland Flow Window	Sanitary Sewer Backup	Seepage	Sump Pump Failure	Other	Remark	PHOTOS
1 Flagg Creek	N. 55th	366 55th Street	Musch	22	Y	Y	3	4/18/2013	1' 6" 3"		15				X			Backyard flooded 3.4' (Garage flooding Detached) Flooding made worst with 55th Street Flooding Pours down driveway & hills to backyard 4-18-13 48 hrs for floodwaters to recede		
2 Flagg Creek	N. 55th	320 55th Street	Letourneau	26	Y	Y	4	4/18/2013	X	32"	18	X						Water over window well into basement		
3 Flagg Creek	N. 55th	346 55th Street	Dalevic	40	Y	Y	6	4/18/2013	X		72									
4 Flagg Creek	N. 55th	347 Ruby Street	Ryder	15	Y	Y	0	4/18/2013		30"		X						rear yard flooding	X	
5 Flagg Creek	N. 55th	321 Ruby Street	Tobolski	1	Y	Y	0	4/18/2013		42"		X						Ruby St flooded, Stock Park nearly flooded	X	
6 Flagg Creek	N. 55th	322 Hudson Avenue	Ewing	9	Y	Y	3	4/18/2013	3'			X						Rear Yard Flooding	X	
7 Flagg Creek	N. 55th	272 Walker Avenue	Block	10	Y	Y	2	4/18/2013	2'	10-2006	4'				X			Ground water	X	
																		Front & rear yard inundation		
																		Water from surcharging 55th Street storm sewers	X	

Watershed	Sub-Watershed	Address	Last Name	How Long Have You Lived at This Address	Sump Pump	Below Street Level Garage	How Many Times Did You Receive Flooding?	Flood Event (date)	In Basement	On First Floor	High Water Mark	Duration (hrs)	Overbank Flooding	Basement Window	Overland Flow	Basement Downway	Other	Sanitary Sewer Backup	Seepage	Pump Failure	Remark		PHOTOS			
1	Flaggs Creek	Park Ave.	Fauske	2	Y	Y	N	1	4/18/2013	96"	24" side of house	48	X											Backs up Park Avenue	X	
2	Flaggs Creek	Park Ave.	Derfny	35	Y	Y	N	0	4/18/2013	98"	Edge of Patio	8												Water from Dallas street and Park ave	X	
3	Flaggs Creek	Park Ave.	Strehan	27	Y	Y	Y	Countless	4/18/2013	78"	30"	12												Rear yard inundation from Park Avenue Basin	X	
									12-2008	0	30"	12												Street & Yard Flooding Over FF	X	
									9-2008	12"	30"	12												Dallas Subbasin overflow	X	
4	Flaggs Creek	Park Ave.	Alimed	3	Y	Y	N	0	4/18/2006	36"	30"	24														
5	Flaggs Creek	Park Ave.	White	3	Y	Y	Y	0	2005	5"	30"	12														
1	Flaggs Creek	13 Chesnut Avenue	Rediger	8	Y	Y	Y	10	4/18/2013	X	24"	12	X	X	X	X								Water in basement from window	X	
																									Water ponds in rear yard and enter window	X

Watershed	Sub-Watershed	Address	Last Name	How Long Have You Lived at This Address	Below Street Level Garage	Flood Event Date	On First Floor	High Water Mark	Duration (hrs)	Overbank Flooding	Overland Flow	Sanitary Sewer Backup	Sump Pump Failure	Remark		Photos	
														Basement	Sump Pump		
1	Salt Creek	Ogden	408 Traube Avenue	Begg	50	Y	N	5	4/18/2013	X				X	X		
2	Salt Creek	Ogden	434 Traube Avenue	Grove	10	Y	N	1	4/18/2013	6"				X			
3	Salt Creek	Ogden	254 Woodstock Avenue	Mungavan	15.5	Y	Y	6	4/18/2013	4.5"				X			
4	Salt Creek	Ogden	270 Stonegate Road	Danzitz	0.5	Y	N	2	4/18/2013	X				X			
5	Salt Creek	Ogden	281 Columbine	Jasper	32	Y	N	6	5/28/2013	4"				X			
																	Prior years flooding was caused by storm sewer collapse street flooding, only during April 18, 2013 Power Outage

