



Roads & Bridges Committee
NOTICE OF MEETING

Thursday, July 20, 2017 ~ 4:00 pm
112 Algonquin Road

AGENDA

1. Call to Order & Roll Call
2. Public Comments
3. [Vote] [Minutes June 22, 2017](#)
4. Discussion Items
 - 4.1 [2017 Road Program – Construction Status](#)
 - 4.2 [July 12, 2017 Storm Event- Drainage Review](#)
 - 4.3 [Porter Bridge Inspection](#)
 - 4.4 Snow Plowing 2017-2018
5. Adjournment

Chairman: Brian Cecola

NOTICE AS POSTED



ROADS & BRIDGES COMMITTEE

Meeting Minutes

112 Algonquin Road, Barrington Hills

Monday, June 22, 2017 | 4:00 pm

Committee Members Present: Trustee Brian Cecola, Chair
Trustee Michelle Nagy Maison, Co-Chair
Martin McLaughlin, Ex officio member
Robert Kosin, Village Administrator
Dan Strahan, Village Engineer

Others Present: Melanie Medici, Resident
Linda Cools, Resident
Pauline Boyle, Resident

1. ORGANIZATIONAL: The meeting of the Village of Barrington Hills Roads & Bridges Committee was called to order by Chairman Cecola at 4:00 PM.

2. PUBLIC COMMENTS:

Linda Cools voiced her concerns regarding the way that the village solicits contractors for Village engineering work. She believes that the Village relies on trusted contractors from the past which may not benefit the Village financially or otherwise. She has requested that all information be made available online so residents have the capacity to review what is in their best interest. She is also confused on how the initial amount of applicants had been reduced to only 3 firms for engineering services. She would like a more regular and improved vetting process to select the best candidates.

Pauline Boyle expressed her concerns with the engineering services provided to the Village and believes there needs to be a change. She believes current remediation for drainage issues is not adequate. She also expressed that new construction and impervious improvements have changed old drainage patterns and decreased efficiency. She believes that meetings should be livestreamed and the process for editing and conveying meeting information needs to be changed. Ms. Boyle also mentioned that she has seen cases where the initial specifications for proposed drainage projects have not matched as-built conditions, resulting in poor drainage.

3. APPROVAL OF MINUTES: The minutes of the Roads & Bridges Committee Meeting of May 18, 2017 were approved as written.

4.1 ROUND BARN DRAINAGE UPDATE

Melanie Medici spoke on behalf of her mother's property at 67 Round Barn Road. Ms. Medici noted that since the 24" culvert under Round Barn Road was replaced, it has increased the amount of water on to the property which she fears will hurt resale value and has created lawn maintenance problems as well as her mother not being able to travel down to Hawley Lake. She expressed that the roadside ditch line was previously effective and they did not have this issue previously. Also, an area within the ditch was excavated near 70 Round Barn Road which flows directly into the newly installed culvert.

Mr. Strahan and Mr. Kosin visited this site June 6th and noted that the concrete culvert has been installed since 2010. It is Mr. Strahan's suspicion that a drain tile was installed underneath the existing ditch line to allow drainage relief in this area. Now there is a roughly 2' wide excavated trench that runs through the roadside ditch and allows a more direct runoff of water on to the property. Mr. Strahan noted that our office is gathering information and there are potential solutions including slowing down water entering the North side of the culvert, grading the ditch line, or installing a storm sewer system to allow water to enter the stream and Hawley lake.

4.2 ROAD PROGRAM 2017

Mr. Strahan mentioned that signed contracts from Lorig construction were received and a preconstruction meeting has been scheduled. Preliminary schedule is for Lorig to begin underground work in early to mid-July and start pavement work by August 1st.

4.3 IL 62 PAVEMENT MARKINGS

Mr. Strahan noted that he has received an IDOT notice dated June 9th informing that the Village is responsible for repainting Equestrian crossing lines on IL-62 and fixing signage on Lake Cook Road adjacent to Countryside School. They noted that poles needed to be straightened and signs needed to be replaced. Ms. Strahan noted both items are being looked into; however, the Equestrian crossing is faded and likely needs to be replaced. Trustee Cecola noted an Equestrian sign on IL-62 that was hit and is leaning over. Although this is not part of IDOT's request, a ticket should be submitted to look into fixing this. Mr. Kosin stressed that the Village can go about replacing it as they deem; however, they would have to pay. If they do not decide to pay for this, it is possible IDOT would remove the crossing altogether.

4.4 IDOT – IL 25 RESURFACING PROJECT

Mr. Strahan noted this is an informational item in which IDOT is planning to resurface IL-25 from IL 72 to Boltz Road. The low bidder was Plote Construction at roughly \$1.7 Million. The attached memo packet shows unit pricing comparison to the Village Road Program. Because IL-25 is a state funded project, it is pending a successful passing of a state budget. Martin McLaughlin asked if the Village had any state projects upcoming or going on. Mr. Strahan replied that the Cuba Road Bridge project has completed final landscaping; however, final pay requests are not expected until the fall which may affect the timing of reimbursements. Brinker Road is a Cook County road which receives state funds. This may cause a "trickle-down" effect in budgeting. Trustee Cecola reiterated that they are trying to complete Brinker Road this year.

4.5 ROADSIDE MOWING UPDATE

Mr. Strahan indicated that Horcher Brothers is out this week doing initial mowing. A second mowing usually occurs around Labor Day if necessary.

4.6 2017 CULVERT INVENTORY REPORT

Mr. Strahan noted that a final report is included in the packet. The culvert inventory is an online work product that is represented as a GIS layer on the Village web map. The highlights break down culverts by material, size, and condition. In 2010, there were 24 culverts that needed to be replaced. Currently, there are only 4 and 3 of those are located on roads that are scheduled to be resurfaced within the next 2-3 years. The 4th culvert is a damaged Flared End Section located on IL-62 underneath Springwood. Mr. Strahan will look into making these repairs as funds allow.

5. ENGINEERING FIRM PRESENTATIONS AND QUESTIONS: [*Minutes for this portion of the meeting have been prepared by Village staff.*]

6. ADJOURNMENT: The meeting was adjourned at 5:20 PM.

DRAFT

MEMORANDUM

To: Robert Kosin, VBH Director of Administration
Brain Cecola, VBH Chairman Roads & Bridges

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: July 17, 2017

Re: 2017 Road Program- Schedule

Lorig Construction plans to mobilize and begin work on the 2017 Road Program this week. They anticipate a few weeks of culvert work, with patching and resurfacing beginning the first week of August. A resident notice has been prepared and is being circulated to residents on the affected roadways.

Our office remains in contact with a few residents directly to coordinate work beyond the existing right-of-way on Old Hart Road and Hills N' Dales Road.

MEMORANDUM

625 Forest Edge Drive, Vernon Hills, IL 60061

TEL 847.478.9700 ■ FAX 847.478.9701

www.gha-engineers.com

To: Robert Kosin, VBH Director of Administration
Brain Cecola, VBH Chairman Roads & Bridges

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: July 13, 2017

Re: Drainage Issues

A significant rainfall event occurred on July 11-12, 2017, resulting in a number of inquiries to the Village regarding roadside drainage. Below is a summary of the rainfall event as well as information on various drainage issues that arose within the Village following the rainfall event.

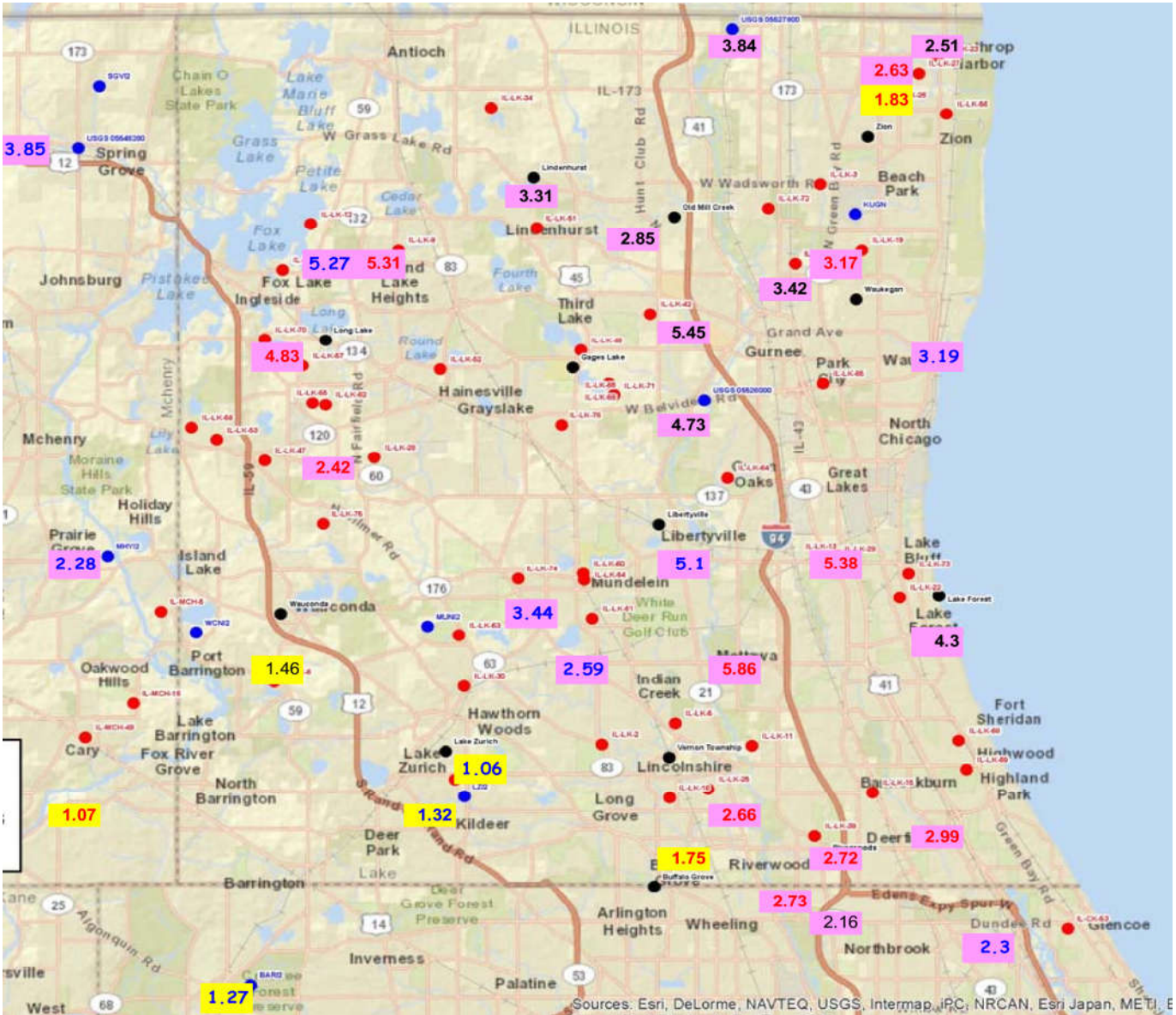
Rainfall Totals- July 11-12, 2017

The Barrington Hills weather station recorded heavy rainfall starting at 9:30 PM on Tuesday night, July 11th. When the rainfall ended around 1:30 PM on Wednesday, July 12th, a total of 3.2” of rain had fallen at the Barrington Hills weather station. Runoff from the July 12th rainfall event was increased as the ground was already saturated due to approximately 0.85” of rain that fell on July 10th.

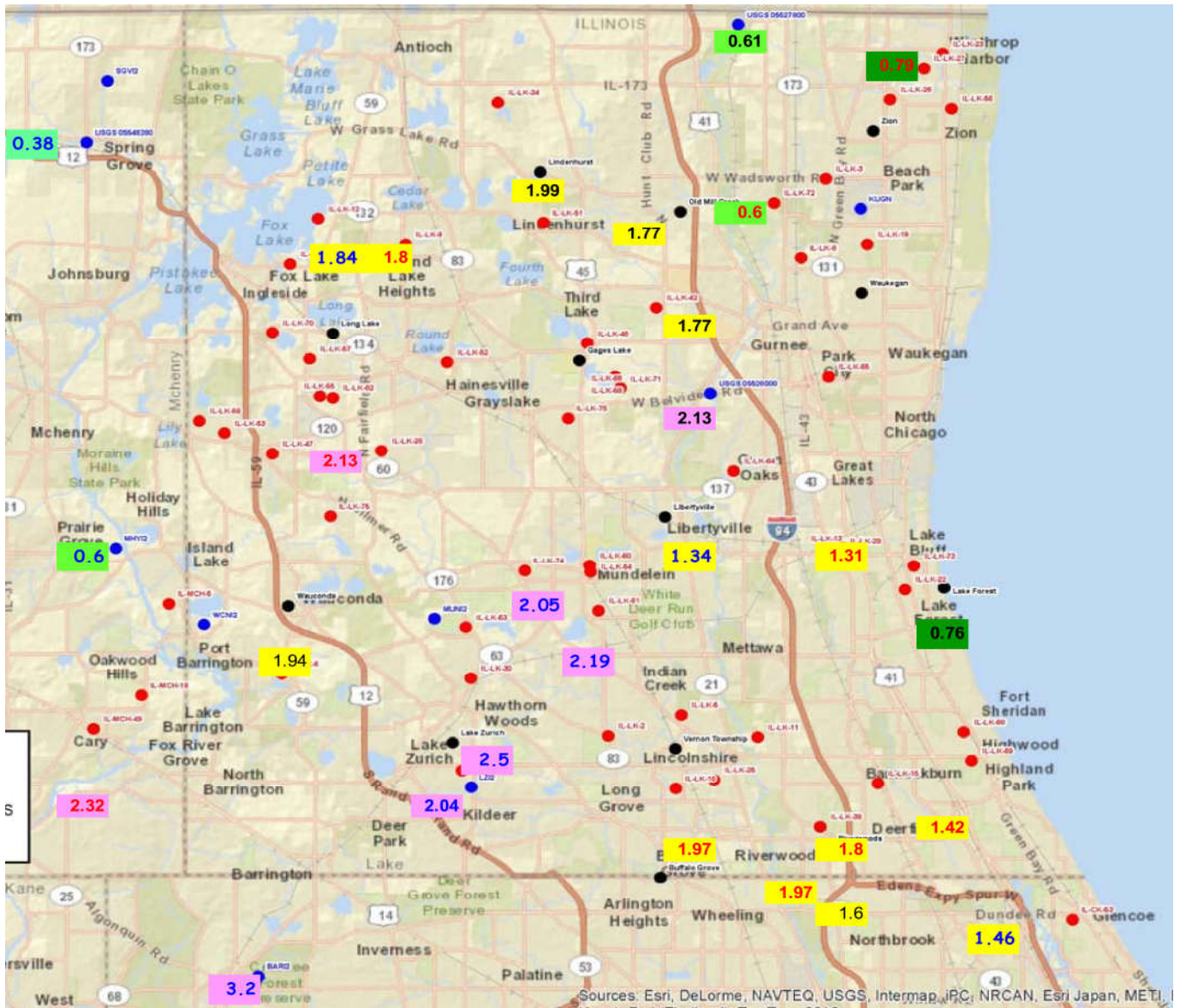
		Precip.	Precip.
	Temperature	Rate.	Accum.
11-Jul			
9:35 PM	76 °F	0 in	0 in
10:30 PM	72 °F	0.33 in	0.33 in
11:25 PM	68.4 °F	0.59 in	0.9 in
12-Jul		Precip.	Precip.
	Temperature	Rate.	Accum.
12:15 AM	69.5 °F	0.23 in	0.06 in
12:50 AM	70 °F	0.07 in	0.06 in
1:35 AM	71.5 °F	0 in	0.06 in
2:15 AM	70.3 °F	0 in	0.06 in
2:50 AM	68.3 °F	0.02 in	0.08 in
3:35 AM	70.4 °F	0.02 in	0.08 in
4:10 AM	69.3 °F	0 in	0.08 in
4:50 AM	69.3 °F	0.02 in	0.1 in
5:25 AM	69.1 °F	0 in	0.1 in
6:00 AM	69.3 °F	0 in	0.1 in
6:55 AM	70.5 °F	0 in	0.1 in
7:45 AM	71.7 °F	0 in	0.1 in
8:40 AM	70.5 °F	0.65 in	0.75 in
9:35 AM	66.3 °F	0.83 in	1.58 in
10:25 AM	66.9 °F	0.87 in	1.88 in

11:15 AM	69.6 °F	0.01 in	1.89 in
12:05 PM	71.1 °F	0.24 in	2.13 in
12:50 PM	70.6 °F	0.45 in	2.34 in

Bob Gardiner at Lake County Stormwater Management Commission regularly sends out rainfall totals after storm events. Below are two maps illustrating the spatial variation in the two waves of rain that occurred on July 11 and July 12; note the rain gauge at Crabtree Nature Center recorded 4.4" of rain total.



7:00 AM July 11, 2017 thru 7:00 AM July 12, 2017



7:00 AM July 12, 2017 thru 7:00 AM July 13, 2017

The weather station total of 3.2" of rain falling over a 16 hour period equates to between a 5-year and 10-year storm event (10-20% annual chance storm event). However, as the maps indicate, there was large differences in the reported rainfall totals, and the storm that occurred just two days prior left the ground saturated and less able to absorb additional rainfall. Heavier rainfall events in some locations, particularly central lake counties, resulted in rainfall totals and intensities in excess of the 100-year rainfall event.

GHA responded to multiple drainage inquiries on the afternoon of Wednesday, July 12th. Below is a summary of our observations in response to the storm event.

Hills N Dales Culvert

Hills N Dales Road was overtopped just east of Honeycutt Road during the storm event. As you can see, water is nearly extended on to the pavement. There is a concrete culvert in the area which carries storm water that flows from southeast to northwest across Hills N Dales Road. The upstream end of the culvert connects to a manhole structure, covered by a flat metal grate. The grate often is clogged with debris and leaves. Part of the 2017 Road Program includes replacing this structure with a modified inlet box that would be less prone to becoming clogged and still handle the capacity of water in the area.



573 W. Cuba Road

The resident at 573 W. Cuba Road notified Village staff that rainfall event had flooded part of his basement. Upon arrival and property inspection, no abnormal ponding of water could be identified around the property. Ditch culverts and storm sewer seemed to be working adequately in the adjacent property.



Old Hart Road Drainage

As noted in the spring drainage review, the roadway culvert at 41 Old Hart Road cannot handle the capacity of a significant rainfall. The 2017 Road program proposes to install a new 24' RCP culvert roughly 200' north to allow intercept of part of this tributary, along with replacing the culvert shown in the picture below.



River Road Drainage

Pictured below is the roadway ditch in front of 10123 River Road. The resident notified Village staff that a tree had overtopped during the rain event and caused clogging of the culvert which resulted in flooding of part of his property. Upon arrival, the tree had been removed. He mentioned that Lorig Construction did a good job with installing the culvert; however, the culvert was not installed with flared end section grates when they were put in last year. We will notify Lorig to install the required grate.



Dundee Lane Drainage

Dundee Lane overtopped just north of Sara Lane; this location also overtopped during a March rainfall event. At this location, a 30" CMP crosses Dundee Lane, draining the Motorwerks/Southgate area in the Village of Barrington as well as areas in Barrington Hills, draining into a private pond on the west side of Dundee Lane. There is an outlet structure on the west side of the pond at the residential driveway, which was overtopping as shown below.

There is significant vertical relief on the west side of the driveway. If the Village were to work with the property owner to lower the outlet structure for the pond, Dundee Lane would be less prone to overtopping in this area; the work could also be designed to reduce the occurrence of driveway overtopping.



12 Rolling Hills Drive

The resident at 12 Rolling Hills contacted the Village with concerns regarding erosion of an existing swale and residential flooding. Current, runoff flows from the northwest property through an existing channel that is lined and covered with stone. The recent rainfall event eroded away portions of the ditch and moved the boulders before overtopping and flooding parts of the residents garage.



MEMORANDUM

To: Robert Kosin, VBH Director of Administration
Brain Cecola, VBH Chairman Roads & Bridges

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: July 17, 2017

Re: Round Barn Drainage Review

At the April & June Roads & Bridges Committee meetings, discussions have been held regarding a drainage complaint received from a family member of the property owner at 67 Round Barn Road regarding drainage within the Round Barn Road right-of-way. Since the June meeting, we have been pursuing further information with regard to this issue prior to determining a scope of work that may be necessary to improve the drainage conditions within the right-of-way. Below is a summary of the current status of this work:

- I have left multiple voicemails for the property owner at 70 Round Barn to inquire about the existing pipe that discharges into the right-of-way.
- GHA has received a proposal from Huddleston McBride to complete a drain tile survey of the right-of-way and adjacent areas and have authorized them to proceed. As of this date, they have not yet completed the work but plan to do so soon.
- GHA has scheduled a topographic survey this week which will allow for improvement plans to be developed, pending results of the drain tile survey and further conversations with the residents involved.

MEMORANDUM

To: Robert Kosin, VBH Director of Administration
Brain Cecola, VBH Chairman Roads & Bridges

From: Daniel J. Strahan, P.E., CFM
Gewalt Hamilton Associates

Date: July 17, 2017

Re: Porter Bridge Inspection

On Friday, July 14, 2017, our office was forwarded an email from IDOT notifying Wiss Janney Elstner (WJE) that an inspection was required for Structure 049-3076 (Porter Bridge- Oak Knoll over Flint Creek, approximately 600' east of Ridge Road). The inspection is required in response to the July 12, 2017 rainfall event due to the bridge's scour rating of 3.

WJE has been directed to proceed with the inspection to meet IDOT requirements.



Dan Strahan <dstrahan@gha-engineers.com>

RE: BridgeWatch Alert Structure 049-3076

Santosuosso, Brian <bsantosuosso@wje.com>

Fri, Jul 14, 2017

To: "Thompson, Dave C" <Dave.Thompson@illinois.gov>

Cc: "Crampton, Douglas D." <DCrampton@wje.com>, "Dan Strahan" (dstrahan@gha-engineers.com) <dstrahan@gha-engineers.com>, "Santosuosso, Brian" <bsantosuosso@wje.com>

Dave-

I am the Program Manager for Barrington Hills. I believe that structure is in their inventory. Please get me set up. I have copied the Village Engineer on this message since the Village will authorize our inspection.

Thanks,

Brian

Brian J. Santosuosso, SE

Associate Principal

Wiss, Janney, Elstner Associates, Inc.

Engineers | Architects | Materials Scientists

330 Pfingsten Road, Northbrook, IL 60062

tel 847.272.7400 | direct 847.753.7246 | fax 847.291.4813 | mobile 847.980.8501

www.wje.com

bsantosuosso@wje.com

From: Thompson, Dave C [mailto:Dave.Thompson@illinois.gov]

Sent: Friday, July 14, 2017 8:26 AM

To: Santosuosso, Brian <bsantosuosso@wje.com>

Subject: BridgeWatch Alert Structure 049-3076

Brian,

Are you the Program Manager for structure 049-3076? If yes this structure needs to be inspected due to the BridgeWatch alert received on July 12, 2017 at your earliest convenience? It has a scour rating of "3" therefore it is required to be in IDOT's scour monitoring system, and if you are the Program Manager I will get you setup with a login to the system and will receive directly.

The screenshot shows the BridgeWatch web application interface. The browser address bar displays <https://ildot.bridgewatch.us/main/main.js>. The page header includes the BridgeWatch logo and the text "Illinois Department of Transportation". A navigation menu at the top right contains links for "system-admin", "admin", "main", "menu", and "supp".

On the left side, there are three main sections:

- Geography:** Includes a "Back to State Level" button and dropdown menus for "Illinois", "District", "County", "Town", and "HUC".
- Search:** A search box containing "0160513" and a "Submit" button.
- Data Sources:** A grid of icons representing various data sources such as weather, people, and infrastructure.

The main content area features a map of Illinois with a red alert icon. A pop-up window displays the alert: "Alert for Bridge # 0493076" and "25 YR NEXRAD 07-12-17". Below the map is a "Watch List" with tabs for "0163251", "0160544", "0456305", and "0493076". The selected tab shows a "General" view with a "Basin Opacity" slider and a table of structure details:

Structure:	0493076	Location:	0.1 M. E. of Ridge Road
Feature Crossed:	Flint Creek	Facility Carried:	Oak Knoll Road
Latitude:	42.1653	Longitude:	-88.1974
District:	District 1	County:	Lake County
State/Local:	Local	Scour Rating:	3
Year Built:	1926	Main Structure Type:	01 Slab
Bridge Status:	1 Open - No Restriction	Owner:	Township
Design:		Detour Length:	

If you have any questions or need additional information please let me know.

David C. Thompson

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Via E-mail: dstrahan@gha-engineers.com

July 17, 2017

Mr. Daniel Strahan
Assistant Village Engineer - Village of Barrington Hills
Gewalt Hamilton Associates, Inc.
820 Lakeside Drive, Unit 5
Gurnee, IL 60031

Re: Structure Number: 049-3076
Village of Barrington Hills
WJE No. 2017.4394

Dear Mr. Strahan:

Wiss, Janney, Elstner Associates, Inc. (WJE) inspected the accessible portions of the Porter Bridge carrying Oak Knoll Road over Flint Creek (SN 049-3076) on July 14, 2017. The inspection was performed in response to a BridgeWatch Alert received by the Illinois Department of Transportation (IDOT) on July 12, 2017 following a significant storm event (at least a 25- year storm event), and communicated to WJE on July 14, 2017. The Porter Bridge has a scour rating of 3 and correspondingly is in the scour monitoring system of the IDOT. The inspection and this letter specifically address the concern for potential scour related to the recent storm and does not constitute a routine inspection in accordance with the National Bridge Inspection Standards (NBIS). The most recent prior NBIS routine inspection was performed by Steven Lauer of WJE on June 20, 2016.

Structure Description

The deck of the Porter Bridge is a conventionally reinforced concrete slab approximately 1 ft-8 in. thick and 22 ft-3 in. wide. The roadway width is 20 ft-3 in. between the reinforced concrete bridge rails. The asphalt approach pavements are continuous with the asphalt overlay on the bridge deck. The bridge is oriented in the east-west direction and Figure 1 shows the roadway looking west. Figure 2 is the north elevation view of the bridge facing southwest. The east and west abutments are constructed using reinforced concrete with integral wingwalls.

Post-Storm Inspection

At the time of inspection, the waterway had a freeboard dimension of 4 ft-1 in. Dampness on the wingwalls and abutments indicated that the water was recently higher by approximately 4 in., if not more. For comparison, the freeboard during the 2016 routine inspection was approximately 6 ft-10 in. The flow rate of the top surface was approximated as 2 ft/sec and the water was not entered. Therefore, the bridge was accessed by the roadway, wingwalls, and available creek banks for this inspection.

There were no visible signs of distress to the structure that could be attributed to the recent and continued high water flow and decreased freeboard. Photos from the inspection performed in June 2016 were

compared to current conditions and no appreciable differences in the performance of the structure were noted. These comparisons included conditions that would indicate settlement of bridge components, nearby soil, and/or the approach pavements. Additionally, there were no large debris noticed in the water flow while on site and no debris restricting the opening beneath the bridge.

Recommendations

At the time of the inspection, the bridge had no visible signs of scour-related damage requiring immediate action. However, once the flow has decreased to a safe level for entry into the water, it is recommended that a scour inspection be performed to probe the channel bottom for scour along the east and west abutments and wingwalls. During this inspection, channel cross-sections along the upstream and downstream fascias should be documented.

Summary and Conclusions

WJE completed an inspection of the Porter Bridge carrying Oak Knoll Road across Flint Creek (SN 049-3076) after a recent storm event which brought a large volume of rain to the region. Overall, the bridge structure showed no signs of distress related to the increased water flow or potential scour. The freeboard dimension to the waterway was noted as 4 ft-1 in. at the time of the inspection. It is recommended that a scour inspection be performed once the water level subsides to a safe level for access.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.



Steven L. Lauer
Senior Associate
Licensed Structural Engineer
Illinois No. 081-007838



07/17/2017
Exp: 11/30/2018



Brian J. Santosuosso
Consultant Program Manager
Licensed Structural Engineer
Illinois No. 081-006388

FIGURES

Headquarters & Laboratories—Northbrook, Illinois

Abu Dhabi | Atlanta | Austin | Boston | Chicago | Cleveland | Dallas | Denver | Detroit | Dubai | Honolulu | Houston | Los Angeles
Minneapolis | New Haven | New York | Princeton | San Francisco | Seattle | South Florida | Washington, DC



Figure 1. Porter Bridge looking west.



Figure 2. Bridge elevation looking southwest.