

**Winnetka Village Council**  
**REGULAR MEETING**  
**Village Hall**  
510 Green Bay Road  
Tuesday, September 16, 2014  
7:00 p.m.

Emails regarding any agenda item are welcomed. Please email [contactcouncil@winnetka.org](mailto:contactcouncil@winnetka.org), and your email will be relayed to the Council members. Emails for the Tuesday Council meeting must be received by Monday at 4 p.m. Any email may be subject to disclosure under the Freedom of Information Act.

**AGENDA**

- 1) Call to Order
- 2) Pledge of Allegiance
- 3) Quorum
  - a) October 7, 2014 Regular Meeting
  - b) October 14, 2014 Study Session/Budget Meeting
  - c) October 20, 2014 Budget Meeting
  - d) October 21, 2014 Regular Meeting
- 4) Approval of Agenda
- 5) Consent Agenda
  - a) Approval of Village Council Minutes
    - i) August 19, 2014 Regular Meeting ..... 3
    - ii) September 2, 2014 Regular Meeting .....10
  - b) Approval of Warrant List dated 8/29/2014 – 9/11/2014.....14
  - c) Extend 2013 Holiday Lighting Contract Pricing for 2014 Holiday Lighting Program .....15
  - d) 2014-15 Salt Purchase – State of Illinois Bid .....17
  - e) Resolution R-27-2014: IKE Grant Final Report – Adoption.....22
- 6) Stormwater Monthly Summary Report.....185
- 7) Ordinances and Resolutions
  - a) Ordinance M-9-2014: 265, 271 & 277 Poplar Street, Resubdivision and Variations – Introduction.....194
- 8) Public Comment
- 9) Old Business: None.

10) New Business

- a) Bid #014-007: Scott Avenue Parking Structure – Electrical and Energy Efficient Lighting Retrofit .....254
- b) Street Rehabilitation Program Review.....255

11) Appointments

12) Reports

13) Executive Session

14) Adjournment

**NOTICE**

All agenda materials are available at [villageofwinnetka.org](http://villageofwinnetka.org) (Government > Council Information > Agenda Packets & Minutes); the Reference Desk at the Winnetka Library; or in the Manager’s Office at Village Hall (2<sup>nd</sup> floor).

Broadcasts of the Village Council meetings are televised on Channel 10 and AT&T Uverse Channel 99 every night at 7 PM. Webcasts of the meeting may also be viewed on the Internet via a link on the Village’s web site: <http://winn-media.com/videos/>

The Village of Winnetka, in compliance with the Americans with Disabilities Act, requests that all persons with disabilities who require certain accommodations to allow them to observe and/or participate in this meeting or have questions about the accessibility of the meeting or facilities, contact the Village ADA Coordinator – Megan Pierce, at 510 Green Bay Road, Winnetka, Illinois 60093, 847-716-3543; T.D.D. 847-501-6041.

**MINUTES  
WINNETKA VILLAGE COUNCIL  
REGULAR MEETING  
August 19, 2014**

(Approved: xx)

A record of a legally convened meeting of the Council of the Village of Winnetka, which was held in the Village Hall Council Chambers on Tuesday, August 19, 2014, at 7:00 p.m.

- 1) Call to Order. President Greable called the meeting to order at 7:00 p.m. Present: Trustees Arthur Braun, Carol Fessler, Richard Kates, William Krucks, and Stuart McCrary. Absent: Trustee Marilyn Prodromos. Also present: Village Manager Robert Bahan, Assistant to the Village Manager Megan Pierce, Village Attorney Peter M. Friedman, Public Works Director Steve Saunders, Finance Director Ed McKee, and approximately 38 persons in the audience.
- 2) Pledge of Allegiance. President Greable led the group in the Pledge of Allegiance.
- 3) Quorum.
  - a) September 2, 2014 Regular Meeting. All of the Council members present indicated that they expected to attend.
  - b) September 9, 2014 Study Session. All of the Council members present indicated that they expected to attend.
  - c) September 16, 2014 Regular Meeting. All of the Council members present indicated that they expected to attend.
- 4) Approval of the Agenda. Trustee Fessler, seconded by Trustee McCrary, moved to approve the Agenda. By roll call vote, the motion carried. Ayes: Trustees Braun, Fessler, Kates, Krucks, and McCrary. Nays: None. Absent: Trustee Prodromos.
- 5) Consent Agenda
  - a) Village Council Minutes.
    - i) August 5, 2014 Regular Meeting.
  - b) Warrant List. Approving the Warrant List dated 8/1/2014 – 8/14/2014 in the amount of \$2,057,818.02.
  - c) Change Order for Secondary Cable, Wesco. An authorization for the Village Manager to award a change order to Wesco in the amount of \$2,380 for the purchase of 600 volt secondary cable at the unit prices bid, subject to the contract conditions.
  - d) Village Green Flag Request. Authorizing a request to place flags on the Village Green the afternoon of September 10, to be taken down at sunset on September 11, in remembrance of the 9/11 terrorist attacks.

Trustee McCrary, seconded by Trustee Fessler, moved to approve the foregoing items on the Consent Agenda by omnibus vote. By roll call vote, the motion carried. Ayes: Trustees Braun, Fessler, Kates, Krucks, and McCrary. Nays: None. Absent: Trustee Prodromos.

[Items 10 (c) and 10 (b) were discussed in that order after approval of the Consent Agenda and prior to Item 6, after which the Agenda resumed its regular order.]

6) Stormwater Monthly Summary Report. Mr. Saunders reviewed the status of the Village's stormwater projects:

- Northeast Winnetka: The project is nearing completion, all underground work is finished and restoration/landscaping work is underway. Final paving is expected by the end of August.
- Northwest Winnetka: Once an intergovernmental agreement is signed with the Metropolitan Water Reclamation District (MWRD) for administration of a grant to fund \$2 million of the project costs, bids are expected to be awarded in the fall.
- Willow Road Tunnel: The water quality monitoring equipment will be installed the last week of August.

There was a discussion about an article in the *Winnetka Current* that cited Elder Beach as one of the most polluted beaches in Illinois. Mr. Saunders explained that conditions such as the stormwater outlet at the beach, the nearby dog beach, remaining cross connections, and lake currents, could all be contributing factors.

Responding to a question about when the Council will hear an update on the sanitary sewer system, Mr. Saunders said information is scheduled to be presented in the fall.

7) Ordinances and Resolutions.

- a) Ordinance MC-6-2014: Reimbursement of Third Party and Professional Fees – Adoption. President Greable announced that discussion of the Subject Ordinance will be rescheduled to the September 2 Council Meeting.
- b) Ordinance MC-7-2014: Implementing a Ban on Coal Tar-Based Pavement Sealants – Adoption. Mr. Saunders explained that a possible ban on coal tar was discussed during the review of the Stormwater Master Plan, and again at the April Study Session. At the April meeting, the Council directed the Environmental & Forestry Commission (EFC) to research coal tar and report back to the Council. After holding four special meetings to study the issue, the EFC recommended consideration of a ban on coal tar-based sealers to the Council at its July Study Session. Mr. Saunders said the Subject Ordinance provides a licensing provision for seal coat applicators and also defines coal tar material as a nuisance under the Village Code.

President Greable called on audience members who were in attendance to represent coal tar associations to comment for up to five minutes, as some had traveled long distances to attend the Council meeting.

Ann LeHuray, Executive Director, Pavement Coating Technology Council (PCTC). Ms. LeHuray displayed a sampling of cosmetic products, such as dandruff shampoo and psoriasis cream, which contain coal tar. She said there is a lot of data on humans exposed to coal tar, and that while polycyclic aromatic hydrocarbons (PAHs) are found in coal tar, no one is exposed to them. She reasoned that test results in mice do not necessarily generate the same result in humans, and she questioned a report by the U.S. Geological Survey (USGS) that found coal tar to be the largest contributor of PAHs in 40 lakes that it studied.

Trustee Kates commented that the concentration of coal tar in a cosmetic is much lower than in driveway sealant, and he added that the USGS does not have an ax to grind.

Trustee McCrary said he was only able to find one product at the drug store that contained coal tar, and that it was a 2% concentration. The packaging also said “for external use only” and recommends consulting a physician for extended use. He asked what concentration is typical for driveway sealant.

Ms. LeHuray explained that coal tar sealants contain a mixture of 20% - 30%, and people should not put it on their skin. Responding to a question from Trustee Fessler, she said she was not contacted by the EFC to provide information about coal tar.

Trustee Fessler asked what type of scientist would be eligible to participate in the debate over the safety of coal tar. Ms. LeHuray said a toxicologist would be qualified, as well as someone versed in environmental forensics.

Trustee Kates noted that a recent article in the Journal of Science and Technology, authored chiefly by a toxicologist, found that exposure to coal tar dust in the first two years of life increases the risk of cancer. The article also found coal tar sealers to be big contributors of PAHs in the environment, and that areas where asphalt based sealers are used have significantly lower PAH counts.

Ms. LeHuray claimed that emissions from coal plants are the chief reason for the PAH counts in the eastern part of the country, which is a coal-based economy, compared to the west, which is a petroleum-based economy. She also asserted that the USGS is conducting biased research to prove a point.

Mark Biel, Chemical Industry Council of Illinois. Mr. Biel explained that his organization represents a company that refines coal tar which is then sold to coal tar sealant manufacturers. He said most driveways and parking lots in the Chicago area are sealed with coal tar, which keeps them looking nice and protects against gasoline spills. He expressed concern that the Village is contemplating a ban on a very popular product without first doing research to see if PAHs are a problem in Winnetka. Responding to a question from Trustee Fessler, he said he was not contacted by the EFC to provide information about coal tar.

David Kanter, Swanson, Martin & Bell, LLP. Mr. Kanter introduced himself as the attorney for the PCTC. He said coal tar sealants would be the first product ever to be deemed a public nuisance, and he added that many other products that contain carcinogens, including grilled meats, are legal in the Village. He asserted that there is no data to support a finding that coal tar sealers are a public health hazard. He also pointed out that there are no lawsuits or worker’s compensation claims associated with the product.

Bernard Hammer, 1455 Tower Road. Mr. Hammer claimed there is no evidence against coal tar supported by scientific data, and that there are many kinds of contaminants in the air which people breathe.

Chip Brewer, Brewer Company. Mr. Brewer said his company has been manufacturing coal tar sealer for 50 years, and he supports the continued use of coal tar pavement sealers. He suggested establishing a threshold for PAHs and then banning any products

that exceed that level, since banning a specific product seems unreasonable given all the products containing PAHs.

David Barecca, 21858 Murfield Court, Mundelein. Mr. Barecca expressed support for the use of coal tar, as he has been working with coal tar for years with no health problems.

Eleanor Prince, Kenilworth. Ms. Prince urged the Council to ban coal tar to protect Lake Michigan.

Cindy Skrukruud, Clean Water Advocate for the Illinois Sierra Club. Ms. Skrukruud urged the Council to ban coal tar, as USGS data is very reliable and not advocacy-based.

Gwen Trindl, 800 Oak Street. Ms. Trindl said the EFC may not have been prepared to do an in-depth scientific study, and it might be wise to postpone making a decision until the issue has been sent back to the EFC for further study.

Ted Wynnychenko, 1086 Oak Street. Mr. Wynnychenko said the discussion reminded him of the tobacco debate; the tobacco industry long maintained that there was no data linking smoking to cancer, despite growing evidence to the contrary. He noted that the speakers that traveled to Winnetka for the Council meeting are promoting an industry, and he urged the Council to proceed with a coal tar ban.

Sue Galler, Sheridan Road. Ms. Galler agreed with Mr. Wynnychenko and added that there are viable alternatives to coal tar sealer.

Charlotte McGee, 518 Rosewood Avenue, EFC Commissioner. Ms. McGee cited a recent study done in Austin, Texas where the water showed a 58% decline in PAH concentration since a 2006 coal tar ban was enacted. She urged the Council to stand firm in the face of industry pressure. Responding to a question about the claims that the coal tar industry was not approached by the EFC, she explained that each Commissioner was assigned a local municipality that had considered implementing a ban. The EFC felt there was strong evidence that the substance is a carcinogen.

Trustee Fessler said a ban on coal tar in Winnetka is premature at this time, as there are no benchmarks to measure the impact of PAH from coal tar. She was in favor of charging the EFC to study a package of pollutants and make a recommendation.

Rosann Park-Jones, 921 Greenwood Avenue, EFC Commissioner. Ms. Park-Jones explained that she has a Master's Degree in geochemistry and works as a consultant at hazardous waste and superfund sites. She noted that studies have been published to explain why coal tar compounds are carcinogenic, and she added that the Illinois Environmental Protection Agency regulates the substance. She said no study posits that the compounds in coal tar are safe, and she noted that the material does not degrade easily.

Phil Kahn, American Sealcoating. Mr. Kahn cited anecdotal evidence that there are people who have worked in the coal tar industry for many years and do not have cancer, and he asked the Council to consider that asphalt seal coating has PAH content also.

Chuck Dowding, 968 Elm Street, EFC Chair. Mr. Dowding stated that evidence of the carcinogen risks of coal tar is available through the U.S. Environmental Protection

Agency. He maintained that asphalt sealers do not cost more than coal tar sealers, and he added that the count of PAHs are higher in coal tar than in gasoline and asphalt sealers.

Kevin Shields, Sealmaster manufacturer. Mr. Shields urged the Council not to ban coal tar, and he added that doing so would curtail the driveway coating season, since asphalt sealers need warmer temperatures.

Trustee McCrary said he was troubled that a toxic substance is used on driveways simply to make them look better, and he added that the consequences of coal tar usage are inflicted on the entire community, not just the users.

Trustee Kates said he trusts the report of the USGS; that the case has reasonably been made by the EFC to ban coal tar; and he was in favor of the ban.

Trustee Krucks said the Council needs to trust the recommendations of its advisory boards, which are made up of dedicated professionals from the community who work hard for the Village. He noted that Lowes and Home Depot choose not sell coal tar for a good reason, and he was in favor of the ban.

Trustee Braun agreed that a ban is the right action to take, as not only do studies reveal that the chemicals in coal tar are carcinogens, there is no research stating that the substance is non-toxic.

Trustee Fessler questioned the need to ban coal tar if the environmental agencies have not seen fit to do so. She felt the materials presented by the EFC were not balanced; the Council's process had not been thorough; and she could not support a ban that is not part of an overall stormwater quality package. She recommended education over legislation at this time.

Trustee Krucks, seconded by Trustee McCrary, moved to adopt Ordinance MC-7-2014. By roll call vote, the motion carried. Ayes: Trustees Braun, Kates, Krucks, and McCrary. Nays: Trustee Fessler. Absent: Trustee Prodrimos.

The Council took a five minute recess at 11:00 PM.

8) Public Comment. President Greable reconvened the meeting at 11:05 PM

Bernard Hammer, 1455 Tower Road. Mr. Hammer claimed that the Village's Stormwater Utility fee is invalid, and he questioned the validity of the bond issue and the stormwater utility legislation.

9) Old Business. None.

10) New Business.

a) Intergovernmental Agreement with MWRD – Northwest Winnetka Stormwater Funding.

Mr. Saunders said an agreement for administration of a \$2 million grant has been negotiated between Winnetka and the Metropolitan Water Reclamation District (MWRD). Mr. Saunders noted that the MWRD had been looking for shovel-ready projects to fund, and the Village was successful in its application because the Council chose not to delay commencement of the Stormwater Management Program until the Tunnel Project was designed and approved by the permitting agencies.

Trustee Fessler, seconded by Trustee McCrary, moved to authorize the Village President to sign an intergovernmental agreement with the Metropolitan Water Reclamation District of Greater Chicago, providing \$2 million to the Village of Winnetka for construction of the Northwest Winnetka Stormwater Improvement project.

By roll call vote, the motion carried. Ayes: Trustees Braun, Fessler, Kates, Krucks, and McCrary. Nays: None. Absent: Trustee Prodromos.

b) Comprehensive Annual Financial Report (CAFR).

[This item was discussed second after Item 5, Consent Agenda, and after Item 10 (c), NTHS Preliminary Design Process.]

Mr. McKee thanked Assistant Finance Director Hanna Sullivan for her work in preparing the CAFR, and introduced Ron Amen of Lauterbach & Amen, LLP, the Village's auditor.

Mr. Amen reviewed the Village's Management Letter, which received an "unqualified opinion," the highest rating that can be earned. He explained that Winnetka's CAFR also earned an award for excellence in financial reporting from the Government Finance Officers Association.

The Council discussed the effects of new Government Accounting Standards Board (GASB) guidelines for pension funding on unfunded pension liabilities. Mr. Amen said the new rule will not change any pension funding requirements, nor will it diminish the Village's credit rating or cash flow. The new rule now requires pension contributions to be recorded in the Village's financial statements, simply resulting in those figures being recorded in a different place in the audit.

After answering questions from the Council, Mr. Amen confirmed for Mr. Bernard Hammer that the Village consistently funds in the pension funds as recommended by the actuaries, and over time the deficit will reduce.

c) New Trier High School (NTHS): Preliminary Design Progress.

[This Item was discussed first, immediately after Item 5, Consent Agenda, and before Item 10 (b) Comprehensive Annual Financial Report.]

Dr. Linda Yonke, Superintendent of NTHS, gave a presentation previewing the proposed improvements to the Winnetka campus, which she described as a hodge-podge of additions, each built in a different era. Many of the sections are very aged, dating as far back as 1912. The proposed improvements will replace three of the old buildings with a new 268,000 square foot addition, which will provide significant extra space for classrooms and a new library. The renovation is also expected to improve traffic circulation around the school.

Dr. Yonke reviewed the timeline of the project, which is expected to be completed within three years, contingent upon approval of the funding referendum in November. She explained that community engagement efforts included tours, workshops, presentations, four mailings to all households in New Trier Township, a survey, and a phone poll. In addition, a citizen task force comprised of community leaders gave input and advice based on feedback garnered at neighborhood meetings.

Dr. Yonke described the project with the help of schematics and site plans; reviewed cost estimates along with the expected property tax implications; and illustrated the parking study and vehicular circulation proposal. At the request of the Council, she explained how the stormwater detention will work, and noted that some of the area flooding will be alleviated by the underground detention system.

The Council thanked Dr. Yonke for her outreach efforts, and agreed that an asset like NTHS should be maintained. Dr. Yonke said the approval process is expected to begin in the fall.

11) Appointments.

12) Reports.

- a) Village President. None.
- b) Trustees. None.
- c) Attorney. None.
- d) Manager. None.

13) Executive Session. None.

14) Adjournment. Trustee Braun, seconded by Trustee Kates, moved to adjourn the meeting. By voice vote, the motion carried. The meeting adjourned at 11:18 p.m.

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Deputy Clerk

**MINUTES  
WINNETKA VILLAGE COUNCIL  
REGULAR MEETING  
September 2, 2014**

(Approved: xx)

A record of a legally convened meeting of the Council of the Village of Winnetka, which was held in the Village Hall Council Chambers on Tuesday, September 2, 2014, at 7:00 p.m.

- 1) Call to Order. President Greable called the meeting to order at 7:02 p.m. Present: Trustees Carol Fessler, Richard Kates, William Krucks, Stuart McCrary, and Marilyn Prodromos. Absent: Trustee Arthur Braun. Also present: Village Manager Robert Bahan, Assistant to the Village Manager Megan Pierce, Village Attorney Peter M. Friedman, Finance Director Ed McKee, and approximately 5 persons in the audience.
- 2) Pledge of Allegiance. President Greable led the group in the Pledge of Allegiance.
- 3) Quorum.
  - a) September 9, 2014 Study Session. All of the Council members present indicated that they expected to attend.
  - b) September 16, 2014 Regular Meeting. All of the Council members present indicated that they expected to attend.
  - c) October 7, 2014 Regular Meeting. All of the Council members present indicated that they expected to attend.
- 4) Approval of the Agenda. Trustee Krucks, seconded by Trustee Fessler, moved to approve the Agenda. By roll call vote, the motion carried. Ayes: Trustees Fessler, Kates, Krucks, McCrary and Prodromos. Nays: None. Absent: Trustee Braun.
- 5) Consent Agenda
  - i) Village Council Minutes. None.
  - b) Warrant List. Approving the Warrant List dated 8/15/2014 – 8/28/2014 in the amount of \$939,767.92.
  - c) Bid 14-019: Oak Street Bridge Emergency Repairs. Approval of a bid award to Alliance Contractors, Inc. in the amount of \$52,750, for emergency repairs to the Oak Street Bridge.

Trustee McCrary, seconded by Trustee Fessler, moved to approve the foregoing items on the Consent Agenda by omnibus vote. By roll call vote, the motion carried. Ayes: Trustees Fessler, Kates, Krucks, McCrary and Prodromos. Nays: None. Absent: Trustee Braun.
- 6) Stormwater Update. None.

7) Ordinances and Resolutions.

- a) Ordinance MC-6-2014: Reimbursement of Professional Fees – Adoption. Attorney Friedman reviewed amendments made to the subject Ordinance that address concerns raised by Trustee Braun when the Ordinance was introduced on August 5. The revisions: (i) clarify that the types of reimbursement for Village Attorney fees would not include retainer work; and (ii) move the new reimbursement provisions from Title 2 “Administration and Personnel,” to Title 15, “Buildings and Construction,” for consistency and ease of use

Trustee McCrary suggested future consideration of an amendment to the fee resolution that would distribute non-retainer costs among all applicants who use a portion of the Village Attorney’s time. Mr. McKee said the issue could be discussed during the budget process.

Trustee Krucks, seconded by Trustee Fessler, moved to amend Ordinance MC-6-2014. By voice vote, the motion carried.

Trustee Krucks, seconded by Trustee McCrary, moved to adopt Ordinance MC-6-2014 as amended. By roll call vote, the motion carried. Ayes: Trustees Fessler, Kates, Krucks, McCrary and Prodromos. Nays: None. Absent: Trustee Braun.

- b) Resolution R-25-2014: Liquor License Fees – Adoption. Manager Bahan explained that Liquor Code revisions adopted by the Council in April added several new liquor license classifications. Fees for the new categories were benchmarked by staff, and the subject Resolution revises the General Permit, License and Registration Fee Resolution (R-36-2013) to incorporate the fees for the new license classes. He noted that the Village’s permit fees are generally lower than those charged in surrounding communities.

Trustee Fessler, seconded by Trustee McCrary, moved to adopt Resolution R-25-2014. By roll call vote, the motion carried. Ayes: Trustees, Fessler, Kates, Krucks, McCrary and Prodromos. Nays: None. Absent: Trustee Braun.

- c) Resolution R-26-2014: Approving an Agreement for Administrative Hearing Officer Services – Adoption. Manager Bahan explained that appointment of an administrative hearing officer needs to take place before implementation of the Village’s new administrative adjudication system can begin. He reviewed the selection process, which included interviews of five applicants by the Village Manager and Police Chief. He said a highly qualified and experienced candidate, Mr. David Eterno, was selected to fill the position. It is expected that Mr. Eterno’s services will cost approximately \$6,500 per year. Manager Bahan noted that the Village expects the fees generated by the new system to offset the costs; however, the system is not designed to generate revenue for the Village.

[Trustee Braun arrived at 7:20 PM]

The Council agreed that an adjudication system is preferable to the time and expense of using the Courts, and will provide better justice for the public.

Trustee McCrary, seconded by Trustee Krucks, moved to adopt Resolution R-26-2014. By roll call vote, the motion carried. Ayes: Trustees Braun, Fessler, Kates, Krucks, McCrary and Prodromos. Nays: None. Absent: None.

8) Public Comment. None.

9) Old Business.

- a) Investment Manager. Mr. McKee explained that the Council discussed the Village's investment approach in June, where additional information was requested before a decision could be made about hiring an investment manager. He reviewed the supplemental information that has been compiled, and noted that hiring a bond manager would provide a well-diversified portfolio; however, a small amount of additional risk would also result.

The Council discussed different investment scenarios at length, covering questions of interest rate fluctuations, the Illinois Metropolitan Investment Fund (IMET), fees paid to outside investment managers, diversification of investment accounts, transaction fees, quarterly investment reports, and the Village's cash flow needs. Manager Bahan said the remaining concerns of the Trustees will be discussed in more detail at a future Study Session; and he asked them to contact Mr. McKee directly with questions and concerns.

10) New Business.

- a) Village-Wide Community Survey. President Greable reviewed the survey process to-date, and he explained that tonight's discussion is meant to settle questions of timing and survey topics that surfaced at the August 5 Council meeting.

Trustee Fessler explained that a Village-wide survey would provide valuable information for Village staff regarding services and help to identify priorities for the Council to consider. She noted that she was part of a survey team that also included Trustee McCrary, Manager Bahan and his Assistant, Megan Pierce, and that the team has been working quickly to get the survey accomplished in a timely manner. She said the Council has been involved throughout the process and she asked for their blessing to either move forward or delay the survey to make more amendments.

Trustee McCrary said the goal is to gather information to better help the Council represent the entire community, and the survey is the right tool to start the process.

Trustee Kates had concerns about the draft survey, as he felt it would not result in action items for the Council to work on. After reviewing the questions he took issue with, he questioned the timing of the survey.

The Council discussed the survey process, and came to a general consensus that the survey should be sent in October as originally planned. Trustee Fessler asked that the Trustees communicate their top priorities to the survey team, which will be summarized and discussed one last time at the September 9 Study Session prior to finalization of the survey.

11) Appointments. None.

12) Reports.

a) Village President. No report.

b) Trustees.

i) Trustee McCrary reported that the Environmental & Forestry Commission has placed a pilot recycling receptacle in the Elm Street Business District near Starbucks.

c) Attorney. No report.

d) Manager. No report.

13) Executive Session. None.

14) Adjournment. Trustee Fessler, seconded by Trustee McCrary, moved to adjourn the meeting. By voice vote, the motion carried. The meeting adjourned at 9:49 p.m.

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Deputy Clerk



## Agenda Item Executive Summary

**Title:** Warrant List

**Presenter:** Robert M. Bahan, Village Manager

**Agenda Date:** 09/16/2014

**Consent:**  YES  NO

- |                                     |                         |
|-------------------------------------|-------------------------|
| <input type="checkbox"/>            | Ordinance               |
| <input type="checkbox"/>            | Resolution              |
| <input type="checkbox"/>            | Bid Authorization/Award |
| <input type="checkbox"/>            | Policy Direction        |
| <input checked="" type="checkbox"/> | Informational Only      |

### Item History:

None.

### Executive Summary:

The Warrant List for the September 16, 2014 Regular Council Meeting was emailed to each Village Council member.

### Recommendation:

Consider approving the Warrant List for the September 16, 2014 Regular Council Meeting.

### Attachments:

None.



## Agenda Item Executive Summary

**Title:** Extend 2013 Holiday Lighting Contract Pricing for 2014 Holiday Lighting Program

**Presenter:** Steven M. Saunders, Director of Public Works/Village Engineer

**Agenda Date:** 09/16/2014

**Consent:**  YES  NO

- |                                     |                         |
|-------------------------------------|-------------------------|
| <input type="checkbox"/>            | Ordinance               |
| <input type="checkbox"/>            | Resolution              |
| <input checked="" type="checkbox"/> | Bid Authorization/Award |
| <input type="checkbox"/>            | Policy Direction        |
| <input type="checkbox"/>            | Informational Only      |

### Item History:

- September 9, 2013 Council Meeting
- FY 2014 Budget Item

### Executive Summary:

On September 9, 2013, the Village Council awarded Bid #013-027 for installation and removal of holiday lighting for public trees throughout the Village to Landscape Concepts Management for a total of \$47,400. The contract calls for purchasing, installing, and removing approximately 3,590 strands of lights on 133 public trees in the Village's 3 business districts, at the Village Yards, and at Elm Street Station Park. This contract provides for labor and materials associated with procurement, installation, and removal of the lights. The contractor performed very well in implementing the 2013-14 lighting program despite the harsh winter and the Village received several compliments on the program. The contract as awarded contains a provision allowing for extending the contractual pricing with no increase if the Village and contractor agree. Because the contractor performed very well, and because the pricing is being extended represents lowest competitive pricing among four contractors from last year's bidding, staff recommends extending the contract pricing for one year as contemplated in the bidding documents.

The FY 2014 budget contains \$66,000 for labor and material expenses for Holiday Lighting in account 100.30.01-543.

### Recommendation:

Consider extending bid #013-027, 2013 Holiday Lighting, to Landscape Concepts Management for \$47,400.00.

### Attachments:

2013 Holiday Lighting Program Bid Award



## Agenda Item Executive Summary

**Title:** Bid #013-027: 2013 Holiday Lighting

**Presenter:** Steven M. Saunders, Director of Public Works/Village Engineer

**Agenda Date:** 09/03/2013

**Consent:**  YES  NO

- |                                     |                         |
|-------------------------------------|-------------------------|
| <input type="checkbox"/>            | Ordinance               |
| <input type="checkbox"/>            | Resolution              |
| <input checked="" type="checkbox"/> | Bid Authorization/Award |
| <input type="checkbox"/>            | Policy Direction        |
| <input type="checkbox"/>            | Informational Only      |

### Item History:

FY 2013-14 Budget Item

### Executive Summary:

On August 29, 2013, the Village opened sealed bids for installation and removal of holiday lighting for public trees throughout the Village. As in past years, the program includes lighting public trees in the Village's 3 business districts, the Village Yards, and park district property in the Elm Street business district. This bid is for labor and materials associated with installation and removal of the lights. The Village received 4 bids, detailed below:

- Landscape Concepts Management \$47,400
- TLC Group \$49,020
- Balanced Environment \$52,326
- Kinnucan Company \$60,498

The lowest bid was submitted by Landscape Concepts Management, a qualified and competent contractor. This vendor has successfully completed the Holiday Lighting project for the Village in several past seasons.

The lights will be installed and activated by Friday, November 29, 2013, and removed on or around February 1, 2014. The FY 2013-14 budget contains \$66,000 for labor and material expenses for Holiday Lighting in account 10-30-530-142.

### Recommendation / Suggested Action:

Consider awarding bid #013-027, 2013 Holiday Lighting, to Landscape Concepts Management for \$47,400.00.

### Attachments:

None



## Agenda Item Executive Summary

**Title:** 2014-15 Salt Purchase - State of Illinois Bid

**Presenter:** Steven M. Saunders, Director of Public Works/Village Engineer

**Agenda Date:** 09/16/2014

**Consent:**  YES  NO

- |                                     |                         |
|-------------------------------------|-------------------------|
| <input type="checkbox"/>            | Ordinance               |
| <input type="checkbox"/>            | Resolution              |
| <input checked="" type="checkbox"/> | Bid Authorization/Award |
| <input type="checkbox"/>            | Policy Direction        |
| <input type="checkbox"/>            | Informational Only      |

### Item History:

2014 and 2015 Budget Item

### Executive Summary:

The Village of Winnetka participates in the purchase of rock salt through the State of Illinois bid. This joint purchasing program provides municipalities the opportunity to use joint purchasing power with the State of Illinois to obtain lower prices for rock salt. Last year's contract contained a provision allowing the supplier and the Village to extend current contract pricing with a maximum price increase of 5%. Given the depleted regional salt supplies from the 2014 winter, staff anticipated seeing a significant market price increase and requested a contract extension. Last year's vendor, Morton Salt, has committed to extending their 2014 price of \$51.69 per ton with no increase.

Staff estimates that a purchase of 1,440 tons will sufficiently supply the 2014-2015 winter season. 1,440 tons of rock salt would cost \$74,433 at this year's unit price. Because the Village has transitioned to a calendar fiscal year, this year's purchase will span both FY 2014 and FY 2015. The FY 2014 budget contains a total of \$83,520 in account 10-30-540-141 for the purchase of rock salt, however the severity of the 2014 winter has essentially depleted that fund. Staff's 2015 budget request will contain funding for the bulk of this salt purchase, as well as funding for salt to be purchased in advance of the 2015-16 winter season.

As road salt functions by dissolving and lowering the freezing temperature of water, the dissolved chlorides can appear in snowmelt runoff and make their way to waterways via the Village's storm sewer system. The Village has taken steps to minimize salt use over the years including 1) not salting the full length of residential streets, but only focusing on intersections, hills, and curves, and 2) applying liquid salt brine rather than rock salt in certain conditions to reduce scatter and loss of material. This year, staff will be researching the use of liquid beet juice as a supplement to road salt to determine if this material will prove to be cost-effective for the Village, given the necessary up-front capital costs of procuring the necessary mixing, storage, and application equipment.

### Recommendation:

Consider the purchase of rock salt at \$51.69 per ton as submitted by Morton Salt, the State of Illinois low bidder, through the State of Illinois Cooperative purchasing program contract #PSD 4017548-01.

### Attachments:

State of Illinois Contract Award



September 1, 2014

Dear Joint Purchasing Participant:

Subject: 2014-2015 Rock Salt, Bulk Contract Information

In completing the 2014 – 2015 Rock Salt season contract re-procurement, the State of Illinois did encounter the types of supply-related issues experienced in previous seasons. We made every effort to secure Road Salt at the best available price for participants in our contract solicitation, and sadly report that the State was not able to obtain an offer for every location within the State’s procurement efforts.

We again recommend that participating agencies and governmental entities examine their application rates and roadway priorities in order to minimize next season’s maintenance program cost while also ensuring the safety of the public.

In accordance with your response on “Table B: Complete to have the State RENEW for your governmental entity” from the seasonal participation survey, we have secured your revised REQUISITION QUANTITY with the previous season’s contract vendor.

**Contract: PSD 4017548-01**  
Morton Salt Inc.  
123 N. Wacker Drive  
Chicago, IL 60606  
Phone 800-433-7258

**Term: September 2014 – August 2015**  
FEIN Number: 27-3146174  
Order Phone 855-665-4540  
Contact: Government Services

**Contract Line No: 109 / Renewal Price per ton F.O.B. destination, is \$ 51.69**  
Emergency pickup of salt from vendor’s warehouse is not made available in this contract.

The additional price per ton to have rock salt delivered in trucks equipped with coal/grain chute openings in the tailgate to permit controlled off-loading of rock salt onto conveyors is \$ **6.00** per ton. Contact vendor for availability in your area and scheduling deliveries.

**You are responsible for issuing your own purchase order document to the vendor.** Orders may be placed with the vendor via telephone, with a written or fax confirmation to follow immediately. *You are strongly encouraged to order and store as much salt as possible in order to help prevent potential salt shortages this winter.* Also, you must place orders in full truckload ( typically 22-25 tons ) delivery quantities or multiples of such.



Your governmental unit is responsible for ensuring that the 80 or 100 percent minimum guaranteed purchase commitment ( as noted on your Requisition ) is met before the end of the winter season, June 30, 2015. The vendor is required to furnish not less than 120 percent ( if needed ) of the contract quantity by March 1, 2015. Your governmental unit is responsible for processing vendor invoices in a timely manner.

Delivery shall be made as soon as possible after vendor receipt of order by phone or mail. The maximum time from receipt of order to the actual delivery for orders placed between December 1, 2014 through April 1, 2015 shall not exceed seven working days, unless as modified in the Order Guidelines herein..

For orders placed between December 1, 2014 and April 1, 2015, if a vendor is unable to make delivery within the order timeline, local governmental units shall have the right to retain \$.20 per ton per working-day as liquidated damages on the undelivered portion of the order. For orders placed prior to 9:00 a.m. on a given day, that day to be considered as the first calendar day of the seven-day delivery period. For an order placed after 9:00 a.m. on a given day, the following day shall be considered as the first calendar day of the seven day delivery period.

CMS reserves the right to mitigate application of liquidated damages imposed against a vendor, in the event of orders exceeding the maximum percentages outlined below:

An agency may order up to 20.% of their awarded contract tonnage in any given week and vendor shall deliver within 7 working-days after receipt of order. Quantity ordered above the 20.% threshold shall have an extended deliver time of one-working-day for each one-percentage-point above the 20.% guideline. For example, if an agency orders 25.% of their awarded total 100 ton, delivery of the first 20 ton ( 20.% ) shall be within 7 working-days after receipt of order, the remaining 5 ton should be delivered within 12 working-days after receipt of order.

If after seven working-days of liquidated damages assessment, the vendor has still failed to deliver, local governmental unit shall have the right to terminate an order and purchase road salt or abrasives from another source, or take action consistent with public safety as needed to continue daily business. Any and all additional costs incurred may be collected from the original vendor, in addition to liquidated damages, by participant's legal action.

All deliveries shall be covered with approved weatherproof materials. The vendor shall ensure that delivery person inspects the inside of the trailer and that all salt is removed from the trailer before leaving a delivery point. The vendor will ensure all weights and measures shown on delivery tickets are correct. Local governmental units reserve the right to require that delivery trucks occasionally be directed to a scale in the vicinity of the delivery point as a check on delivered truckloads.



Deliveries of rock salt containing any foreign material such as mud, rocks, grader teeth, wood, tarpaulins, etc., may be rejected at the delivery site. In the event that any foreign material is discovered in dumped deliveries, the salt and foreign matter may be reloaded onto the cartage hauler's truck by the local governmental unit and returned for credit, or the vendor shall immediately ship a specification compliant load of replacement salt, or issue a refund to the governmental unit consistent with the contract price.

In December 2014, the contract vendor shall have in place stockpile(s) located in or near Illinois covering the tonnage awarded for the northern regions of the State, and in January of 2015 the contract vendor shall have in place stockpile(s) in or near to Illinois covering the total tonnage awarded for all regions of the State. At our discretion, we will inspect the stockpiles to ensure that these stockpiles are in sufficient quantities, and that vendor commitments to the stockpiles are with the users of this contract.

Enhanced Rock Salt 2014 - 2015 season availability:

The Department of Central Management Services surveyed vendors for availability of an enhanced rock salt option in the invitation for bid, and availability was not provided for by this vendor in this season's procurement process.

It is hoped that this information will be beneficial to you in the utilization of this contract. If you have any further questions concerning the rock salt contract, please feel free to contact me at (217) 782-8091.

Sincerely,

Wayne Ilsley, CPPB, Buyer  
Bureau of Strategic Sourcing

GovSalt.doc





## Agenda Item Executive Summary

**Title:** Resolution No. R-27-2014: IKE Grant Final Report- Adoption

**Presenter:** Steven M. Saunders, Director of Public Works/Village Engineer

**Agenda Date:** 09/16/2014

- Ordinance
- Resolution
- Bid Authorization/Award
- Policy Direction
- Informational Only

**Consent:**  YES  NO

### Item History:

In January 2012 the Illinois Department of Commerce and Economic Opportunity (DCEO) announced the Community Development Block Grant (CDBG) IKE Disaster Recovery Program, a planning (not construction) grant program broadly intended to provide for planning on a local or regional basis in order to guide long term recovery and redevelopment from the flooding experienced in 2008 from the remnants of Hurricane Ike. Eligible projects included: (1) developing new recovery plans (e.g., in areas where none exists or where existing plans are outdated, etc), (2) augmenting or updating existing plans, or (3) developing "actualization" or "execution" plans to help implement plans that have been recently established but have not yet had an impact on the landscape. The Villages of Winnetka, Glenview, and Niles agreed to partner on the grant program of \$200,000. On March 20, 2014, the Village Council awarded a contract to Baxter & Woodman to complete this project, providing a defined process of a local drainage study, stakeholder involvement, and proposed solutions to neighborhood level flooding problems that can be repeated and implemented on a neighborhood by neighborhood basis.

### Executive Summary:

Baxter & Woodman has completed the project work and prepared a final project report. The project evaluated four pilot project areas, two in Winnetka, one in Niles, and one in Glenview, The four project areas consist of one of each of the following neighborhood types: single-family residential, multi-family residential, strip/commercial, and downtown/business district. The two Winnetka neighborhoods consist of a developed single-family residential area (Boal Parkway) and a developed downtown commercial area (the West Elm Street business district). The project report details the purpose and scope of the project, the processes used in each pilot project, a series of potential next steps that could be considered in each pilot study neighborhood, and guidance on how to implement this project approach in other neighborhoods and municipalities.

The Council reviewed and discussed the draft project report at the September 9, 2014 Study Session. The Council's comments were unanimously positive and the Council directed staff to prepare a resolution adopting the report. Resolution No. R-27-2014 adopts the "Water Solutions Project Final Report" by amending the Stormwater Master Plan.

### Recommendation:

Consider adoption of Resolution No. R-27-2014, "Adopting the Water Solutions Project as an Addendum to the Village's Stormwater Master Plan."

### Attachments:

- 1) Resolution No. R-27-2014
- 2) Water Solutions Project Final Report

**A RESOLUTION  
ADOPTING THE WATER SOLUTIONS PROJECT  
AS AN ADDENDUM TO THE VILLAGE'S STORMWATER MASTER PLAN**

**WHEREAS**, the Village of Winnetka ("Village") is a home rule municipality in accordance with Article VII, Section 6 of the Constitution of the State of Illinois of 1970; and

**WHEREAS**, pursuant to its home rule status and the Illinois Municipal Code, the Village is granted all powers necessary to carry out its legislative purposes as to the general governance of the Village and its residents, including the development and use of property, the establishment and maintenance of basic infrastructure such as streets, water systems, sanitary and stormwater sewer systems, and the provision of public safety services; and

**WHEREAS**, in keeping with the Village's goal to provide stormwater education to Winnetka's residents and businesses the Village of Winnetka adopted a Stormwater Master Plan in April, 2014; and

**WHEREAS**, the Winnetka Stormwater Master Plan establishes a vision for the Village's stormwater program with actionable goals and objectives that serve as a roadmap to realizing that vision, incorporating multiple goals and objectives into a single comprehensive plan for stormwater management, which will guide investment and policy decisions to improve the quality of life in Winnetka; and

**WHEREAS**, the Village partnered with the Villages of Niles and Glenview, along with a team of consultants led by Baxter & Woodman, using funds made available through an "IKE" Grant from the Illinois Department of Commerce and Economic Opportunity to study one residential and one commercial district within the Village; and

**WHEREAS**, in addition to providing stormwater solutions to the study area, the "Water Solutions Project" outlines and details a tested community outreach procedure that may be replicated in the future for different study areas;

**NOW, THEREFORE, BE IT RESOLVED** by the Council of the Village of Winnetka, Cook County, Illinois, as follows:

**SECTION 1:** The Council of the Village of Winnetka ("Council") adopts the foregoing recitals as its findings, as if fully set forth herein.

**SECTION 2:** Subject to the condition stated in Section 4 of this Resolution, the Council hereby approves and adopts the "Water Solutions Project," in the form attached to this resolution as Exhibit A, and incorporated by reference as if fully set forth herein.

**SECTION 3:** The "Water Solutions Project" is hereby incorporated as an Addendum to the Stormwater Master Plan.

**SECTION 4:** The adoption and approval of the attached “Water Solutions Project” shall not be construed as either an authorization or a directive to allocate or expend funds in implementing the “Water Solutions Project”, and the Council expressly reserves all right, authority and discretion to determine the timing and extent to which the "Water Solutions Project” may be implemented and the manner in which such implementation shall be financed.

**SECTION 5:** This Resolution is adopted by the Council of the Village of Winnetka in the exercise of its home rule powers pursuant to Section 6 of Article VII of the Illinois Constitution of 1970.

**SECTION 5:** This Resolution shall take effect immediately upon its adoption.

**ADOPTED** this \_\_\_\_ day of \_\_\_\_\_, 2014, pursuant to the following roll call vote:

AYES: \_\_\_\_\_

NAYS: \_\_\_\_\_

ABSENT: \_\_\_\_\_

Signed:

\_\_\_\_\_  
Village President

Countersigned:

\_\_\_\_\_  
Village Clerk

Adopted: September \_\_\_\_, 2014



# WATER SOLUTIONS PROJECT

## Planning For Resilient Communities



9.10.2014

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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# executive summary

The Water Solutions Project is a series of four pilot studies in three communities and a template for future studies. Each pilot study focused on retrofit solutions for flooding in an already developed area, each with a different type of land use:

- **Boal Parkway in Winnetka:** a single-family residential neighborhood within the floodplain
- **The block in Glenview bounded by Harlem Avenue, Henley Street, Dewes Street, and Washington Street:** a multi-family residential neighborhood outside the floodplain
- **Milwaukee Avenue in Niles, between Dempster Street and Ballard Road:** a commercial corridor outside the floodplain
- **The West Elm District in Winnetka:** a downtown retail district outside the floodplain

All four pilot study areas have a history of flooding and this project evaluated each area to understand the site specific causes of that flooding. The evaluation process utilized in this project provides an example that can be repeated in other areas within these three communities and throughout the watershed.

Each pilot study included a public survey and two open houses. The survey and the first open house gave residents and property owners the opportunity to provide details of their experience with flooding. The second open house included a presentation of preliminary recommendations for neighborhood scale and individual property-scale solutions. Attendees were given the opportunity to ask questions and provide feedback on the recommended solutions.

As a result of this project, residents and property owners in the four study areas learned about a suite of flooding solutions that they can implement immediately on their own property, or with the cooperation of their neighbors. Two tools that may be especially helpful are the matrices in Appendix 1 and Appendix 6. The matrix in Appendix 1 is designed to help an individual self-diagnose the cause of flooding, while the matrix in Appendix 2 gives the individual a variety of flood protection options to consider. A secondary result is that the work products developed during this project are available for public education on a wider scale. Municipalities can use these work products to repeat the pilot studies in other flood prone areas, or simply distribute the public education pieces to an individual property owner searching for solutions.

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# Chapter 1

## **introduction**

### **1A | Purpose and Approach to the Water Solutions Project**

The Water Solutions Project focuses on four pilot-study areas in order to better understand where flooding occurs, why it occurs, and what its effects are. The goal is to develop solutions that can be implemented by property owners or groups of property owners to prevent or reduce flooding and the damage it causes. This is not intended to be a community-wide planning project leading to large-scale municipal infrastructure projects.

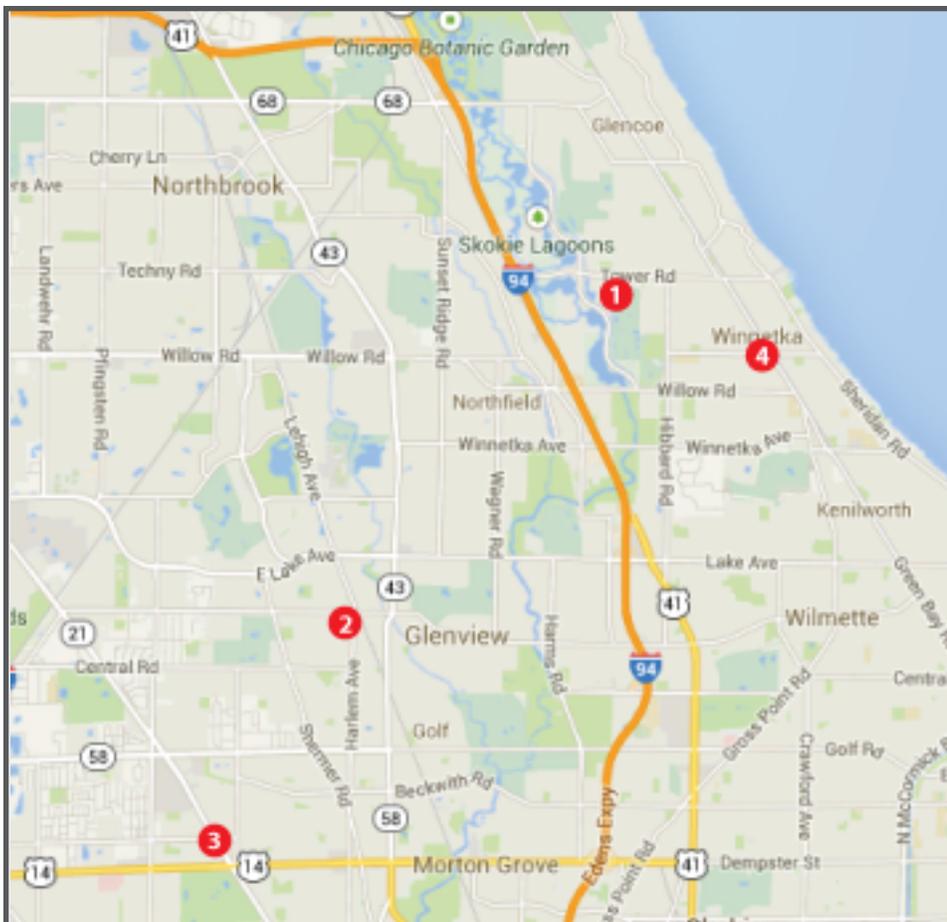
This project has been funded by an “IKE” Grant administered by the Illinois Department of Commerce and Economic Opportunity. The focus of the grant is on community planning to address the needs and issues of the population groups most significantly impacted by the 2008 floods associated with Hurricane Ike.

The Water Solutions Project is a series of four pilot studies in three communities and a template for future studies. Each pilot study focused on retrofit solutions for an already developed area, each with a different type of land use. All four pilot study areas have a history of flooding and this project evaluates each area to understand the site specific causes of that flooding. The evaluation process utilized in this project provides an example that can be repeated in other areas within these three communities and throughout the watershed.

**THE FOUR PILOT STUDY AREAS ARE...**

- 1 Boal Parkway in Winnetka**  
*A single-family residential neighborhood within the floodplain;*
- 2 Harlem Ave / Henley Street / Dewes Street / Washington Street / Block in Glenview**  
*A multi-family residential neighborhood outside the floodplain;*
- 3 Milwaukee Avenue (Dempster to Ballard Road) in Niles**  
*A commercial corridor outside the floodplain; and*
- 4 The West Elm District in Winnetka**  
*A downtown retail district outside the floodplain.*

**STUDY AREA MAP**





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**The findings and recommendations of the pilot studies are intended to be adopted as addenda to the Villages' existing stormwater planning documents to:**

- ▶ *Develop readily implementable solutions for reducing flooding in the pilot-study area; and*
- ▶ *Establish templates for flood reduction efforts by property owners in other parts of the Village.*

Recommendations resulting from the pilot studies are not expected to become part of the communities' capital improvements programs – they include specific mitigation mechanisms for one or several property owners, which those owners may choose to implement. Municipal support may come through the Village's overall flood mitigation programs, public education, technical assistance, grant administration, and facilitating neighborhood efforts.

## 1B | Considering Flooding Issues

A flood can be defined as a damaging overflow of water into buildings or onto land that is dry most of the time. More formally, the Federal Emergency Management Agency (FEMA) defines a flood as, “A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties” (FEMA, NFIP). In addition, it is necessary to understand differences in the types of flooding that occur.

### **THIS PROJECT CONSIDERS TWO DIFFERENT KINDS OF FLOODING...**

---

#### **1 Stream Flooding**

*Sometimes known as overbank flooding; involves streams or rivers overflowing onto a floodplain.*

Stream Flooding occurs when the water level in the stream channel rises above its banks. This may be caused by excessive rain or snow melt, or when the water’s natural path is blocked. In either case, water overflows onto surrounding floodplain areas. Such high-risk areas are classified by FEMA as Special Flood Hazard Areas (SFHAs) with the goal of discouraging new construction in these areas and encouraging protection, mitigation measures, and flood insurance coverage for structures in SFHA’s.

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#### **2 Stormwater Flooding**

*Otherwise known as localized flooding, drainage flooding, or overland flow; involves flooding outside of mapped floodplains.*

Many locations outside of floodplains may experience stormwater flooding, which is characterized by standing water when the rate of runoff exceeds the rate at which water can drain away from the land. Runoff water collects in low-lying areas until it can drain out, infiltrate into the soil, evaporate, or be pumped to another location. This type of flooding can be especially problematic in urban areas where rooftops and pavement have increased the amount and rate of runoff from storms.

---

### **Looking beyond the kinds of flooding...**

It is also necessary to consider where on a property the flooding occurs – as impacts of stormwater inside one’s house clearly are different from those outside one’s house.

► **Appendix 1** includes a matrix showing six primary ways (or places) that flooding can occur –inside and outside the building. For each of these, the matrix notes several common causes and effects of that kind of flooding.

The Water Solutions Project works in concert with overall community stormwater management programs. The approach and range of potential solutions involved in the project do not replace or supplant those efforts, but rather seek to provide an additional level of support at a more local and individual scale. By focusing on individual properties or neighborhood projects, this approach is intended to arm residents and communities with additional flood hazard mitigation tools that can be implemented swiftly. Within that context, flooding and the damage that occurs is considered from the perspective of the individual property owner: their flooded basement, yard, street, or parking lot.

# Chapter 2

## process



### 2A | Define Types of Flooding

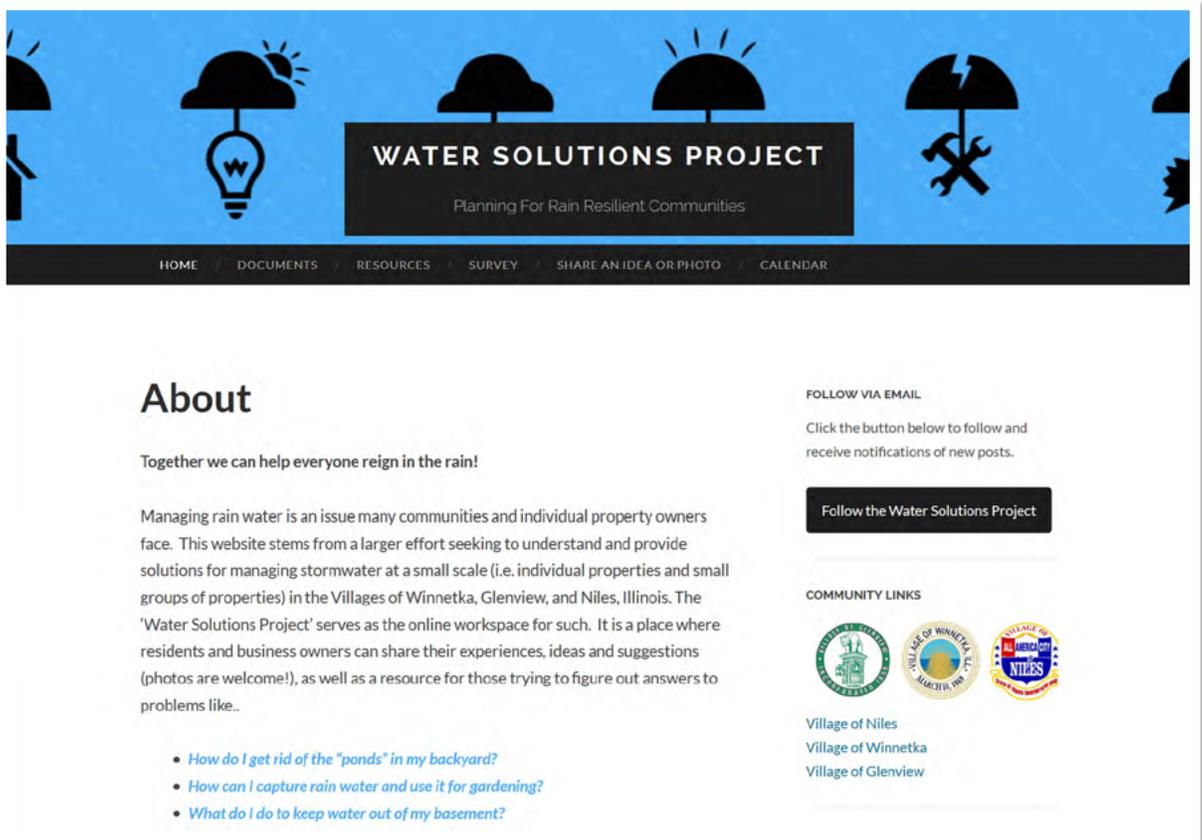
Types of flooding can be considered in ways both technical (the 100 year storm event) and colloquial (“It poured for an hour!”). The first step in The Water Solutions project was to define flooding events and the impacts they create in terms that bridge these two understandings. In this way, potential solutions could be identified and outlined in a manner that was meaningful to all involved. The definitions of Stream and Stormwater Flooding were shared with the residents in the Study Area, as well as descriptions of various locations and causes of flooding, to help residents understand the nature of the problems and solutions to be considered.

### 2B | Collect Existing Data

Existing condition information was collected for the pilot study areas including land use, natural resources, neighborhood character, and utilities. In addition, stormwater management plans and general plans of the community were reviewed. Lastly the flooding history of the pilot area was evaluated.

## 2C | Collect Public Input

A project website, [www.watersolutionsproject.org](http://www.watersolutionsproject.org), was established as an online workspace for publicizing upcoming meetings, gathering input, and identifying small-scale solutions. The site includes documents prepared in the course of the study, allows for submission of stories, ideas, comments and photos related to flooding, provides a listing of flooding causes and effects, and has downloadable copies of the in-depth property surveys.



### PROJECT WEBSITE

▶ [WWW.WATERSOLUTIONSPROJECT.ORG](http://WWW.WATERSOLUTIONSPROJECT.ORG)

To understand in detail the stormwater management issues of the Study Area, property owners and/or tenants were asked to complete the in-depth survey by providing specific details describing the parts of their building and property that flood, under what types of rains, and how long the flooding lasts (see Appendix 2). This level of detail is required in order to fully understand site-specific problems and then develop effective solutions to mitigate flood risks.

As a follow up, residents of the Study Area were invited to an open house to provide further details regarding flooding on their property and in their neighborhood. Letters inviting residents to the open houses are included in [Appendix 3](#). Open house attendees used detailed site maps, at the scale of an individual property, to indicate exact locations of flooding, home and yard features, potential sources or causes of that flooding, and any measures that have already been taken to reduce flooding ([see Appendix 4](#)). Combined with the surveys, this information provided a detailed understanding of local flooding issues. The information gathered through the surveys and open house was reviewed by the consultant team and grouped by the type and location of flooding problem. Slideshow presentations used at the open houses are included in [Appendix 5](#).

## 2D | Evaluate Public Input

A range of potential flooding solutions were developed based on the data collected, input from property owners, past work by the community, and experience of the consultant team. These solutions were reviewed with municipal Staff and then presented to property owners at a second open house, along with preliminary recommendations for property owners and groups of property owners. This was done with the understanding that residents had already applied varying degrees of remediation and that each property had unique circumstances. To that extent, the possible mitigation approaches were not presented as site specific recommendations, but as a matrix of possible solutions applicable to various types and locations of flooding. Property owners were encouraged to consider using options they had not already applied (perhaps in concert with neighbors). Neighborhood-scale solutions were also presented as graphics showing general locations and extents of improvements. At this second open house, the attending residents identified which solutions they thought were appropriate to their local flooding problems, and which were not.

## 2E | Report Findings & Recommendations

Using the resident feedback from the second open house, the matrix of individual lot solutions was compiled into this report ([see Appendix 6](#)). The matrices of problems and solutions developed for this project should help property owners diagnose the causes of their flooding problem and then identify appropriate solutions from the universe of possibilities.

Despite the site specific characteristics of each pilot study area (i.e. lot size, impervious lot coverage, and location in relation to the floodplain), the pilot studies should be transferable to similar types of land uses throughout the Village and the watershed. Other study areas may have some notable differences when compared to the pilot study areas, but the same types of solutions should still apply. Since the range of potential solutions is so broad, certain solutions will simply be more applicable than others in each case.

# Chapter 3 pilot study #1

Single-Family Area  
Winnetka, IL

## 3A | Vision, Goals & Objectives

### VISION

*Identify ways to reduce the likelihood of flooding along Boal Parkway and minimize the damage caused when flooding occurs, through property protection measures, land use policies, and green infrastructure that can also be applied to single family neighborhoods in other flood-prone areas.*

### GOALS

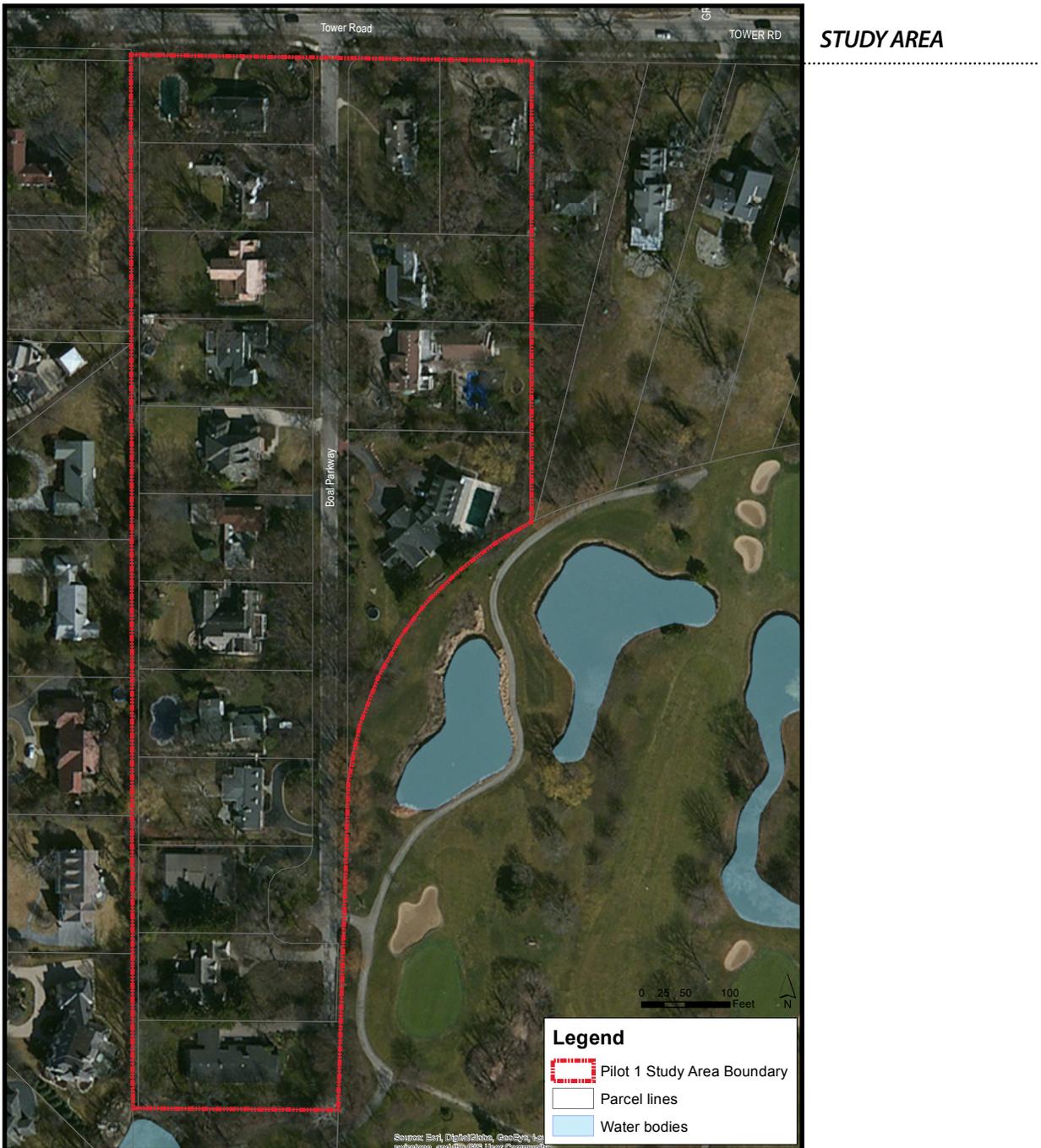
- ▶ Educate property owners on the causes of flooding
- ▶ Gather public input on localized stormwater problems
- ▶ Identify a range of readily implementable solutions
- ▶ Incorporate public feedback on the recommended solutions

### OBJECTIVES

- ▶ Involve property owners in identifying causes of and solutions to flooding problems
- ▶ Provide property owners with recommendations to mitigate stormwater flooding and flood damage on their property, with solutions applicable to individual properties and scalable to whole neighborhoods
- ▶ Develop a plan to guide the Village and property owners through each step of implementation

### 3B | Existing Conditions & Regulations

The Study Area includes exclusively single family residential dwellings on large lots averaging approximately 21,700 square feet. Homes include attached garages and a variety of accessory structures on the lots. Homes in the Study Area average approximately 3,500 square feet in size.



## SITE FEATURES

- The neighborhood includes homes built in a variety of architectural styles.
- Lots have significant tree cover and vegetation.
- The road is narrow with low rolled curbs and serves only a limited number of local properties; Boal Parkway is a dead end street.
- The road has an asphalt surface, but was a gravel road prior to resurfacing in the 1990's when it became a public street.
- A number of properties in the area have circular driveways and side loaded garages, which add to the paved areas of the sites, particularly in the front yards.
- The driveways are constructed of various materials: asphalt, concrete, or brick pavers.
- There are a number of storm sewer inlets along the road and adjacent to the road.
- The properties have varying amounts of plantings, with some being heavily landscaped.
- The area is relatively flat with some properties lower than others.
- The foundation openings and lowest adjacent grade levels of some houses are lower than the roadway based on visual observation and the Village's GIS data.



## SURROUNDINGS

- Nearby recreation areas include Nick Corwin and Bell Woods parks, and the Cook County Forest Preserve (Skokie Lagoons).
- Also located nearby (to the south and accessed from Willow Road) are the Winnetka Golf Club and Skokie Play Fields. The golf course is relevant to local stormwater management in that it abuts the southern end of Boal Parkway and the rear yards of several homes.

## ZONING

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Zoning requirements relate to stormwater management in how they control the location of structures and define open space on a property, but are most commonly applied to properties to address impact on community character and aesthetics.

- Under the Village of Winnetka Zoning Ordinance properties in the R-2 Single Family Zoning District (including the Study Area) must be a minimum of 24,000 square feet in size.
- The size of homes is regulated by the Gross Floor Area (GFA) standard (based on the lot size) and the Roofed Lot Coverage standard (no more than 25% of the lot can be covered by structures under a roof).
- Another zoning standard related to stormwater management is the front yard coverage standard; however, there is no maximum coverage of the front yard set for the R2 District.
- The key factor in which zoning relates to stormwater management is the impermeable surface standard. The code permits that to up 50% of the lot in an all residential single-family districts can be “impermeable”, as defined below. Eighty percent of areas covered with brick, stone, or concrete pavers count toward the total impermeable lot area. This incentivizes home owners to use such surfaces for driveways, walks, etc. as they can have larger areas for those functions.

*The key factor in which zoning relates to stormwater management is the impermeable surface standard.*

## IMPERMEABLE SURFACES

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*“Impermeable surfaces” means surfaces which do not allow water to drain, seep, filter or pass through into the ground below. Such surfaces shall include, but are not limited to, buildings, other structures, driveways, sidewalks, walkways, patios, tennis courts, swimming pools and other similar surfaces; except that such surfaces shall not include any such continuous surface having an area of less than sixteen (16) square feet, and except that only eighty (80) percent of an area covered with brick, stone or concrete pavers shall be considered to be an impermeable surface.”*

– Village of Winnetka Zoning Code

## YARD SETBACKS

The Yard Setback standards in the zoning ordinance establish areas that cannot include major structures. However, some structures are permitted as “obstructions” and can impact stormwater management by adding impervious surface to a property and potentially altering the flow of stormwater on a site.

Landscape areas are not regulated as obstructions (as they are not “structures”), but can impact the flow of water on and across properties if planting beds are raised or create low points.

Permitted obstructions include: garages, driveways, patios, terraces, fences, tennis courts, swimming pools, etc. In all cases the total lot impermeable surface must fall within the 50% limitation.

Some detailed characteristics of the Study Area are listed below. The average lot size along Boal Parkway is close to the half-acre minimum lot size required by the R2 Zoning district.

The data further show that homes are smaller and the lots covered with less impervious surface than is allowed by the Zoning Ordinance standards.

## STUDY AREA CHARACTERISTICS



### ▶ LOT SIZE

Range: 16,110 to 41,409 sqft \*  
Average = 21,700 sqft  
Median = 19,800 sqft



### ▶ IMPERVIOUS AREA

Range: 4,389 ft2 to 10,495 sqft  
Average = 6,715 sqft  
Median = 6402 sqft



### ▶ HOUSE SIZE

Range: 2,619 ft2 to 5,846 sqft \*\*  
Average = 3,808 sqft  
Median = 3,671 sqft



### ▶ LOT COVERAGE

Range: 21% to 51% \*\*  
Average = 31%  
Median = 31%



### ▶ AGE OF BUILDINGS

Range: 13 years to 77 years \*\*  
Average = 61 years  
Median = 69 years

Data Calculations based on:

- \* Village GIS Data
- \*\* Cook County Assessor Data
- + Winnetka Website Utility Fee Estimator Tool
- ++ Winnetka Data

The Village of Winnetka Landmark Preservation code regulates properties designated as historic landmarks. Owners of such properties may alter or demolish such properties only in keeping with the regulations of that ordinance. None of the properties in the Study Area are designated as historic landmarks.

Almost all of the residences along Boal Parkway lie within the mapped 100-year floodplain; however, the residences were constructed before the floodplains of Cook County were first published on any map.

## DRAINAGE FACTORS

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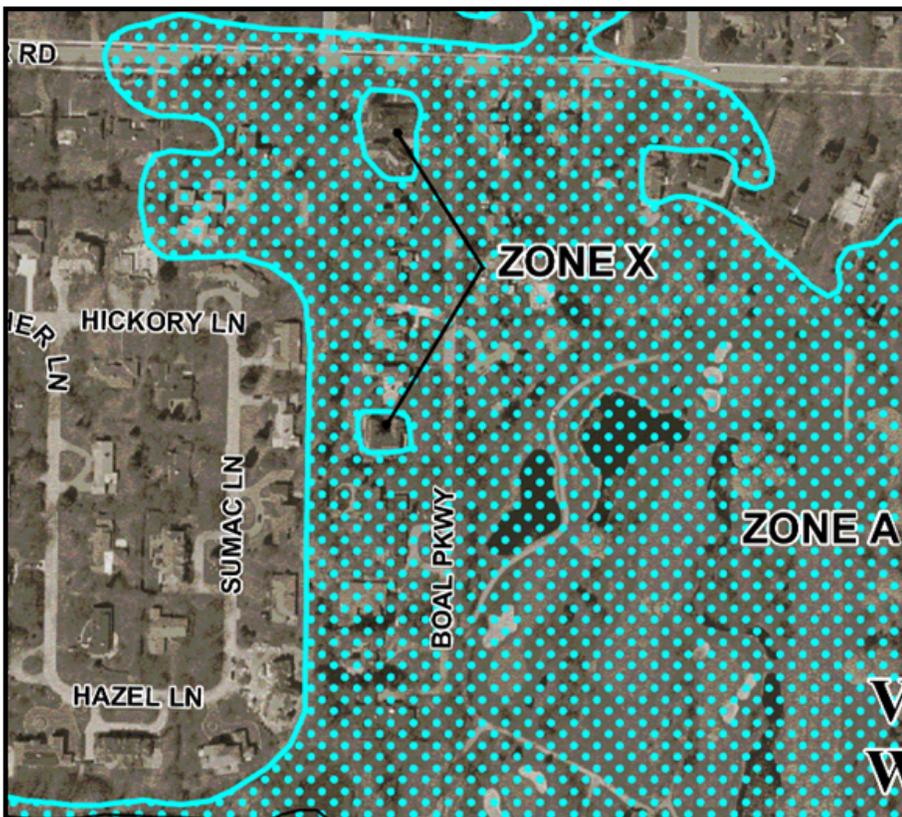
The Village of Winnetka has a dedicated separate storm sewer system. The Study Area is drained by two storm sewer outlets that both drain to the East Diversion Ditch: a 24-inch pipe running through the rear yards of properties along Boal Parkway and Sumac Lane; and a 12-inch pipe carrying the drainage from Boal Parkway. The 24-inch outlet may have drained Nick Corwin Park at some point in the past, but that pipeline has since been severed at Tower Road.

The sewer currently only serves to drain the rear yards directly above it, as several residents have connected area drains to the sewer. When the water surface in the East Diversion Ditch rises, the flow of stormwater is blocked at both storm sewer outlets in the Study Area, which results in yard and street flooding. The Village requires that downspouts drain to the ground before stormwater enters the public storm sewer system, unless the downspouts drain first to a stormwater detention system.

However, sump pumps are allowed to connect directly to the storm sewer. Single family redevelopment is required to provide detention based on the difference between the existing condition impervious area and the maximum lot coverage allowed by code.

The Cook County Watershed Management Ordinance exempts all single-family homes from its requirements. Residential subdivisions or resubdivisions of 1 acre or larger require runoff calculations and volume control; at 5 acres, detention is required.

When a new home is constructed in the floodplain, or an existing home in the floodplain is substantially improved, the home must be elevated so the lowest floor is above the 100-year flood elevation. Compensatory storage is required for any fill placed in the floodplain.



FEMA FLOODPLAIN MAP

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Most yards in the Study Area do not have a suitable overland flow path for stormwater whenever the storm sewer system is at capacity, since the front yards are typically lower than the road. The soils in the Study Area have characteristically high groundwater, which limits the rate that standing water can percolate into the soil.

At the south end of Boal Parkway, the East Diversion Ditch forms a pond that is classified as a wetland by the National Wetlands Inventory. There are other nearby wetlands in the golf course east of Boal Parkway.



## 3C | Past & Ongoing Plans

### COMPREHENSIVE PLAN

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The Village's Comprehensive Plan, WINNETKA 2020, was formally adopted by the Village Council on November 16, 1999. The Comprehensive Plan addresses many topics relevant to this Pilot Study, including: development in R2 zoned districts, impermeable surfaces, buildings located in floodplains, and storm and sanitary sewers .

#### *The plan states that..*

- Temporary ponding is considered acceptable, but flooded basements / impassable streets are not acceptable.
- It suggests resident surveying to identify areas of the Village served by undersized or inadequate sewers.
- It also addresses the need to monitor the effects of development and continue to refine regulations concerning development in low-lying areas.

### FLOOD INSURANCE STUDY

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The Cook County Flood Insurance Study was last updated on August 19, 2008.

#### *It determined that...*

- The 100-year flood elevation in the Boal Parkway Study Area to be 625.3 from Hill Road to the north Village limits (based on the North American Vertical Datum of 1988).

### WATERSHED PLAN

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The Metropolitan Water Reclamation District of Greater Chicago completed a Detailed Watershed Plan for the North Branch of the Chicago River and Lake Michigan Watershed in January 2011.

#### *The Plan determined that...*

- The 100-year flood elevation in the Study Area to be 625.5 feet (based on the North American Vertical Datum of 1988). The Village's topographic maps indicate the ground elevations within the Study Area generally range between 620 and 627.

### FLOOD RISK REDUCTION ASSESSMENTS

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Major flooding occurred in Winnetka in September 2008, following extended storm activity related to Hurricane Ike. This major flooding event prompted the Village of Winnetka to investigate the capacity of its stormwater infrastructure. The Village then commissioned Flood Risk Reduction Assessments to identify areas in need of capital improvements for stormwater management.

The Village completed a Flood Risk Reduction Assessment of the "Additional Study Areas" in December 2012. These study areas were not included in the original Flood Risk Reduction Assessment of 2011. The Boal Parkway neighborhood was part of Area E in the Additional Study Areas.

*Recommended improvements for the Boal Parkway neighborhood included...*

- Replacing existing 12" diameter storm sewers with storm sewers ranging in size from 18" to 24"
- Increasing the inlet capacity of the storm sewer system;

However, the Assessment acknowledges the sensitivity of the storm sewer system to the elevation of the water surface at the outlet, which limits the benefits of the recommended improvements when the East Diversion Ditch crests after a significant rainfall.

The estimated cost of the recommended improvements serving Boal Parkway was approximately \$372,000.

**FLOOD SURVEYS**

The most extreme storm event in recent Village history took place on July 22-23, 2011. Following that event, the Village sent a survey to all residents inquiring about flooding they may have experienced during the July 2011 storm event.

- Of the approximately 4,425 properties in the Village, 1,061 survey responses were received.
- Four properties on Boal Parkway responded to the survey and, of those, two reported flooding.
- One property reported window well/doorway flooding and the other reported flooding due to a sump pump failure.

**Another resident survey was conducted in 2013.**

- Of 17 properties within the Study Area, 10 residents responded.
- 40% of respondents reported overland flooding.
- 50% reported basement flooding, mostly from sump pump failures.

**STORMWATER MASTER PLAN**

The Village adopted its Stormwater Master Plan in April 2014. The Plan presents a comprehensive, multi-faceted strategy to manage stormwater runoff quantity and quality, to manage sanitary sewer discharges, and to guide Village investment and policy decisions.

The Plan outlines capital improvement projects, establishes floodplain management priorities, recommends stormwater best management practices, and addresses development regulations, all from a Village-wide perspective.

**ALL HAZARDS MITIGATION PLAN**

The Cook County All Hazards Mitigation Plan is currently being developed and may be completed in 2014. This plan is a collaborative effort between the County and municipalities and townships within the County. It will identify activities that can be undertaken by both the public and private sectors to reduce safety hazards, health hazards, and property damage caused by all types of hazards, including flooding.

The development and subsequent adoption of this plan will allow communities to become eligible for Federal Emergency Management Agency (FEMA) hazard mitigation funds.

## 3D | Community Outreach

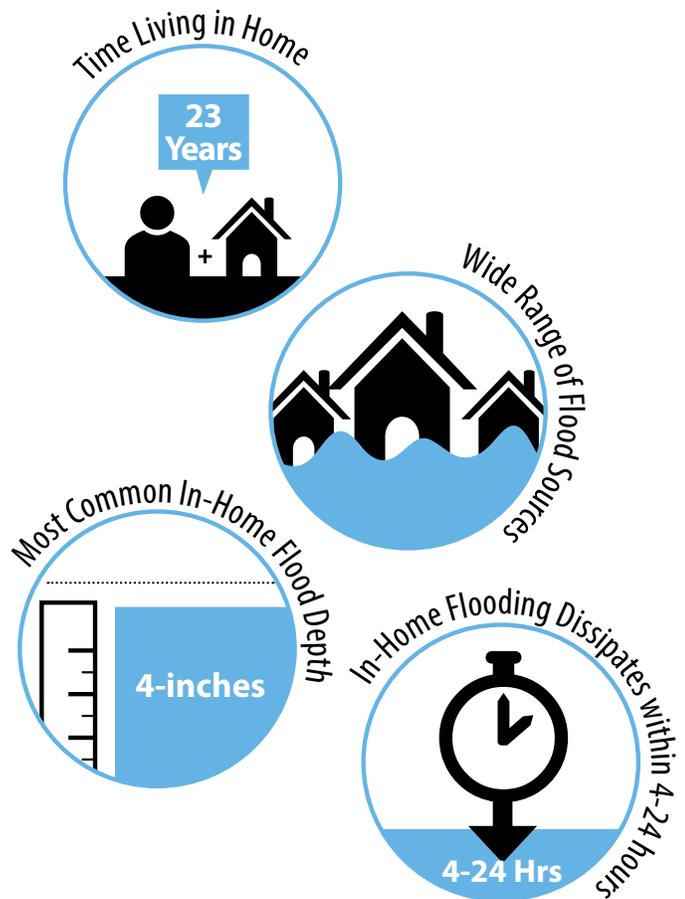
### SURVEY RESULTS

Residents in the Boal Parkway Study Area were asked to complete a survey as part of this project. The survey prompted respondents to provide details of their experience with flooding in their homes and on their properties (see Appendix 2). Completed surveys were returned by owners of 11 of the 17 properties in the Study Area.\* The specificity of the survey questions was intended to provide a detailed understanding of site specific and neighborhood flooding issues.

In considering various locations in their homes and around their property respondents were asked to indicate the storm severity that led to flooding, water depths during that flooding, and how long it took for flooding to subside. Severity was described in general terms, such as: light rain/drizzle, medium rain, heavy rain, sudden deluge, and melting snow. Respondents also were asked to indicate the type of improvements they have undertaken to mitigate stormwater in and around their homes.

#### Key Survey Findings

- 1 Average length of time living in homes on Boal Parkway was 23 years (two respondents have lived in their homes 40 years, and the shortest was eight).
- 2 Home flooding came from a range of locations: through a floor drain or bathroom fixture, basement wall seepage, floor seepage, window well, or sump pump failure. Note: Responses were not required to be exclusive; several respondents had multiple answers.
- 3 When flooding did occur in homes, it most commonly did not exceed four inches and the water was typically gone within 4 to 24 hours.
- 4 Eight of the 11 survey respondents indicated they had made improvements to their homes to prevent or limit flooding or seepage. The most common improvement was the addition of a sump pump or sump pump backup system.
- 5 Most respondents indicated a “heavy rain” was required to cause yard flooding (as opposed to a “light rain” or “medium rain”, or “snowmelt”).
- 6 All 11 respondents noted rear yard flooding, and four in the front yard. Eight of the 11 noted having made improvement to limit property flooding.
- 7 Yard flooding was most commonly reported to be more than four inches deep and remaining for greater than 24 hours.



\* The small sample and number of responses do not provide (nor was it intended to provide) a statistically significant response to provide definitive answers to the flooding issue. The intent was to understand the location and intensity of flooding, as well as how property owners have already begun to address the flooding issue.

## 1ST OPEN HOUSE

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As follow up to the survey, Study Area residents were invited to attend an open house to provide further information on the location, intensity, and impact of flooding on their property.

Residents from seven of the properties attended the open house. Working with detailed map of each property, participants indicated the general location of flooding (on site and in their home), the direction of water flow on their property, and the location of various structures on the site that may inhibit drainage.



*Road paving on Boal Parkway elevated the road surface.*



*Berms located along the edge of the Winnetka Golf Course.*

The maps were completed working with members of the consultant team. An example completed site study is included as [Appendix 4](#).

The mapped information and one-on-one discussions between resident and consultant were useful in understanding current flooding issues and the history of flooding in the neighborhood. As highlighted below, the discussions and mapping identified several key aspects regarding residents' history with and understanding of stormwater management in the neighborhood:

### Highlights from Open House Discussions

- ▶ A 24" stormwater line runs from north to south in an easement (known as the Grove Street easement) at the back of the homes on the west side of Boal Parkway. The line is capped and serves only the area south of Tower Road. Residents noted that water in the sewer backs up out of it during significant rains.
  - ▶ The storm sewer line in the Grove Street easement outlets at the south end of Boal Parkway into the East Diversion Ditch. When the water level in the Ditch rises, the storm sewer cannot drain the rear yards along the west side of Boal Parkway.
  - ▶ Boal Parkway had been a private gravel road until the 1990's, at which time the Village paved and took jurisdiction of the road. The Village also added a storm sewer system. As a result of the paving, the surface of the road was elevated.
  - ▶ The Winnetka Golf Course located east of the neighborhood has a series of berms separating it from the neighborhood. Residents reported that drainage from the golf course does not flow into the neighborhood.
-

## 3E | Preliminary Recommendations and 2nd Open House

After the conclusion of the first open house, residents were invited to attend a second open house, at which preliminary recommendations were presented regarding individual lot and neighborhood-scale solutions. Three residents attended the second open house. The three residents were from three separate households, all on the west side of Boal Parkway. The presentation was informal, allowing residents the opportunity to ask questions and provide feedback as each potential solution was presented. Concept plans were used to illustrate the neighborhood-scale solutions and photographs were used to illustrate the individual lot solutions. The slideshow presentation from the second open house is included in [Appendix 5](#).

### NEIGHBORHOOD SCALE SOLUTIONS

These solutions would require, at a minimum, the coordination of several property owners for construction and long-term maintenance. They would have a greater cost and require more time to implement than the individual lot solutions, but these solutions could potentially have a greater impact on flooding. Plus, the cost could be spread between the properties benefiting from the improvements. These types of improvements were evaluated at a concept level. Additional work, from ground-based topographic surveying to detailed plans and cost estimates and permits, would be needed to implement them.

#### ***Neighborhood Scale Solution #1*** **Augment Golf Course Berms**

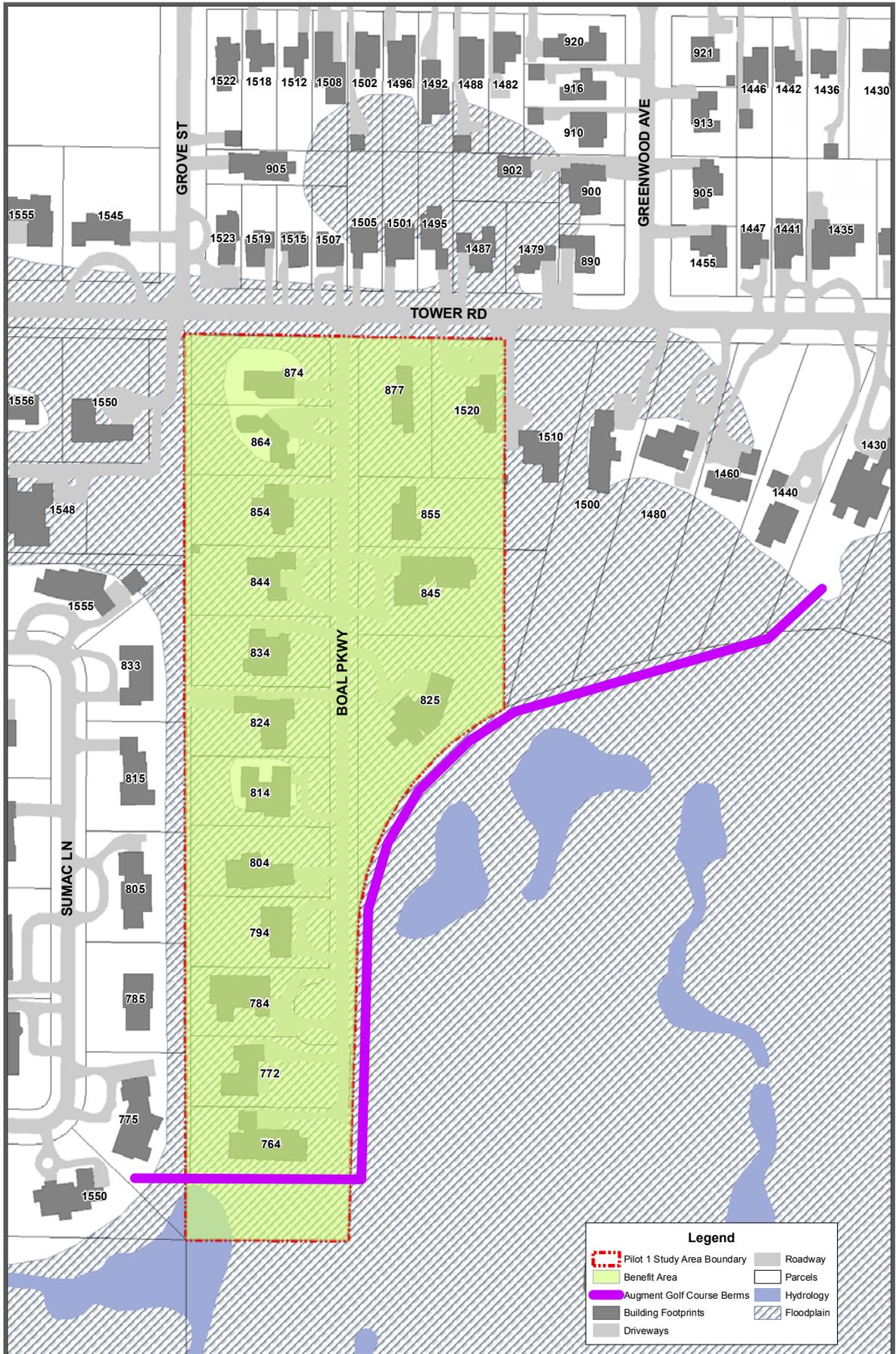
The first potential improvement presented was a berm across the floodplain and the adjacent Park District golf course. This project would involve filling the gaps between the existing berms along the edge of the golf course. It would require the cooperation of the Park District and several individual property owners, including property owners outside of the Study Area. Depending on the desired protection level, the berm height could be increased to provide different protection levels (i.e., 10-year vs. 100-year). The cost of the berm and its impact on affected properties would increase with the height of the berm.

Protection from the 100-year flood would require the berm to be certified as a levee, entailing structural design and permitting through the U.S. Army Corps of Engineers and FEMA. Since the berm would trap runoff from the Study Area, the project would also have to include a pumping station discharging stormwater over the berm and into the East Diversion Ditch.

 The feedback from the residents in attendance was unanimously negative toward this project. Despite the neighborhood's location within the floodplain, the residents stated they were not aware of floodwaters ever overflowing the banks of the East Diversion Ditch, then flowing across the golf course and into the neighborhood. This included one resident who has lived in the neighborhood for 40 years. Therefore, the residents in attendance questioned the benefit of this project. They agreed that the road, which was elevated when it was paved in the 1990's, effectively created a berm that protects the properties along the west side of Boal Parkway, if the golf course is ever flooded.

*\* See diagram on following page*

► **Neighborhood Scale Solution #1 - Augment Golf Course Berms**



**Neighborhood Scale Solution #2**  
**Lower Boal Parkway Pavement**

The Village’s topographic mapping indicates that, in order for runoff from the west to drain across Boal Parkway to the east, a section of Boal Parkway would have to be lowered by approximately two feet. The residents reported that this was about the extent to which it was raised when it was improved to Village standards. It is possible that this project could be incorporated into a Village road maintenance project, but the additional cost would be significant, and the existing storm sewer system would have to be examined carefully to make sure it would still drain the lowered roadway. Furthermore, at least one rear yard would have to be filled to ensure positive drainage across Boal Parkway.

👤 The attending residents were not supportive of this project, indicating that it would provide little benefit but entail a significant expense. The raised profile of Boal Parkway was also perceived as an existing benefit for some within the Study Area. Lowering the road would increase their risk of flooding.

*\* See diagram on following page*

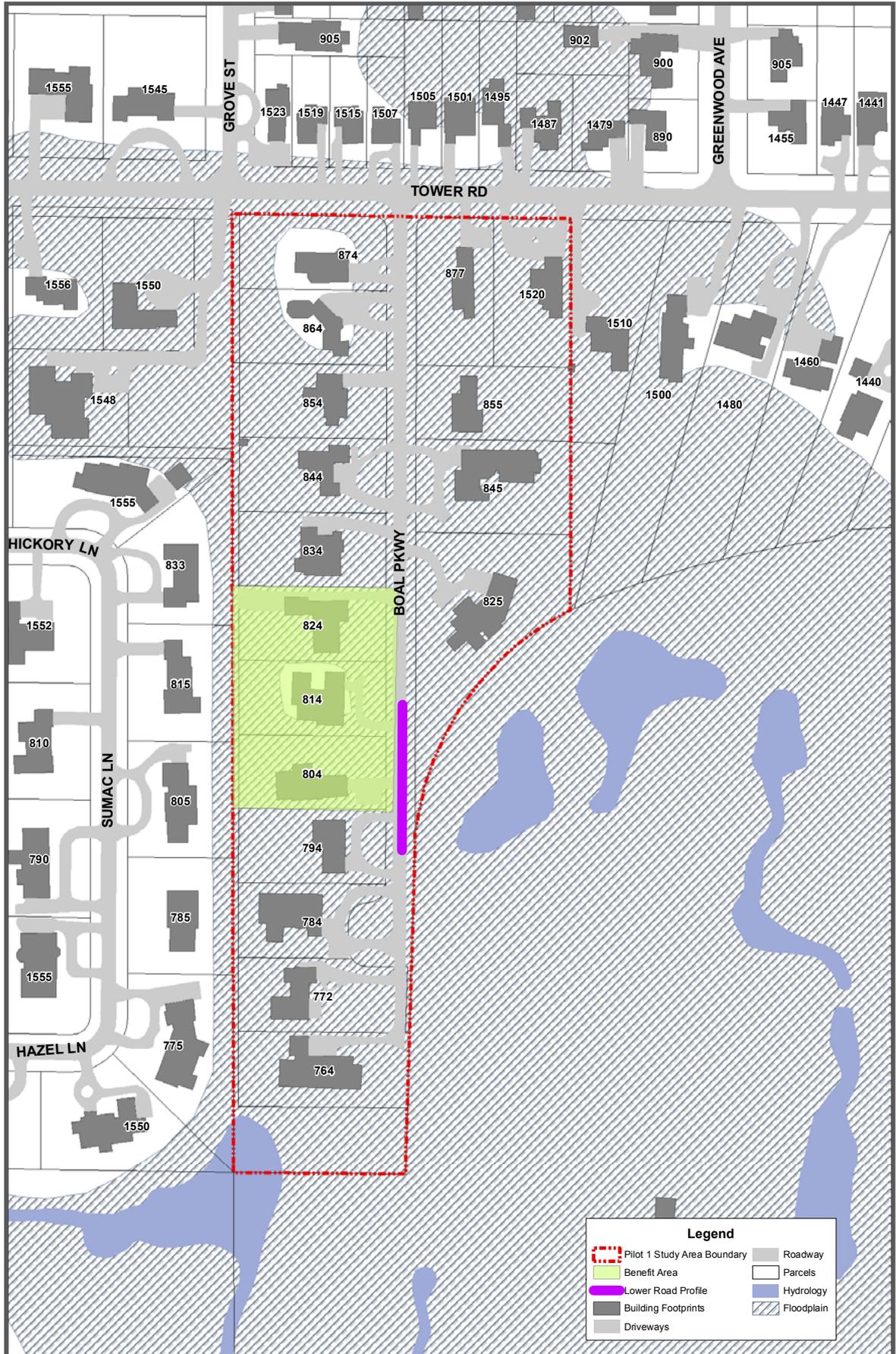
**Neighborhood Scale Solution #3**  
**Neighborhood Pump Station**

The third solution presented was a stormwater pumping station at the south end of the Study Area, which would involve connecting the two parallel storm sewers (Boal Parkway and the Grove Street easement), building a pumping station at the connection point, and running a discharge pipe along the same route as the existing gravity outlet from Boal Parkway. This improvement would allow these storm sewers to continue functioning even when the water level in East Diversion Ditch is elevated. The location and long-term maintenance responsibilities of the pumping station would have to be worked out among the residents and the Village.

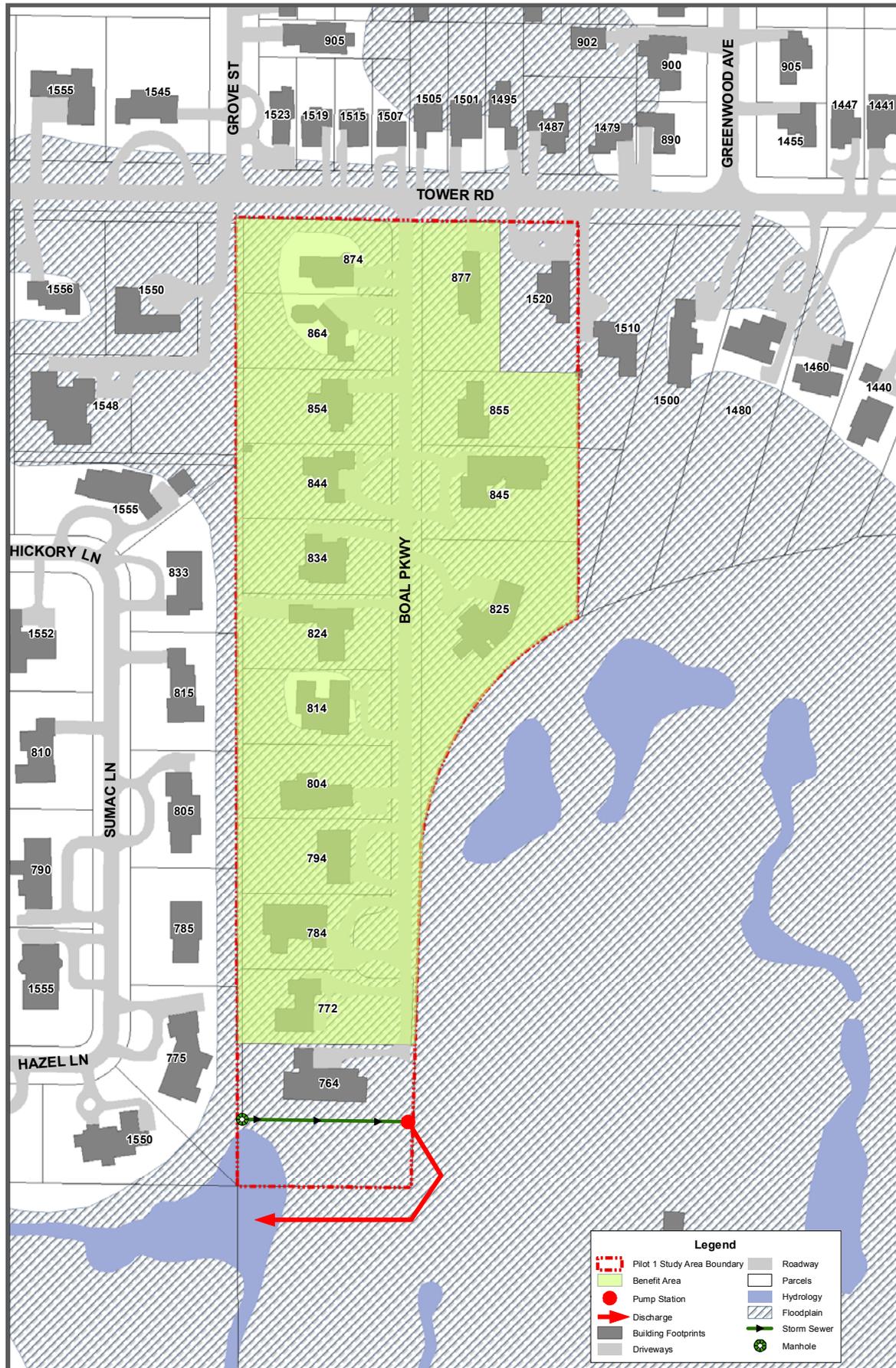
👤 The attending residents were all in favor of this option, indicating that their flooding problems occur only when the storm sewers in the Study Area are unable to drain, due to the water level in the East Diversion Ditch. They indicated that the storm sewer inlets are generally able to accept the runoff from the neighborhood, but flooding occurs when stormwater surcharges from the storm sewer system. The consensus among attending residents was that the above-ground features of the pumping station could be effectively screened by the existing trees in the area or with additional plantings.

*\* See diagram on page 24*

► **Neighborhood Scale Solution #2 - Lower Boal Parkway Pavement**



► **Neighborhood Scale Solution #3 - Neighborhood Pump Station**



**Neighborhood Scale Solution #4**  
**Improved Overland Flow Path**

Creating a positive slope from the north end of the Grove Street easement to the south end would require excavation as much as six feet deep at the downstream end. Plus, at the excavated depth, rising water in the East Diversion Ditch would flood the easement more regularly than it currently does. Therefore, the conceptual plan focused on re-grading the rear yards and adding a few inlets at select locations, to minimize the depth of flooding at the elevation where surface water could begin to flow overland to the East Diversion Ditch. Even minimal re-grading in the easement would entail the loss of trees, some of which are scrub trees that provide screening and others which are mature hardwood trees. The re-grading would also impact landscaping and fences.

 The residents did not favor such a project, citing the minimal benefit it would provide and their strong preference for a pumping station.

*\*See diagram on following page*

**Neighborhood Scale Solution #5**  
**Local Detention**

The final neighborhood-scale solution presented at the open house was a detention pond; however, no specific location was suggested. Such a pond would ideally be located in an area that is already prone to flooding. The available storage volume would be expanded by excavation and the surrounding areas would be allowed to drain into it; however, the benefit of the excavated storage could be lost during wet seasons when the groundwater level approaches the ground surface and fills all or a portion of the excavated storage volume. Tree and landscaping removal would be significant for this project, but would be concentrated at the pond location; therefore, the impact of this project would be borne by a limited number of property owners. The cost of a detention pond would increase the further the pond is located from an existing flood prone area, because more storm sewer pipe would be required.

 The residents' response to this solution was negative.

► **Neighborhood Scale Solution #4 - Improved Overland Flow Path**



## INDIVIDUAL PROPERTY-SCALE SOLUTIONS

Individual property solutions were also presented and discussed at the second open house. Since the neighborhood-scale solutions are not fully developed and since the funding for those projects has not yet been secured, residents may elect to implement one or more individual property solutions, rather than wait for a neighborhood-scale solution to be developed. These measures can be implemented swiftly, without the need to coordinate with other property owners.

 The residents seemed to find these ideas helpful; several ideas were new to them and not something they had previously thought to try. The most applicable solutions seemed to be outdoor sump pumps, overland flow paths, and indoor sump pump modifications. As much as the attending residents appreciated the individual recommendations, they still preferred the neighborhood-scale solution of a pumping station at the south end of Boal Parkway.

Appendix 6 consists of a matrix of individual lot solutions organized by the source of the flooding problem. For each flooding cause, a variety of solutions were presented. The matrix explains when specific solutions would be the most appropriate and situations where the solution may not work well. The matrix can be very helpful for a neighborhood like Boal Parkway, where many residents have already implemented some measure of flood protection, but the flooding problem has not been completely solved yet. In such cases, the matrix provides a range of potential solutions that might complement or replace previous installations.



4					
TYPE OF PROBLEM	SOLUTION	PURPOSE	IDEAL APPLICATIONS	LIMITATIONS AND OTHER CONSIDERATIONS	
OUTSIDE THE BUILDING	 <b>LANDSCAPED AREAS</b>	Construct a rain garden	Reduces the period of inundation by increasing the rates of infiltration and evapotranspiration	Where no municipal sewer system is nearby	Clayey soils and high groundwater limit the rate of infiltration
		Install a yard drainage system	Convey stormwater from the yard to the municipal sewer system	Where the municipal sewer system is nearby and lower than the flood prone area	May require removal of trees or relocation of utility service lines
		Excavate high ground or fill in a low-lying area	Create a suitable overland flow path from the flood prone area	Where a small amount of excavation allows overland flow from a low lying area of the yard to the street	Must not create a flooding problem on another property and floodplain fill requires compensatory excavation
		Install a rain barrel	Reduce the amount of runoff to flood prone area	Where the area contributing runoff is small	Storage capacity can be overwhelmed by intense rain
		Install a sump pit, sump pump, and discharge line	Pump water out of the stairwell	Where the ground is sloped to drain away from the stairwell	Requires a discharge point that does not create a flooding problem on another property
		Remove debris from inlets	Prevent clogged storm drains	Any storm drain inlet	Inlets should be cleaned regularly
 <b>PAVED AREAS</b>	Reconstruct pavement with permeable pavers	Store water in the aggregate below the pavers and allow it to infiltrate into the soil	Anywhere	Clayey soils and high groundwater limit the rate of infiltration	
	Reconstruct pavement to drain	Prevent water from accumulating on paved areas	Where a ground slope of 1% or more can be attained	Fill in a floodplain requires compensatory excavation	
	Install a trench drain and a drainage system	Convey stormwater from the paved area to the municipal sewer system	Where the municipal sewer system is nearby and lower than the paved area	May require relocation of utility service lines	
	Construct a driveway berm	Prevent overland flow from the street from flooding a garage	Where the garage floor is lower than the street	The height of the driveway berm depends on the level of protection desired, which could be set a certain distance above the existing driveway or it could be set to match the elevation of the lowest ground elevation that cannot be raised	

### 3F | Action Steps

#### POTENTIAL NEXT STEPS FOR PROPERTY OWNERS ON BOAL PARKWAY

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**The first step for every property owner is to develop an inventory of the existing flooding issues they face and the flood control measures already installed on their property.**

The matrix in [Appendix 1](#) can be used to identify the source of any unresolved problems. Based on the type of flooding the property experiences, the property owner can then sort through possible solutions using the matrix in [Appendix 6](#) and taking into account cost, effectiveness, and feasibility. Many of the solutions are best used in conjunction with others; combining several different flood control measures will give the system strength and redundancy.

Specific recommendations for property owners on Boal Parkway include creating a side yard overland flow path to alleviate rear yard flooding, where possible.

When the ground elevations are not conducive to constructing an overland flow path, an outdoor sump pump can be installed in a low-lying area of the rear yard with a discharge line connected to a pop-up structure in the front yard.

An alternative approach would be to construct a rain garden in the low-lying area. The rain garden would be planted with deep rooted native plants that increase the rates of infiltration and transpiration of runoff that drains to the rain garden.

Indoor flooding can be alleviated by making sure every property has a back-up sump pump with an alternate power source and a surface overflow at some point on the sump pump discharge line. The overflow will prevent the sump pump motor from burning out when the storm sewer system is at capacity. The overflow could be as simple as an air gap just outside the foundation wall, but a better option would involve fitting the discharge line with a tee at the air gap allowing the overflow point to be extended away from the foundation wall.

Basement window flooding can be resolved by adding concrete window wells with a higher top-of-wall elevation, or replacing low-lying glass pane windows with glass block windows.



► *Overland Flow Path*



► *Rain Garden*



► *Backup Sump Pump*



► *Glass Block Windows*

## POTENTIAL NEXT STEPS FOR THE VILLAGE OF WINNETKA

---



ADOPT  
PLAN



RESIDENT  
ACTION



IMPLEMENT  
SSA



SOLICIT  
BIDS



APPLY  
SOLUTIONS



EVALUATE  
ZONING



EDUCATE  
RESIDENTS

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### ► **Adopt Plan**

The Village's first step is to adopt this plan as an addendum to the Stormwater Master Plan. It gives residents the tools to understand and proactively address flooding on their property and in their neighborhood.

### ► **Support Resident Action**

Residents are encouraged to take the lead in addressing localized flooding, but the Village can offer support and guidance helping to identify sources of funding by preparing and submitting grant applications, and then taking responsibility for administering any grant funding that can be secured.

### ► **Solicit Bids**

Resident-led efforts to address localized flooding that could be supported by the Village include: soliciting bids from contractors to construct improvements, such as sump pumps, landscaping, or permeable pavement at multiple properties at a lower unit price than individual residents could obtain on their own; or bidding a privately funded neighborhood-scale solution with a Village-funded project to get lower unit prices than the neighborhood could get on their own.

### ► **Apply Solutions**

The Village could apply the templates developed as part of the Water Solutions Project to identify readily implementable solutions in other flood prone areas of the Village. Areas of the Village that would be prime candidates for this type of study include Areas A, C, G, and N from the Flood Risk Reduction Assessment completed in December 2012 for the Additional Study Areas.

### ► **Educate Residents**

Educate residents about stormwater and floodplain management. The implementation of Winnetka's new stormwater utility has already done a lot to educate the public about the factors that influence the rate and volume of stormwater runoff from their property. The Village could make the educational materials generated for the Water Solutions Project available on its website. These materials help the public discover actions they can take, either individually or collectively, to combat localized flooding.

### ► **Evaluate Zoning**

The Village could also amend its zoning regulations that relate to stormwater management, as recommended in the Village's Comprehensive Plan and Stormwater Master Plan (see chart on following page). These standards function to maintain the Village's community character, so they must be evaluated in the context of both applications; however, a change that adds emphasis to mitigating stormwater impacts may be appropriate for certain applications or areas.

## ZONING REGULATIONS TO BE EVALUATED

1

### Maximum Front Yard Lot Coverage

The Village Zoning Ordinance regulates how much of the front yard can be covered by structures. For lots smaller than R2, the maximum is 30 percent coverage; however, there is no maximum in R2 and R1 zoning districts. The concept is that R2 and R1 lots are larger lots and can include more structures without impacting the area character. From a practical standpoint, this encourages construction of circular driveways and parking pads in front yards, which add to impermeable surfaces.

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2

### Maximum Total Area of Impermeable Surfaces

The maximum lot coverage of 50% (applicable in all zoning districts) is somewhat higher than current exists in the Study Area. The average there is about 30% and only two of the seventeen properties in the Study Area are higher than thirty-five percent. Setting a lower impermeable surface maximum would maintain more natural surfaces, and in the Study Area create limited nonconforming properties.

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3

### Garage Regulations

The two standards of 1) bonus square footage toward Gross Floor Area that comes with placing detached garages in the rear portion of lots and 2) encouraging side loaded garages (by limiting the width of front facing garages) support design objectives of reducing building bulk and the appearance of garages at the front of a building; however, both of these regulations support (effectively require) more driveway length on a given lot.

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4

### Semi-Permeable Surfaces

Eighty percent of an area installed as brick, stone, or concrete pavers counts toward the maximum permitted impermeable surface of a lot. This allows a greater area of these materials to be installed than other pavement. It creates a higher level of aesthetic by many standards and does allow for some amount of water to pass through to the ground. From a stormwater management standpoint these materials do not facilitate as much rain water absorption as natural areas, but do require maintenance to retain their degree of permeability.

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## CATALOG OF POSSIBLE FUNDING METHODS

### ▶ **Increased Cost of Compliance**

After a flood, holders of National Flood Insurance Program insurance policies may be eligible for payments of up to \$30,000 above the cost to repair structural damage to the affected property. This additional coverage is called Increased Cost of Compliance (ICC), and it applies if policy holders are required to meet certain repair or rebuilding requirements. These requirements and the ICC coverage are triggered in cases where a home or business is more than 50% damaged during a flood ("substantially damaged") or where a home or business has been flooded at least twice in the past 10 years ("repetitive damage"). ICC payments may be used for elevation of the structure, relocation, demolition, or floodproofing.

### ▶ **Cook County All Hazards Mitigation Assistance**

Several other sources of hazard mitigation assistance will become available once the Cook County All Hazards Mitigation Plan is complete and has been adopted by both the County and the Village. The Plan is currently being developed by Cook County and may be completed in 2014.

### ▶ **FEMA Hazard Mitigation Assistance Programs**

FEMA hazard mitigation assistance programs include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) program, and Flood Mitigation Assistance (FMA). Each program has its own eligibility and funding criteria, but each can be used to fund property protection measures as shown in the table on the following page, provided that the benefits of the project exceed project costs (B/C > 1). In general, these programs are funded when FEMA approves an application prepared jointly by a local government, such as the Village, and the Illinois Emergency Management Agency (IEMA). In most cases, FEMA pays 75% of eligible expenses, but the federal share can reach 90% for Repetitive Loss Properties and 100% for Severe Repetitive Loss (SRL) properties.

### ▶ **MWRDGC Stormwater Management Program**

In 2014, the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) began its Phase II Stormwater Management Program, which funds local projects designed to improve drainage and reduce flood damage. From time to time the MWRDGC will announce a formal call for funding requests, but funding requests are accepted at any time. The Village could request funding for the entire cost of a neighborhood-scale solution, but the MWRDGC generally prefers to fund projects that are partially funded by another source. This other source of funding could potentially come from a FEMA hazard mitigation assistance program.

### ▶ **Stormwater Utility**

The Village of Winnetka recently created a Stormwater Utility to fund stormwater expenses. The Village uses a bi-monthly stormwater fee based on the property's impact to the stormwater system. The stormwater fees fund all aspects of the Village stormwater system, including current operating and maintenance expenditures and the anticipated debt service associated with capital improvement projects. The Village's capital improvement program does not include a stormwater capital improvement project for Boal Parkway, but additional projects may be programmed once the currently programmed projects have been designed and constructed.

### ▶ **Special Service Area**

Another funding option would be for the Boal Parkway residents to build support for a Special Service Area to fund one or more neighborhood improvement projects. Special Service Areas are local tax districts that fund expanded services and programs through a localized property tax levy within contiguous areas. The enhanced services and programs would be in addition to those currently provided through the Village.

► **Cost Sharing Program**

The Village could establish a neighborhood-led initiative, such as Glenview’s SWAMP Program, that allows residents to petition to install local drainage projects with the help of the Village. The property owners would present a petition to the Village that requests consideration of a local drainage project. If the majority of property owners support the drainage improvement, the Village would provide a report including costs for the improvement. If the plan is approved by a majority of the property owners, the drainage improvement can be built, and would be partially funded by the Village.

**FEMA HAZARD MITIGATION ASSISTANCE PROGRAMS**

**Eligibility & Funding Criteria**

<b>Eligible Activities</b>	<b>HMGP</b>	<b>PDM</b>	<b>FMA</b>
<i>Property Acquisition and Structure Demolition</i>	√	√	√
<i>Property Acquisition and Structure Relocation</i>	√	√	√
<i>Structure Elevation</i>	√	√	√
<i>Mitigation Reconstruction</i>			√
<i>Dry Floodproofing of Non-residential Structures</i>	√	√	√
<i>Minor Localized Flood Reduction Projects</i>	√	√	√
<i>Structural Retrofitting of Existing Buildings</i>	√	√	
<i>Non-structural Retrofitting of Existing Buildings and Facilities</i>	√	√	√
<i>Infrastructure Retrofit</i>	√	√	√
<i>Post-Disaster Code Enforcement</i>	√		
<i>Generators</i>	√	√	

# Chapter 4

## **pilot study #2**

**Multi-Family Block  
Glenview, IL**

### **4A | Vision, Goals & Objectives**

#### **VISION**

*Identify ways to reduce the likelihood of flooding along this multi-family block of housing in Glenview and minimize the damage caused when flooding occurs, through property protection measures, land use policies, and green infrastructure that can also be applied to multi-family neighborhoods in other flood-prone areas.*

#### **GOALS**

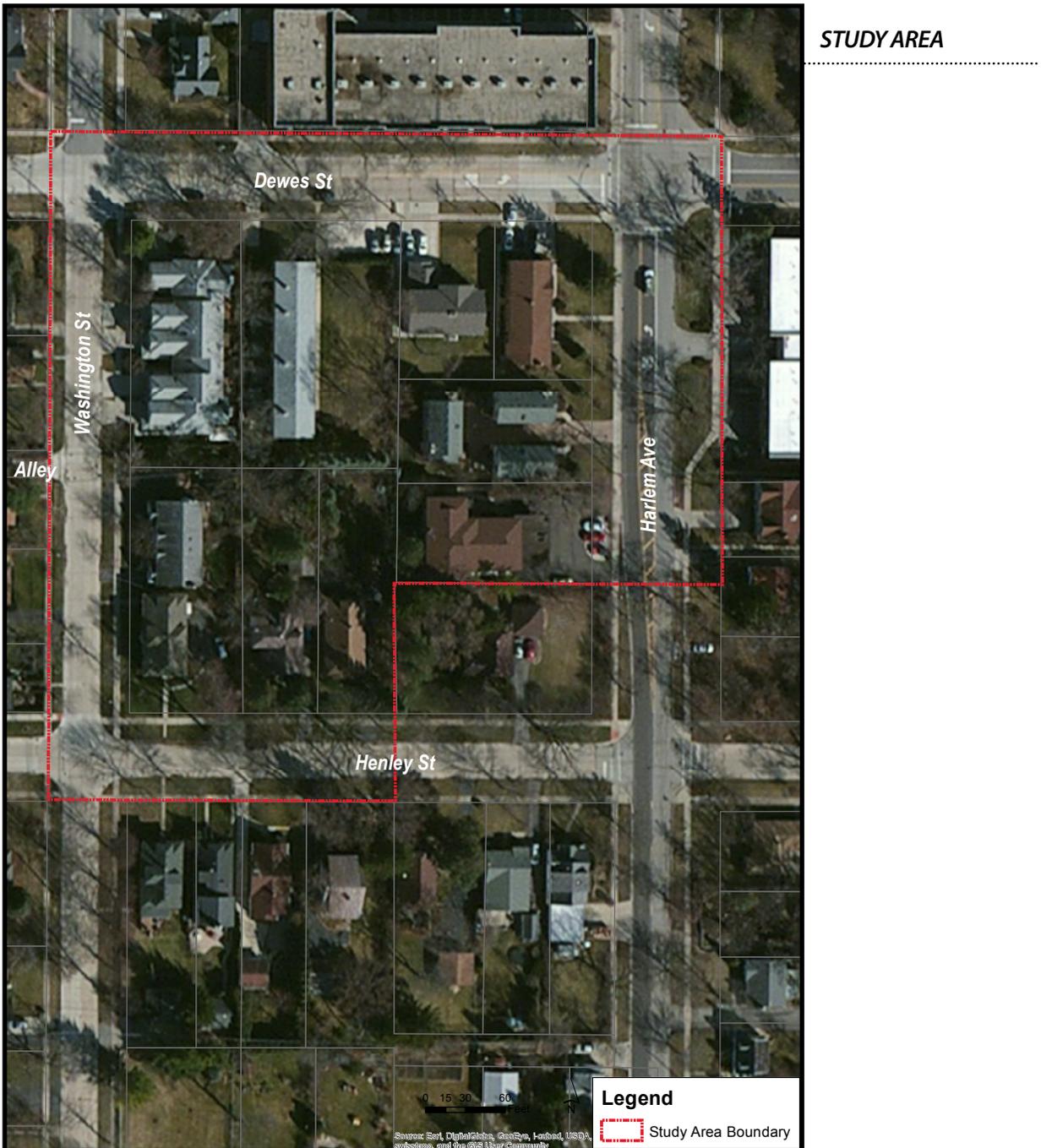
- ▶ Educate property owners on the causes of flooding
- ▶ Gather public input on localized stormwater problems
- ▶ Identify a range of readily implementable solutions
- ▶ Incorporate public feedback on the recommended solutions

#### **OBJECTIVES**

- ▶ Involve property owners in identifying causes of and solutions to flooding problems
- ▶ Provide property owners with recommendations to mitigate stormwater flooding and flood damage on their property, with solutions applicable to individual properties and scalable to whole neighborhoods
- ▶ Develop a plan to guide the Village and property owners through each step of implementation

## 4B | Existing Conditions & Regulations

The Study Area is approximately one square block consisting of mostly multi-family housing. The block is bounded by Dewes street to the north, Harlem Avenue to the east, Henley Street to the south, and Washington Street to the west. Lots in the Study Area average approximately 12,700 square feet. Buildings in the Study Area average approximately 4,500 square feet, with individual units averaging around 1,600 square feet.



## SITE FEATURES

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- The neighborhood includes two townhome buildings, three stand-alone townhomes, four two-story apartment buildings, and two single-family homes. The building facades are predominantly brick and vinyl siding.
- Most of the lots have significant tree cover and vegetation, especially the back yards.
- Except for Harlem Avenue, which is an asphalt surface, the other roads around the Study Area have concrete surfaces with low rolled curbs.
- The driveways are linear, with the exception of one circular driveway, and either lead to a garage or are used for off-street parking.
- The driveways are constructed of various materials: asphalt, concrete, or brick pavers.
- Several of the driveways slope up from the street and then down towards the backyard. As a result, the foundation openings and lowest adjacent grade levels of some buildings are lower than the roadway.
- There are concrete sidewalks along each of the streets. Driveways and sidewalks together comprise significant paved and impervious areas, particularly in the front yards.
- Each side of the block currently has only one storm sewer inlet.
- The properties have varying amounts of landscaping, with some densely planted.
- Three properties have on-site stormwater detention areas.
- There is a grade change of approximately two to three feet between the parcels in the Study Area and the parcel on the southeast corner of the block.

## SURROUNDINGS

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- The Study Area is south of a large commercial strip center near downtown Glenview and is part of an area designated in the Village Comprehensive Plan as the “Downtown Frame Neighborhood”. This commercial area includes a significant amount of impervious area.
- There is a multi-family townhome development to the east of the Study Area.
- The west and south sides of the Study Area are surrounded by single-family homes.
- The Metra Milwaukee District North Line is one block east of the Study Area. The Village’s central business district along Glenwood Road and Waukegan Road is less than half a mile away.



*Multi-Family Home in Study Area*



*Single-Family Home in Study Area*

## ZONING

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Zoning requirements relate to stormwater management by guiding the locations of structures and open space on properties. Stormwater is just one consideration in zoning, and most zoning requirements address property impacts on community character and aesthetics.

- All properties in the Study Area are within an R-18 Residential District per the Village of Glenview Zoning Ordinance. This District permits single and multi-family dwellings as land uses. Certain community and institutional uses also are permitted (parks, private clubs, and nursing homes). Certain other uses are allowed as Conditional Uses through approval by the Village (training schools, houses of worship, and certain communal residences).
- Lots in this District must be a minimum of 6,250 square feet for residential uses. In addition, there must be at least 2,400 square feet of lot per dwelling unit (permitting approximately 18 units per acre). For example, a multi-family building with 10 dwelling units would require a lot of at least 24,000 square feet. Further, the District has a maximum lot size of two acres (87,120 square feet). In effect, this maximum lot size limits multi-family structures in the District to 36 units.

*The key factor in which zoning relates to stormwater management is the impermeable surface standard.*

## IMPERMEABLE SURFACES

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- The area of a lot that can be covered by impervious surface is a key element of stormwater management. Developed residential properties in the R-18 Residential District can have a maximum impervious lot coverage of 50 percent; however, if that property also is in the Downtown Frame Neighborhood, it can have a maximum of 62 percent lot coverage (the subject site is in the Downtown Frame Neighborhood). The higher permitted coverage allowed in that neighborhood recognizes that denser development is appropriate in and around a downtown area. (Impervious lot coverage is defined elsewhere in the Village code as including all impervious surfaces except the water surface of an in-ground swimming pool and/or a wood deck with semi-permeable membrane.)

## BUILDING SETBACKS AND RELATED DISTRICT REQUIREMENTS

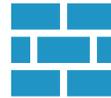
- ▶ **Lot Width:** 80 feet minimum
- ▶ **Front Yard Setback:** 30 feet minimum
- ▶ **Side Yard Setback:** 12 feet minimum (proportionally less on narrower lots) or 30 feet minimum if adjacent to a street
- ▶ **Rear Yard Setback:** 25 feet minimum
- ▶ **Maximum Building Size** (as determined by calculating the Floor Area Ratio – FAR): 0.65 (this is because the property is in the Downtown Frame Neighborhood – in other areas the maximum R-18 FAR is 0.5).

## STUDY AREA CHARACTERISTICS



### ▶ LOT SIZE

*Range: 8,533–22,303 sqft \**  
Average = 12,773 sqft  
Median = 11,122 sqft



### ▶ AGE OF BUILDINGS

*Range: 10 – 86 years \*\**  
Average = 47 years  
Median = 53 years



### ▶ BUILDING SIZE

*Range: 1,375–11,250 sqft \*\**  
Average = 4,557 sqft  
Median = 3,813 sqft



### ▶ IMPERVIOUS AREA

*Range: 3,331–8,713 sqft\**  
Average = 5,685 sqft  
Median = 5,296 sqft



### ▶ UNIT SIZE

*Range: 916–2,500 sqft\**  
Average = 1,668 sqft  
Median = 1,482 sqft



### ▶ LOT COVERAGE

*Range: 31–65% \**  
Average = 45%  
Median = 45%

### NOTES:

- The multi-family building that has a circular drive exceeds the permitted lot coverage by 3%.
- The density of two multi-family parcels is higher than the 18 units/acre maximum.

Data Calculations based on:

\* Village GIS Data

\*\* Cook County Assessor Data

## DRAINAGE FACTORS

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The Village of Glenview has a dedicated separate storm sewer system. There are two storm sewer systems (varying in diameter from 8 inches to 21 inches) that run south along Washington Street and Harlem Avenue and connect to a large 48 inch storm sewer that runs east along Henley Street. The mainline sewer along Harlem Avenue then crosses under the Metra Milwaukee District North Line and empties into the West Fork of the North Branch of the Chicago River.

Recent sewer improvements on Henley Avenue (August 2014) installed a 48 inch storm sewer along Henley Avenue in addition to the already existing drainage system. This improvement is expected to provide relief for the street flooding in the area. Based on the modeling done for this project, street flooding from a 100-year storm event should be reduced from 15 inches to 4 inches on Washington Street and from 9 inches to 0 inches on Harlem Avenue.

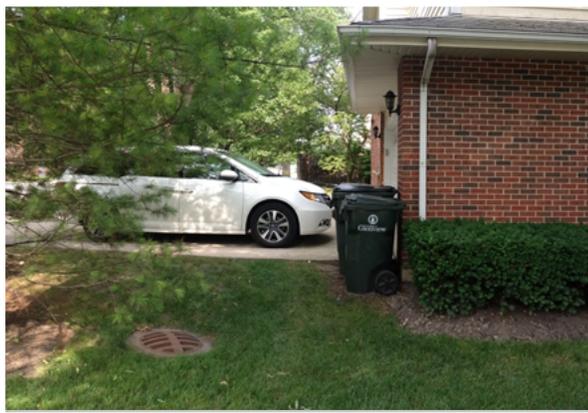
The Village requires downspouts to splash at grade, but requires sump pumps to be connected to the storm sewer system or to a rain garden. Stormwater detention is required for any redevelopment. For construction of multi-family land uses or single-family subdivisions with more than two lots, developments must provide on-site stormwater detention per Village Code.

The Cook County Watershed Management Ordinance requires detention for multi-family developments disturbing 0.5 acre or more when the parcel being developed (or redeveloped) is 3 acres or larger. It also requires volume control (retention of the first inch of runoff from impervious areas of the development or redevelopment) for multi-family developments disturbing 0.5 acres or more.

The Study Area is not located in a FEMA designated Special Flood Hazard Area, but is classified as a Tier 1 and Tier 2 flood area by the Glenview Flood Mitigation Tiering Framework. Tier 1 is defined as sanitary Capital Improvements Program (CIP) priority areas and Tier 2 as areas of over-foundation flooding. Almost the entire Study Area is also within the boundary of a local surface flooding inundation area, according to the Village's city-wide stormwater model.

Many yards in this Study Area are lower than the road, which makes yard ponding and over-foundation flooding a problem. Some of the multi-family lots have detention ponds, but they were designed under less stringent detention requirements of 20 years ago. There are also many mature trees in the area and leaves often clog roof gutters and stormwater inlets.

Rainwater runoff in the Study Area flows east from Washington Street, through the middle of the block, to Harlem Avenue.



*Note: Sloping grade change from building foundation to side yard, contributing to ponding and over-foundation flooding.*

## 4C | Past & Ongoing Plans

### **COMPREHENSIVE PLAN**

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The last major update to the Village of Glenview Comprehensive Plan was adopted in 2004. It does not have specific recommendations related to stormwater management or the Study Area; however, the Village extensively considered and planned for stormwater management in recent studies, particularly the 2010 Flood Risk Reduction Program. The 2004 Comprehensive Plan Household Survey included one question about stormwater drainage:

*“How do you rate the overall quality of stormwater drainage in Glenview?”*

- 46% of respondents said that it was “good” or “somewhat good”
- 18.5% of respondents were neutral
- 33% considered stormwater drainage to be “somewhat poor” to “poor”
- 2.5% had no opinion

As addressed in the Glenview Comprehensive Plan, the Study Area is adjacent to “The Main Street” in the Downtown District (essentially Glenview Road from Waukegan Road to Washington Street. The Study Area is considered in the Plan due to its proximity to downtown. In fact, there are separate recommendations for an area around the downtown referred to as “downtown supporting residential districts” in which the Study Area is included. These recommendations effectively call for continuation of the residential character.

### **GLENVIEW MASTER PLAN**

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The Glenview Master Plan was written in 1996 and focuses largely on the Glenview Naval Air Station redevelopment. This area, located just north of the Study Area, was planned and developed with a large naturalized detention basin to improve stormwater management in the area.

### **STORMWATER TASK FORCE**

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The Storm Water Task Force (SWTF) was formed after a severe flooding event in September 2008 and is still active. The SWTF is charged with identifying local storm water projects and providing cost estimates and revenue sources for these projects. The group consists of 16 citizens that represent a cross-section of Glenview residents. They work with Village staff and consultants to discuss and analyze flooding concerns in Glenview. The Flood Risk Reduction Program (on the opposite page) documents the goals and fundamental principles defined by the SWTF.

### **STORM WATER UTILITY FEE STUDY**

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The Stormwater Utility Fee Study was a recommended action of the SWTF in the Flood Risk Reduction Program. The Study includes details on how a stormwater utility fee could be implemented in Glenview, including the impacts on customers, fee structures, and implementation schedule. The stormwater utility would provide a stable, dedicated source of funding for stormwater projects. However, the Village has decided to continue to fund stormwater projects through other sources of revenue.

## **FLOOD RISK REDUCTION PROGRAM**

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The Flood Risk Reduction Program was adopted by the Village in 2010. It presents a comprehensive plan of action for flood-risk reduction throughout Glenview. The Program has three goals: to eliminate sanitary sewer backups, to reduce the risk and impacts of over-foundation flooding, and to improve local drainage infrastructure to meet the Village's current design standards. Current design standards specify no street flooding for the 10% annual chance rainfall event and no more than 10 inches of street flooding for the 1% annual chance rainfall event.

### *The Program has five principles:*

1. Efforts to address flooding should include actions that lead to quick visible results;
2. Take action to reduce the rate and volume of discharges to receiving sewers and streams;
3. Solutions should strive to have no significant negative impact on flooding downstream areas;
4. Solutions should include public, private, local and regional efforts; and
5. Costs to address all identified problems are very large; prioritizing efforts is required.

The Program outlines capital improvement projects for in-pipe detention, storm sewer conveyance improvements, and storm inlet capacity improvements. Capital improvement projects also include "quick win" projects. "Quick win" projects are defined as projects that are intended to achieve visible reductions in flooding in certain areas in a short period of time. These included both sanitary sewer and stormwater projects.

The Program also implemented cost-sharing initiatives for residents for beneficial storm water projects, including: rain gardens, over-head sanitary sewer service conversions, and holistic drainage inspections. These inspections are performed by licensed professional engineers working for the Village, with the cost split between the Village and the homeowner. Existing drainage issues and features are identified on and in the building, the yard, and surrounding areas. The solutions are identified, assessed for potential benefits, and their expected costs are estimated in a final report to the homeowner. The owner also receives a discount on Village permit fees for work needed to implement the identified solutions. The Program also organized funding mechanisms for future projects.

## **HAZARD MITIGATION PLANS**

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The Village adopted a Multi-Hazard Mitigation Plan in 2009. This Plan identifies activities that can be undertaken by both the private and public sectors to reduce safety hazards, health hazards, and property damage caused by multiple types of hazards, including flooding. This Plan makes the Village eligible for Federal Emergency Management (FEMA) hazard mitigation funds. The Cook County All Hazards Mitigation Plan is currently being developed by Cook County and may be completed in 2014. This Plan is a collaborative effort between the County and municipalities and townships within the County. It will identify activities that can be undertaken by both the public and private sectors to reduce the risk of property damage and loss of life caused by all types of hazards, including flooding.

## 4D | Community Outreach

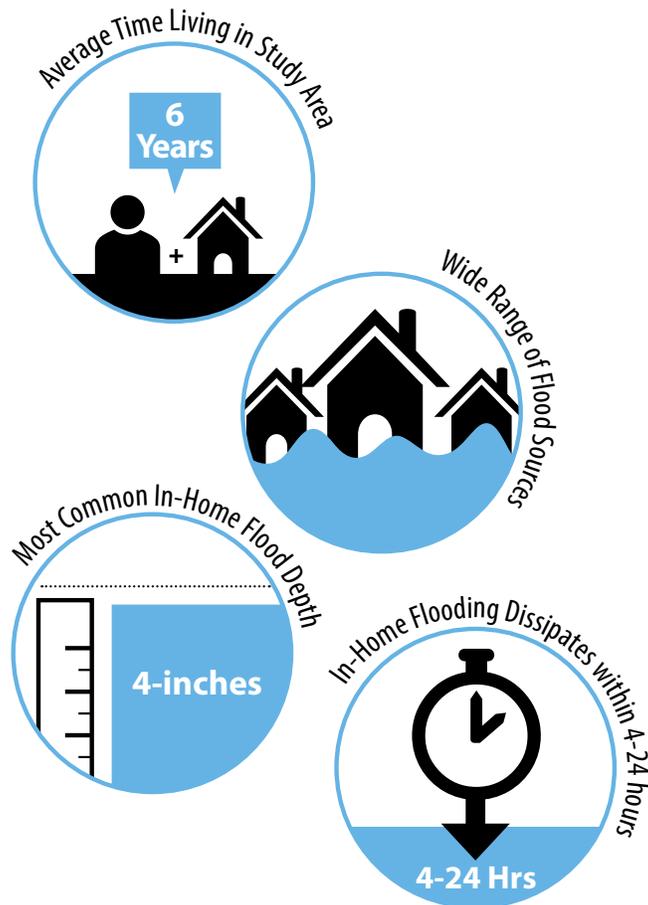
### SURVEY RESULTS

Residents of the Study Area were asked to complete a survey as part of this project. The survey prompted respondents to provide details of their experience with flooding in their homes and on their properties (see Appendix 2). Completed surveys were returned by eight residents in the Study Area (five property owners and three tenants).\* The specificity of the survey questions were intended to provide a detailed understanding of site specific and neighborhood flooding issues.

Respondents were asked to indicate the storm severity that led to flooding, water depths during that flooding, and how long it took for flooding to subside. Severity was described in general terms, such as: light rain/drizzle, medium rain, heavy rain, sudden deluge, and melting snow. Respondents also were asked to indicate the type of improvements they have undertaken to mitigate stormwater in and around their homes.

#### Key Survey Findings

- 1 The average length of time respondents have lived in their homes in the Study Area was six years; the longest term was 14 years. Three respondents indicated living in the area for one year.
- 2 Home flooding came from a range of sources. The most common were doorways, seepage, drains (bathroom fixtures), and window wells. Respondents were allowed to provide multiple answers.
- 3 When flooding did occur in homes, it most commonly did not exceed four inches, and the water typically was gone within 4 to 24 hours.
- 4 Respondents noted they had made improvements to their homes to prevent or limit flooding or seepage. Three indicated having installed overhead sewers and three indicated they had installed a check valve.
- 5 Residents who did have flooding were asked what type of rain caused the flooding to occur; all respondents indicated that "heavy rain" or "sudden deluge" was the cause.
- 6 Four of eight respondents indicated they had made improvements to their property to address flooding. Improvements focused on maintenance of storm drains and other stormwater management elements.



\* The small sample and number of responses do not provide (nor was it intended to provide) a statistically significant sample. The intent was to understand the local occurrence and intensity of flooding, as well as how local property owners have already begun to address the flooding issue.

## 1ST OPEN HOUSE

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As follow up to the survey, Study Area residents were invited to attend an open house to provide further information on the location, intensity, and impact of flooding on their property.

Residents from 33% of the parcels in the Study Area attended the open house. Working with detailed maps of the properties, participants indicated the general location of flooding (on site and in their home), the direction of water flow on their property, and the location of various structures on the site that may inhibit drainage.

The maps were completed working with members of the consultant team. An example of a completed site study is included as [Appendix 4](#).

The mapped information and one-on-one discussions between resident and consultant were useful in understanding current flooding issues and the history of flooding in the neighborhood. As highlighted below, the discussions and mapping identified several key aspects of residents' history with and understanding of stormwater management in the Study Area.

### Highlights from Open House Discussions

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- ▶ Private properties in the area include detention ponds and stormwater inlets to help manage stormwater. In instances discussed at the open house, the detention basin overflowed and flooded adjacent properties to the east.
  - ▶ Street flooding occurs as a result of very heavy rains, particularly on the north end of the Study Area along Dewes Street. Discussions with residents indicated a sense that limited system capacity causes flooding in the street and contributes to flooding on private properties.
  - ▶ The Village is enhancing local stormwater capacity by installing a new storm sewer under Henley Street and nearby stormwater detention. The improvement is anticipated to relieve street flooding in the Study Area.
  - ▶ Residents' experiences with flooding made them informed about the location and impacts of property flooding, and they had engaged in previous discussions with Village staff on the topic. The homeowners association of one development in the area has conducted an engineering study of impacts specific to their property.
-

## 4E | Preliminary Recommendations and 2nd Open House

Residents were invited to attend a second open house, at which preliminary recommendations were presented regarding individual lots and neighborhood-scale solutions. Four residents from three separate households attended the second open house. The presentation was informal, allowing residents the opportunity to ask questions and provide feedback as each potential solution was presented. Concept plans were used to illustrate the neighborhood-scale solutions and photographs were used to illustrate the individual lot solutions. The slideshow presentation from the second open house is included in [Appendix 5](#).

### NEIGHBORHOOD SCALE SOLUTIONS

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These solutions would require, at a minimum, the coordination of several property owners, and possibly tenant/landlord cooperation, for construction and long-term maintenance. They would have a greater cost and require more time to implement than the individual lot solutions, but these solutions could potentially have a greater impact on flooding. Plus, the cost could be spread between the properties benefiting from the improvements. These types of improvements were evaluated at a concept level. Additional work would be needed to implement them, including ground-based topographic survey, detailed engineering plans, cost estimates, and permits.

#### ***Neighborhood Scale Solution #1***

##### **Local Detention**

A detention pond that serves multiple properties could be added to the block in some of the open space that is available in the area. Such a pond would ideally be located in an area that is already prone to flooding. The available storage volume would be expanded by excavation, and the surrounding areas would be allowed to drain into it.

**i** One of the downsides to this solution is that the addition of a detention pond would probably require the removal of some mature trees in the area.

***Neighborhood Scale Solution #2***

**Raise Sidewalks Along Washington Street**

Raising the sidewalk along Washington Street would create a berm between the street flooding that occurs on Washington Street and properties in the Study Area. Depending on the height of the sidewalk, the street flooding would not be directed into the two detention basins and thus would protect the lower floors of the surrounding homes.

**i** This possibility would have to be further analyzed to see if it is possible to raise the sidewalk while still maintaining passable slopes on the existing driveways, and to see if raising the sidewalk would negatively affect any other properties.

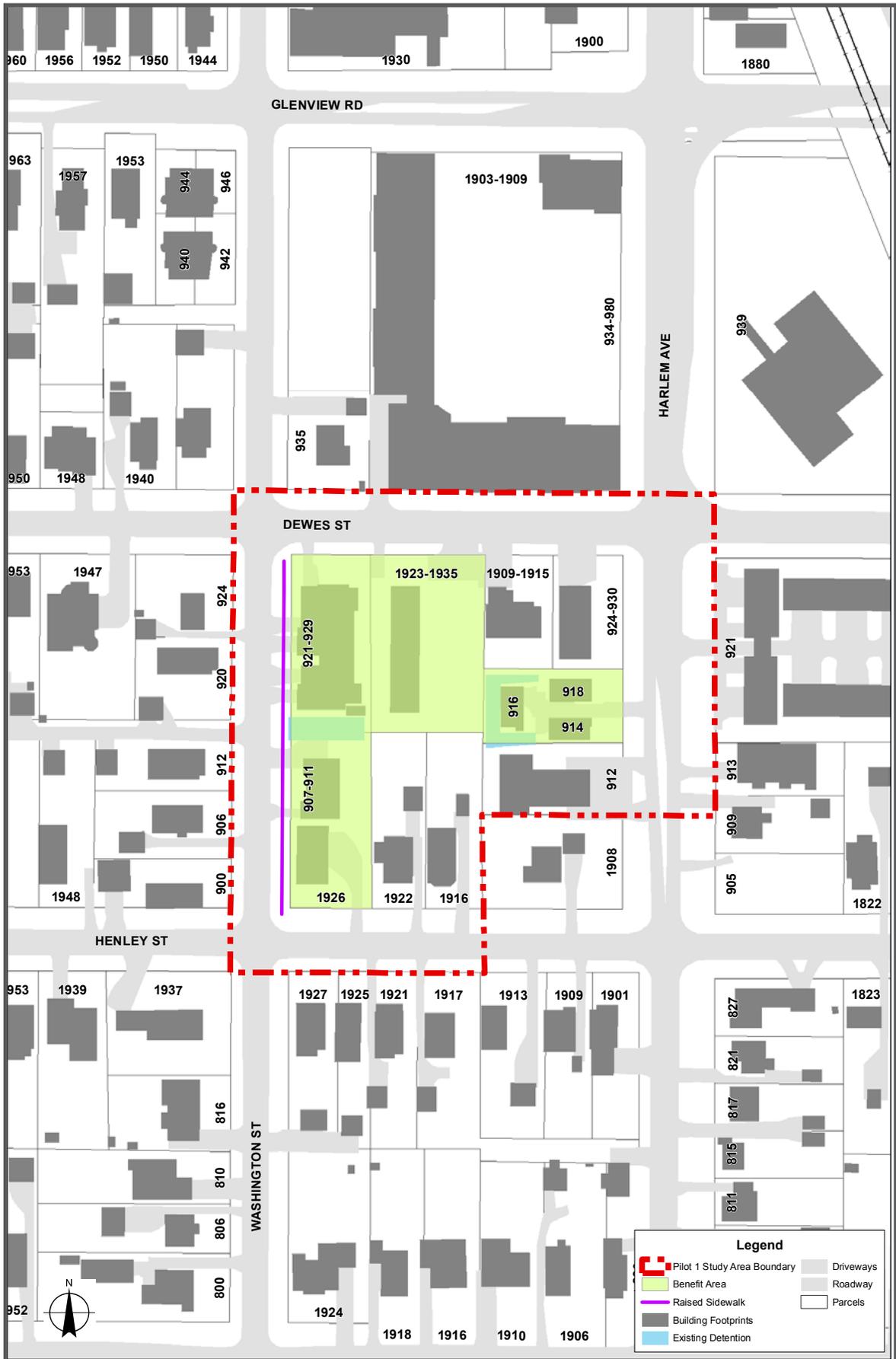
***Neighborhood Scale Solution #3***

**Redirect Detention Pond Overflow**

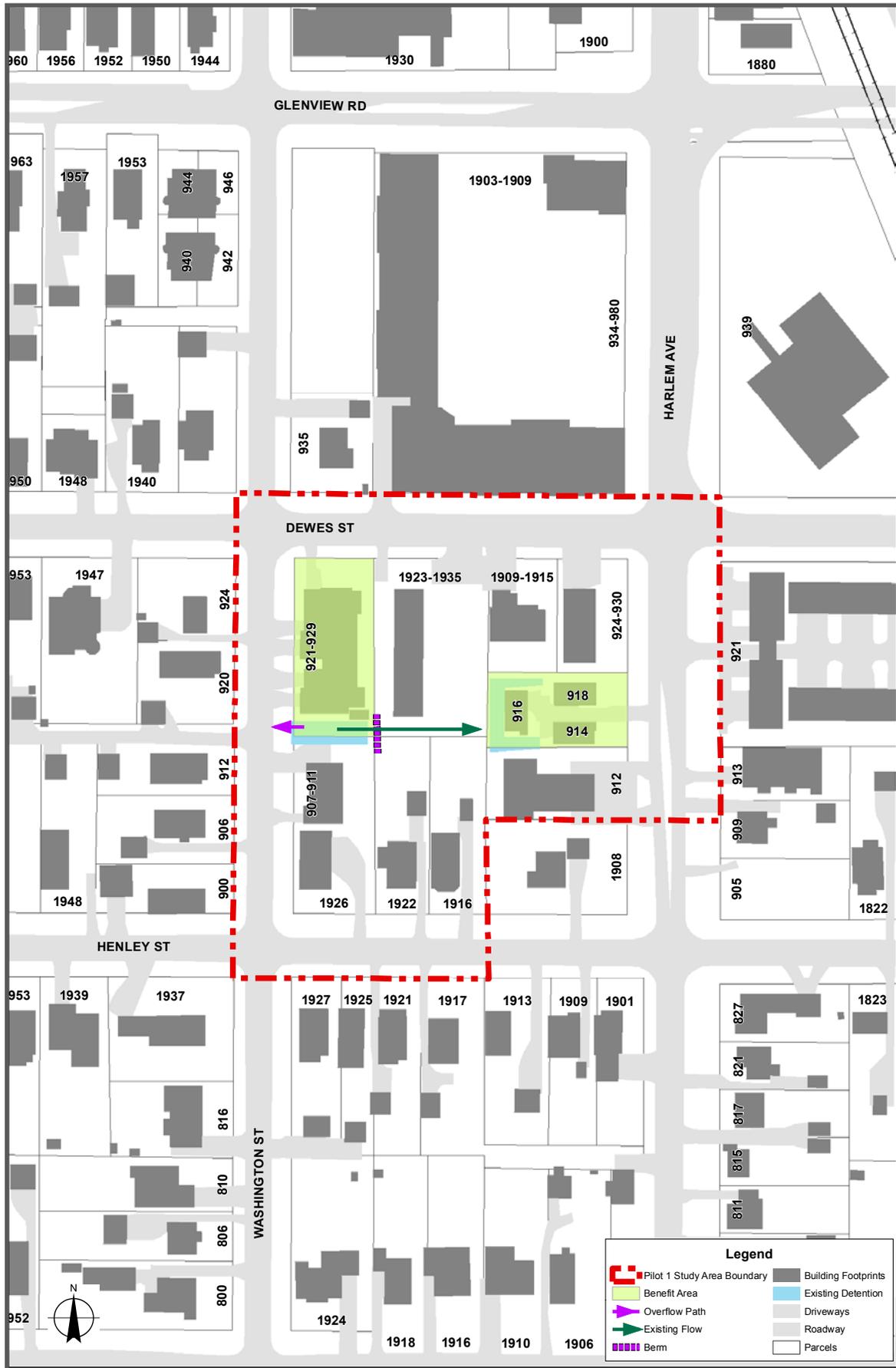
From the residents' open house comments, it was determined that overflow from the detention basin along Washington Street overflows to the east and floods lower floors of surrounding homes. To fix this problem, a berm could be constructed along the east side of the existing detention pond and an alternate overflow from the detention pond to the street established.

**i** This solution would only be possible if the detention pond overflow elevation could be designed above the street flooding elevation on Washington and if it would not adversely affect any other properties.

► **Neighborhood Scale Solution #2 - Raise Sidewalks Along Washington Street**



► **Neighborhood Scale Solution #3 - Redirect Detention Pond Overflow**



## INDIVIDUAL PROPERTY-SCALE SOLUTIONS

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Individual property solutions were also presented and discussed at the second open house. Since the neighborhood-scale solutions are not fully developed and since the funding for those projects has not yet been secured, residents and/or landlords may elect to implement one or more individual property solutions, rather than wait for a neighborhood-scale solution to be developed. These measures can be implemented swiftly, without the need to coordinate with other property owners.

Appendix 6 consists of a matrix of individual lot solutions organized by the source of the flooding problem. For each flooding cause, a variety of solutions were presented. The matrix explains when specific solutions would be the most appropriate and situations where the solution may not work well. The matrix provides a range of potential solutions that might complement or replace previous installations. The matrix offers solutions that are relevant for multi-family neighborhoods. These upgrades will require the cooperation of both the tenant and the landlord.

**i** One of the challenges in a multi-family neighborhood is that the owner of the building is not typically involved in the day-to-day operations and may not see stormwater flooding firsthand. The tenant may consider such repairs an owner responsibility and/or not have the resources to make stormwater flooding prevention improvements on their own. Improvements in these areas are more likely to be driven by redevelopment regulations.



**WATER SOLUTIONS PROJECT**  
Planning for Resilient Communities



**4**

TYPE OF PROBLEM	SOLUTION	PURPOSE	IDEAL APPLICATIONS	LIMITATIONS AND OTHER CONSIDERATIONS
OUTSIDE THE BUILDING	<b>LANDSCAPED AREAS</b> Construct a rain garden Install a yard drainage system Excavate high ground or fill in a low-lying area Install a rain barrel Install a sump pit, sump pump, and discharge line Remove debris from inlets Install a check valve on the sewer service line	Reduces the period of inundation by increasing the rates of infiltration and evapotranspiration	Where no municipal sewer system is nearby	Clayey soils and high groundwater limit the rate of infiltration
		Convey stormwater from the yard to the municipal sewer system	Where the municipal sewer system is nearby and lower than the flood prone area	May require removal of trees or relocation of utility service lines
		Create a suitable overland flow path from the flood prone area	Where a small amount of excavation allows overland flow from a low lying area of the yard to the street	Must not create a flooding problem on another property and floodplain fill requires compensatory excavation
		Reduce the amount of runoff to flood prone area	Where the area contributing runoff is small	Storage capacity can be overwhelmed by intense rain
		Pump water out of the stairwell	Where the ground is sloped to drain away from the stairwell	Requires a discharge point that does not create a flooding problem on another property
		Prevent clogged storm drains	Any storm drain inlet	Inlets should be cleaned regularly
	<b>PAVED AREAS</b> Reconstruct pavement with permeable pavers Reconstruct pavement to drain Install a trench drain and a drainage system Construct a driveway berm	Allow the free flow of water through the sewer service and prevent backflow	Where the sewer system reaches or exceeds its capacity from time to time	Debris within the sewer service line can prevent proper operation
		Store water in the aggregate below the pavers and allow it to infiltrate into the soil	Anywhere	Clayey soils and high groundwater limit the rate of infiltration
		Prevent water from accumulating on paved areas	Where a ground slope of 1% or more can be attained	Fill in a floodplain requires compensatory excavation
		Convey stormwater from the paved area to the municipal sewer system	Where the municipal sewer system is nearby and lower than the paved area	May require relocation of utility service lines
	Prevent overland flow from the street from flooding a garage	Where the garage floor is lower than the street	The height of the driveway berm depends on the level of protection desired, which could be set a certain distance above the existing driveway or it could be set to match the elevation of the lowest ground elevation that cannot be raised	

► **Snapshot Section of Matrix**

## 4F | Action Steps

### POTENTIAL NEXT STEPS FOR THE MULTI-FAMILY STUDY AREA RESIDENTS

**The first step for every resident is to develop an inventory of the flooding issues they face and the flood control measures already installed on their property.**

The matrix in [Appendix 1](#) can be used to identify the sources of any unresolved problems. Based on the type of flooding the property experiences, the property owner can then identify solutions using the matrix in [Appendix 6](#) and taking into account cost, effectiveness, and feasibility. Many of the solutions are best used in conjunction with others; combining several flood-control measures will give the system strength and redundancy.

Specific recommendations for property owners in Glenview include creating a side yard overland flow path to alleviate rear yard flooding, where possible.

When the ground elevations are not conducive to constructing an overland flow path, an outdoor sump pump can be installed in a low-lying area of the rear yard with a discharge line connected to a pop-up structure in the front yard.

An alternative approach would be to construct a rain garden in the low-lying area. The rain garden would be planted with deep rooted native plants that increase the rates of infiltration and transpiration of runoff that drains to the rain garden.

Indoor flooding can be alleviated by making sure every property has a back-up sump pump with an alternate power source and a surface overflow on the sump pump discharge line. The overflow will prevent the sump pump motor from burning out

when the storm sewer system is at capacity. The overflow could be as simple as an air gap just outside the foundation wall, but a better option would involve fitting the discharge line with a tee at the air gap allowing the overflow point to be extended away from the foundation wall.

Basement window flooding can be resolved by adding concrete window wells with a higher top-of-wall elevation, or by replacing low-lying glass pane windows with glass block windows.

Multi-family units may also need to get approval from the other properties on their parcel, through their homeowners association or property manager, prior to implementing these solutions, especially any outdoor grading or new discharge outlets, as they may negatively affect other owners on the property. Projects may also require building permits from the Village, which should be consulted prior to conducting improvements.



▶ **Overland Flow Path**



▶ **Rain Garden**



▶ **Backup Sump Pump**



▶ **Glass Block Windows**

## POTENTIAL NEXT STEPS FOR THE VILLAGE OF GLENVIEW

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ADOPT  
PLAN



RESIDENT  
ACTION



SOLICIT  
BIDS



APPLY  
SOLUTIONS



EDUCATE  
RESIDENTS



EVALUATE  
ZONING

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### ▶ Adopt Plan

The Village's first step is to adopt this Plan as an addendum to the Flood Risk Reduction Program. It gives residents the tools to understand and proactively address flooding on their property and in their neighborhood.

### ▶ Support Resident Action

Residents are encouraged to take the lead in addressing localized flooding, but the Village can offer support and guidance by helping to identify sources of funding, preparing and submitting grant applications, and then taking responsibility for administering any grant funding that can be secured.

### ▶ Solicit Bids

Resident-led efforts to address localized flooding that could be supported by the Village include: soliciting bids from contractors to construct improvements, such as sump pumps, landscaping, or permeable pavement at multiple properties at a lower unit price than individual residents could obtain on their own; or bidding a privately funded neighborhood scale solution with a Village funded project to get lower unit prices than the neighborhood could get on their own.

### ▶ Apply Solutions

The Village could apply the templates developed as part of the Water Solutions Project to identify readily implementable solutions in other flood prone areas of the Village. Areas of the Village that would be prime candidates for this type of study are those within the Tier 1 and Tier 2 flood areas.

### ▶ Educate Residents

Glenview already works hard to inform residents about the Village's ongoing stormwater programs, but the Village could also make the educational materials generated for the Water Solutions Project available on its website. These materials help make the public aware of actions they can take, either individually or collectively, to combat localized flooding.

### ▶ Evaluate Zoning

The Village could amend its zoning regulations that relate to stormwater management. These standards function to maintain the Village's community character, so any changes must be evaluated in this context; however, a change that emphasizes mitigating stormwater impacts may be appropriate for certain applications or areas. By their nature, multi-family developments can be expected to cover a relatively significant portion of a site to accommodate building and parking footprints. Certain zoning standards may cause impacts in the Study Area and could be evaluated by the Village.

## ZONING REGULATIONS TO BE CONSIDERED

1

### Maximum Lot Coverage

All lots in the Study Area except one meet the maximum allowable lot coverage, currently set at 62 percent. Setting a lower lot coverage maximum would allow greater infiltration for future development or redevelopment. Along with such a change, encouraging permeable surfaces for driveways, patios, etc. could help more stormwater be absorbed; however, it should be noted that such surfaces must be thoughtfully designed to enhance stormwater management and also require ongoing maintenance.

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2

### Lot Size Limit

The lot size limit of two acres may limit the amount of a multi-family site that can be set aside for stormwater management. The eighteen dwellings per acre (or thirty-six units total) encourages concentrated townhomes or small apartment / condominium buildings, a form of development in keeping with the Comprehensive Plan designations for the area. However, smaller lots create challenges to providing adequate stormwater management facilities (detention ponds). This condition may suggest a review of zoning criteria with the intent of requiring more open space in which to facilitate detention facilities. Alternatively, engineering techniques such as structured, underground detention may be considered.

## CATALOG OF POSSIBLE FUNDING METHODS

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### ▶ **FEMA Hazard Mitigation Assistance**

FEMA hazard mitigation assistance programs include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) program, and Flood Mitigation Assistance (FMA). Each program has its own eligibility and funding criteria, but each can be used to fund property protection measures as shown in the table on the following page, provided that the benefits of the project exceed project costs. In general, these programs are funded when FEMA approves an application prepared jointly by a local government, such as the Village, and the Illinois Emergency Management Agency (IEMA). In most cases, FEMA pays 75% of eligible expenses, but the federal share can reach 90% for Repetitive Loss Properties and 100% for Severe Repetitive Loss (SRL) properties.

### ▶ **MWRDGC Stormwater Management Program**

In 2014, the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) began its Phase II Stormwater Management Program, which funds local projects designed to improve drainage and reduce flood damage. From time to time, the MWRDGC will announce a formal call for funding requests, but funding requests are accepted at any time. The Village could request funding for the entire cost of a neighborhood-scale solution, but the MWRDGC generally prefers to fund projects that are partially funded by other sources.

### ▶ **Special Service Area**

The property owners or tenants within the Study Area could build support for a Special Service Area to fund one or more neighborhood improvement projects. Special Service Areas are local tax districts that fund expanded services and programs through a localized property tax levy within contiguous areas. The enhanced services and programs would be in addition to those currently provided through the Village.

### ▶ **SWAMP Program**

The Village of Glenview's Stormwater Area Management Program (SWAMP) is a neighborhood-led initiative that allows residents to petition to install local drainage projects with the help of the Village. The property owners must present a petition to the Village manager that requests Village consideration of a local drainage project. If the majority of residents support the drainage improvement, the Village will provide a report including costs for the improvement. If the plan is approved by at least 2/3 of the residents, the drainage improvement can be built, and will be partially funded by the Village.

**FEMA HAZARD MITIGATION ASSISTANCE PROGRAMS**

**Eligibility & Funding Criteria**

<b>Eligible Activities</b>	<b>HMGP</b>	<b>PDM</b>	<b>FMA</b>
<i>Property Acquisition and Structure Demolition</i>	√	√	√
<i>Property Acquisition and Structure Relocation</i>	√	√	√
<i>Structure Elevation</i>	√	√	√
<i>Mitigation Reconstruction</i>			√
<i>Dry Floodproofing of Non-residential Structures</i>	√	√	√
<i>Minor Localized Flood Reduction Projects</i>	√	√	√
<i>Structural Retrofitting of Existing Buildings</i>	√	√	
<i>Non-structural Retrofitting of Existing Buildings and Facilities</i>	√	√	√
<i>Infrastructure Retrofit</i>	√	√	√
<i>Post-Disaster Code Enforcement</i>	√		
<i>Generators</i>	√	√	

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# Chapter 5

## **pilot study #3**

**Commercial Corridor  
Niles, IL**

### **5A | Vision, Goals & Objectives**

#### **VISION**

*Identify ways to reduce the likelihood of flooding along this commercial corridor in Niles and minimize the damage caused when flooding occurs, through property protection measures, land use policies, and green infrastructure that can also be applied to commercial corridors in other flood prone areas.*

#### **GOALS**

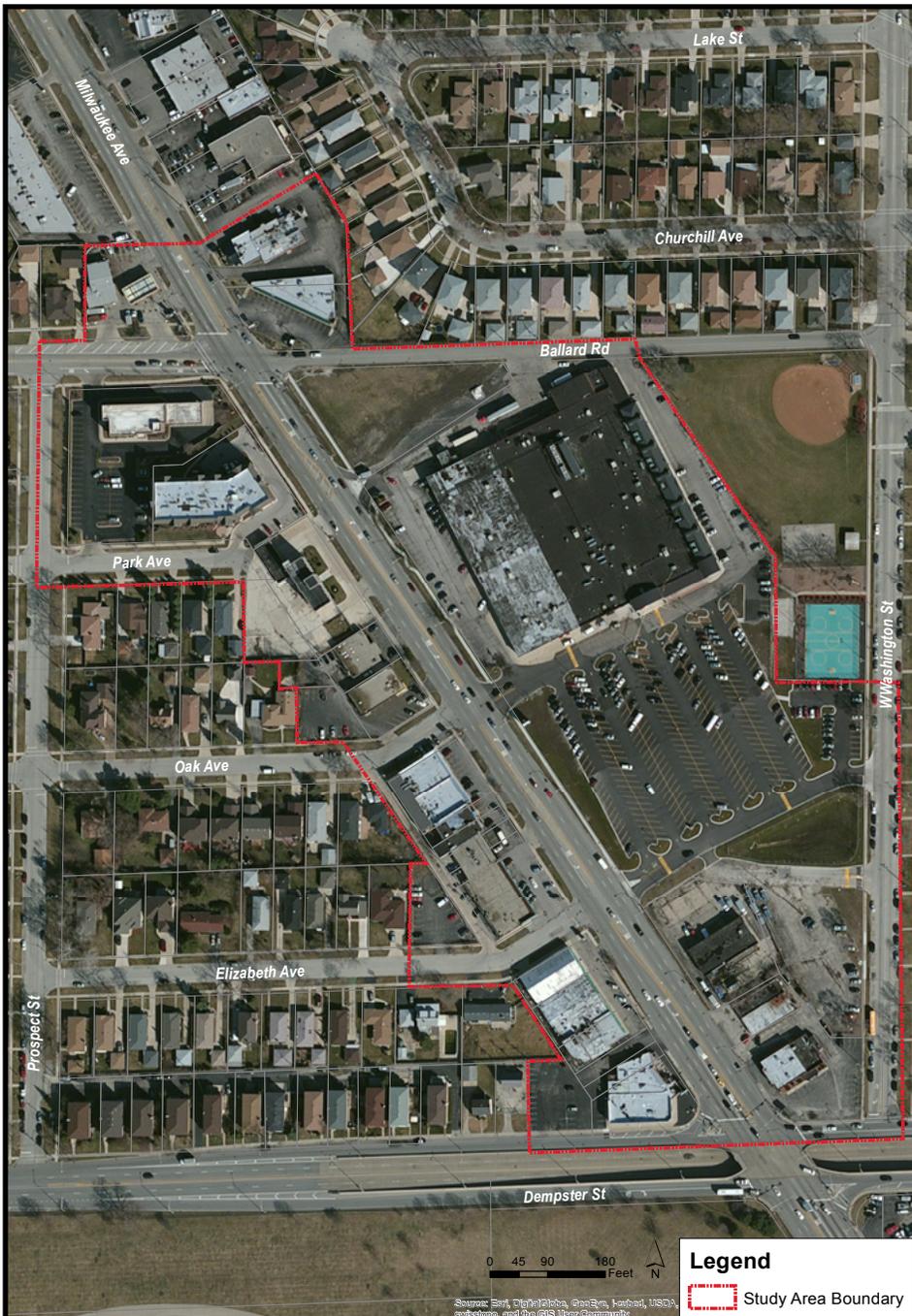
- ▶ Educate property owners on the causes of flooding
- ▶ Gather public input on localized stormwater problems
- ▶ Identify a range of readily implementable solutions
- ▶ Incorporate public feedback on the recommended solutions

#### **OBJECTIVES**

- ▶ Involve property owners and tenants in identifying causes of and solutions to flooding problems
- ▶ Provide property owners with recommendations to mitigate stormwater flooding and flood damage on their commercial property, with solutions also applicable to whole commercial districts
- ▶ Develop a plan to guide the Village and property owners through each step of implementation

## 5B | Existing Conditions & Regulations

The study area is a commercial corridor that runs along Milwaukee Avenue and is bounded by Dempster Road to the south and Ballard Road to the north. Most of the area is zoned B1 – Retail Business. The lots in the Study Area average approximately 27,800 square feet. Buildings in the Study Area average approximately 13,700 square feet, and include commercial buildings, as well as one condominium building and the Niles Historical Museum.



**STUDY AREA**

## SITE FEATURES

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- The Study Area includes mostly commercial properties of varying sizes: a gas station, a bank with a drive-through, a condominium building, and a museum building. Some of the parcels are dedicated parking lots. The building facades include brick, concrete block, plaster and vinyl siding, with glass storefronts.
- The lots consist of nearly 100 percent impervious surfaces due to driveways and parking areas, except for one vacant parcel that does not have any built surfaces. The Assi Plaza site has limited naturalized stormwater detention areas that reduces its impermeable surface area to 89 percent.
- Milwaukee Avenue is a four lane asphalt road with curbs and gutters. It currently has no landscaped central medians. The cross streets, while also in asphalt, have curbs but no gutters. Storm drains are provided at various locations along the streets and within parking lot areas. There is an alley behind the parcels between Oak Avenue and Elizabeth Avenue that has a concrete finish. Concrete sidewalks exist along the streets.
- The commercial lots all have driveways and surface parking along the front and sides of the buildings and are predominantly at the same level as the building entrances; however, all of the parking areas have storm drains with the parking lots sloped towards them. In addition, most of the lots are also at a higher elevation than the roads.

## SURROUNDINGS

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- The Study Area is flanked by single-family residential neighborhoods to the east and west. The zoning ordinance calls for a 20 foot buffer in the rear setback of the parcels, but this does not exist for the parcels in the Study Area; however, some parcels do have parking areas or an alley along the adjacent residential parcel.
- Commercial properties continue along Milwaukee Avenue to the north of the Study Area, while the Mayhill Cemetery is to the south.
- Dempster Street to the south of the Study Area has an underpass in addition to travel lanes at street level.



*The study area is predominately impervious due to driveways and parking areas*



*Building entrances are primarily level with the parking lots*

## ZONING

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Zoning requirements relate to stormwater management by guiding the locations of structures and open space on properties. Stormwater is just one consideration in zoning, and most zoning requirements address property impacts on community character and aesthetics.

- Most properties (all but four) in the Study Area are zoned B1 Business District per the Village of Niles Zoning Ordinance. The B1 District allows a range of commercial and special uses, including business, retail, medical offices, services, and related uses.
- The Study Area includes small areas of B2 Service District, R4 General Residence District, R2 Single-Family Residence District, and P1 Public Land Use (one site each of B2, R4 and P1, and two sites of R2). The B2 District allows the same uses as the B1 District plus additional permitted and special uses. The R4 District allows all the uses permitted in other residential zoning districts, plus multi-family dwellings. The P1 District is reserved for publicly owned properties.
- Development on lots in the B1 District must not exceed a Floor Area Ratio (FAR) of 1.8 or have a height greater than 36 feet (although greater height may be permitted as a Special Use). A side yard setback of five feet is required, or 20 feet adjacent to a residential zoning district. A rear yard setback of 20 feet is required.
- B2 yard setback and height requirements are the same as in B1, but a 2.0 FAR is permitted. R4 property sizes are based on the dwellings (number of bedrooms) and correspond to a development density of roughly 16 dwelling units per acre.

*The key factor in which zoning relates to stormwater management is the impermeable surface standard.*

- Additional requirements are: FAR of 0.6, building height for multi-family structures of the lesser of three stories or 40 feet, front yards of 25 feet, and rear yards of 30 feet (side yard requirements vary based on circumstances). P1 properties do not have requirements for lot size, width, or side yard. Other yard size requirements in the P1 zoning district depend on circumstances, but are generally set to minimize impact on adjacent residential areas.

## IMPERMEABLE SURFACES

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- The area of a lot that can be covered by impervious surface is a key element of stormwater management. The zoning requires that 5 percent of interior parking lot area be devoted to landscaping, and perimeter landscaping is also required. However, in practice, this amounts to hardly any “unpaved area” for percolation of stormwater in the B1 District.

## STUDY AREA CHARACTERISTICS

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▶ **LOT SIZE**

*Range: 3,124–426,885 sqft \**

Average = 27,833 sqft

Median = 10,019 sqft



▶ **FLOOR AREA RATIO (FAR)**

*Range: 0.2 – 0.7 \**

Average = 0.5

Median = 0.5



▶ **COMMERCIAL BUILDING SIZE**

*Range: 2,719 – 18,470 sqft \**

Average = 13,703 sqft

Median = 5,796 sqft

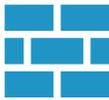


▶ **IMPERVIOUS AREA**

*Range: 3,124 – 380,885 sqft\*\*\**

Average = 25,339 sqft

Median = 9,958 sqft



▶ **AGE OF BUILDINGS**

*Range: 5– 60 years \*\**

Average = 40 years

Median = 45 years



▶ **LOT COVERAGE**

*Range: 85–100% \*\*\**

Average = 96%

Median = 100%

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NOTES:

- The impervious surface ratios of properties in the Study Area are extremely high.
- No pervious materials are used for parking surfaces or alleys.
- Rooftop runoff in the Study Area typically is directed to the parking lots.

Data Calculations based on:

\* Village GIS Data

\*\* Cook County Assessor Data

\*\*\* This does not include the vacant parcel in the Study Area

## **DRAINAGE FACTORS**

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The Village has 150 miles of combined sewers, 75 miles of sanitary sewers, and 35 miles of storm sewers. The drainage system in the Study Area consists of mostly dedicated storm sewers, but there is a small section of combined sewer on the northeast corner of Dempster Street and Milwaukee Avenue. Half of the storm sewer in the area runs down Milwaukee Avenue and turns on to Dempster Street and the other half runs up Milwaukee Avenue and turns on to Ballard Rd. Both systems drain to the west, toward the Des Plaines River. A large Metropolitan Water Reclamation District (MWRD) interceptor runs southeast through the middle of the Study Area, along Milwaukee Avenue.

The Assi Plaza shopping center on the east side of the Study Area was built within the past five years and added detention as part of its site improvements, but the majority of the Study Area lacks stormwater detention.

No part of the Study Area is within a FEMA designated Special Flood Hazard Area.

The Village of Niles requires that all downspouts splash at grade. All new buildings with basements below ground level are required to have overhead plumbing. Sump pumps are required to daylight onto rear lawns and are encouraged to be directed toward storm sewer inlets or drainage ditches, wherever possible.

The Village of Niles Stormwater Management Ordinance (adopted March 22, 2011) requires that all developments proposing over 7,500 square feet of new or redeveloped impervious surface provide a stormwater management plan. Because so many of the properties in the Study Area are nearly completely paved, development of that additional square footage of impervious surface is unlikely to occur.

The code also requires that development disturbing over 15,000 square feet in total will require a stormwater management plan. In short, development or redevelopment of properties less than 15,000 square feet in the Study Area will not require a stormwater management plan.

The Cook County Watershed Management Ordinance requires volume control (retention of the first inch of runoff from impervious areas of development or redevelopment) for non-residential developments disturbing 0.5 acres or more. This Ordinance also requires detention for non-residential developments disturbing 0.5 acres or more when the parcel being developed (or redeveloped) is 3 acres or larger.



*Lack of landscaping and pervious surfaces within the study area contribute to flood issues.*

## 5C | Past & Ongoing Plans

### **2030 COMPREHENSIVE PLAN**

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The last major update to the Village of Niles Comprehensive Plan was adopted in 2011. The Study Area is incorporated in the Plan as part of redevelopment alternatives considered for the Milwaukee Avenue corridor. In-depth consideration of, and planning for, stormwater management was conducted through the Stormwater Commission Report (2009) and Stormwater Relief Program (2012)

The Village of Niles Comprehensive Plan included a resident questionnaire to gauge the opinion of residents on Village issues. When asked about the disadvantages of Niles, the majority of residents responded that flooding was the thing they least liked about the Village. When asked about public facilities, most responded they were “good” or “fair” with the exception of stormwater drainage; respondents rated stormwater drainage as “poor.” Flooding was identified as one of Niles’ key issues.

The Plan’s goal for infrastructure and development is to maintain a high-quality, “green” and efficient infrastructure system. It notes the need for regular investment and maintenance to meet the needs of the Village both today and in the future. Some objectives for stormwater are to continue to budget for stormwater improvements and maintenance, coordinate infrastructure and utility projects with other agencies to reduce costs through economies of scale, amend the zoning ordinance to restrict development in flood-prone area, ensure that new development does not negatively impact neighbors or put undue stress on the existing sewer system, and promote sustainable design practices in new developments.

### **STORMWATER COMMISSION**

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In September 2008, the Village of Niles experienced a 100-year storm and flood. In response, the Mayor of Niles appointed a Stormwater Commission to prepare a comprehensive report on stormwater related issues. The Commission released a report in 2009; its primary purpose was to provide a comprehensive look at persistent stormwater conditions that occur during intense two- and five-year storm events. It identified that homeowners lack an understanding of stormwater basics and urged that homeowner education should be a priority for the Village. The Commission compiled survey results, workshop data, one-on-one site visits, and storm investigations to map areas of concern within the Village. The Commission also worked to amend outdated stormwater ordinances, policies, and procedures; they also engaged an engineering firm to develop a Stormwater Relief Program.

## **STORMWATER RELIEF PROGRAM**

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The Stormwater Relief Program Report was released in June 2012. The report listed actions the Stormwater Commission has taken since the 2009 report. Since 2009, 12 stormwater management ordinance amendments were approved and a homeowner education program was developed. The Commission also coordinated with owners to construct local drainage improvements on eight large properties, mostly parks and cemeteries. GIS atlases were also developed for all major municipal utilities including systems for tracking and planning sewer maintenance activities.

A detailed two-phase study of stormwater flow and drainage in Niles was conducted. A model was prepared to identify flood risks and stormwater problems. The Study Area here is located in the north section of the Niles stormwater model. The study identified many capital improvement projects that could be implemented to help the Village with its stormwater problems. The improvements are divided into two tiers. Tier 1 projects are currently funded, targeting areas with the most frequent and concentrated flooding. Tier 2 includes currently unfunded projects that are recommended for future resources. The study area is currently not a part of any Tier 1 or Tier 2 projects.

## **ALL HAZARDS MITIGATION PROGRAM**

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The Cook County All Hazards Mitigation Plan is currently being developed by Cook County and may be completed in 2014. This Plan is a collaborative effort between the County and municipalities and townships within the County. It will identify activities that can be undertaken by both the public and private sectors to reduce the risk of property damage and loss of life caused by all types of hazards, including flooding. The development and subsequent adoption of this Plan will allow communities to become eligible for Federal Emergency Management Agency (FEMA) hazard mitigation funds.

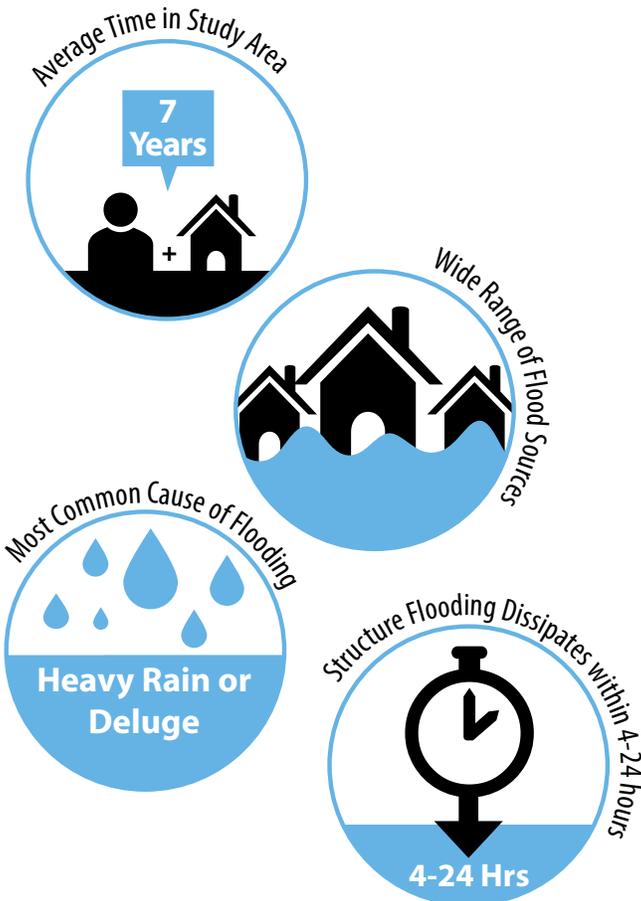
## 5D | Community Outreach

### SURVEY RESULTS

Business and property owners in the Study Area were asked to complete a survey as part of this project. The survey prompted respondents to provide details of their experience with flooding in their buildings and on their properties (see Appendix 2). Completed surveys were returned by three persons in the Study Area.\* The specificity of the survey questions were intended to provide a detailed understanding of site specific and area-wide flooding issues.

Respondents were asked to indicate the storm severity that led to flooding, water depths during that flooding, and how long it took for flooding to subside. Severity was described in general terms, such as: light rain/drizzle, medium rain, heavy rain, sudden deluge, and melting snow. Respondents also were asked to indicate the type of improvements they have undertaken to mitigate stormwater in and around their buildings.

### Key Survey Findings



- 1 The average length of time respondents have owned property or business in the Study Area was seven years; two had been there for seven years and one for six years.
- 2 Two of three respondents indicated they had flooding in their buildings from several sources including: roofs, floor drains, doorways, and sanitary backups. Respondents were allowed to provide multiple answers.
- 3 When flooding did occur in buildings, it did not exceed four inches and the water was gone within 4 to 24 hours.
- 4 Respondents who did have flooding were asked what type of rain caused the flooding; all respondents indicated that a “heavy rain” or “sudden deluge” was the cause.
- 5 Respondents indicated they had not or were unsure if improvements to their property to address flooding had been made.

\* The small sample and number of responses do not provide nor was it intended to provide a statistically significant sample. The intent was to understand the location and intensity of flooding, as well as how respondents have already begun to address the flooding issue.

## 1ST OPEN HOUSE

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As follow up to the survey, Study Area business and property owners were invited to attend an open house to provide further information on the location, intensity, and impact of flooding on their property.

One tenant of a business from the Study Area attended the open house. Working with detailed maps of nearby properties, the participant indicated the general location of flooding, the direction of water flow on their property, and the location of various structures on the site that may inhibit drainage.

The map was completed working with members of the consultant team. An example of a completed site study is included as [Appendix 4](#).

The mapped information and discussion between business owner, staff and consultants were useful in understanding current flooding issues and the history of flooding in the district. As highlighted below, the discussions and mapping identified several key aspects regarding the participants' history with and understanding of stormwater management in the area.

## Highlights from Open House Discussions

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- ▶ Participants raised the issues of deferred maintenance and limited expenditures on private property related to stormwater management as contributing causes to building flooding.

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- ▶ Flooding in the area is usually along the streets, but in some cases the street flooding backs up onto the properties.

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- ▶ Street flooding that occurs in heavy rains was noted as the predominant cause of flooding in this area.

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*The most common type of flooding in the study area is along streets.*

## 5E | Preliminary Recommendations and 2nd Open House

After the conclusion of the first open house, property owners and tenants were invited to attend a second open house, at which preliminary recommendations were presented regarding individual lots and district scale solutions. The presentation was informal, allowing attendees the opportunity to ask questions and provide feedback as each potential solution was presented. Concept plans were used to illustrate the district-scale solutions, and photographs were used to illustrate the individual lot solutions.

### **DISTRICT SCALE SOLUTIONS**

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District scale solutions in commercial areas would require the coordination of property owners in the area. A challenge in these commercial developments is that the owner of the building is not typically involved in the day-to-day operations and may not see stormwater flooding firsthand. The tenant may consider such repairs an owner responsibility, or not have the resources to make stormwater flooding prevention improvements on their own. District scale solutions may have to be driven by redevelopment regulations to be successful. These types of improvements were evaluated at a concept level. Additional work would be needed to implement them, including ground-based topographic survey, detailed engineering plans, cost estimates, and permits.

#### ***District Scale Solution #1***

##### **Pocket Parks**

Many of the storefronts in this Study Area are currently vacant. The area would benefit if some of these unused spaces were converted back into green space or pocket parks between developments. Pocket parks would allow for more natural stormwater infiltration and possibly open up areas for stormwater detention. Pocket parks may also be seen as a beautifying element.

#### ***District Scale Solution #2***

##### **Above Ground Detention**

There are open areas in the Study Area that would be natural places to add stormwater detention. A pond would ideally be located in an area that is already prone to flooding. The available storage volume would be expanded by excavation and the surrounding areas would be allowed to drain into it. One of the drawbacks of this solution is that the property at such a pond site would be more profitable if it were developed into commercial space, rather than stormwater detention.

***District Scale Solution #3***

**Underground Detention**

Because so much of the Study Area is already developed, underground detention would be a good way to provide detention while preserving usable space above ground. Depending on the depth of the receiving sewer, underground detention may allow for a large storage volume in a small footprint area, and is usually installed under parking lots. This improvement would have to be installed in phases, as the parking lots in the Study Area are currently in use and cannot be shut down completely.

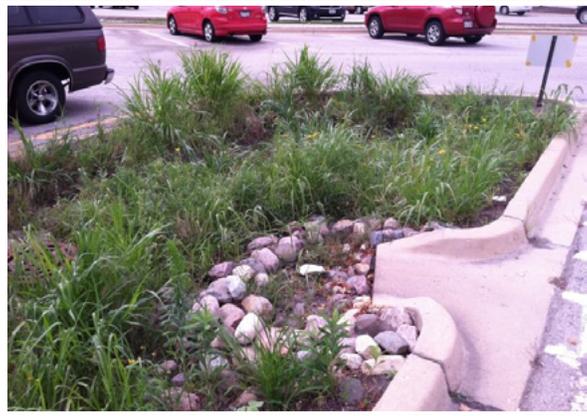


*Example: Underground detention*

***District Scale Solution #4***

**Streetscape and Parking Lot Improvements**

Many parking lots in the area lack landscaped islands and buffers. Existing parking lots could be retrofitted with permeable pavement or bioswale parking lot islands to allow for stormwater infiltration. Native plant based streetscapes could be constructed along Milwaukee Avenue to beautify the commercial properties, to reduce runoff rates and volumes, and to improve water quality.



*Example: Parking lot landscaping*



*Example: Parking lot rain garden*

## INDIVIDUAL PROPERTY SCALE SOLUTIONS

Individual property solutions were also presented and discussed at the second open house. Since the district scale solutions are not fully developed and since the funding for those projects has not yet been secured, property owners may elect to implement one or more individual property solutions, rather than wait for a district scale solution to be developed. These measures can be implemented swiftly, without the need to coordinate with other property owners.

Appendix 6 consists of a matrix of individual lot solutions organized by the source of the flooding problem. For each flooding cause, a variety of solutions were presented. The matrix explains when specific solutions would be the most appropriate and situations where the solution may not work well. The matrix provides a range of potential solutions that might complement or replace previous installations. The matrix offers solutions that are relevant for commercial properties. These upgrades will require the cooperation of both the tenant and the landlord.

**i** A challenge in these commercial developments is that the owner of the building is not typically involved in the day-to-day operations and may not see stormwater flooding firsthand. The tenant may consider such repairs an owner responsibility and/or not have the resources to make stormwater flooding prevention improvements on their own. Improvements in these areas are more likely to be driven by redevelopment regulations.



4					
TYPE OF PROBLEM	SOLUTION	PURPOSE	IDEAL APPLICATIONS	LIMITATIONS AND OTHER CONSIDERATIONS	
OUTSIDE THE BUILDING	<b>LANDSCAPED AREAS</b>	Construct a rain garden	Reduces the period of inundation by increasing the rates of infiltration and evapotranspiration	Where no municipal sewer system is nearby	Clayey soils and high groundwater limit the rate of infiltration
		Install a yard drainage system	Convey stormwater from the yard to the municipal sewer system	Where the municipal sewer system is nearby and lower than the flood prone area	May require removal of trees or relocation of utility service lines
		Excavate high ground or fill in a low-lying area	Create a suitable overland flow path from the flood prone area	Where a small amount of excavation allows overland flow from a low lying area of the yard to the street	Must not create a flooding problem on another property and floodplain fill requires compensatory excavation
		Install a rain barrel	Reduce the amount of runoff to flood prone area	Where the area contributing runoff is small	Storage capacity can be overwhelmed by intense rain
		Install a sump pit, sump pump, and discharge line	Pump water out of the stairwell	Where the ground is sloped to drain away from the stairwell	Requires a discharge point that does not create a flooding problem on another property
		Remove debris from inlets	Prevent clogged storm drains	Any storm drain inlet	Inlets should be cleaned regularly
<b>PAVED AREAS</b>	Reconstruct pavement with permeable pavers	Store water in the aggregate below the pavers and allow it to infiltrate into the soil	Anywhere	Clayey soils and high groundwater limit the rate of infiltration	
	Reconstruct pavement to drain	Prevent water from accumulating on paved areas	Where a ground slope of 1% or more can be attained	Fill in a floodplain requires compensatory excavation	
	Install a trench drain and a drainage system	Convey stormwater from the paved area to the municipal sewer system	Where the municipal sewer system is nearby and lower than the paved area	May require relocation of utility service lines	
	Construct a driveway berm	Prevent overland flow from the street from flooding a garage	Where the garage floor is lower than the street	The height of the driveway berm depends on the level of protection desired, which could be set a certain distance above the existing driveway or it could be set to match the elevation of the lowest ground elevation that cannot be raised	

## 5F | Action Steps

### POTENTIAL NEXT STEPS FOR THE CORRIDOR STUDY OWNERS

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**The first step for every resident is to develop an inventory of the flooding issues they face and the flood control measures already installed on their property.**

The matrix in [Appendix 1](#) can be used to identify the sources of any unresolved problems. Based on the type of flooding the property experiences, the property owner or tenant can identify solutions using the matrix in Appendix 6 and taking into account cost, effectiveness, and feasibility. Many of the solutions are best used in conjunction with others; combining several different flood control measures will give the system strength and redundancy.

Specific recommendations for property owners in Niles include building flood-proofing measures. Cracks and gaps between walls, foundations, and doors can leave space for water to seep into buildings. Patching these gaps with continuous impermeable flood proofing can help keep water out.

Measures should also be taken to protect building openings, such as doors and windows.

Downspouts and sump pump discharges should also be extended to discharge on ground that slopes away from the building foundation.

Basement window flooding can be resolved by adding concrete window wells with a higher top-of-wall elevation, or by replacing low-lying glass pane windows with glass block windows.



▶ **Repair Cracks/Gaps**



▶ **Extend Downspouts**



▶ **Window Well Covers**



▶ **Glass Block Windows**

## POTENTIAL NEXT STEPS FOR THE VILLAGE OF NILES

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ADOPT  
PLAN



OWNER  
ACTION



SOLICIT  
BIDS



APPLY  
SOLUTIONS



EDUCATE  
OWNERS



EVALUATE  
ZONING

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### ► **Adopt Plan**

The Village's first step is to adopt this Plan as an addendum to the Stormwater Master Plan. It gives property owners the tools to understand and proactively address flooding on their development and in their district.

### ► **Support Owner Action**

Property owners are encouraged to take the lead in addressing localized flooding, but the Village can offer support and guidance by helping to identify sources of funding, preparing and submitting grant applications, and then taking responsibility for administering any grant funding that can be secured.

### ► **Solicit Bids**

Owner-led efforts to address localized flooding that could be supported by the Village include: soliciting bids from contractors to construct improvements, such as sump pumps, landscaping, or permeable pavement at multiple properties at a lower unit price than individual property owners could obtain on their own; or bidding a privately funded district-scale solution with a Village-funded project to get lower unit prices than the district could get on their own.

### ► **Apply Solutions**

The Village could apply the templates developed as part of the Water Solutions Project to identify readily implementable solutions in other flood-prone areas of the Village. Areas of the Village that would be prime candidates for this type of study are those within the Tier 1 flood areas.

### ► **Educate Property Owners**

Niles already works hard to inform businesses and tenants about the Village's ongoing stormwater programs, but the Village could also make the educational materials generated for the Water Solutions Project available on its website. These materials help make the public aware of actions they can take, either individually or collectively, to combat localized flooding.

### ► **Evaluate Zoning**

The Village could amend its zoning regulations that relate to stormwater management. These standards function to maintain the Village's community character, so any changes must be evaluated in this context; however, a change that emphasizes mitigating stormwater impacts may be appropriate for certain applications or areas. By their nature, commercial developments can be expected to cover a relatively significant portion of a site to accommodate building and parking footprints. Certain zoning standards may cause impacts in the Study Area and could be evaluated by the Village.

## ZONING REGULATIONS TO BE CONSIDERED

1

### **On-Site Landscaping**

On-site landscaping is a zoning standard that can be used to increase the capacity to absorb stormwater on a given site. The current landscape requirements in the Village's zoning ordinance are relatively modest. Best zoning practice is to require a higher level of landscaping and specify the format to a greater degree, including promoting stormwater infiltration. In addition to possible zoning standards, such improvements could be encouraged through demonstration projects.

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2

### **Redevelopment in Commercial Districts**

Redevelopment in established commercial districts is an opportunity to improve stormwater management. From a zoning standpoint (as well as other municipal codes), the key consideration is to identify the thresholds that will trigger the need for new stormwater management requirements. In Niles, the triggers include either (1) adding 7,500 square feet of new or (2) redeveloped impervious surface or disturbing at least 15,000 square feet of site area. Under these guidelines, development or redevelopment of sites around 1/3 of an acre would require stormwater detention. This threshold acknowledges that the cost of mitigating stormwater impacts on small sites or for small projects may discourage owners from making property improvements. The Village may consider requiring small-scale stormwater management practices, such as landscaping or a fee-in-lieu of stormwater detention, for permitted projects that fall below the current threshold.

## CATALOG OF POSSIBLE FUNDING METHODS

### ▶ **Cook County All Hazards Mitigation Assistance**

FEMA hazard mitigation assistance will become available once the Cook County All Hazards Mitigation Plan is complete and has been adopted by both the County and the Village. The Plan is currently being developed by Cook County and may be completed in 2014.

FEMA hazard mitigation assistance programs include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) program, and Flood Mitigation Assistance (FMA). Each program has its own eligibility and funding criteria, but each can be used to fund property protection measures as shown in the table on the following page, provided that the benefits of the project exceed project costs. In general, these programs are funded when FEMA approves an application prepared jointly by a local government, such as the Village, and the Illinois Emergency Management Agency (IEMA). In most cases, FEMA pays 75% of eligible expenses, but the federal share can reach 90% for Repetitive Loss Properties and 100% for Severe Repetitive Loss (SRL) properties.

### ▶ **MWRDGC Stormwater Management Program**

In 2014, the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) began its Phase II Stormwater Management Program, which funds local projects designed to improve drainage and reduce flood damage. From time to time, the MWRDGC will announce a formal call for funding requests, but funding requests are accepted at any time. The Village could request funding for the entire cost of a district-scale solution, but the MWRDGC generally prefers to fund projects that are partially funded by other sources.

### ▶ **Special Service Area**

The property owners or tenants within the Study Area could build support for a Special Service Area to fund one or more district improvement projects. Special Service Areas are local tax districts that fund expanded services and programs through a localized property tax levy within contiguous areas. The enhanced services and programs would be in addition to those currently provided through the Village.

### ▶ **Fee in Lieu**

As sites are improved, particularly small scale improvements, the Village could require a fee in lieu of stormwater detention to fund future stormwater infrastructure. Fees collected by the Village could be used to fund one or more of the district scale improvement projects.

### ▶ **Stormwater Utility Fee**

The Village could implement a stormwater utility fee. A stormwater utility fee is a stable, dedicated source of funding for stormwater projects, typically based on the amount of runoff created by a property. Stormwater utility fees have been implemented throughout the nation and are becoming more common in Illinois.

### ▶ **Cost-Sharing Program**

The Village could establish a neighborhood-led initiative, such as Glenview's SWAMP Program, that allows residents to petition to install local drainage projects with the help of the Village. The property owners would present a petition to the Village that requests consideration of a local drainage project. If the majority of property owners support the drainage improvement, the Village would provide a report including costs for the improvement. If the plan is approved by a majority of the property owners, the drainage improvement can be built, and would be partially funded by the Village.

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# Chapter 6

## **pilot study #4**

**Central Business District  
Winnetka, IL**

### **6A | Vision, Goals & Objectives**

#### **VISION**

*Identify ways to reduce the likelihood of flooding along this central business district area in Winnetka and minimize the damage caused when flooding occurs, through property protection measures, land use policies, and green infrastructure that can also be applied to central business districts in other flood-prone areas.*

#### **GOALS**

- ▶ Educate property owners on the causes of flooding
- ▶ Gather public input on localized stormwater problems
- ▶ Identify a range of readily implementable solutions
- ▶ Incorporate public feedback on the recommended solutions

#### **OBJECTIVES**

- ▶ Involve property owners in identifying causes of and solutions to flooding problems
- ▶ Provide property owners with recommendations to mitigate stormwater flooding and flood damage on their property, with solutions applicable to individual properties and scalable to whole business districts
- ▶ Develop a plan to guide the Village and property owners through each step of implementation

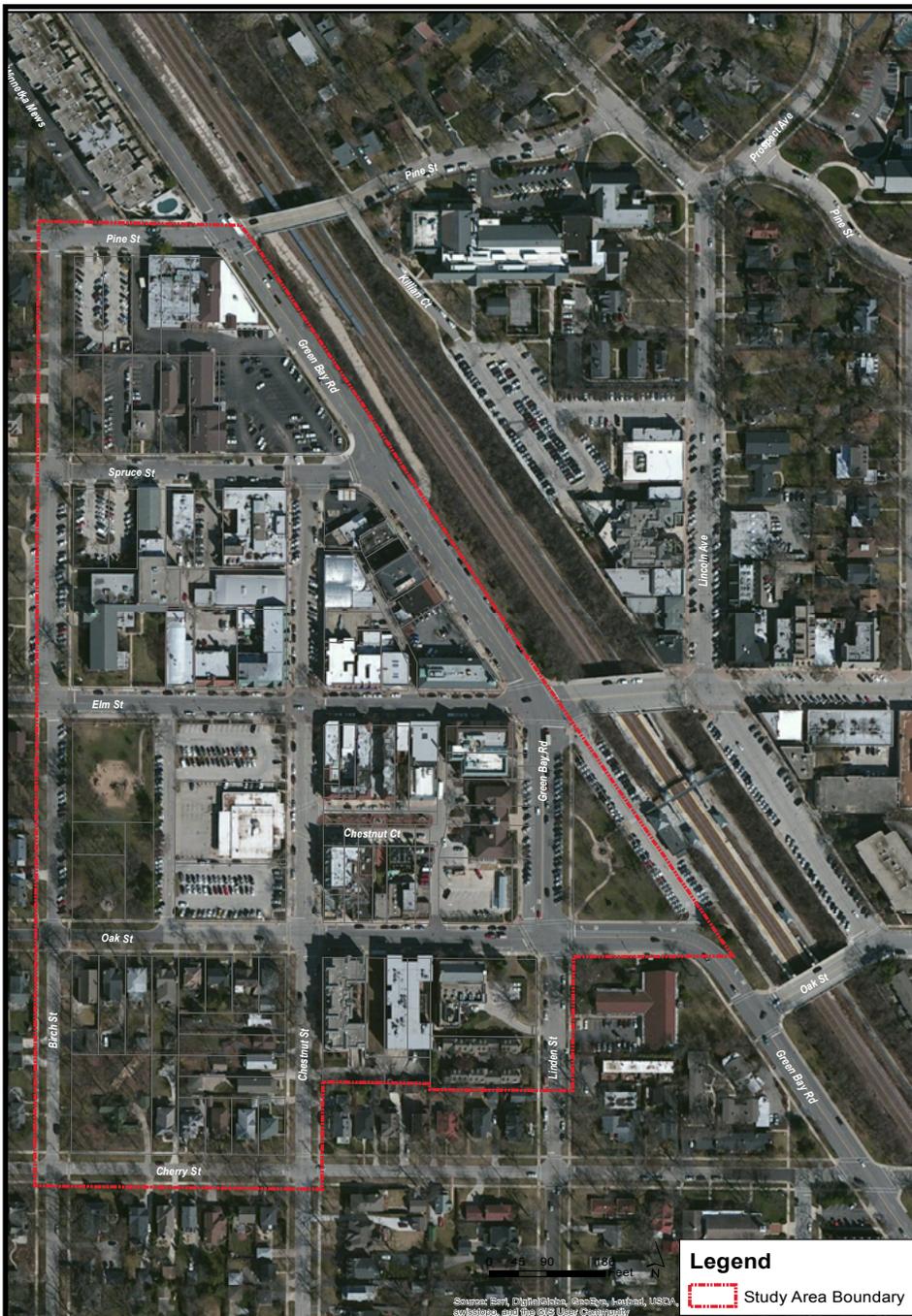
## 6B | Existing Conditions & Regulations

The Study Area is the western part of the Elm Street District in downtown Winnetka. Land use is primarily retail, with many publicly-owned parcels of land, including Winnetka City Hall and the Winnetka Public Library. The District has strong design guidelines that mandate unified composition of the existing streetscape, landscape, land-use transitions and architecture. Visually and symbolically, this district, bisected by Green Bay Road and the Metra Union Pacific North Line, is the heart of Winnetka's business and civic community.

### STUDY AREA

The Study Area includes a variety of properties, including retail, other businesses, single-family, multi-family, and civic uses, as well as park space.

The lots in the Study Area average 9,900 square feet for commercial uses, 10,700 square feet for civic/institutional uses, 5,300 square feet for mixed uses, 7,800 square feet for single-family residential uses and 12,500 square feet for multi-family residential uses.



## SITE FEATURES

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- The parcels in the Study Area that have mixed uses and multi-family residential uses have the highest impervious areas due to the large building areas, driveways, and surface parking areas. The only non-impervious surfaces are landscaped areas along the sidewalks and some planter areas within the parking lots.
- On-street parking is provided in the Study Area.
- Like the commercial parcels, the multi-family parcels have a high impervious area due to the building footprint, driveways, surface parking areas and sidewalks. Some of the buildings also have underground parking.
- The single-family parcels have more site landscaping; however, they do have detached garages at the rear ends of the property, with dedicated driveways. This adds to the impervious area of the site.
- The church property has a large amount of landscaped area (Village parking lots in the surrounding area are used to meet its parking needs).
- All streets in the Study Area are made of asphalt and have curbs. The sidewalks are a combination of concrete slabs with brick pavers and tree boxes along the curb edge.
- Storm sewer inlets are provided at all the street intersections and mid-block on some streets.

## SURROUNDINGS

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- The Study Area has single-family residential neighborhoods to the west and south, with multi-family properties to the north.
- The east side is bounded by Green Bay Road along the Metra Union Pacific North Line. The rail line is below grade at this location.
- The downtown area known as the East Elm District is to the east side of the train tracks.



*Detached garages increase the impervious area present within the study area.*



*Landscaping is present along sidewalks in the study area.*

## ZONING

Zoning requirements relate to stormwater management by guiding the locations of structures and open space on properties. Stormwater is just one consideration in zoning, and most zoning requirements address property impacts on community character and aesthetics.

- Most of the study falls into the C2 General Retail Commercial Zoning District. This District allows uses that provide a range of goods and services. A portion of the District carries the additional use regulations of the C2 Overlay District, which focuses allowed uses on retail businesses. Residential uses above the first floor are permitted.
- The Study Area includes areas of B1 Multi-Family, and R5 Single-Family Residential. The B1 District allows two-family and multi-family dwellings. The R5 District permits single-family uses. Both of these districts allow certain community / institutional uses as Special Uses, which require specific approval by the Village.
- Development on lots in the C2, B1, and R5 Districts must meet the standards below.
- The B1 District has provisions specific to stormwater management: *“Drainage of Surface Waters. To diminish or remove any adverse impact of surface water drainage and run-off on adjacent properties, no building or other structure shall be constructed which will result in the water run-off following construction of such improvements, in an amount greater than the water run-off immediately prior to construction and no building permit shall be issued unless and until adequate provision is made by connecting to available storm sewers or by other means (in the form of drainage swales, detention areas or such other form of water control mechanism as shall be approved by the Village Engineer of the Village) to so limit such water run-off and provide for the proper control and drainage of surface water.”*
- The area of a lot that can be covered by impervious surface is a key element that relates to stormwater management. The Winnetka Zoning Ordinance presents standards for all the zoning districts in the Study Area. In keeping with the character of the districts (as seen in the table) the maximum impermeable surface area increases from single-family to multi-family to central business district.

District	C2	B1	R5
<b>Maximum Building Height</b>	35 feet	35 feet	2.5 stories
<b>Density</b>	max: 38 du/acre	18 – 24 du/acre	lot size min 8,400 s/f
<b>Max. Impermeable Surface</b>	90%	60% (40 % building coverage)	50% (front yard coverage 30%)
<b>Front Yard</b>	max of 3 feet	25 feet	30 feet
<b>Side Yard</b>	min of 3 feet	12 feet	6-12 feet
<b>Rear Yard</b>	min of 10 feet	20 feet	15% of lot depth
<b>Transitions</b>	Min 5 feet landscaped buffer adjacent to residential uses		
<b>Min Lot width</b>		60 feet	60 feet
<b>FAR</b>		.8	

**STUDY AREA CHARACTERISTICS**

USES	INDIVIDUAL LOT AREAS**	IMPERVIOUS AREA*	LOT COVERAGE	AVERAGE BUILDING AGE**	RESIDENTIAL UNITS**
<b>Commercial Use</b>	Range: 714 –32,744 sf Average: 9,927 sf Median: 9,521 sf	237,456 sf	80%	61	
<b>Civic / Institutional Uses</b>	Range: 117– 2,834 sf Average: 10,777 sf Median: 5,777 sf	157,628 sf	54%		
<b>Mixed Use</b>	Range: 771– 3,269 sf Average: 5,381 sf Median: 4,161 sf	95,240 sf	88%	85	113 units
<b>Single-Family</b>	Range: 4,930 –26,419 sf Average: 7,827 sf Median: 7,534 sf	64,146 sf	46%	75	18 units
<b>Multi-Family</b>	Range: 2,525–19,549 sf Average: 12,564 sf Median: 14,090 sf	195,757 sf	88%	59	10 units

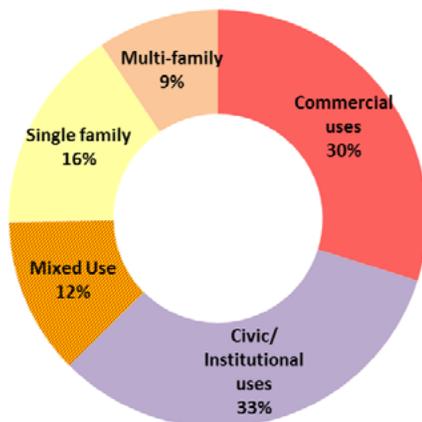
Data Calculations based on:

\* Village GIS Data

\*\* Cook County Assessor Data

► **Distribution of Land Use**

The chart shown below highlights the distribution of land uses in the Study Area.



## **DRAINAGE FACTORS**

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The Village has approximately 150 miles of sewers and a separate storm sewer system. In this Study Area, most of the storm sewers converge and outlet to the south. Outside the Study Area, the entire system turns east and outlets to an MWRD interceptor. The very southwest corner of the Study Area drains to the west and connects to a different part of the storm sewer system, which outlets to the Skokie River. There is no existing stormwater detention infrastructure in this area.

The Cook County Watershed Management Ordinance requires volume control (retention of the first inch of runoff from impervious areas of development or redevelopment) for non-residential developments disturbing 0.5 acres or more. This Ordinance also requires detention for non-residential developments disturbing 0.5 acres or more when the parcel being developed (or redeveloped) is 3 acres or larger.

No part of the Study Area is within a FEMA designated Special Flood Hazard Area.



## 6C | Past & Ongoing Plans

### COMPREHENSIVE PLAN

The Winnetka 2020 Comprehensive Plan was adopted in 1999. The document considers environmental factors and stormwater in various parts of the Plan. It acknowledges that water-related elements support the attractive character of the Village (from Lake Michigan on the east to the Skokie Lagoons on the west) and also that stormwater management is a concern. The Plan specifically raises concerns of increased impermeable surfaces and notes that this should be monitored as the Village continues to develop. The Study Area is addressed in the Plan as part of the west half of the Village's downtown. Plan recommendations for the West Elm area address a number of land use, transportation, urban design, and redevelopment opportunities. While not mentioned in detail in this section of the Plan, the overall issues of environment and stormwater management are relevant.

The Plan also notes that many one- and two-story buildings in the area have the potential to be redeveloped in the next 20 years, particularly along Oak Street near the Village Hall. The Plan states that:

- Temporary ponding is considered acceptable, but flooded basements and impassable streets are not acceptable.
- Resident surveying should be used to identify areas of the Village served by undersized or inadequate sewers.
- Effects of development should be monitored and such monitoring used to refine regulations concerning development in low-lying areas.

### FLOOD RISK REDUCTION ASSESSMENTS

Major flooding occurred in Winnetka in September 2008, following extended storm activity related to Hurricane Ike. This major flooding event prompted the Village of Winnetka to investigate the capacity of its stormwater infrastructure. The Village then commissioned Flood Risk Reduction Assessments to identify areas in need of capital improvements for stormwater management.

The Village completed a Flood Risk Reduction Assessment of the "Additional Study Areas" in December 2012. These Additional Study Areas were not included in the original Flood Risk Reduction Assessment of 2011. The West Elm District was part of Area O in the "Additional Study Areas." The recommended improvements for this area consist of replacing existing 22- and 24-inch storm sewers with 42- and 48-inch sewers, along with inlet capacity improvements. Two alternatives were presented: (1) disconnection of the Village storm sewer from the MWRD interceptor sewers; and (2) maintaining the connections without increasing the rate of discharge to the interceptor sewers. The Engineer's Opinion of Probable Cost for Alternates 1 and 2 are \$2.3 million and \$1.8 million, respectively.

## **FLOOD SURVEYS**

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The most extreme storm event in recent Village history took place on July 22-23, 2011. Following that event, the Village sent a survey to all property owners inquiring about flooding they may have experienced during the July 2011 storm. Of the approximately 4,425 properties in the Village, 1,061 survey responses were received. Eight properties in the Study Area responded to that survey and, of those, five reported flooding. Types of flooding included wall or floor seepage, floor drain, laundry tub, shower or toilet back-ups, and flooding due to a sump pump failure.

## **STORM WATER MASTER PLAN**

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The Village adopted its Stormwater Master Plan in April 2014. The Plan presents a comprehensive, multi-faceted strategy to manage stormwater runoff quantity and quality, to manage sanitary sewer discharges, and to guide Village investment and policy decisions. The Plan outlines capital improvement projects, establishes floodplain management priorities, recommends stormwater best management practices, and addresses development regulations, all from a Village-wide perspective.

## **ALL HAZARDS MITIGATION PLAN**

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The Cook County All Hazards Mitigation Plan is currently being developed by Cook County and may be completed in 2014. This Plan is a collaborative effort between the County and municipalities and townships within the County. It will identify activities that can be undertaken by both the public and private sectors to reduce the risk of property damage and loss of life caused by all types of hazards, including flooding. The development and subsequent adoption of this Plan will allow communities to become eligible for Federal Emergency Management Agency (FEMA) hazard mitigation funds.

## 6D | Community Outreach

### **SURVEY RESULTS**

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Business and property owners in the Study Area were asked to complete a survey as part of this project. The survey prompted respondents to provide details of their experience with flooding in their buildings and on their properties (see Appendix 2). The specificity of the survey questions were intended to provide a detailed understanding of site specific and area-wide flooding issues.

Respondents were asked to indicate the storm severity that led to flooding, water depths during that flooding, and how long it took for flooding to subside. Severity was described in general terms, such as: light rain/drizzle, medium rain, heavy rain, sudden deluge, and melting snow. Respondents also were asked to indicate the type of improvements they have undertaken to mitigate stormwater in and around their buildings. One survey was filled out and received for the Study Area. To preserve anonymity, survey results are not reported, but the input was considered as part of the study findings and recommendations.

### **1ST OPEN HOUSE**

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As follow up to the survey, Study Area residents were invited to attend an open house to provide further information on the location, intensity, and impact of flooding on their property.

No private property owners or business owners from the Study Area attended the open house. Village staff and the consultant team took the opportunity to conduct a workshop about stormwater management in the area. Staff brought local experience to the discussion, not just regarding the general area, but regarding a key publicly owned property.

The Winnetka Village Hall is located in the Study Area and staff noted that basement flooding has occurred during heavy rains.

Detailed maps of Study Area properties were used to consider the general location of flooding, the direction of water flow on their property, and the location of various structures on the site that may inhibit drainage. An example of a completed site study is included as [Appendix 4](#).

## Highlights from Open House Discussions

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- ▶ The central business district character of the Study Area includes a substantial amount of paved area.
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- ▶ There are several Village owned parcels and parking lots in the downtown area. This creates potential for stormwater management demonstration projects in parking lots.
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- ▶ Commercial buildings in the Study Area experience flooding, primarily in below-grade parking lots.
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- ▶ Single-family residential sites in the southwest corner of the Study Area experience flooding. To some extent, this is a result of the location of those areas downstream of the downtown, which is characterized by a high percentage of impervious area.



*Abundance of paved area in the Central Business District.*



*Private parking lot in the Downtown area.*

## 6E | Preliminary Recommendations and 2nd Open House

After the first open house, possible preliminary recommendations for individual lot and district scale solutions were considered. Those concepts were brought for discussion to a second open house (to which business and property owners also were invited). While no business or property owners attended the 2nd open house, photographs were used to illustrate the district scale solutions and discussed by the Village staff and consultant team. The slideshow presentation from the second open house is included in [Appendix 5](#).

### DISTRICT SCALE SOLUTIONS

District scale solutions in commercial areas would require the coordination of property owners in the area. A challenge in these commercial developments is that the owner of the building is not typically involved in the day-to-day operations and may not see stormwater flooding firsthand. The tenant may consider such repairs an owner responsibility and/or may not have the resources to make stormwater flooding prevention improvements on their own. District scale solutions may have to be driven by redevelopment regulations to be successful. These types of improvements were evaluated at a concept level. Additional work would be needed to implement them, including ground-based topographic survey, detailed engineering plans, cost estimates, and permits.

#### *District Scale Solution #1*

#### **Update Winnetka's Streetscape Master Plan to Include BMPs**

The Village of Winnetka has a Streetscape Master Plan that includes recommendations for the West Elm District. Future improvements might include green stormwater infrastructure, such as permeable pavement, bioswales in parking lot islands, planter boxes along sidewalks, and parkway rain gardens in curb bump outs at the intersections. Native plant based streetscapes could be constructed to beautify the commercial properties, and to reduce runoff rates and volumes, and improve water quality.



*Example: Green stormwater infrastructure such as landscaping adjacent to sidewalks can help mitigate flooding.*

*District Scale Solution #2*

**Green Infrastructure Demonstration Project**

Since several parcels in this area are Village-owned, this Study Area would be an ideal place for a green infrastructure demonstration project. Many green infrastructure techniques could be chosen, including permeable pavers, parking lot bioswales, or cistern stormwater collection systems. A demonstration project would not only help reduce stormwater runoff, it could also be used for the purpose of stormwater education and to stimulate additional green infrastructure retrofit projects.



*Example: Driveway berms help mitigate flooding by absorbing water and also directing it to sewers*

## INDIVIDUAL PROPERTY SCALE SOLUTIONS

Individual property solutions were also presented and discussed at the second open house. Since the district scale solutions are not fully developed and since the funding for those projects has not yet been secured, property owners may elect to implement one or more individual property solutions, rather than wait for a district scale solution. These measures can be implemented swiftly, without the need to coordinate with other property owners.

Appendix 6 consists of a matrix of individual lot solutions organized by the source of the flooding problem. For each flooding cause, a variety of solutions were presented. The matrix explains when specific solutions would be the most appropriate and situations where the solution may not work well. The matrix provides a range of potential solutions that might complement or replace previous installations. The matrix offers solutions that are relevant for commercial properties. These upgrades will require the cooperation between the tenant and the landlord.

**i** One of the challenges with commercial properties is the owner of the building is not typically involved in the day-to-day operations and may not see stormwater flooding firsthand. The tenant may consider such repairs an owner responsibility and/or may not have the resources to make stormwater flooding prevention improvements on their own. Improvements in these areas are more likely to be driven by redevelopment regulations.



4				
TYPE OF PROBLEM	SOLUTION	PURPOSE	IDEAL APPLICATIONS	LIMITATIONS AND OTHER CONSIDERATIONS
OUTSIDE THE BUILDING LANDSCAPED AREAS	Construct a rain garden	Reduces the period of inundation by increasing the rates of infiltration and evapotranspiration	Where no municipal sewer system is nearby	Clayey soils and high groundwater limit the rate of infiltration
	Install a yard drainage system	Convey stormwater from the yard to the municipal sewer system	Where the municipal sewer system is nearby and lower than the flood prone area	May require removal of trees or relocation of utility service lines
	Excavate high ground or fill in a low-lying area	Create a suitable overland flow path from the flood prone area	Where a small amount of excavation allows overland flow from a low lying area of the yard to the street	Must not create a flooding problem on another property and floodplain fill requires compensatory excavation
	Install a rain barrel	Reduce the amount of runoff to flood prone area	Where the area contributing runoff is small	Storage capacity can be overwhelmed by intense rain
	Install a sump pit, sump pump, and discharge line	Pump water out of the stairwell	Where the ground is sloped to drain away from the stairwell	Requires a discharge point that does not create a flooding problem on another property
	Remove debris from inlets	Prevent clogged storm drains	Any storm drain inlet	Inlets should be cleaned regularly
OUTSIDE THE BUILDING PAVED AREAS	Install a check valve on the sewer service line	Allow the free flow of water through the sewer service and prevent backflow	Where the sewer system reaches or exceeds its capacity from time to time	Debris within the sewer service line can prevent proper operation
	Reconstruct pavement with permeable pavers	Store water in the aggregate below the pavers and allow it to infiltrate into the soil	Anywhere	Clayey soils and high groundwater limit the rate of infiltration
	Reconstruct pavement to drain	Prevent water from accumulating on paved areas	Where a ground slope of 1% or more can be attained	Fill in a floodplain requires compensatory excavation
	Install a trench drain and a drainage system	Convey stormwater from the paved area to the municipal sewer system	Where the municipal sewer system is nearby and lower than the paved area	May require relocation of utility service lines
	Construct a driveway berm	Prevent overland flow from the street from flooding a garage	Where the garage floor is lower than the street	The height of the driveway berm depends on the level of protection desired, which could be set a certain distance above the existing driveway or it could be set to match the elevation of the lowest ground elevation that cannot be raised

## 6F | Action Steps

### POTENTIAL NEXT STEPS FOR WINNETKA'S WEST ELM DISTRICT

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**The first step for every building owner or tenant is to develop an inventory of the flooding issues they face and the flood control measures already installed on their property.**

The matrix in [Appendix 1](#) can be used to identify the sources of any unresolved problems. Based on the type of flooding the property experiences, the property owner or tenant can identify solutions using the matrix in Appendix 6 and taking into account cost, effectiveness, and feasibility. Many of the solutions are best used in conjunction with others; combining several flood-control measures will give the system strength and redundancy.

Specific recommendations for property owners in Winnetka include building flood proofing measures.

Cracks and gaps between walls, foundations, and doors can leave space for water to seep into the building. Patching these gaps with continuous impermeable flood proofing can help keep water out of the building.



▶ *Repair Cracks/Gaps*

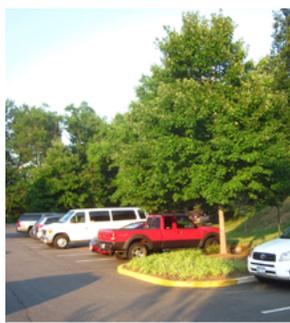


▶ *Raised Window Well*

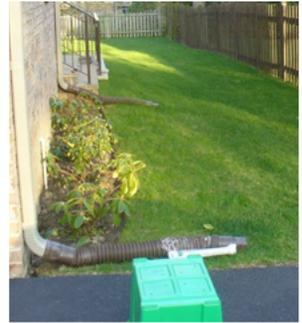
Measures should also be taken to protect building openings, such as doors and windows.

Driveway berms are recommended to keep street flooding out of subsurface parking areas/garages.

Improved parking lots that include green infrastructure (bioswales, permeable pavers, landscape buffers, etc.) are also recommended.



▶ *Landscaped Parking*



▶ *Downspout Extension*

## POTENTIAL NEXT STEPS FOR THE VILLAGE OF WINNETKA

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ADOPT  
PLAN



OWNER  
ACTION



SOLICIT  
BIDS



APPLY  
SOLUTIONS



EDUCATE  
OWNERS



EVALUATE  
ZONING

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### ► **Adopt Plan**

The Village's first step is to adopt this Plan as an addendum to the Stormwater Master Plan. It gives property owners the tools to understand and proactively address flooding on their properties and in their district.

### ► **Support Owner Action**

Property owners are encouraged to take the lead in addressing localized flooding, but the Village can offer support and guidance by helping to identify sources of funding, preparing and submitting grant applications, and then taking responsibility for administering any grant funding that can be secured.

### ► **Solicit Bids**

Owner-led efforts to address localized flooding that could be supported by the Village include: soliciting bids from contractors to construct improvements, such as sump pumps, landscaping, or permeable pavement at multiple properties at a lower unit price than individual property owners could obtain on their own; or bidding a privately funded district scale solution with a Village-funded project to get lower unit prices than the district could get on their own.

### ► **Apply Solutions**

The Village could apply the templates developed as part of the Water Solutions Project to identify readily implementable solutions in other flood-prone areas of the Village. Another area of the Village that would be a prime candidates for this type of study is Area C from the Flood Risk Reduction Assessment completed in December 2012 for the Additional Study Areas

### ► **Educate Property Owners**

The implementation of Winnetka's new stormwater utility has already done a lot to educate the public about the factors that influence the rate and volume of stormwater runoff from their property, but the Village could make the educational materials generated for the Water Solutions Project available on its website. These materials help make the public aware of actions they can take, either individually or collectively, to combat localized flooding.

► **Evaluate Zoning**

The Village could amend its zoning regulations that relate to stormwater management. These standards function to maintain the Village's community character, so any changes must be evaluated in this context; however, a change that emphasizes mitigating stormwater impacts may be appropriate for certain applications or areas. By their nature, commercial developments can be expected to cover a relatively significant portion of a site to accommodate building and parking footprints. Certain zoning standards may cause impacts in the Study Area and could be evaluated by the Village.

In a central business district, zoning also supports community economic development policy. Although not specifically meant to manage stormwater, zoning regulations do impact how stormwater is handled on a given site. By their nature, central business districts typically cover a significant portion of a site to consider building and parking footprints. The Winnetka Zoning Ordinance acknowledges this reality by setting a maximum of 90% impermeable lot coverage.

Given the character of the Village downtown, substantive new or different zoning regulations related to stormwater management are unlikely to provide significant impact; however, the Comprehensive Plan recommends regularly monitor and review of the impacts of stormwater throughout the Village.

Redevelopment in established commercial districts is an opportunity to improve stormwater management. From a zoning standpoint (as well as other municipal codes), the key consideration is to identify the thresholds that will trigger the need for new stormwater management.

The cost of mitigating stormwater impacts on small sites or for small projects may discourage owners from making property improvements. Therefore, the Village may consider requiring small-scale stormwater management practices, such as landscaping or a fee-in-lieu of stormwater detention, for permitted projects that fall below the current threshold.

## CATALOG OF POSSIBLE FUNDING METHODS

### ► FEMA Hazard Mitigation Assistance

FEMA hazard mitigation assistance will become available once the Cook County All Hazards Mitigation Plan is complete and has been adopted by both the County and the Village. The Plan is currently being developed by Cook County and may be completed in 2014.

FEMA hazard mitigation assistance programs include the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM) program, and Flood Mitigation Assistance (FMA). Each program has its own eligibility and funding criteria, but each can be used to fund property protection measures as shown in the table on the following page, provided that the benefits of the project exceed project costs. In general, these programs are funded when FEMA approves an application prepared jointly by a local government, such as the Village, and the Illinois Emergency Management Agency (IEMA). In most cases, FEMA pays 75% of eligible expenses, but the federal share can reach 90% for Repetitive Loss Properties and 100% for Severe Repetitive Loss (SRL) properties.

### ► Stormwater Utility

The Village of Winnetka recently created a Stormwater Utility to fund stormwater expenses. The Village assesses a bi-monthly stormwater fee based on each property's impact on the stormwater system. The stormwater fees fund all aspects of the Village stormwater system, including current operating and maintenance expenditures and the anticipated debt service associated with capital improvement projects. The Village's Capital Improvement Program does not include a stormwater capital improvement project for the West Elm District, but additional projects may be authorized once current projects have been constructed.

### ► MWRDGC Stormwater Management Program

In 2014, the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) began its Phase II Stormwater Management Program, which funds local projects designed to improve drainage and reduce flood damage. From time to time, the MWRDGC will announce a formal call for funding requests, but funding requests are accepted at any time. The Village could request funding for the entire cost of a district scale solution, but the MWRDGC generally prefers to fund projects that are partially funded by other sources.

### ► Special Service Area

The property owners or tenants within the Study Area could build support for a Special Service Area to fund one or more district improvement projects. Special Service Areas are local tax districts that fund expanded services and programs through a localized property tax levy within contiguous areas. The enhanced services and programs would be in addition to those currently provided through the Village.

### ► Fee in Lieu

As sites are improved, particularly small scale improvements, the Village could require a fee in lieu of stormwater detention to fund future stormwater infrastructure. Fees collected by the Village could be used to fund one or more of the district scale improvement projects.

### ► Cost Sharing Program

The Village could establish a neighborhood-led initiative, such as Glenview's SWAMP Program, that allows residents to petition to install local drainage projects with the help of the Village. The property owners would present a petition to the Village that requests consideration of a local drainage project. If the majority of property owners support the drainage improvement, the Village would provide a report including costs for the improvement. If the Plan is approved by a majority of the property owners, the drainage improvement can be built, and could be partially funded by the Village.

**FEMA HAZARD MITIGATION ASSISTANCE PROGRAMS**

**Eligibility & Funding Criteria**

<b>Eligible Activities</b>	<b>HMGP</b>	<b>PDM</b>	<b>FMA</b>
<i>Property Acquisition and Structure Demolition</i>	√	√	√
<i>Property Acquisition and Structure Relocation</i>	√	√	√
<i>Structure Elevation</i>	√	√	√
<i>Mitigation Reconstruction</i>			√
<i>Dry Floodproofing of Non-residential Structures</i>	√	√	√
<i>Minor Localized Flood Reduction Projects</i>	√	√	√
<i>Structural Retrofitting of Existing Buildings</i>	√	√	
<i>Non-structural Retrofitting of Existing Buildings and Facilities</i>	√	√	√
<i>Infrastructure Retrofit</i>	√	√	√
<i>Post-Disaster Code Enforcement</i>	√		
<i>Generators</i>	√	√	

# Chapter 7 **implementation**

## 7A | Background

The goal of this study is to create a template that can be applied for mitigating stormwater flooding in other areas in the watershed. The four pilot Study Areas in this project demonstrate how the materials can be used for different land uses and neighborhoods. Digital copies of all the materials and exhibits developed for the pilot Study Areas have been included in this report so they can be edited for future use.

Each pilot Study Area represents a different type of development. Examples for single-family, multi-family, commercial, and downtown business developments have all been included. They should serve as models for future studies.

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## 7B | Lessons Learned

### ► **Open House Invitations**

When sending out open house invitation letters, the dates of both open houses should be included in a single letter. Including both dates allows the attendees to plan their schedule in advance. Also, including both dates in the first letter allows the two open houses to be scheduled in closer proximity to one another. Waiting for a second letter to be delivered can delay the second open house.

### ► **Respect to Privacy**

Reports generated from these studies should be sensitive to resident concerns about keeping information private. The report should not call out specific addresses, especially when identifying flooding on the property. Keep recommendations general to the study area, not property-specific.

### ► **Study Area Boundaries**

Study area boundaries should be defined by a common flooding problem. Flooding can occur in many ways, and it is helpful when formulating solutions to focus on similar types of flooding throughout the study area. Focusing on a common flooding problem is practical when recommending neighborhood scale solutions and personalizing the matrix of individual lot solutions for a given Study Area.

### ► **Quality Data Integration**

Reliable and highly detailed GIS data are critical for analysis of an area. Both engineering and zoning recommendations depend on having accurate topographic data and information on impervious surface coverage and land use. Using these data adds precision and credibility to the recommended solutions.

### ► **Public Education**

One of the primary benefits of this project was the public education component. Property owners learned about the variety of options available to address flooding problems, as well as the reasons for flooding. Educating owners on different types of flooding helped them identify the problems specific to their property and helped them come up with appropriate solutions. This educational material can help owners to be more confident when talking with contractors and installers of flood prevention technologies and know whether a solution is appropriate to their property.

### ► **Working in Groups**

During the first open house, having neighbors work in groups was helpful, especially for properties that abutted each other. Working in groups allowed the property owners to combine their knowledge of the area and create a more complete picture of flooding problem areas. It was helpful for members of Village staff or other meeting leaders to sit with each group as they are filling out their property map and ask specific questions about flood depth, duration, and frequency of flooding to draw out information that the property owner might not have included or thought about on their own.

## 7B | Lessons Learned (cont.)

### ► **Future Studies**

Future Study Areas would potentially include any area that experiences heavy local stormwater flooding, yet lacks plans for major capital improvement projects in the near future. The strength of this method is in the fast turn-around. It is a great way to gather information and identify a range of potential solutions without having to go through a long stormwater modeling process. It is also a robust education tool for residents and property owners in these areas.

### ► **Commercial Properties**

Commercial properties seem to be less proactive about stormwater improvements than the home owners in residential Study Areas. Attendance at the open houses for both commercial Study Areas were low and only a very small percent of surveys were returned. It may not be realistic to expect owner-driven stormwater improvements, especially for the district scale solutions. Instead, the municipality should consider using redevelopment requirements to encourage stormwater drainage improvements in those areas.

7C | Steps to Apply the 'Water Solutions Project' in your Community



# Appendix 1

## **Flooding Types & Locations**

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## BACKGROUND ON FLOODING



### DEFINITION

Simply put, a flood is a damaging overflow of water into human structures or onto land that is dry most of the time. More formally, the Federal Emergency Management Agency (FEMA) defines a flood as, "A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties" (FEMA, NFIP).



**FACT: Floods are the #1 Natural Disaster in the United States.**

Source: [FEMA.gov](http://FEMA.gov)

### FLOOD CATEGORIES

For the purpose of this study, flooding is divided into two categories. One is "stream flooding" (also known as "overbank flooding"), involving streams or rivers overflowing onto a floodplain. The second is "stormwater flooding" (also known as "localized" flooding, drainage flooding, or overland flow), involving flooding outside of mapped floodplains.

### STUDY FOCUS

The focus of this study is to understand where flooding occurs, why it occurs, and what its common effects are. The goal is to explore solutions to prevent or reduce flooding and the damage it causes.

### STREAM FLOODING

**Stream or "overbank flooding" results when the water level in the stream channel rises above its banks.**

This may be caused by excessive rain or snow melt, or when the water's natural path is blocked. In either case, water overflows onto surrounding floodplain areas. Such high-risk areas are classified by FEMA as Special Flood Hazard Areas (SFHAs) with the goal of discouraging new construction in these areas and encouraging protection, mitigation measures, and flood insurance coverage for existing structures.

### STORMWATER FLOODING

**Many locations may experience stormwater flooding, standing water and damage if the accumulation of water, typically after heavy rains, exceeds the rate at which water drains away from the land.**

Runoff water collects in low-lying areas until it drains out, infiltrates into the soil, evaporates, or is pumped to another location. This type of flooding can be especially problematic in urban areas where rooftops and pavement increase the amount of runoff after storms.



**WATER SOLUTIONS PROJECT**  
Planning for Resilient Communities

**FLOODING CAUSE & EFFECT**



	1 WHERE DOES IT HAPPEN?	2 WHAT CAUSES IT TO HAPPEN?	3 WHAT ARE THE EFFECTS?
OUTSIDE THE BUILDING	<b>STREET FLOODING</b>	<ul style="list-style-type: none"> <li>△ Extreme rain events</li> <li>△ Melting snow</li> <li>△ Saturated/frozen ground</li> <li>△ Stormwater or river/stream flooding</li> </ul>	<ul style="list-style-type: none"> <li>△ Blocked culverts</li> <li>△ Sewer backup</li> <li>✦ Clogged inlet</li> <li>△ Discharge from adjacent properties</li> </ul>
	<b>PROPERTY FLOODING</b>	<ul style="list-style-type: none"> <li>△ Extreme rain events</li> <li>△ Melting snow</li> <li>△ Saturated/frozen ground</li> <li>△ Stormwater or river/stream flooding</li> <li>△ Blocked culverts</li> <li>△ Sewer backup</li> <li>✦ Clogged inlet</li> <li>✦ Sump pump discharge</li> <li>✦ Down spout discharge</li> <li>✦ Clogged gutters</li> <li>✦ Alleys/roads above the grade of yards</li> </ul>	<ul style="list-style-type: none"> <li>✦ Landscape features that obstruct the flow of stormwater</li> <li>✦ Built features that obstruct the flow of stormwater</li> <li>✦ Impervious surfaces</li> <li>✦ Unmaintained pervious pavement</li> <li>✦ Improper grading</li> <li>✦ Stormwater discharge from adjacent properties</li> </ul>
	<b>STORM SEWER SURCHARGE</b>	<ul style="list-style-type: none"> <li>✦ Downspouts that drain directly to the sewer</li> <li>✦ Illegal connection to the sanitary sewer</li> </ul>	<ul style="list-style-type: none"> <li>△ Exceeded sewer capacity</li> <li>△ Blockages in the system</li> <li>△ Defective connections</li> <li>✦ Clogged Inlet</li> </ul>
INSIDE THE BUILDING	<b>SANITARY SEWER SURCHARGE</b>	<ul style="list-style-type: none"> <li>△ Infiltration due to cracks or broken pipes during extreme rain events</li> <li>△ Exceeded sewer capacity</li> </ul>	<ul style="list-style-type: none"> <li>△ Downspouts that drain to the sewer</li> <li>△ Blockages in the system</li> <li>△ Sump pumps discharging to the sewer</li> </ul>
	<b>PUMP FAILURE</b>	<ul style="list-style-type: none"> <li>△ Loss of power</li> <li>✦ Lack of pump maintenance</li> <li>✦ Absence of battery backup</li> </ul>	<ul style="list-style-type: none"> <li>✦ Absence of back flow prevention</li> <li>✦ Insufficient capacity</li> </ul>
	<b>SEEPAGE</b>	<ul style="list-style-type: none"> <li>✦ Property flooding (overland flow)</li> <li>✦ Cracks, holes or joints in elements through which water seeps in</li> <li>✦ Cracked drainage tiles around basement walls</li> <li>✦ Inadequate flood proofing</li> </ul>	<ul style="list-style-type: none"> <li>✦ Improper grading</li> <li>✦ Low openings into the building (door, window)</li> <li>✦ Downspout or sump pump discharge close to the foundation</li> </ul>
		<ul style="list-style-type: none"> <li>△ = Beyond property owner's control</li> <li>✦ = Within property owner's control</li> </ul>	Results in property loss, structural damage, disruption of life, and unforeseen expenses.



## PROPERTY FLOODING



### FLOOD TYPE: OUTSIDE

Property flooding takes place in yards due to water collecting on the site quicker than it can drain, as well as by improper grading or obstruction of the flow of stormwater.

### WHAT CAN CAUSE IT?

- Extreme rain events
- Melting snow
- Stormwater backup ; stormwater discharge from adjacent properties
- Sump pump or downspout discharge
- Improper grading of the property
- Alleys/roads above the grade of yards
- Impervious surfaces like parking lots, driveways and other paved areas
- Pervious pavement not maintained
- Obstruction of stormwater flow due to installation of any landscaping or built features (garages, patios, gazebos) that change the grade of the property
- Clogged gutters

### PROPERTY FLOODING IMPACTS



Temporary ponding due to improper site grading



Window well drain backup



Yard flooding



Ponding due to discharge from downspouts

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY



## STREET FLOODING



### FLOOD TYPE: OUTSIDE

Flooding of streets takes place when water is not able to drain off the street into the sewer system due to the quantity of water or obstructions in the conveyance system.

### WHAT CAN CAUSE IT?

- Extreme rain events
- Melting snow
- Saturated or frozen ground
- Stormwater or river/stream flooding
- Sewer backup
- Blocked culverts or clogged inlets
- Stormwater from adjacent properties with large impervious areas

### STREET FLOODING IMPACTS



Water damage to vehicles



Limited access for people and vehicles



Flooded yards and garages



Wake caused by vehicles passing through flooded streets

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY



**SEEPAGE**



**FLOOD TYPE: INDOORS**

Properties can flood due to water that seeps into the building through cracks, holes or joints in the building elements like basement floors and walls. This cause of flooding is known as 'seepage'.

**WHAT CAN CAUSE IT?**

- Property flooding (overland flow)
- Cracks, holes and joints in basement floors and walls, and roofs
- Cracked drainage tiles around basement walls
- Inadequate flood proofing
- Improper grading
- Low openings into the building (door or window)
- Downspout or sump pump discharge too close to the foundation

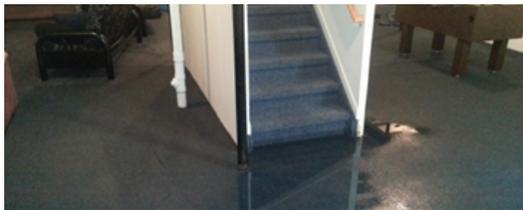
**SEEPAGE OF WATER INTO THE BUILDING CAN TAKE PLACE FROM VARIOUS LOCATIONS.**



**Roof / Ceilings**



**Joints between floors and walls**



**Floors**



**Walls / Crawlspace**



**Doors / Entryways**



**Windows**

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY



## SANITARY SEWER SURCHARGE



### FLOOD TYPE: INSIDE

A sanitary or combined sewer surcharge takes place when the sewer system backs up due to exceeded capacity. This is typically due to clogging, or infiltration of water into the system from improper connections or defects in the system. In the case of combined sewers, surcharge could be related to runoff that exceeds the capacity of the sewer.

### WHAT CAN CAUSE IT?

- Inflow and infiltration of water into the sewer through cracks or broken pipes during extreme rain events
- Downspouts that incorrectly drain to the sanitary sewer
- Exceeded sewer capacity
- Blockages in the sewer system
- Sump pumps that discharge to the sewer

### SANITARY SEWER SURCHARGE IMPACTS



Backup through floor drains, shower drains and toilet fixtures in the basement



Basement flooding due to pump failure



## ▲ STORM SEWER SURCHARGE



### FLOOD TYPE: OUTSIDE AND INSIDE

A storm sewer surcharge takes place when the amount of stormwater exceeds the capacity of the sewer system. This is typically due to clogging or extreme rain events that cause storm water to back up into streets, yards, and buildings.

### WHAT CAN CAUSE IT?

- Downspouts that drain directly to the sewer
- Illegal connections to the sanitary sewer
- Exceeded sewer capacity
- Blocked or defective connections in the system
- Clogged inlet

### STORM SEWER SURCHARGE IMPACTS



Backup on properties



Backup on streets



Backup through basement drains

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY



## PUMP FAILURE



### FLOOD TYPE: INSIDE

Sump pumps remove groundwater from the foundation drains surrounding the building, while ejector pumps remove grey water (waste water from toilet fixtures, showers and sinks) from basements. However, these pumps can fail, causing water to flood the pits and eventually basements.

### WHAT CAN CAUSE IT?

- Loss of power
- Lack of pump maintenance
- Absence of battery backup
- Absence of back flow prevention
- Insufficient capacity

### PUMP FAILURE IMPACTS



Backup through the ejector pump pit



Flooding of the ejector pump pit



Flooding of the sump pump

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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# Appendix 2

## **Public Surveys**

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## RESIDENTIAL PROPERTY SURVEY

### The Water Solutions Project Pilot Property Survey

Please help us understand the flooding issues related to your building and property by filling out the survey below. The term 'building' refers to the primary structure and the term 'property' refers to the site. Your feedback will help us recommend appropriate flood mitigation measures for your property.

1. What is the address of your property? \_\_\_\_\_
2. What type of use does your property fall under?  Single-Family Residential  Multi-Family Residential  Downtown Retail  Commercial
3. Are you a tenant or property owner?  Tenant  Property Owner
4. How long have you been at this address? \_\_\_\_\_ years
5. Does your **BUILDING** experience any flooding issues?  YES  NO
6. As per your knowledge, approximately when was the first time you noticed your building flood? (e.g.: May 2010) \_\_\_\_\_
7. If your building does experience flooding, please indicate the source, cause, extent and period of flooding in the table below:

Source of flooding	Cause/Rain Event						Extent of flooding			Period of flooding			Any idea what causes the flooding?
	Light rain/ Drizzle	Medium rain	Heavy rains	Sudden deluge	Melting snow	Other event	Flooding (upto 4 inches of water)	Flooding (more than 4 inches of water)	Moving water	Less than 4 hours	Between 4 and 24 hours	More than 24 hours	
<input type="checkbox"/> Roof	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Floor drain or bathroom fixture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Basement wall seepage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Floor seepage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Doorway / window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Window well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Sanitary sewer back-up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Sump pump failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							

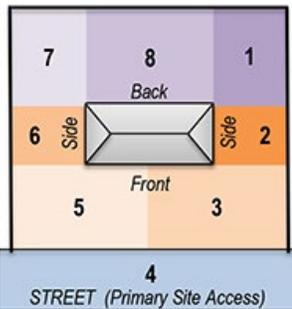
8. Does your building have any protection from sewer back-ups? Please select all that apply.  
 Overhead sewer  Check valve  Stand Pipe  Floor Drain Plug  Not sure  None  Other: \_\_\_\_\_
9. Briefly describe/list all the improvements that have been made to the building to prevent flooding or seepage.

\_\_\_\_\_

\_\_\_\_\_

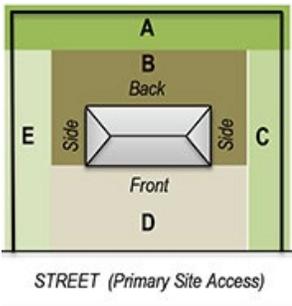
**The Water Solutions Project**  
Pilot Property Survey

10. During a rain event, what happens to the following areas of your property? (Please refer to the accompanying diagram for the area numbers)



Area	Cause/Rain Event						Type of flooding			Period of flooding		
	Light rain/ Drizzle	Medium rain	Heavy rain	Sudden deluge	Melting snow	Other event	Ponding (up to 4 inches of water)	Ponding (more than 4 inches of water)	Moving water	Less than 4 hours	Between 4 and 24 hours	More than 24 hours
<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

11. What features does your property currently have and where are they located? (Please refer to the accompanying diagram for the location codes)



Type of feature	Location of feature				
	A	B	C	D	E
<input type="checkbox"/> Fence or wall	<input type="checkbox"/>				
<input type="checkbox"/> Shrubs/planting areas	<input type="checkbox"/>				
<input type="checkbox"/> Raised planter beds	<input type="checkbox"/>				
<input type="checkbox"/> Raised mounds	<input type="checkbox"/>				
<input type="checkbox"/> Structures (sheds, gazebos, above ground pool, detached garage)	<input type="checkbox"/>				
<input type="checkbox"/> Patios or play areas	<input type="checkbox"/>				
<input type="checkbox"/> Permeable pavers	<input type="checkbox"/>				
<input type="checkbox"/> Rain garden or bioswale	<input type="checkbox"/>				
<input type="checkbox"/> Parking lot / Driveway	<input type="checkbox"/>				
<input type="checkbox"/> Sump pump	<input type="checkbox"/>				
<input type="checkbox"/> Yard drainage	<input type="checkbox"/>				
<input type="checkbox"/> Other: _____	<input type="checkbox"/>				

12. List all the improvements that have been made to the property to prevent standing water or flooding.

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**COMMERCIAL PROPERTY SURVEY**

**The Water Solutions Project**  
Pilot Property Survey

Please help us understand the flooding issues related to your building and property by filling out the survey below. The term 'building' refers to the primary structure and the term 'property' refers to the site. Your feedback will help us recommend appropriate flood mitigation measures for your property.

1. What is the address of your property? \_\_\_\_\_
2. What type of use does your property fall under?     Single-Family Residential     Multi-Family Residential     Downtown Retail     Commercial
3. Are you a tenant or property owner?             Tenant                                     Property Owner
4. How long have you been at this address? \_\_\_\_\_ years
5. Does your **BUILDING** experience any flooding issues?     YES     NO
6. As per your knowledge, approximately when was the first time you noticed your building flood? (e.g.: May 2010) \_\_\_\_\_
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<input type="checkbox"/> Floor drain or bathroom fixture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
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<input type="checkbox"/> Doorway / window	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Window well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Sanitary sewer back-up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Sump pump failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
<input type="checkbox"/> Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							

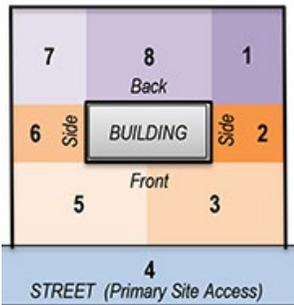
8. Does your building have any protection from sewer back-ups? Please select all that apply.  
 Overhead sewer     Check valve     Stand Pipe     Floor Drain Plug     Not sure     None     Other: \_\_\_\_\_
9. Briefly describe/list all the improvements that have been made to the building to prevent flooding or seepage.

\_\_\_\_\_

\_\_\_\_\_

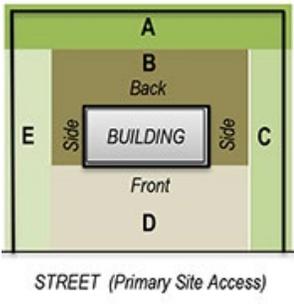
**The Water Solutions Project**  
Pilot Property Survey

10. During a rain event, what happens to the following areas of your property? (Please refer to the accompanying diagram for the area numbers)



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<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/> 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						

11. What features does your property currently have and where are they located? (Please refer to the accompanying diagram for the location codes)



Type of feature	Location of feature				
	A	B	C	D	E
<input type="checkbox"/> Fence or wall	<input type="checkbox"/>				
<input type="checkbox"/> Shrubs/planting areas	<input type="checkbox"/>				
<input type="checkbox"/> Raised planter beds	<input type="checkbox"/>				
<input type="checkbox"/> Raised mounds	<input type="checkbox"/>				
<input type="checkbox"/> Structures (sheds, gazebos, above ground pool, detached garage)	<input type="checkbox"/>				
<input type="checkbox"/> Patios or play areas	<input type="checkbox"/>				
<input type="checkbox"/> Permeable pavers	<input type="checkbox"/>				
<input type="checkbox"/> Rain garden or bioswale	<input type="checkbox"/>				
<input type="checkbox"/> Parking lot / Driveway	<input type="checkbox"/>				
<input type="checkbox"/> Sump pump	<input type="checkbox"/>				
<input type="checkbox"/> Yard drainage	<input type="checkbox"/>				
<input type="checkbox"/> Other: _____	<input type="checkbox"/>				

12. List all the improvements that have been made to the property to prevent standing water or flooding.

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# Appendix 3

## **Letters to Residents**

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Office of the Public Works Director  
(847) 716-3534

Dear Boal Parkway Neighborhood Resident:

The Village of Winnetka has developed a large-scale, multi-year plan to mitigate stormwater flooding and related damage throughout the Village. Information about the Stormwater Management Program can be found on the Village maintained website at:

<http://winnetkastormwaterplan.com>.

As part of a related but separate program, the Village is working to address localized stormwater issues for small residential and business areas through readily implementable solutions. The program is funded by a Federal grant, administered by the State, and is being conducted cooperatively with the Villages of Glenview and Niles, and the support of a consultant team led by Baxter & Woodman. Further information about this program can be found at the project website: [www.WaterSolutionsProject.org](http://www.WaterSolutionsProject.org).

The first study area selected for this program is the Boal Parkway neighborhood. We realize that your input was sought through past surveys, and we are grateful for the information you and your neighbors provided; however, the attached survey requests more detailed information. Your responses here and participation in this process will help develop a plan for your neighborhood. The goal of this plan is to provide a suite of flood protection measures which can be undertaken swiftly and locally.

In addition to requesting your response to this survey, we also invite you to attend a workshop at the Public Works Facility (1390 Willow Road) on Wednesday, June 11 at 7:00 p.m. to delve further into localized stormwater management issues around Boal Parkway. You can bring your completed survey to the workshop, send it with a neighbor that is attending the workshop, or drop it off at the Public Works Facility. If you are unable to attend the workshop, please send your completed survey to Public Works. If you have any questions about this process, please contact me or Assistant Village Engineer Susan Chen at (847) 716-3568.

Very truly yours,

A handwritten signature in blue ink that reads "Steven M. Saunders".

Steven M. Saunders  
Director of Public Works/Village Engineer

Enclosure

---

510 Green Bay Road, Winnetka, Illinois 60093



*Office of the Public Works Director  
(847) 716-3534*

Dear Boal Parkway Neighborhood Resident:

The Village has received an abundance of valuable information about flooding along Boal Parkway through surveys that have been submitted and the additional input received at the June 11 workshop. Now the consultant team is evaluating potential solutions which will be presented at a second workshop that will be held at the Public Works Facility (1390 Willow Road) on Thursday, June 19 at 7:00 p.m.

We invite you to attend the June 19 workshop, whether or not you attended the workshop on June 11. You will have the opportunity to provide feedback on the recommended solutions. If you have any questions about this process, please contact me or Assistant Director of Public Works and Engineering, Jim Bernahl at (847) 716-3261 or [jbernah1@winnetka.org](mailto:jbernah1@winnetka.org).

Very truly yours,

Steven M. Saunders  
Director of Public Works/Village Engineer



# Village of Niles

"Where People Count"

## Public Services

6849 W Touhy Avenue, Niles, Illinois 60714  
Telephone (847) 588-7900 • Fax (847) 588-7950

### Mayor

Andrew Przybylo

### Trustees

George D. Alpogianis

Chris Hanusiak

John Jekot

Joe LoVerde

Danette O'Donovan

Matyas

Rosemary R. Palicki

### Village Manager

Steven C. Vinezeano

### Village Clerk

Marlene J. Victorine

### Acting Public Services Director

Fred Braun

Dear Milwaukee Avenue Area Property Owner/Occupant.

The Village of Niles established a Stormwater Commission in September 2008 and since then has been working steadily to address flooding through various initiatives. These initiatives include improvements in the operation and maintenance of the sewer system, development of a public education program, and new infrastructure. No single initiative solves the problem of flooding by itself, but the various initiatives are all part of the solution. More detailed information about the Stormwater Commission can be found on the Village maintained website at: <http://www.vniles.com/392/Stormwater-Commission>.

As part of a new initiative, the Village is working to address localized stormwater issues for small residential and business areas through readily implementable solutions. The program is funded by a Federal grant, administered by the State, and is being conducted cooperatively with the Villages of Winnetka and Glenview, and the support of a consultant team led by Baxter & Woodman. Further information about this program can be found at the project website: [www.WaterSolutionsProject.org](http://www.WaterSolutionsProject.org).

One of the study areas selected for this project is along Milwaukee Avenue, between Ballard Road and Dempster Street. A survey requesting detailed information about flooding on your property is enclosed with this letter. Your response to this survey and participation in this project will help develop a plan for the area. The goal of this project is to provide a suite of additional flood protection measures which can be undertaken swiftly and locally.

In addition to requesting your response to this survey, we also invite you to attend a pair of workshops at the Chateau Ritz (9100 Milwaukee Avenue, Niles). The first workshop will be held on Thursday, July 24 at 4:30 pm and the second will be held on Tuesday, August 19th at 4:30 pm. The purpose of the first workshop is to help the project team better understand the flooding problem in the study area, while the second workshop gives you the opportunity to provide input on a draft plan for the area. You can bring your completed survey to the first workshop, send it with a neighbor that is attending the workshop, or drop it off at the Public Services Facility (6849 W. Touhy Avenue, Niles). If you are unable to attend the first workshop, please send your completed survey to Public Services by July 24. If you have any questions about this process, please contact me at (847) 588-7900.

Sincerely,

Dan Randolph  
Village of Niles  
Engineering Division  
Office: 847.588.7900  
E-mail: [djr@vniles.com](mailto:djr@vniles.com)



[www.vniles.com](http://www.vniles.com)



The Village of  
**Glenview**

**Community Development Department**

*Engineering Services Division*

(847) 904-4340 direct

(847) 724-1752 fax

Dear Dewes-Henley-Harlem Neighborhood Resident:

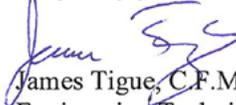
The Village of Glenview adopted its Flood Risk Reduction Program in April 2010 and since then has been working steadily to address flooding through various initiatives. These initiatives include the construction of large-scale drainage improvement projects, such as the one scheduled to begin in your neighborhood in the coming weeks, but also include the establishment of cost-sharing programs for drainage improvements on private property. No single initiative solves the problem of flooding by itself, but the various initiatives are all part of the solution. More detailed information about the Flood Risk Reduction Program can be found on the Village maintained website at: <http://www.glenview.il.us/Pages/Stormwater-Task-Force.aspx>.

As part of a new initiative, the Village is working to address localized stormwater issues for small residential and business areas through readily implementable solutions. The program is funded by a Federal grant, administered by the State, and is being conducted cooperatively with the Villages of Winnetka and Niles, with the support of a consultant team led by Baxter & Woodman. Further information about this program can be found at the project website: [www.WaterSolutionsProject.org](http://www.WaterSolutionsProject.org).

One of the study areas selected for this project is the block bounded by Dewes Street on the north, Harlem Avenue on the east, Henley Street on the south, and Washington Street on the west. A survey requesting detailed information about flooding on your property is enclosed with this letter. Your response to this survey and participation in this project will help develop a plan for your neighborhood. The goal of this project is to provide a suite of additional flood protection measures which can be undertaken swiftly and locally.

In addition to requesting your response to this survey, we also invite you to attend a pair of workshops in the Community Room at the Village's Police Department (2500 East Lake Avenue). The first workshop will be held on Tuesday, July 22 at 6:30 pm and the second will be held on Tuesday, August 12 at 6:30 pm. The purpose of the first workshop is to help the project team better understand the flooding problem in your neighborhood, while the second workshop gives you the opportunity to provide input on a draft plan for your neighborhood. You can bring your completed survey to the first workshop, send it with a neighbor that is attending the workshop, or drop it off in the Community Development Department at Village Hall (1225 Waukegan Road). If you are unable to attend the first workshop, please send your completed survey to Village Hall by July 22. If you have any questions about this process, please contact me at (847) 904-4334.

Very truly yours,

  
James Tigue, C.F.M.  
Engineering Technician

Enclosure



Office of the Public Works Director  
(847) 716-3534

Dear West Elm District Property Owner/Occupant:

The Village of Winnetka has developed a large-scale, multi-year plan to mitigate stormwater flooding and related damage throughout the Village. Information about the Stormwater Management Program can be found on the Village maintained website at: <http://winnetkastormwaterplan.com>.

As part of a related but separate program, the Village is working to address localized stormwater issues for small business and residential areas through readily implementable solutions. The program is funded by a Federal grant, administered by the State, and is being conducted cooperatively with the Villages of Glenview and Niles, and the support of a consultant team led by Baxter & Woodman. Further information about this program can be found at the project website: [www.WaterSolutionsProject.org](http://www.WaterSolutionsProject.org).

One of the study areas selected for this program is the West Elm District. We realize that your input was sought through past surveys, and we are grateful for the information you and your neighbors provided; however, the attached survey requests more detailed information. Your responses here and participation in this process will help develop a plan for the District. The goal of this plan is to provide a suite of flood protection measures which can be undertaken swiftly and locally.

In addition to requesting your response to this survey, we also invite you to attend a pair of workshops at the Public Works Facility (1390 Willow Road). The first workshop will be held on Tuesday, July 29 from 7:30 a.m. to 9:00 a.m. and the second will be held on Monday, August 11 from 7:30 a.m. to 9:00 a.m. The purpose of the first workshop is to delve further into localized stormwater management issues around the West Elm District, while the second workshop gives you the opportunity to provide input on a draft plan for the District. You can bring your completed survey to the first workshop, send it with a neighbor that is attending the workshop, or drop it off at the Public Works Facility located at 1390 Willow Road. If you are unable to attend the first workshop, please send your completed survey to Public Works by July 29. If you have any questions about this process, please contact me or Assistant Director of Public Works and Engineering James J. Bernahl at (847) 716-3568.

Very truly yours,

Steven M. Saunders  
Director of Public Works/Village Engineer

Enclosure

# Appendix 4

## **Sample Site Plan**

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# Appendix 5

## **Presentations**

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**BOAL PARKWAY PRESENTATION #1**



**Welcome**

Please take a few minutes to review the boards spread around the room. The presentation will begin at 7:20.



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**1**



**Project Background**

- Separate from Other Village Initiatives
- Funded by a Federal Grant
- Additional Study Areas in Glenview and Niles



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**2**



**Agenda**

- Project Background
- Purpose of this Study
- Flooding Overview
- Resident Input



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**3**



**Purpose of this Study**

- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**4**



**Flooding Overview**

- #1 Natural Disaster in the United States (FEMA.gov)
- Stream Flooding
- Stormwater Flooding



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**5**



**2 What Causes it to Happen?**

- Beyond Property Owner's Control**
  - Extreme Rain and/or Melting Snow
  - Saturated or Frozen Ground
  - Storm Sewer or Culvert Blockage



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**6**

**BOAL PARKWAY PRESENTATION #1**



**1 Where does it Happen?**

OUTSIDE	INSIDE
<ul style="list-style-type: none"> <li>Street Flooding</li> <li>Property Flooding</li> <li>Storm Sewer Surcharge</li> </ul>	<ul style="list-style-type: none"> <li>Sanitary/Combined Sewer Surcharge</li> <li>Pump Failure</li> <li>Seepage</li> </ul>



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

7



**2 What Causes it to Happen?**

- Within Property Owner's Control**
  - Landscaping or Grading
  - Downspout or Sump Pump Discharges
  - Inadequate Flood Proofing



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

8



**3 What are the Effects?**

- Damage to Personal Property
- Limited Access for People and Vehicles



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

9



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

10



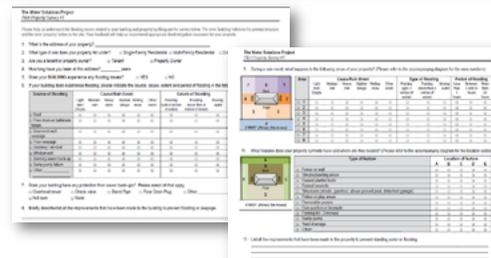
**Resident Input**

- Small Group Discussion
- Annotate Maps
- Fill Out Survey



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

11



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

12

**BOAL PARKWAY PRESENTATION #2**



**Welcome**

Please take a few minutes to review the boards spread around the room. The presentation will begin at 7:10.



**1**



**Agenda**

- Purpose of this Study
- Potential Solutions
- Resident Feedback



**2**



**Purpose of this Study**

- Address Localized Stormwater Issues
- Readily Implementable Solutions



**3**



**Potential Solutions**

- Neighborhood Scale
- Individual Property Scale



**4**



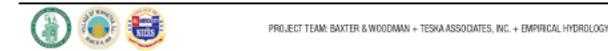
**Augment Golf Course Berms**



**5**



**Lower Road Profile**



**6**

## BOAL PARKWAY PRESENTATION #2



### Pumping Station



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

7



### Overland Flow Path



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

8



### Outside the Building

- Landscaped Areas
- Paved Areas



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

9



### Yard Drainage System



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

10



### Sump Pump System



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

11



### Check Valve



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

12

**BOAL PARKWAY PRESENTATION #2**



**Overland Flow Path**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**13**



**Rain Garden**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**14**



**Rain Barrel**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**15**



**Trench Drain**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**16**



**Driveway Berm**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**17**



**Inside the Building**

- General Flooding
- Sump Pump Failure
- External Stairwell Flooding
- Sewer Back-Up
- Seepage
- Window Well Flooding



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**18**

**BOAL PARKWAY PRESENTATION #2**



**Elevate Mechanical Equipment**

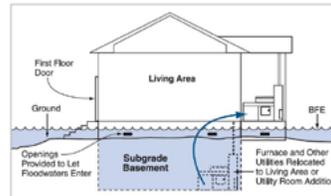


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

19



**Wet Floodproofing**

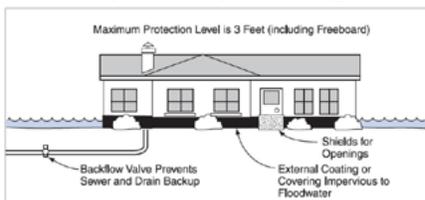


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

20



**Dry Floodproofing**

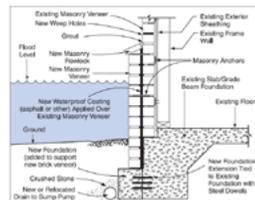


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

21



**Waterproof Membrane**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

22



**Sump Pump Back-Up**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

23



**Sump Pump Air Gap**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

24

## BOAL PARKWAY PRESENTATION #2



### Short Barrier Wall



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

25



### Sump Pump System

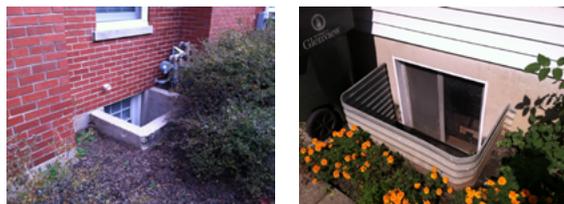


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

26



### Raised Window Well



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

27



### Glass Block Window



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

28



### Window Well Area Drain



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

29



### Epoxy Injection



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

30

## BOAL PARKWAY PRESENTATION #2



### Downspout Extension



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

31



### Resident Feedback

- Preferences
- Concerns
- Questions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

32



### Next Steps

- Draft Pilot Study Completed – June 30
- Project Completed – September 19



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

33

**GLENVIEW PRESENTATION #1**



**Welcome**

Please take a few minutes to review the boards spread around the room. The presentation will begin at 7:10.



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**1**



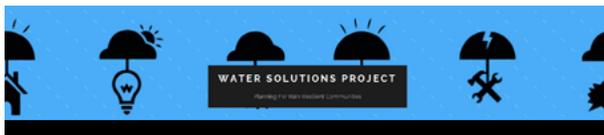
**Agenda**

- Project Background
- Purpose of this Study
- Flooding Overview
- Resident Input



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**2**



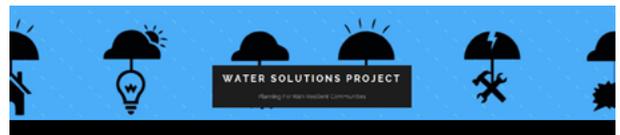
**Project Background**

- Separate from Other Village Initiatives
- Funded by a Federal Grant
- Additional Study Areas in Winnetka and Niles



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**3**



**Purpose of this Study**

- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**4**



**Flooding Overview**

- #1 Natural Disaster in the United States (FEMA.gov)
- Stream Flooding
- Stormwater Flooding



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**5**



**1 Where does it Happen?**

OUTSIDE	INSIDE
Street Flooding	Sanitary/Combined Sewer Surchage
Property Flooding	Pump Failure
Storm Sewer Surchage	Seepage



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**6**

**GLENVIEW PRESENTATION #1**



**2 What Causes it to Happen?**

- ▲ **Beyond Property Owner's Control**
  - Extreme Rain and/or Melting Snow
  - Saturated or Frozen Ground
  - Storm Sewer or Culvert Blockage



7

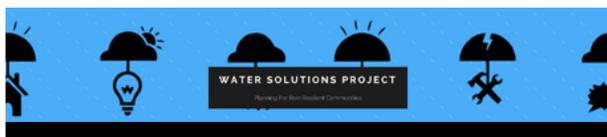


**2 What Causes it to Happen?**

- ✦ **Within Property Owner's Control**
  - Landscaping or Grading
  - Downspout or Sump Pump Discharges
  - Inadequate Flood Proofing



8

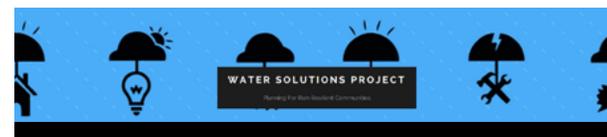


**3 What are the Effects?**

- Damage to Personal Property
- Limited Access for People and Vehicles



9

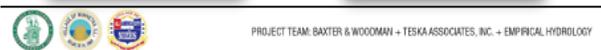
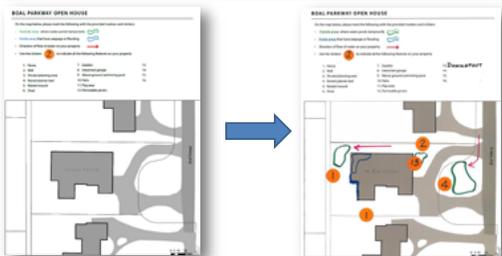


**Resident Input**

- Small Group Discussion
- Annotate Maps
- Fill Out Survey



10



11




12

**GLENVIEW PRESENTATION #2**



**Welcome**

Please take a few minutes to review the boards spread around the room. The presentation will begin at 6:40.



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**1**



**Agenda**

- Purpose of this Study
- Potential Solutions
- Resident Feedback



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**2**



**Purpose of this Study**

- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**3**



**Potential Solutions**

- Neighborhood Scale
- Individual Property Scale



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**4**



**Raise Sidewalk**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**5**



**Re-Direct Overflow**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**6**

## GLENVIEW PRESENTATION #2



### Outside the Building

- Landscaped Areas
- Paved Areas



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

7



### Yard Drainage System



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

8



### Sump Pump System



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

9



### Overland Flow Path



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

10



### Rain Garden



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

11



### Rain Barrel



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

12

**GLENVIEW PRESENTATION #2**



**Trench Drain**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**13**



**Driveway Berm**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**14**



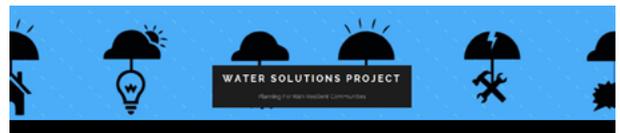
**Inside the Building**

- General Flooding
- Sump Pump Failure
- External Stairwell Flooding
- Sewer Back-Up
- Seepage
- Window Well Flooding

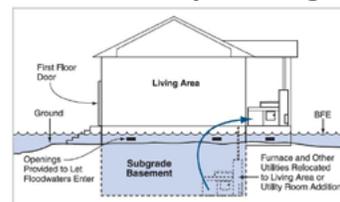


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**15**



**Wet Floodproofing**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**16**



**Elevate Mechanical Equipment**

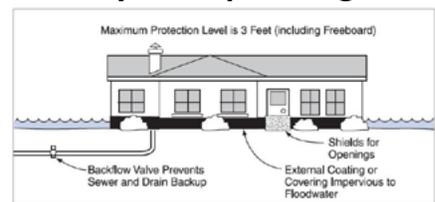


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**17**



**Dry Floodproofing**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**18**

**GLENVIEW PRESENTATION #2**



**Check Valve**

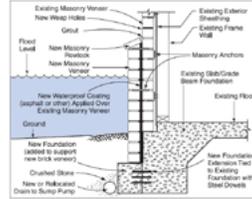


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

19



**Waterproof Membrane**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

20

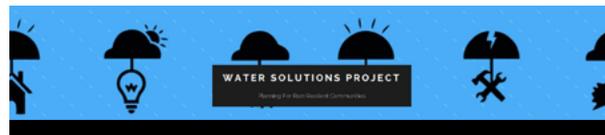


**Sump Pump Back-Up**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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**Sump Pump Air Gap**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

22



**Short Barrier Wall**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

23



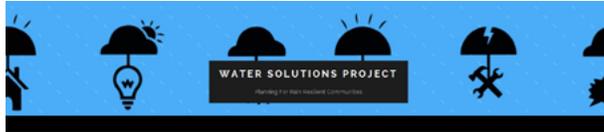
**Sump Pump System**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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## GLENVIEW PRESENTATION #2



### Raised Window Well



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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### Glass Block Window



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

26

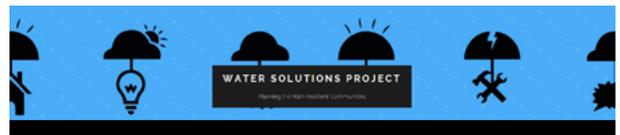


### Window Well Area Drain



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

27



### Epoxy Injection

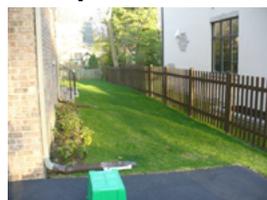


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

28



### Downspout Extension



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

29



### Resident Feedback

- Preferences
- Concerns
- Questions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

30

## GLENVIEW PRESENTATION #2

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### Next Steps

- Draft Pilot Study Completed – August 22
- Project Completed – September 19



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**NILES PRESENTATION #1**



**Welcome**

Please take a few minutes to review the boards spread around the room. The presentation will begin at 4:40.



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**1**



**Agenda**

- Project Background
- Purpose of this Study
- Flooding Overview
- Resident Input



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**2**



**Project Background**

- Separate from Other Village Initiatives
- Funded by a Federal Grant
- Additional Study Areas in Glenview and Winnetka



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**3**



**Purpose of this Study**

- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**4**



**Flooding Overview**

- #1 Natural Disaster in the United States (FEMA.gov)
- Stream Flooding
- Stormwater Flooding



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**5**



**1 Where does it Happen?**

OUTSIDE	INSIDE
Street Flooding	Sanitary/Combined Sewer Surcharge
Property Flooding	Pump Failure
Storm Sewer Surcharge	Seepage



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**6**

**NILES PRESENTATION #1**



**2 What Causes it to Happen?**

- ▲ **Beyond Property Owner's Control**
  - Extreme Rain and/or Melting Snow
  - Saturated or Frozen Ground
  - Storm Sewer or Culvert Blockage



7



**2 What Causes it to Happen?**

- ✦ **Within Property Owner's Control**
  - Landscaping or Grading
  - Downspout or Sump Pump Discharges
  - Inadequate Flood Proofing

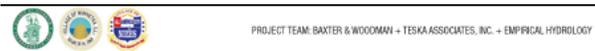


8



**3 What are the Effects?**

- Damage to Personal Property
- Limited Access for People and Vehicles



9

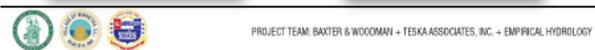
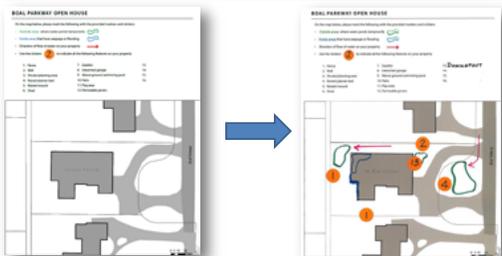


**Resident Input**

- Small Group Discussion
- Annotate Maps
- Fill Out Survey



10



11



Address	Owner Name	Phone	Email	Notes
123 Main St	John Doe	555-123-4567	john.doe@email.com	Participated in open house
456 Elm St	Jane Smith	555-987-6543	jane.smith@email.com	Completed survey
789 Oak St	Bob Johnson	555-234-5678	bob.johnson@email.com	Attended discussion



12

## NILES PRESENTATION #2



### Welcome

Please take a few minutes to review the boards spread around the room. The presentation will begin at 4:40.



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

1



### Agenda

- Project Background
- Purpose of this Study
- Potential Solutions
- Resident Feedback



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

2



### Project Background

- Separate from Other Village Initiatives
- Funded by a Federal Grant
- Additional Study Areas in Winnetka and Glenview



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

3



### Purpose of this Study

- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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### Potential Solutions

- District Scale
- Individual Property Scale



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### District Scale

- Pocket Parks
- Above Ground Detention
- Underground Detention
- Parking Lot Improvements



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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## NILES PRESENTATION #2



### Pocket Parks



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7



### Above Ground Detention



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8

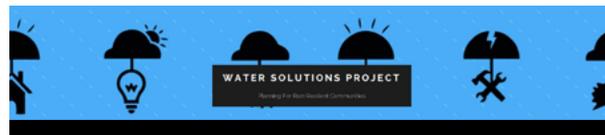


### Underground Detention



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### Parking Lot Improvements



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### Parking Lot Improvements



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### Individual Property Scale

- Exterior Improvements
- Building Improvements



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**NILES PRESENTATION #2**



**Driveway Berm**

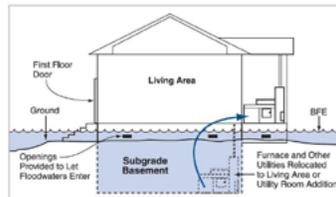


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**13**

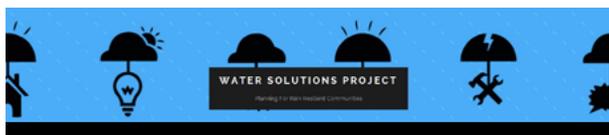


**Wet Floodproofing**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**14**

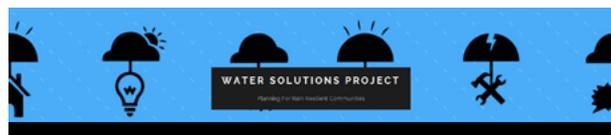


**Elevate Mechanical Equipment**

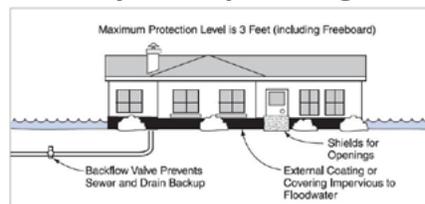


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**15**



**Dry Floodproofing**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**16**



**Check Valve**

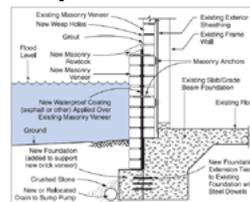


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**17**



**Waterproof Membrane**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**18**

**NILES PRESENTATION #2**



**Sump Pump Back-Up**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

19



**Short Barrier Wall**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

20



**Sump Pump System**

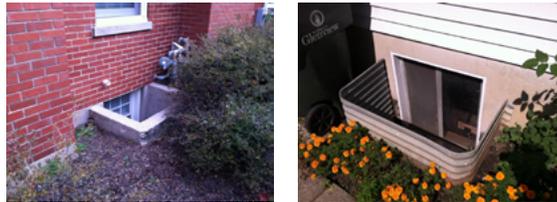


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

21



**Raised Window Well**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

22



**Glass Block Window**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

23



**Epoxy Injection**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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## NILES PRESENTATION #2



### Downspout Extension



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

25



### Resident Feedback

- Preferences
- Concerns
- Questions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

26



### Next Steps

- Draft Pilot Study Completed – August 22
- Project Completed – September 19



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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**WINNETKA #2 PRESENTATION #1**



**Welcome**

Please take a few minutes to review the boards spread around the room. The presentation will begin at 7:40.



**Agenda**

- Project Background
- Purpose of this Study
- Flooding Overview
- Resident Input



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**1**



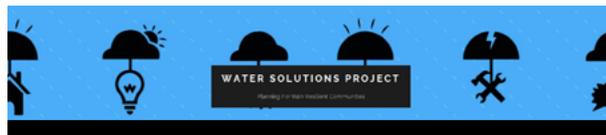
PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**2**



**Project Background**

- Separate from Other Village Initiatives
- Funded by a Federal Grant
- Additional Study Areas in Glenview and Niles



**Purpose of this Study**

- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**3**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**4**



**Flooding Overview**

- #1 Natural Disaster in the United States (FEMA.gov)
- Stream Flooding
- Stormwater Flooding



**1 Where does it Happen?**

OUTSIDE	INSIDE
Street Flooding	Sanitary/Combined Sewer Surcharge
Property Flooding	Pump Failure
Storm Sewer Surcharge	Seepage



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**5**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**6**



## WINNETKA #2 PRESENTATION #2



### Welcome

Please take a few minutes to review the boards spread around the room. The presentation will begin at 7:40.



### Agenda

- Project Background
- Purpose of this Study
- Potential Solutions
- Resident Feedback



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

1



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

2



### Project Background

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- Funded by a Federal Grant
- Additional Study Areas in Glenview and Niles



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- Address Localized Stormwater Issues
- Readily Implementable Solutions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

3



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

4



### Potential Solutions

- Neighborhood Scale
- Individual Property Scale



### Neighborhood Scale Green Infrastructure Streetscape Improvements



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5



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

6

**WINNETKA #2 PRESENTATION #2**



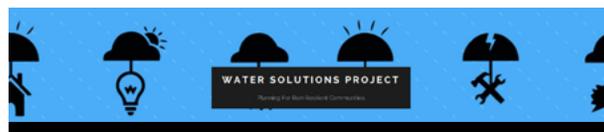
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7



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

8

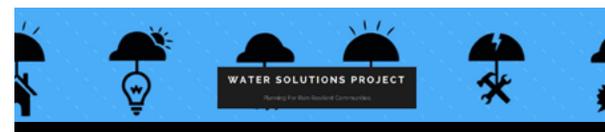


**Individual Property Scale**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

9

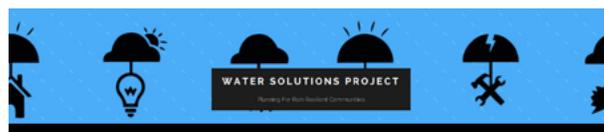


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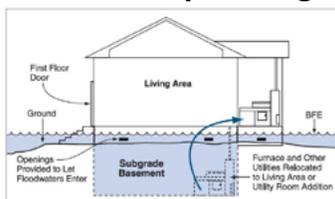


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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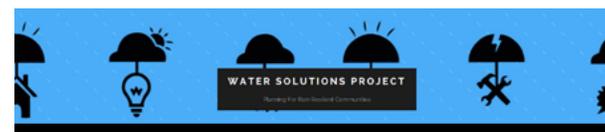


**Wet Floodproofing**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

11



**Elevate Mechanical Equipment**



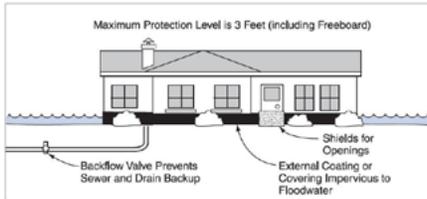
PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

12

**WINNETKA #2 PRESENTATION #2**



**Dry Floodproofing**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

13

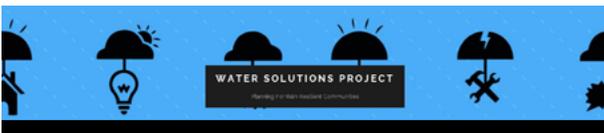


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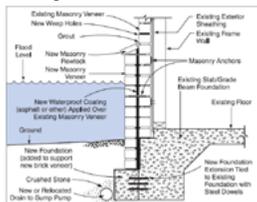


PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

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**Waterproof Membrane**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

15



**Sump Pump Back-Up**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

16



**Short Barrier Wall**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

17



**Sump Pump System**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

18

**WINNETKA #2 PRESENTATION #2**



**Raised Window Well**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**19**



**Glass Block Window**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**20**



**Epoxy Injection**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**21**



**Downspout Extension**



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**22**



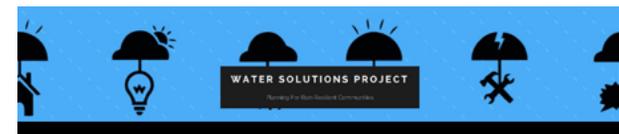
**Resident Feedback**

- Preferences
- Concerns
- Questions



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**23**



**Next Steps**

- Draft Pilot Study Completed – August 22
- Project Completed – September 19



PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY

**24**

# Appendix 6

## **Individual Lot Solutions**

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4

TYPE OF PROBLEM	SOLUTION	PURPOSE	IDEAL APPLICATIONS	LIMITATIONS AND OTHER CONSIDERATIONS	COST RANGE
<b>LANDSCAPED AREAS</b>	Construct a rain garden	Reduces the period of inundation by increasing the rates of infiltration and evapotranspiration	Where no municipal sewer system is nearby	Clayey soils and high groundwater limit the rate of infiltration	\$1,500-\$6,000
	Install a yard drainage system	Convey stormwater from the yard to the municipal sewer system	Where the municipal sewer system is nearby and lower than the flood prone area	May require removal of trees or relocation of utility service lines	\$2,000-\$10,000
	Excavate high ground or fill in a low-lying area	Create a suitable overland flow path from the flood prone area	Where a small amount of excavation allows overland flow from a low lying area of the yard to the street	Must not create a flooding problem on another property and fill in known flooding areas (especially regulatory floodplain) requires compensatory excavation	\$2,000-\$8,000
	Install a rain barrel	Reduce the amount of runoff to flood prone area	Where the area contributing runoff is small	Storage capacity can be overwhelmed by intense rain	\$100-\$300
	Install a sump pit, sump pump, and discharge line	Pump water out of the stairwell	Where the ground is sloped to drain away from the stairwell	Requires a discharge point that does not create a flooding problem on another property	\$5,000-\$7,500
	Remove debris from inlets	Prevent clogged storm drains	Any storm drain inlet	Inlets should be cleaned regularly	\$100-\$200
	Clean storm sewers	Prevent clogged storm sewers	Any storm sewer	Requires special equipment and may require pre-cleaning television inspection	\$2-\$5 per foot
	Remove debris from gutters and downspouts	Prevent water from overflowing the gutter and accumulating in low areas	Where the branches of mature trees hang over the gutters	Gutters and downspouts should be cleaned regularly	\$500-\$1,000
	Install foam gutter filters	Prevent leaves and debris from entering the gutter while water passes through the filter	Where the branches of mature trees hang over the gutters	The foam filters should be specially shaped to fit snugly in the gutters and should be factory treated with UV protection and a fungicide	\$1,000-\$2,000
Install a check valve on the sewer service line	Allow the free flow of water through the sewer service and prevent backflow	Where the sewer system reaches or exceeds its capacity from time to time	Debris within the sewer service line can prevent proper operation	\$2,500-\$8,000	
<b>PAVED AREAS</b>	Reconstruct pavement with permeable pavers	Store water in the aggregate below the pavers and allow it to infiltrate into the soil	Anywhere	Clayey soils and high groundwater limit the rate of infiltration	\$10-\$20 per square foot
	Reconstruct pavement to drain	Prevent water from accumulating on paved areas	Where a ground slope of 1% or more can be attained	Fill in known flooding areas (especially regulatory floodplain) requires compensatory excavation	\$5-\$10 per square foot
	Remove debris from inlets	Prevent clogged storm drains	Any storm drain inlet	Inlets should be cleaned regularly	\$100-\$200
	Clean storm sewers	Prevent clogged storm sewers	Any storm sewer	Requires special equipment and may require pre-cleaning television inspection	\$2-\$5 per foot
	Construct planter box	Reduces the period of inundation by increasing the rates of infiltration and evapotranspiration	Where no municipal sewer system is nearby and drainage can be directed to planter box	Clayey soils and high groundwater limit the rate of infiltration	\$2,000-\$4,000
	Remove debris from gutters and downspouts	Prevent water from overflowing the gutter and accumulating in low areas	Where the branches of mature trees hang over the gutters	Gutters and downspouts should be cleaned regularly	\$500-\$1,000
	Install foam gutter filters	Prevent leaves and debris from entering the gutter while water passes through the filter	Where the branches of mature trees hang over the gutters	The foam filters should be specially shaped to fit snugly in the gutters and should be factory treated with UV protection and a fungicide	\$1,000-\$2,000
	Install a trench drain and a drainage system	Convey stormwater from the paved area to the municipal sewer system	Where the municipal sewer system is nearby and lower than the paved area	May require relocation of utility service lines	\$2,000-\$10,000
	Construct a driveway berm	Prevent overland flow from the street from flooding a garage	Where the garage floor is lower than the street	The height of the driveway berm depends on the level of protection desired. Fill in known flooding areas (especially regulatory floodplain) requires compensatory storage.	\$2,000-\$5,000

Notes: 1. The cost estimates in this matrix are intended for use as a planning tool in selecting one or more of the potential solutions. A contractor's detailed cost estimate may vary from these preliminary cost estimates.  
 2. The cost estimates include the cost of labor and materials, but do not include the cost to obtain permits, if applicable.



		<b>4</b>				
		<b>SOLUTION</b>	<b>PURPOSE</b>	<b>IDEAL APPLICATIONS</b>	<b>LIMITATIONS AND OTHER CONSIDERATIONS</b>	<b>COST RANGE</b>
<b>INSIDE THE BUILDING</b>	<b>GENERAL FLOODING</b>	Carry flood insurance	Obtain financial assistance for future flood damages	Anywhere	None, since even buildings outside the floodplain can be covered by flood insurance	Varies depending on level of risk
		Elevate mechanical equipment and electrical components	Protect furnace, water heater, air conditioner, and electrical outlets during flood events	Anywhere	The height of the mechanical equipment and electrical components depends on the level of protection desired, but at least two feet above the 100-year flood elevation is recommended	\$2,000-\$10,000
		Construct a green roof	Reduce peak flows from roof	Larger buildings with flat roofs	Structural analysis and reinforcement may be necessary	\$30-\$50 per square foot
		Install a flood gate	Prevent overland flow through a door or window	Where flood depths are shallow (generally 3 feet or less)	Some flood gates remain in place permanently, while others can be removed and replaced prior to severe weather	\$500-\$1,000
		Install a flood wall	Keep flood waters away from the building foundation	Where flood depths are shallow (generally 3 feet or less)	Flood walls can be constructed of various materials including masonry, concrete, and soil	\$30,000-\$50,000
		Elevate the building	Raise the building so the lowest opening is above the expected flood elevation	Anywhere	The height of the building depends on the level of protection desired, but at least two feet above the 100-year flood elevation is recommended	\$200,000-\$500,000
	<b>SUMP PUMP FAILURE</b>	Install a back-up sump pump	Provide additional pumping capacity and protect against sump pump failure	Where a sump pump system has only one sump pump	Without a secondary power source, a back-up sump pump only protects against mechanical pump problems	\$1,000-\$1,500
		Install a back-up power source (battery or generator)	Provide an alternate power source so sump pumps can run when electric power is not available	Where the only power source for an existing sump pump system is electric power	None	\$750-\$5,000
		Keep a spare sump pump	Quickly replace a sump pump that has failed	Where the owner or occupant is capable of replacing a failed sump pump	Requires human intervention during a storm event	\$100-\$250
		Install an air gap outside the foundation wall	Provide an overflow for occasions when the sump pump is discharging directly into a surcharged sewer	Where the sump pump discharge has a direct connection to the sewer system	May require raising the elevation of the sump pump discharge line above ground elevation	\$500-\$2,500
		Increase pump capacity	Provide additional pumping capacity by adding a sump pump or replacing an existing pump	Where groundwater fills the sump pit faster than the sump pumps can empty the pit	May also require a larger diameter discharge line	\$200-\$1,500
		Increase the diameter of the discharge line	Provide additional capacity in the sump pump discharge line	Where the capacity of the sump pump system is limited by the capacity of the discharge line	May require removal of trees or the restoration of landscaped areas	\$500-\$3,000
	<b>SEWER BACK-UP</b>	Repair discharge line	Restore the capacity of a failed discharge line	Where the capacity of the sump pump system is limited by root intrusion into the discharge line or a section of the pipe has collapsed	May require removal of trees or the restoration of landscaped areas	\$500-\$2,000
		Repair sewer service line	Restore the capacity of a failed sewer service line	Where the capacity of the sewer service is limited by root intrusion into the service line or a section of the pipe has collapsed	May require removal of trees or the restoration of landscaped areas	\$500-\$2,000
		Install a check valve on the sewer service line	Allow the free flow of water through the sewer service and prevent backflow	Where an overhead sewer system cannot be installed	Debris within the sewer service line can prevent proper operation	\$2,500-\$8,000
		Install an overhead sewer system	Prevents sewer back-ups by raising plumbing from below the floor of the basement to the ceiling	In unfinished basements or in basements where the drywall has been removed	Some plumbing systems require extensive remodeling for overhead sewer conversion	\$9,000-\$12,000
		Install a stand pipe in a lower level plumbing fixture	Contains sewer back-ups by fitting a length of pipe in the floor drain	Where flood depths are shallow (generally 3 feet or less)	Tall stand pipes can allow the build-up of damaging pressure in the sewer service line	\$300-\$600
		Install a floor drain plug in a lower level plumbing fixture	Blocks sewer back-ups. Some plugs stop flow in either direction, while others utilize a float that does not interfere with the normal operation of the drain	Where flood depths are shallow (generally 3 feet or less)	Debris on the plug can prevent proper operation and high pressure in the sewer service line can eject the plug	\$200-\$500

**Notes:** 1. The cost estimates in this matrix are intended for use as a planning tool in selecting one or more of the potential solutions. A contractor's detailed cost estimate may vary from these preliminary cost estimates.  
2. The cost estimates include the cost of labor and materials, but do not include the cost to obtain permits, if applicable.

PROJECT TEAM: BAXTER & WOODMAN + TESKA ASSOCIATES, INC. + EMPIRICAL HYDROLOGY



4

TYPE OF PROBLEM	SOLUTION	PURPOSE	IDEAL APPLICATIONS	LIMITATIONS AND OTHER CONSIDERATIONS	COST RANGE
<b>EXTERNAL STAIRWELL FLOODING</b>	Install a short barrier wall around stairwell	Prevent the overland flow of water into the stairwell	Where flood depths are shallow (6 inches or less at the top of the stairwell)	Building code requirements may dictate the minimum wall thickness	\$500-\$2,000
	Install an area drain connected to a drainage system	Drain water from the stairwell to prevent the flow of water over the threshold of the door	Where the area drain can be connected to an existing foundation drain in close proximity	An area drain should not be connected to the foundation drain where overland flow into the stairwell could overwhelm the capacity of the sump pump system	\$800-\$1,000
	Cover the entry	Prevent rainfall from entering the stairwell	Where the ground is sloped to drain away from the stairwell	May require extensive permitting and construction	\$1,000-\$4,000
	Install a sump pit, sump pump, and discharge line	Pump water out of the stairwell	Where the ground is sloped to drain away from the stairwell	Requires a discharge point that does not create a flooding problem on another property	\$4,000-\$6,000
<b>WINDOW WELL FLOODING</b>	Install an area drain connected to a drainage system	Drain water from the window well to prevent the window from breaking	Where the area drain can be connected to an existing foundation drain in close proximity	An area drain should not be connected to the foundation drain where overland flow into the window well could overwhelm the capacity of the sump pump system	\$800-\$1,000
	Replace an existing window well with a concrete window well	Prevent overtopping into the window well by raising the top of the well and prevent seepage at the joints between the window well and the foundation wall with a watertight seal	Where surface water flows over the top of the window well or where groundwater seeps into the window well	The height of the replacement window well depends on the level of protection desired, which could be set a certain distance above the existing well or it could be set to match the elevation of the lowest opening into the building that cannot be raised	\$3,000-\$5,000
	Replace a glass pane window with a glass block window	Provide structural resistance against rising water in the window well	Where an alternate egress window is available	At least one window in the basement must remain as an egress window	\$750-\$1,500
<b>WALL AND FLOOR SEEPAGE</b>	Seal a crack with an epoxy injection	Prevent seepage by filling cracks in the foundation	Where seepage is due to a small number of isolated cracks	Seal may need to be replaced after several years	\$250-\$1,000
	Coat the foundation with a waterproof membrane	Prevent seepage by applying an asphalt sealant or polyethylene film to the foundation wall	Slab-on-grade construction subject to shallow flooding where the waterproof membrane can be concealed by a decorative masonry veneer	May require removal of trees, or the restoration of paved and landscaped areas	\$15,000-\$30,000
	Repair the foundation drain	Restore the capacity of a failed foundation drain	Where the capacity of the foundation drain is limited by sediment deposits, root intrusion into the service line or a section of the pipe has collapsed	May require removal of trees, or the restoration of paved and landscaped areas	\$2,000-\$5,000
	Install a new interior foundation drain, sump pit, and sump pump	Capture water that seeps into the basement and convey it to a sump pump	In unfinished basements or in basements where the drywall has been removed	Manages seepage rather than preventing it	\$12,000-\$15,000
	Install a new exterior foundation drain, sump pit, and sump pump	Collect groundwater outside the foundation wall and convey it to a sump pump	Where there is little landscaping, paving, or decking immediately adjacent to the perimeter of the building	Requires a discharge point that does not create a flooding problem on another property	\$10,000-\$20,000
	Extend downspouts and sump pump discharges away from the foundation	Prevent water from accumulating adjacent to the building foundation	Where the ground begins sloping away from the foundation a short distance from the foundation	Downspouts and sump pump discharges should extend at least 6 feet away from a building foundation or far enough to ensure water does not drain back toward the foundation	\$100-\$500
	Re-grade landscaped areas or paved areas to slope away from the foundation	Prevent water from accumulating adjacent to the building foundation	Where a ground slope of 1% or more can be attained	May require removal of trees, or the restoration of paved and landscaped areas (fill in known flooding areas, especially regulatory floodplains, will require compensatory storage)	\$2,500-\$5,000
	Remove debris from gutters and downspouts	Prevent water from overflowing the gutter and accumulating adjacent to the building foundation	Where the branches of mature trees hang over the gutters	Gutters and downspouts should be cleaned regularly	\$500-\$1,000
	Install foam gutter filters	Prevent leaves and debris from entering the gutter while water passes through the filter	Where the branches of mature trees hang over the gutters	The foam filters should be specially shaped to fit snugly in the gutters and should be factory treated with UV protection and a fungicide	\$1,000-\$2,000

Notes: 1. The cost estimates in this matrix are intended for use as a planning tool in selecting one or more of the potential solutions. A contractor's detailed cost estimate may vary from these preliminary cost estimates.  
 2. The cost estimates include the cost of labor and materials, but do not include the cost to obtain permits, if applicable.

# Appendix 7

## Glossary

<i>Acronym</i>	<i>Definition</i>
<b>BMP</b>	Best Management Practices
<b>CIP</b>	Capital Improvement Program
<b>FAR</b>	Floor Area Ratio
<b>FEMA</b>	Federal Emergency Management Agency
<b>GIS</b>	Geographic Information Systems
<b>MWRDGC</b>	Metropolitan Water Reclamation District of Greater Chicago
<b>SFHA</b>	Special Flood Hazard Area
<b>SSA</b>	Special Service Area
<b>SWAMP</b>	Storm Water Area Management Program
<b>SWTF</b>	Storm Water Task Force

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# Appendix 8

## **Digital Work Products**

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*A compact disc is included with printed copies of this report.*



## Agenda Item Executive Summary

**Title:** Stormwater Monthly Summary Report

**Presenter:** Steven M. Saunders, Director of Public Works/Village Engineer

**Agenda Date:** 09/16/2014

**Consent:**  YES  NO

- |                                     |                         |
|-------------------------------------|-------------------------|
| <input type="checkbox"/>            | Ordinance               |
| <input type="checkbox"/>            | Resolution              |
| <input type="checkbox"/>            | Bid Authorization/Award |
| <input type="checkbox"/>            | Policy Direction        |
| <input checked="" type="checkbox"/> | Informational Only      |

### Item History:

Monthly report

### Executive Summary:

The Village's Stormwater Project Manager has prepared a monthly report for the Village Council that brings together status, cost, and schedule information, for each separate stormwater project, in one place. The report consists of four documents, explained below:

#### AT Group Project Summary Report (Attachment #1)

This report provides a brief outline and summary of each major stormwater project currently being undertaken by the Village.

#### One Year Look-Ahead Schedule (Attachment #2)

This document provides an overview schedule for each project.

#### Program Budget (Attachment #3)

This report provides financial information for the stormwater and sanitary sewer improvement programs.

#### Program Organization Chart (Attachment #4)

This document presents a one-page "snapshot" view of the status of each project, and how each project fits into the overall stormwater and sanitary sewer management program.

### Recommendation:

Informational report

### Attachments:

1. AT Group Project Summary Report
2. One Year Look-Ahead Schedule
3. Program Budget
4. Program Organization Chart



## MEMORANDUM

DATE: September 10, 2014  
TO: Steven Saunders, P.E.  
Village of Winnetka  
SUBJECT: Project Summary

### Active Projects

#### **Spruce Outlet (Tower)**

Activity Summary Copenhagen completed construction, with punch list items remaining.

Budget Summary The Village budgeted \$90,000 for engineering and committed \$111,429, and budgeted \$1,000,000 for construction and committed \$1,087,465.

6-Month Look Ahead The project team will:  
1. Complete punch list  
2. Process final payment

#### **Winnetka Avenue Pump Station**

Activity Summary Construction of the Pump Station is complete and the station is operational. The contractor is working on punch list items.

Budget Summary The adjusted project budget is \$1,067,600, including engineering and construction.

6-Month Look Ahead The project team will:  
1. Complete punch list items  
2. Process final payment

#### **NW Winnetka (Greenwood/Forest Glen)**

Activity Summary Plans and specifications are available for bidding, with a bid opening scheduled for October 7, 2014. The planned schedule projects contract processing,

submittals/shop drawings, and long lead-time ordering to take place during the late Fall and Winter. Construction is projected to start during Winter 2014-15.

Budget Summary The Village budgeted \$250,000 for engineering and committed \$226,874. Christopher Burke Engineering has completed a detailed construction cost estimate based on the final construction plans and specifications. The increased level of detail, plus a recent significant uptick in construction pricing over the past few months, has affected the project cost estimate. The total cost estimate for the project, including engineering is now \$5,499,000.

6-Month Look Ahead The project team will:

1. Bid the project
2. Let the contract with Village Council approval
3. Construct the project

## **Willow Road Tunnel**

Activity Summary MWH presented Review Point #1, at the June 24 Council meeting, and received approval to proceed with pre-engineering, water quality sampling and preparation of the permit application to present to the Council as Review Point #2 that is tentatively scheduled for January 2015. MWH has started water quality monitoring and detailed soil borings will commence this week. Moving forward, MWH will prepare a separate, detailed monthly report.

Budget Summary The Village's agreement with MWH is now \$2,094,318. The total project cost estimate remains \$34,369,048.

6-Month Look Ahead The project team will:

1. Proceed with the Phase I preliminary engineering, additional water quality sampling
2. Continue discussions with regulatory agencies
3. Present the Review Point #2 findings to the Village Council

## **Stormwater Utility Implementation**

Activity Summary The project team and Municipal & Financial Services Group (MFSG) are proceeding with the implementation phase for a stormwater utility. The utility was implemented



**AT** Group, Inc.

effective July 1 and bills have been mailed. The project team is responding to resident inquiries as needed.

Budget Summary The Council has awarded contracts to MFSG for study, implementation assistance, and call center support in the amount of \$186,316.

6-Month Look Ahead The project team will:  
1. Continue implementation

### **Sanitary Sewer Evaluation**

Activity Summary The Village awarded a sewer lining contract to address sanitary sewer deficiencies identified during the evaluation. The lining should be complete by the end of September. Staff has published a contract for manhole repairs with a bid date in October. The manhole repairs are scheduled for Fall 2014.

Budget Summary The Village has budgeted \$150,000 and committed \$152,157.

6-Month Look Ahead The project team will:  
1. Complete design engineering of initial system improvements  
2. Complete the improvements

### **Public Outreach**

Activity Summary Staff continues to provide E-Winnetka updates on the multiple projects in the stormwater management program.

Budget Summary There is no separate budget associated with this project.

6-Month Look Ahead The project team will continue to update the website and monitor activity.



## **Ravine/Sheridan Road Improvements**

Activity Summary IDOT is planning pavement and drainage improvements for the area. Due to the need for easement acquisition, the drainage project is scheduled in 2015.

Budget Summary This project is funded in its entirety by IDOT.

6-Month Look Ahead The project team will:

1. Monitor IDOT activities
2. Update the Council as needed

## **IKE Grant**

Activity Summary The Villages of Winnetka, Glenview and Niles received an IKE Grant to identify stormwater management improvements to address localized problems in residential, multi-family, downtown and shopping center environments. The project consultant completed the draft report and presented it at the September 9 Study Session. The final report will be presented for adoption at the September 16, 2014 Council meeting.

Budget Summary This project is funded by an IKE Grant of \$200,000.

6-Month Look Ahead The project team will:

1. Adopt the final project report

## **Ash Street Pump Station**

Activity Summary CBBEL completed plans and specifications for the station, including pump and electrical equipment replacement. Staff also reviewed the project scope as part of the FY 14 budget. The Council awarded the design-build contract in July 2014.

Budget Summary This project is funded within the Stormwater Fund Capital Budget.

6-Month Look Ahead The project team will:

1. Construct the project



**AT** Group, Inc.

## Completed Projects

### **Stormwater Master Plan (SMP)**

Activity Summary     The Council adopted the plan at its April 17, 2014 meeting.

Budget Summary     The Village budgeted \$50,000 and committed \$100,932.

### **Spruce Outlet (Lloyd)**

Activity Summary     The project is complete, and based on the recent storm events, is functioning as designed.

Budget Summary     The Village expended \$37,143 for engineering and \$259,156 for construction. The total project cost estimate has been reduced from \$398,786 to \$296,299.

Attached are the following documents:

1. One-Year Look-Ahead Schedule including Council Meeting Presentations
2. Program Budget
3. Program Organization Chart

If you have any questions or need additional information, please call me at 847-691-9832, or send an e-mail to [jjohnson@theatgrp.com](mailto:jjohnson@theatgrp.com).



**Village of Winnetka  
Stormwater Management Program**

**One-Year Look Ahead Schedule**

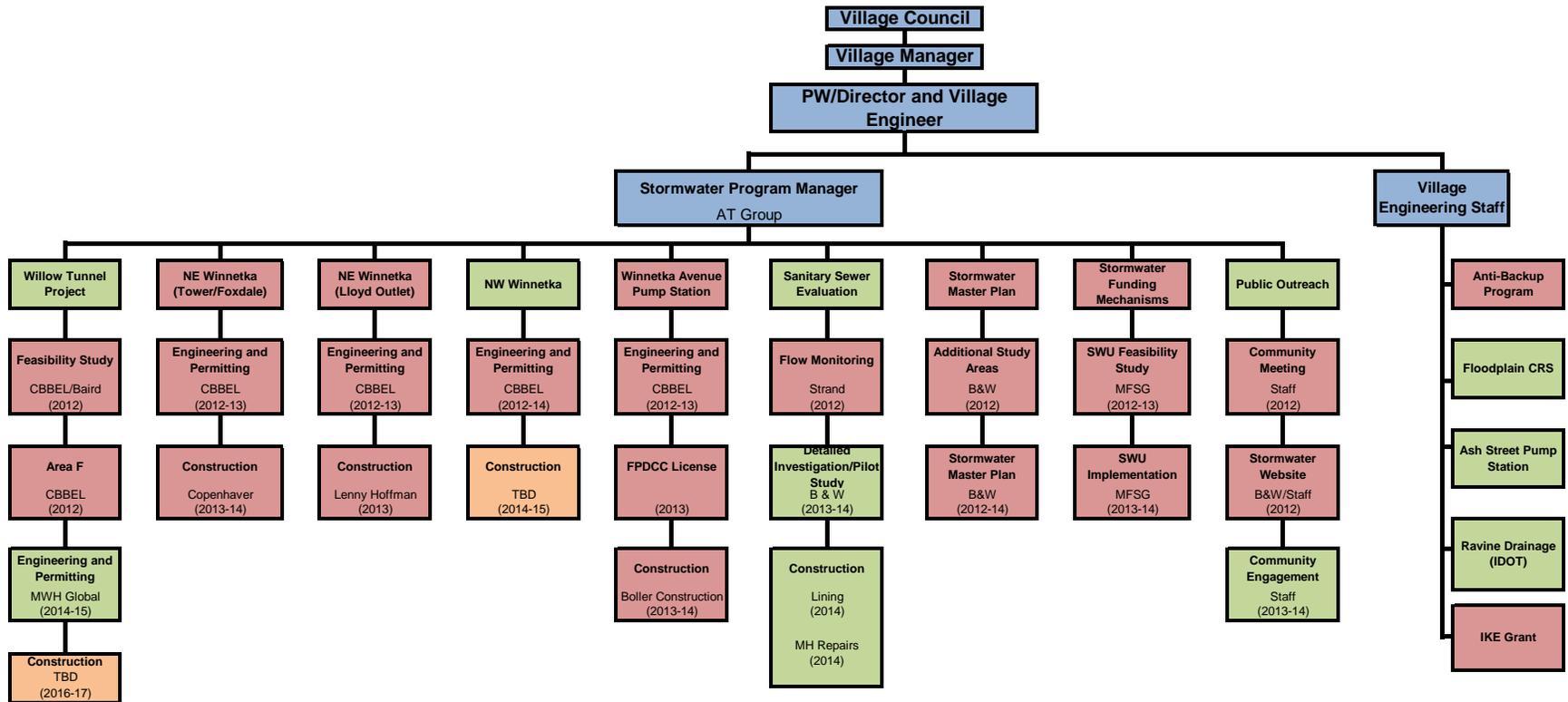
#####

	Sep 14	Oct 14	Nov 14	Dec 14	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15
<b>Tower/Foxdale</b>												
Construction COMPLETE												
<b>Ash Street Pump Station</b>												
Construction												
<b>Tunnel (Willow North, Willow South, Provident, Cherry Outlet, Underpass)</b>												
Permitting/Preliminary Engineering												
<b>NW Winnetka (Greenwood/Forest Glen)</b>												
Bid Authorization/Bidding/Contract Processing												
Construction												
<b>Winnetka Avenue Pump Station</b>												
Construction COMPLETE												
<b>Sanitary Sewer</b>												
Construction												
<b>Community Outreach</b>												
<b>Council Meetings</b>												
IKE Grant Report/Approval												
Stormwater Monthly Report												
NW Winnetka Bid Award												
Stormwater Monthly Report												
MWH Review Point #2												

**Village of Winnetka  
Stormwater Management Program Budget**

Project	Initial Estimated Project Costs	Current Estimated Project Costs	2013/2014 Budget	Council Authorized	Spent	Comments
<b><u>Stormwater Fund</u></b>						
<b><u>58.75.640.601</u></b>						
Winnetka Ave. pump station	\$ 1,188,562	\$ 1,067,600	\$ 750,000	\$ 1,067,600	\$ 1,039,451	Complete
Tower Road/Foxdale	\$ 1,419,544	\$ 1,087,465	\$ 1,000,000	\$ 1,087,465	\$ 964,981	Council Award 10/15/13
Lloyd Park/Spruce Street	\$ 601,030	\$ 296,299	\$ 414,000	\$ 296,299	\$ 296,299	Complete
NW Winnetka Greenwood/Forest Glen <i>Design Engineering</i> <i>Sewer Construction</i> <i>Pond Construction</i> <i>Construction Observation/Engineering</i> <i>MWRD Grant</i>	\$ 2,880,887	\$ 5,499,000	\$ 4,040,000	\$ 226,874	\$ 224,729	Added Forest Glen and included utilities from different line item. MWRD grant will offset \$2m.
			\$	(2,000,000)		
Willow Rd tunnel <i>Feasibility Study</i> <i>Proposed Area F</i> <i>Permitting and Design</i>	\$ 32,498,697	\$ 34,369,048	\$ 800,000	\$ 37,750	\$ 37,705	CBBEL October 2011 budget w/Kenny and Baird estimates Complete
			\$	17,600	\$ 17,407	Complete
			\$	2,145,218	\$ 204,744	MWH Global \$2,094,318; purchase of sampling equipment \$50,900
Stormwater rate study	\$ 50,000	\$ 186,316	\$ 10,000	\$ 186,316	\$ 177,296	DPW 2011/12 Budget vs proposal. Additional fee for fifth workshop. Includes Implementation Phase Includes call center staffing
Stormwater master plan	\$ 50,000	\$ 100,932	\$ 60,000	\$ 100,932	\$ 100,932	Complete
Total Stormwater Costs	\$ 38,688,720	\$ 42,606,660	\$ 7,074,000	\$ 3,166,054	\$ 3,063,544	
<b><u>Sanitary Sewer Fund</u></b>						
<b><u>54.70.640.201</u></b>						
Sanitary Sewer Studies/Engineering	\$ 150,000	\$ 187,247	\$ 50,000	\$ 187,247	\$ 162,734	Includes initial system evaluation, some and dyed-water testing, and engineering
System I & I repairs	\$ 1,000,000	\$ 1,000,000	\$ 300,000	\$ -	\$ -	
Total Sanitary Sewer Costs	\$ 1,150,000	\$ 1,187,247	\$ 350,000	\$ 187,247	\$ 162,734	







## Agenda Item Executive Summary

**Title:** Ordinance No. M-9-2014: 265: 271 & 277 Poplar Street, Resubdivision and Variations- Intro

**Presenter:** Michael D'Onofrio, Director of Community Development

**Agenda Date:** 09/16/2014

Ordinance

Resolution

Bid Authorization/Award

Policy Direction

Informational Only

**Consent:**  YES  NO

### Item History:

No previous action.

### Executive Summary:

The requests include a proposed resubdivision to reconfigure three lots into two lots as well as two variations. One variation is for a corner (front) yard setback at 277 Poplar, the other is to allow the existing residence at 271 Poplar to remain temporarily during construction of additions to 265 Poplar subsequent to the resubdivision.

The Plan Commission (PC) considered the resubdivision at its meeting on July 23, 2014. The PC voted 8 to 0, with one abstention, to recommend approval of the subdivision with no conditions, acknowledging the proposed increase to lot area brings the lots closer to conformity with zoning regulations and closer to the size of lots in the surrounding neighborhood. In a separate vote, the Commission also unanimously supported the request to temporarily occupy 271 Poplar, subject to the applicant providing surety to guarantee the timely demolition of the residence and restoration of the site, with such surety to be in a form acceptable to the Village Council and Village Attorney.

The Zoning Board of Appeals (ZBA) considered the variations at two separate hearings. At their meeting June 9, 2014, the four members present voted unanimously to recommend approval of the corner (front) yard setback. Secondly, at their meeting August 11, 2014, the four members present voted unanimously to recommend approval of the Permitted Uses variation to allow the existing residence at 271 Poplar to remain temporarily during construction of additions to 265 Poplar.

### Recommendation:

Consider introduction of Ord. M-9-2014, granting approval of the proposed resubdivision of 265, 271, and 277 Poplar as well as variations for the corner (front) yard setback at 277 Poplar and to permit the temporary existence of the residence at 271 Poplar to straddle the new lot line created by the approved subdivision.

### Attachments:

Agenda Report

Attachment A: Zoning Matrix (277 Poplar)

Attachment B: Ordinance No. M-9-2014

Attachment C: Subdivision Application

Attachment D: Variation Application (Corner (front) yard setback)

Attachment E: Variation Application (Permitted Uses)

Attachment F: Excerpt of July 23, 2014 PC Minutes (draft)

## AGENDA REPORT

**TO:** Village Council

**PREPARED BY:** Michael D'Onofrio, Director of Community Development

**SUBJECT:** Ordinance No. M-9-2014:  
(1) Resubdivision of 265, 271 and 277 Poplar Street  
(2) Variations:  
(a) Front and Corner Yard Setbacks  
(b) Permitted Uses

**DATE:** September 11, 2014

### Introduction

The requests include a proposed resubdivision to reconfigure three lots shown in Figure 1 and two variations. One variation is for a corner (front) yard setback at 277 Poplar, the other is to allow the existing residence at 271 Poplar to remain temporarily during construction of additions to 265 Poplar subsequent to the resubdivision.



Figure 1 – existing lot areas

The applicants residing at 265 Poplar (David and Elisa Bartels) have acquired the property adjacent to their residence, located at 271 Poplar. Together with the owners of 277 Poplar (Joseph and Lisa McGowan), the applicants are proposing to demolish the 271 Poplar residence and divide the resulting vacant lot between each of their respect lots, as shown in Figure 2.

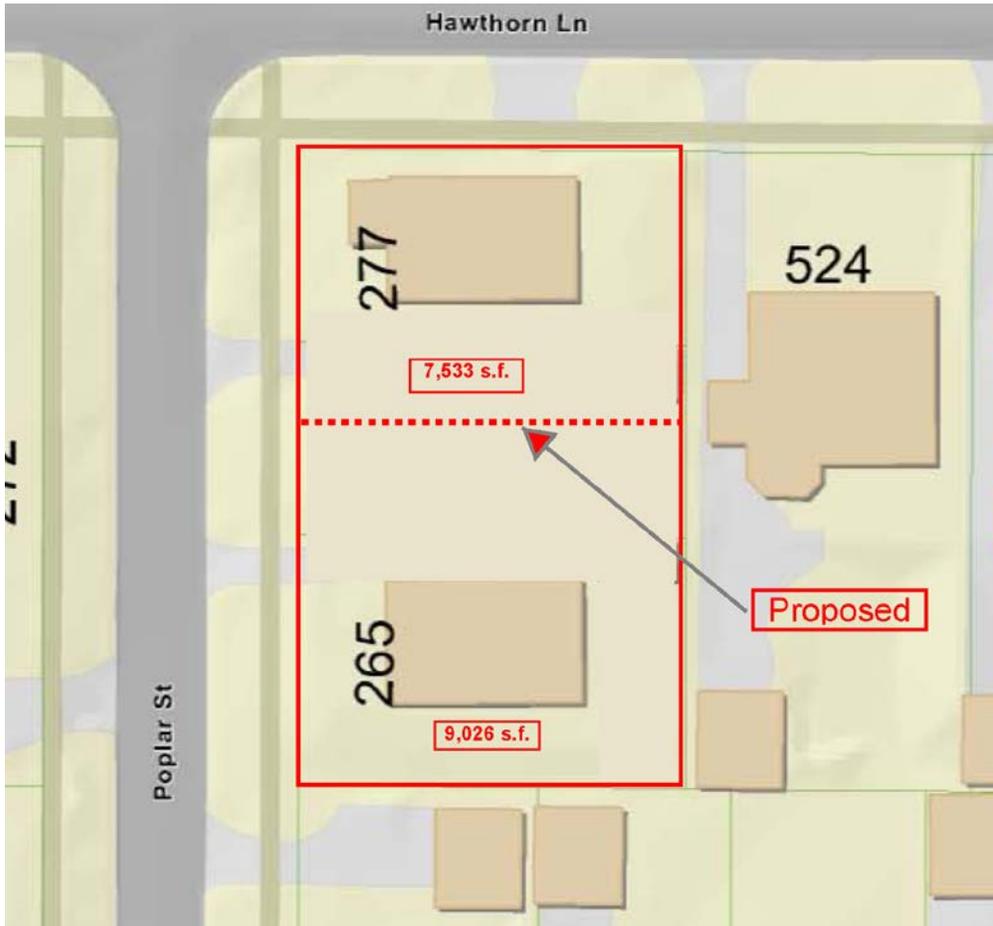


Figure 2 – proposed lot areas

### **Proposed Resubdivision**

The subject parcels currently range in size from 5,014 s.f. to 6,518 s.f., and as such are currently nonconforming with minimum lot area requirements 8,400 s.f. (8,900 s.f. for corner lots).

The subject parcels are located in the R-5 Single Family Residential zoning district, which is one of five (5) different single-family residential zoning classifications in the Village. The R-5 district allows the densest form of single-family development through a combination of smaller minimum lot sizes and smaller building setback requirements than other zoning districts. A comparison of the Village's five (5) different residential zoning classifications (Table 1, on following page) shows the hierarchy of zoning standards throughout the Village's residential neighborhoods.

<b>Zoning District</b>	<b>R-1</b> <i>("estate" character)</i>	<b>R-2</b> <i>("small estate" character)</i>	<b>R-3</b> <i>("moderately intense suburban character)</i>	<b>R-4</b> <i>("relatively intense suburban character")</i>	<b>R-5</b> <i>("relatively intense suburban character")</i>
<b>Minimum Lot area</b>	48,000 s.f.	24,000 s.f.	16,000 s.f.	12,600 s.f.	8,400 s.f.
<b>Minimum Lot width</b>	150 ft.	100 ft.	75 ft.	60 ft.	60 ft.
<b>Minimum Front setback</b>	50 ft.	50 ft.	40 ft.	30 ft.	30 ft.
<b>Minimum Rear yard setback</b>	50 ft.	25 ft.	25 ft.	25 ft.	25 ft.

Table 1 – hierarchy of single-family residential (R) zoning standards

In consideration of the fact that the existing lot sizes are substantially nonconforming with the minimum lot size requirement of the R-5 district (see Figure 1), it is noteworthy that the proposed resubdivision would bring the 265 Poplar lot into conformity with minimum lot area requirements, and would decrease the degree of nonconformity for the smaller parcel to the north at 277 Poplar (see Figure 2).

**Description of surrounding neighborhood**

The three subject parcels were first platted in 1911, prior to the adoption of the Village’s first zoning ordinance in 1922. Figure 3 depicts the location of the subject parcels centrally located within a large area of similarly zoned R-5 properties.



Figure 3 – surrounding zoning

In addition to the existing parcels being nonconforming with minimum lot size requirements, the existing lot sizes are small in comparison to nearby lots throughout the neighborhood. In the same block as the subject parcels, neighboring lots range from 8,200 s.f. to 16,600 s.f. The proposed increases to lot area (9,026 s.f. and 7,533 s.f.) are within the range of neighboring properties.

**Compliance with Zoning Standards**

The extent to which the proposed subdivision complies with minimum zoning standards is summarized in Table 2 below. All subdivisions are evaluated for compliance with basic minimum quantitative measures including minimum lot area, lot width, and lot depth.

**Table 2 – Zoning Compliance Matrix**

LOT AREA REQUIREMENTS		North lot (277 Poplar)	South lot (265 Poplar)
Minimum Lot size	8,400 sq. ft. minimum for <u>interior</u> lot		9,025 s.f. (Complies)
	8,900 sq. ft. minimum for <u>corner</u> lot	7,533 s.f. (Existing nonconformity)	
Minimum Average Lot Width	60 feet for interior lot		90 ft. (Complies)
	70 feet for corner lot	75 ft. (Complies)	
Minimum Lot Depth	120 feet	100 ft. (Existing nonconformity)	100 feet (Existing nonconformity)

Village subdivision regulations also contemplate that there may be instances where zoning nonconformities may exist in the context of a proposed subdivision, and may continue to exist after a subdivision is approved. In the event of such existing nonconformities, Section 16.12.010.D. of the Subdivision Ordinance requires a determination of whether such existing nonconformity, in the context of the proposed subdivision, will result in a material increase adverse impact upon the public health, safety or welfare. If such a determination is made, the request for subdivision may be denied.

In the case of the proposed subdivision, the two resulting parcels have three existing nonconformities: 1) Despite the proposed increases in lot area, the northerly lot's proposed lot area of 7,533 s.f. remains nonconforming with the minimum lot area of 8,900 s.f. and 2) Both

lots currently measure 100 ft. in depth (east to west), whereas the zoning ordinance requires a minimum lot depth of 120 ft.

### Variations

Ordinance No. M-9-2014 grants variations from Section 17.30.050 [Front and Corner Yard Setbacks] and Section 17.12.020 [Permitted Uses] of the Winnetka Zoning Ordinance to permit a nonconforming corner (front) yard setback from Hawthorn Lane for the existing residence at 277 Poplar of 9.84 ft., whereas a minimum of 22.54 ft. is required, a variation of 12.7 ft. (56.34%) that is created by the resubdivision. The variation from Permitted Uses is to allow the existing residence at 271 Poplar to remain temporarily during construction of additions to 265 Poplar subsequent to the proposed resubdivision, whereas only one dwelling unit is permitted on each lot.

### Corner (front) Yard Setback

With the proposed subdivision, 277 Poplar would gain 25 ft. in width, creating a lot 75 ft. wide. The increased lot width requires a larger corner (front) yard setback from Hawthorn of 22.54 ft. Currently, the required corner yard setback is 14.05 ft. The existing setback, measured to the excessive eave, is 9.84 ft., which requires a variation of 12.7 ft. (56.34%). The proposed subdivision does not create a nonconforming corner (front) yard; rather it increases the degree of the existing nonconformity.

### Permitted Uses

Subject to approval of the proposed subdivision, the owners of 265 Poplar also propose constructing additions to their existing residence together with a new two-car detached garage (depicted generally in Figure 4 below). At this time, no improvements are proposed for the residence at 277 Poplar.

The petitioners are seeking approval for the Bartels to temporarily occupy the soon-to-be demolished residence at 271 Poplar while constructing additions to their residence at 265 Poplar. An attached phasing plan (Exhibit B in Ordinance M-9-2014) prepared by the petitioner's architect explains the proposed phasing of this request. Of particular note is the fact that, upon recordation of the proposed subdivision, the existing residence will literally straddle the new lot line proposed to separate the two lots (albeit temporarily). Section 17.12.020 only allows for one single-family residence on a lot, therefore, the requested variation is necessary to carry out their plan.



Figure 4 – proposed improvements

As described in the attached application materials, the Bartels desire to relocate their family temporarily to the 271 Poplar residence versus relocating elsewhere during construction, due to the difficulty in finding a nearby rental during construction, and due to the cost savings offered by the proposed arrangement.

Due to the creation of the temporary encroachment, staff has suggested that, if such an approach were to be considered by the Village, minimum requirements would include the posting of a letter of credit or other form of surety to guarantee the eventual demolition of the 271 Poplar residence. To that end, the applicants have submitted a contract establishing the costs of demolishing the residence and restoring the site, and have agreed in concept to the posting of a cash deposit to secure demolition.

There are no other previous zoning cases for any of the three properties.

The Bartels acquired 265 Poplar in 2008 and 271 Poplar in 2010. The McGowans acquired 277 Poplar in 2002.

#### **Recommendations of Advisory Boards**

The Plan Commission (PC) considered the resubdivision at its meeting on July 23, 2014 (Attachment F). The PC voted 8 to 0, with one abstention, to recommend approval of the subdivision with no conditions, acknowledging the proposed increase to lot area brings the lots closer to conformity with zoning regulations and closer to the size of lots in the surrounding neighborhood. In a separate vote, the Commission also unanimously supported the request to temporarily occupy 271 Poplar, subject to the applicant providing surety to guarantee the timely demolition of the residence and restoration of the site, with such surety to be in a form acceptable to the Village Council and Village Attorney.

The Zoning Board of Appeals (ZBA) considered the variations at two separate hearings. At their meeting June 9, 2014, the four members present voted unanimously to recommend approval of the corner (front) yard setback (Exhibit C in Ordinance M-9-2014). Secondly, at their meeting August 11, 2014, the four members present voted unanimously to recommend approval of the Permitted Uses variation to allow the existing residence at 271 Poplar to remain temporarily during construction of additions to 265 Poplar (Exhibit C).

#### **Council Consideration and Action**

In light of the favorable recommendations from the PC and ZBA, the attached Ordinance M-9-2014 has been drafted to grant the requested resubdivision and variations. The Council retains the ultimate discretion to determine whether the resubdivision and zoning variations are appropriate and consistent with the character of the immediate neighborhood.

#### **Recommendation**

Consider introduction of Ordinance M-9-2014, granting approval of the proposed resubdivision of 265, 271, and 277 Poplar as well as variations for the corner (front) yard setback at 277 Poplar and to permit the temporary existence of the residence at 271 Poplar to straddle the new lot line created by the approved subdivision.

**Attachments**

- Attachment A: Zoning Matrix (277 Poplar)
- Attachment B: Ordinance No. M-9-2014
- Attachment C: Subdivision Application
- Attachment D: Variation Application (Corner (front) yard setback)
- Attachment E: Variation Application (Permitted Uses)
- Attachment F: Excerpt of July 23, 2014 PC Minutes (draft)

# ATTACHMENT A

## ZONING MATRIX

**ADDRESS: 277 Poplar St.**

**CASE NO: 14-15-V2**

**ZONING: R-5**

ITEM	REQUIREMENT	EXISTING	PROPOSED	TOTAL	STATUS
Min. Lot Size	8,900 SF	5,018.01 SF	7,521.01 SF	N/A	EXISTING NONCONFORMING
Min. Average Lot Width	70 FT	50.12 FT	75.12 FT	N/A	OK
Max. Roofed Lot Coverage	2,030.67 SF (1)	1,203.5 SF	N/A	N/A	OK
Max. Gross Floor Area	3,008.4 SF (1)	2,180.09 SF	N/A	N/A	OK
Max. Impermeable Lot Coverage	3,760.5 SF (1)	1,647.9 SF	N/A	N/A	OK
Min. Front Yard (Poplar)	30 FT	17.5 FT (2)	N/A	N/A	EXISTING NONCONFORMING
Min. Corner (Front) Yard (Hawthorn)	22.54 FT	9.84 FT (3)	N/A	N/A	<b>12.7 FT (56.34%) VARIATION</b>
Min. Side Yard (South)	7.51 FT	13.12 FT (3)	N/A	N/A	OK
Min. Rear Yard (East)	15.02 FT	27.97 FT (3)	N/A	N/A	OK

**NOTES:**

- (1) Permitted s.f. based on proposed lot area of 7,521.01 s.f.
- (2) Setback to porch.
- (3) Setback to excessive eave.
- (4) The existing residence is also considered legal nonconforming with respect to the building line articulation requirement and the fact that the attached garage is below the first floor and facing Hawthorn.

# ATTACHMENT B

ORDINANCE NO. M-9-2014

**AN ORDINANCE APPROVING A FINAL PLAT OF SUBDIVISION  
AND GRANTING VARIATIONS IN  
THE APPLICATION OF THE ZONING ORDINANCE  
OF THE VILLAGE OF WINNETKA,  
COOK COUNTY, ILLINOIS (265, 271, AND 277 POPLAR STREET)**

**WHEREAS**, the Village of Winnetka is a home rule municipality in accordance with Article VII, Section 6 of the Constitution of the State of Illinois of 1970, pursuant to which it has the authority, except as limited by said Section 6 of Article VII, to exercise any power and perform any function pertaining to the government and affairs of the Village; and

**WHEREAS**, David and Elisa Bartels (collectively, the "*Bartels*") own the properties commonly known as: (i) 265 Poplar Street ("*265 Poplar Property*"); and (ii) 271 Poplar Street, ("*271 Poplar Property*"), both in the Village; and

**WHEREAS**, Joseph and Lisa McGowan (collectively, the "*McGowans*") (collectively, the Bartels and the McGowans are the "*Owners*") own the property commonly known as 277 Poplar Street ("*277 Poplar Property*"), in the Village; and

**WHEREAS**, the 265 Poplar Property is legally described as follows:

THE SOUTH 65 FEET OF LOTS 6 AND 7 IN THE RESUBDIVISION OF LOTS 1 TO 7 AND REPLAT OF LOTS 8 TO 14, IN BLOCK 18 IN THE SUBDIVISION OF BLOCKS 18, 21, 22 AND 23 IN JOHN C. GARLAND'S ADDITION TO WINNETKA, BEING A SUBDIVISION OF THE NORTH 120 ACRES OF THE SOUTHWEST QUARTER OF SECTION 21, TOWNSHIP 42 NORTH, RANGE 13 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS; and

**WHEREAS**, the 271 Poplar Property is legally described as follows:

THE 50 FEET NORTH AND ADJOINING THE SOUTH 65 FEET OF LOTS 6 AND 7 IN RESUBDIVISION OF LOTS 1 TO 7, AND REPLAT OF LOTS 8 TO 14 IN BLOCK 18 IN THE SUBDIVISION OF BLOCKS 18, 21, 22, AND 23 IN JOHN C. GARLAND'S ADDITION TO WINNETKA, BEING A SUBDIVISION OF THE NORTH 120 ACRES OF THE SOUTH WEST QUARTER OF SECTION 21, TOWNSHIP 42 NORTH, RANGE 13 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS; and

**WHEREAS**, the 277 Poplar Property is legally described as follows:

LOTS 6 AND 7 (EXCEPT THE SOUTH 115 FEET THEREOF) IN THE RESUBDIVISION OF LOTS 1 TO 7 AND REPLAT OF LOTS 8 TO 14 IN BLOCK 18 IN THE SUBDIVISION OF BLOCKS 18, 21, 22, AND 23 IN JOHN C. GARLAND'S ADDITION TO WINNETKA, BEING A SUBDIVISION OF THE NORTH 120 ACRES OF THE SOUTH WEST QUARTER OF SECTION 21, TOWNSHIP 42 NORTH, RANGE 13, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS; and

September 16, 2014

M-9-2014

**WHEREAS**, the 265 Poplar Property, the 271 Poplar Property, and the 277 Poplar Property (collectively, the “*Properties*”) are each located within the R-5 Single-Family Residential Zoning District (“*R-5 District*”); and

**WHEREAS**, the 277 Poplar Property is an existing nonconforming use because it has a corner yard setback of 9.84 feet, where a corner yard setback of 14.05 feet is required in the R-5 District pursuant to Section 17.30.050 of the Winnetka Zoning Ordinance (“*Zoning Ordinance*”); and

**WHEREAS**, each of the Properties is a separate lot of record improved with a single-family residence; and

**WHEREAS**, on April 22, 2014, the Bartels submitted an application to the Village for a proposed final plat of resubdivision (“*Final Plat*”), depicted on **Exhibit A** attached to and, by this reference, made a part of this Ordinance, consolidating the Properties’ three adjoining lots of record into two adjoining lots of record: (i) a lot located at the south east corner of the intersection of Poplar Street and Hawthorn Lane comprised of the 277 Poplar Property and a portion of the 271 Poplar Property (“*Lot 1*”); and (ii) a lot located to the south of, and adjacent to, Lot 1 comprised of the 265 Poplar Property and a portion of the 271 Poplar Property (“*Lot 2*”) (collectively, Lot 1 and Lot 2 are the “*Resubdivided Lots*”); and

**WHEREAS**, if the Final Plat is approved, the Bartels desire to: (i) construct certain alterations to the single-family residence located on the 265 Poplar Property (“*Work*”); (ii) during the performance of the Work, reside in the single-family residence currently located on the 271 Poplar Property; and (iii) upon completion of the Work, demolish the single-family residence currently located on the 271 Poplar Property (“*Demolition*”); and

**WHEREAS**, if the Final Plat is approved: (i) the single family residence currently located on the 277 Poplar Property will be located on Lot 1, the single-family residence currently located on the 265 Poplar Property will be located on Lot 2, and, until the Work is completed, the single-family residence currently located on the 271 Poplar Property will temporarily be located partially on Lot 1 and partially on Lot 2, all as depicted on **Exhibit B** attached to and, by this reference, made a part of this Ordinance; and (ii) Lot 1 will have a lot width 25 feet greater than the lot width of the 277 Poplar Property and will continue to have a corner front yard setback of 9.84 feet; and

**WHEREAS**, Section 17.12.020 of the Zoning Ordinance only permits one dwelling unit on each lot of record in the R-5 District; and

**WHEREAS**, if the Final Plat is approved, Section 17.030.050 of the Zoning Ordinance would require that Lot 1 have a minimum corner front yard setback of 22.54 feet, increasing the current nonconformity of the corner yard setback of the 271 Poplar Property; and

**WHEREAS**, on April 26, 2014, Joseph McGowan filed an application for a variation from Section 17.30.050 of the Zoning Ordinance to permit, on Lot 1, the corner yard setback of 9.84 feet, a variation of 12.7 feet (56.34 percent) (“*Corner Yard Variation*”); and

**WHEREAS**, on July 11, 2014, the Bartels filed an application for a variation from Section 17.12.020 to temporarily permit the single-family residence currently located on the 271 Poplar Property to be located partially on Lot 1 and partially on Lot 2 in addition to the 277 Poplar Property and the 265 Poplar Property, respectively (“*Single Dwelling Unit Variation*”); and

**WHEREAS**, on July 23, 2014, after due notice thereof, the Winnetka Plan Commission considered and voted, by a vote of eight to zero, with one abstention, to recommend that the Village Council approve the Final Plat; and

**WHEREAS**, on June 9, 2014, after due notice thereof, the Winnetka Zoning Board of Appeals (“**ZBA**”) conducted a public hearing on the Corner Yard Variation and, after consideration, recommended by a vote of four to zero that the Village Council approve the Corner Yard Variation; and

**WHEREAS**, on August 11, 2014, after due notice thereof, the ZBA conducted a public hearing and, after consideration, recommended by a vote of four to zero that the Village Council approve the Single Dwelling Unit Variation; and

**WHEREAS**, pursuant to Sections 17.60.040 and 17.60.050 of the Zoning Ordinance, the ZBA heard evidence and made certain findings in support of recommending approval of the Corner Lot Variation and the Single Dwelling Unit Variation (collectively, the “**Variations**”), which findings are set forth in the ZBA public hearing minutes attached to and, by this reference, made a part of this Ordinance as **Group Exhibit C**; and

**WHEREAS**, pursuant to Section 17.60.050 of the Zoning Ordinance, the Village Council has determined that: (i) the Variations are in harmony with the general purpose and intent of the Zoning Ordinance and are in accordance with general or specific rules set forth in Chapter 17.60 of the Zoning Ordinance; and (ii) there are practical difficulties or particular hardships in the way of carrying out the strict letter of the provisions or regulations of the Zoning Ordinance from which the Variations have been sought; and

**WHEREAS**, the Village Council has determined that it is in the best interest of the Village to: (i) approve the Final Plat; and (ii) grant the Variations, all subject to and in strict accordance with the terms and conditions of this Ordinance.

**NOW, THEREFORE, BE IT ORDAINED** by the President and Board of Trustees of the Village of Winnetka, as follows:

**SECTION 1: RECITALS.** The foregoing recitals are hereby incorporated as the findings of the Council of the Village of Winnetka, as if fully set forth herein.

**SECTION 2: APPROVAL OF FINAL PLAT.** Pursuant to Sections 16.04.030 and 16.08.010 of the Village Code, the Village Council hereby approves the consolidation of the Properties into Lot 1 and Lot 2 in strict accordance with the Final Plat attached to this Ordinance as Exhibit A. The Village Council hereby authorizes and directs the Village President and the Village Clerk to execute and attest, on behalf of the Village, the Final Plat, and to record the Final Plat as provided by law.

**SECTION 3: APPROVAL OF VARIATIONS.** Subject to and contingent upon the conditions, restrictions, and provisions set forth in Section 4 of this Ordinance, and pursuant to Chapter 17.60 of the Zoning Ordinance and the home rule powers of the Village, the Village Council hereby grants:

- A. A variation to Section 17.30.050 of the Zoning Ordinance to decrease the minimum corner yard setback of Lot 1, from 22.54 feet to 9.84 feet; and
- B. A variation from Section 17.12.020 of the Zoning Ordinance to temporarily permit more than one dwelling unit to be located on Lot 1 and Lot 2, specifically: (i) the

single family residence currently located on the 277 Poplar Property to be located on Lot 1; (ii) the single-family residence currently located on the 265 Poplar Property to be located on Lot 2; (iii) and the single-family residence currently located on the 271 Poplar Property to be temporarily located partially on Lot 1 and partially on Lot 2, all as depicted on Exhibit B of this Ordinance.

**SECTION 4: CONDITIONS.** The approval granted in Section 3 of this Ordinance is subject to and conditioned upon the construction, use, and maintenance of the Resubdivided Lots in compliance with each and all of the following conditions:

- A. Commencement and Completion of Construction. The Work must commence within 12 months after the effective date of this Ordinance, and the Work and the Demolition must be completed no later than 24 months after the effective date of this Ordinance.
- B. Letter of Credit. The Bartels must furnish the Village with a letter of credit in a form acceptable to the Village Attorney and Village Manager in the amount of \$21,150.00 ("*Letter of Credit*"). The Letter of Credit will be effective until: (i) the Bartels complete the Work and the Demolition; and (ii) obtain a certificate of occupancy from the Village to reoccupy the single-family residence currently located on the 265 Poplar Property. If the Bartels fail to complete the Work and the Demolition in accordance with Section 4.A of this Ordinance, the Village reserves the right to perform and complete the Demolition and to recover from the Bartels all costs and expenses, including legal and administrative costs, incurred by the Village for such work. If any amount charged to the Bartels by the Village for the Demolition work is not paid within 30 days after written demand by the Village for payment, the Village shall have the right to draw from the Letter Credit an amount of money sufficient to defray the entire cost of the amount charged to the Bartels.
- C. Compliance with Regulations. Except to the extent specifically provided otherwise in this Ordinance, the Work, the Demolition, and the development, use, operation, and maintenance of the Resubdivided Lots must comply at all times with all applicable Village codes and ordinances, as the same have been or may be amended from time to time.
- D. Compliance with Plans. Except for minor changes and site work approved by the Director of Community Development or the Village Engineer (for matters within their respective permitting authorities) in accordance with all applicable Village standards, the Work, the Demolition, and the development, use, operation, and maintenance of the Resubdivided Lots must comply with the following documents:
  1. The Final Plat, consisting of one sheet, prepared by Geodetic Survey, Ltd., with a latest revision date of June 4, 2014, a copy of which is attached to this Ordinance as Exhibit A.
  2. The Phasing Site Plans, consisting of one sheet, prepared by Morgante Wilson Architects, Ltd., a copy of which is attached to this Ordinance as Exhibit B.

**SECTION 5: RECORDATION; BINDING EFFECT.** A copy of this Ordinance will be recorded with the Cook County Recorder of Deeds. This Ordinance and the privileges, obligations, and provisions contained herein inure solely to the benefit of, and be binding upon, the Owners and each of their heirs, representatives, successors, assigns, or transferees.

**SECTION 6: FAILURE TO COMPLY WITH CONDITIONS.** Upon the failure or refusal of either of the Owners to comply with any or all of the conditions, restrictions, or provisions of this Ordinance, in addition to all other remedies available to the Village, the approvals granted in Section 3 of this Ordinance will, at the sole discretion of the Village Council, by ordinance duly adopted, be revoked and become null and void; provided, however, that the Village Council may not so revoke the approval granted in Section 3 of this Ordinance unless it first provides the Owners with two months advance written notice of the reasons for revocation and an opportunity to be heard at a regular meeting of the Village Council. In the event of such revocation, the development and use of the Property will be governed solely by the regulations of the R-5 District and the applicable provisions of the Zoning Ordinance, as the same may, from time to time, be amended. Further, in the event of such revocation, the Village Manager and Village Attorney are hereby authorized and directed to bring such zoning enforcement action as may be appropriate under the circumstances.

**SECTION 7: AMENDMENTS.** Any amendment to this Ordinance may be granted only pursuant to the procedures, and subject to the standards and limitations, provided in the Zoning Ordinance for the amending or granting of variations.

**SECTION 8: EFFECTIVE DATE.**

- A. This Ordinance will be effective only upon the occurrence of all of the following events:
1. Passage of this Ordinance by the Village Council in the manner required by law;
  2. Publication of this Ordinance in pamphlet form in the manner required by law;
  3. The filing by the Bartels of the Letter of Credit with the Village;
  4. The filing by the Owners with the Village Clerk of a fully executed Unconditional Agreement and Consent, in the form of **Exhibit D** attached to and, by this reference, made a part of this Ordinance, to accept and abide by each and all of the terms, conditions, and limitations set forth in this Ordinance and to indemnify the Village for any claims that may arise in connection with the approval of this Ordinance; and
  5. Recordation of this Ordinance, together with such exhibits as the Village Clerk deems appropriate for recordation, with the office of the Recorder of Cook County.
- B. In the event that the Owners do not file fully executed copies of the Unconditional Agreement and Consent, as required by Section 8.A.4 of this Ordinance, within 30 days after the date of final passage of this Ordinance by the Village Council, the Village Council will have the right, in its sole discretion, to declare this Ordinance null and void and of no force or effect.

**PASSED** this \_\_ day of \_\_\_\_\_, 2014, pursuant to the following roll call vote:

**AYES:** \_\_\_\_\_

**NAYS:** \_\_\_\_\_

**ABSENT:** \_\_\_\_\_

**APPROVED** this \_\_ day of \_\_\_\_\_, 2014.

Signed:

\_\_\_\_\_  
Village President

Countersigned:

\_\_\_\_\_  
Village Clerk

Published by authority of the  
President and Board of Trustees  
of the Village of Winnetka,  
Illinois, this \_\_ day of \_\_\_\_\_,  
2014.

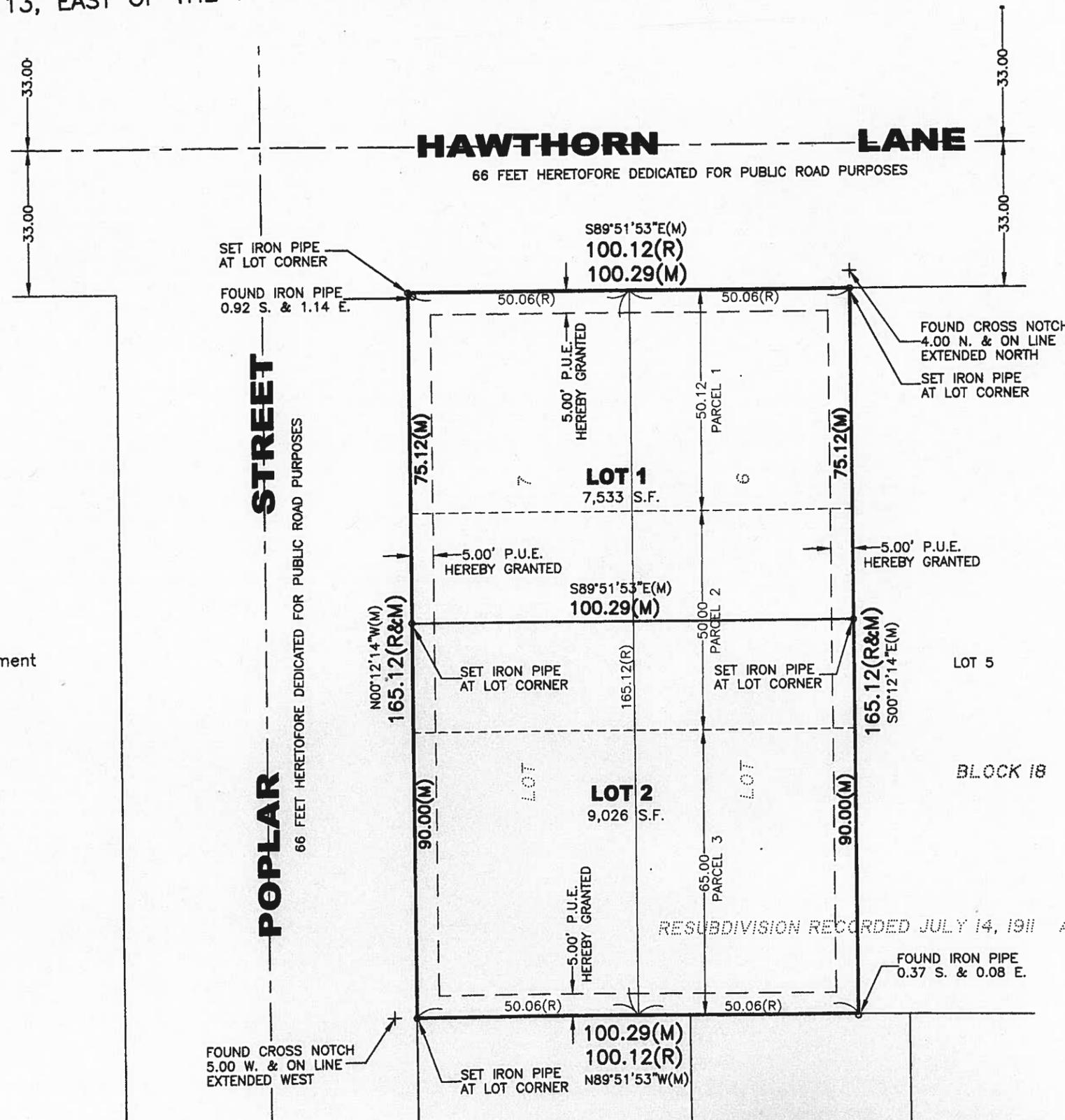
Introduced: September 16, 2014  
Passed and Approved: \_\_\_\_\_, 2014

**EXHIBIT A**  
**FINAL PLAT OF RESUBDIVISION**

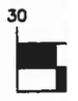
**(SEE ATTACHED EXHIBIT A)**

# FINAL PLAT OF WABOZO SUBDIVISION

BEING A SUBDIVISION OF PART OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 21, TOWNSHIP 42 NORTH, RANGE 13, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.



**LEGEND:**  
 (R) = Subdivision Record  
 (M) = Measured  
 (D) = Deed  
 N. = North  
 S. = South  
 W. = West  
 E. = East  
 P.U.E. = Public Utility Easement



This plat is  
 Village of  
 510 Green  
 Winnetka,  
 Tel. 1-847-

State of Ill  
 County of  
 I, Thomas  
 do hereby  
 this Plat  
 Dated this

Public Utility  
 An easement  
 over and u  
 install, cons  
 public utility  
 the right to  
 required in

**EXHIBIT B**  
**PHASING SITE PLANS**  
**(SEE ATTACHED EXHIBIT B)**

EXHIBIT B

Applicant's Phasing plan

Temporary straddling of new lot line



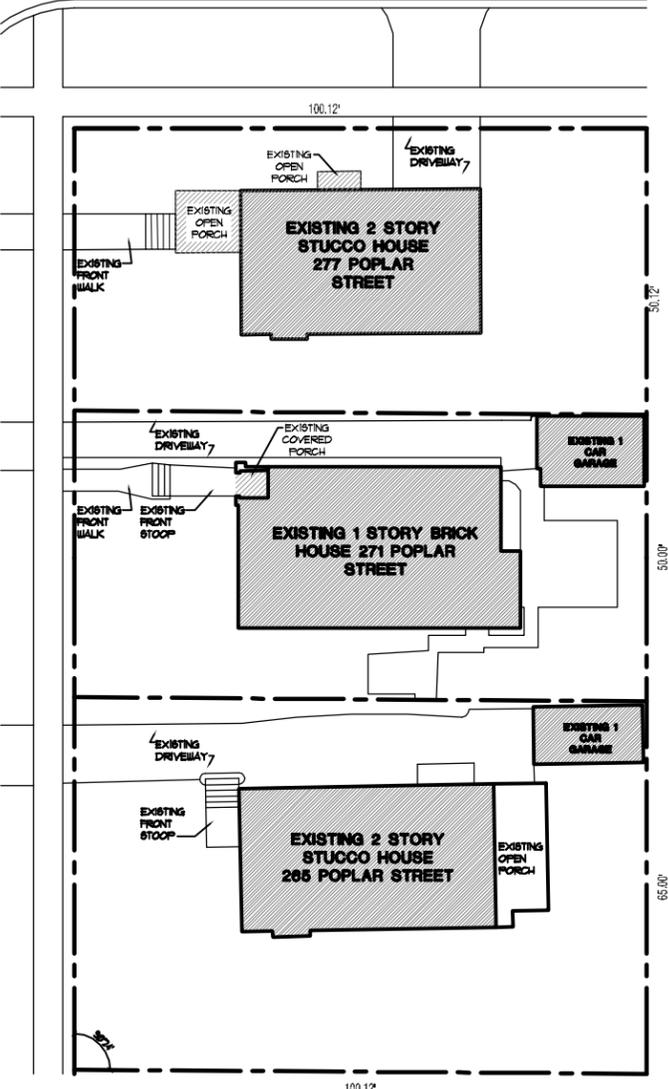
MORGANTE WILSON ARCHITECTS, LTD.  
 2884 CENTRAL STREET, EVANSTON, IL 60201  
 PH: 847.392.1001 FX: 847.392.2388

DRAWN BY:  
 CHECKED BY:  
 JOB No.: 1335  
 ISSUED:

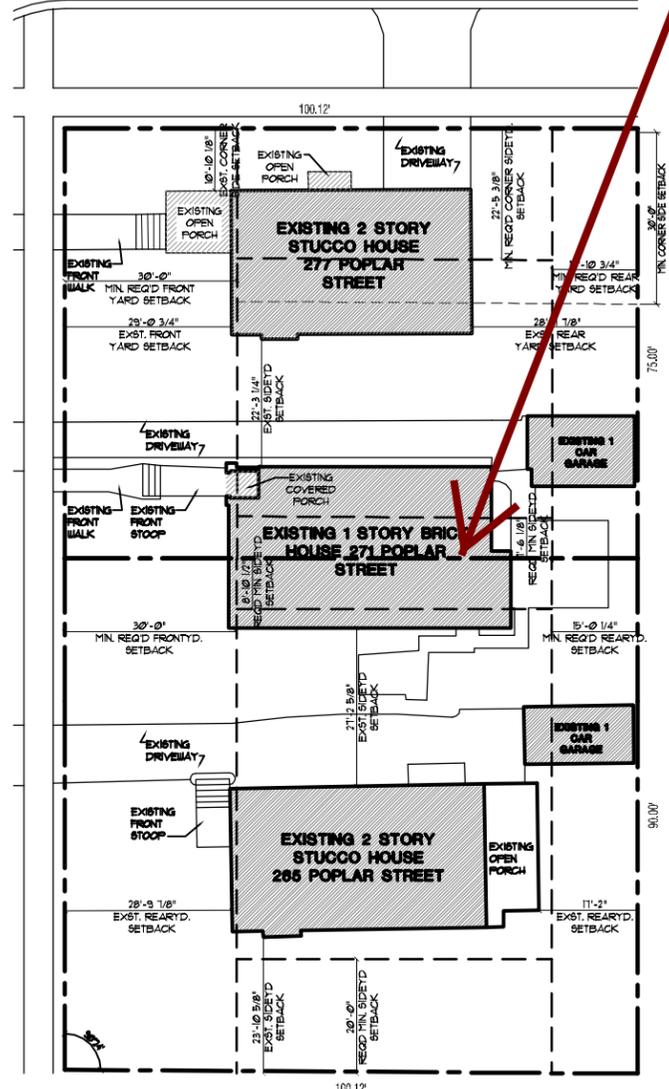
THE BARTELS RESIDENCE  
 265 POPLAR STREET WINNETKA, ILLINOIS  
 PHASING SITE PLANS

© 2014 Morgante-Wilson Architects, Ltd.

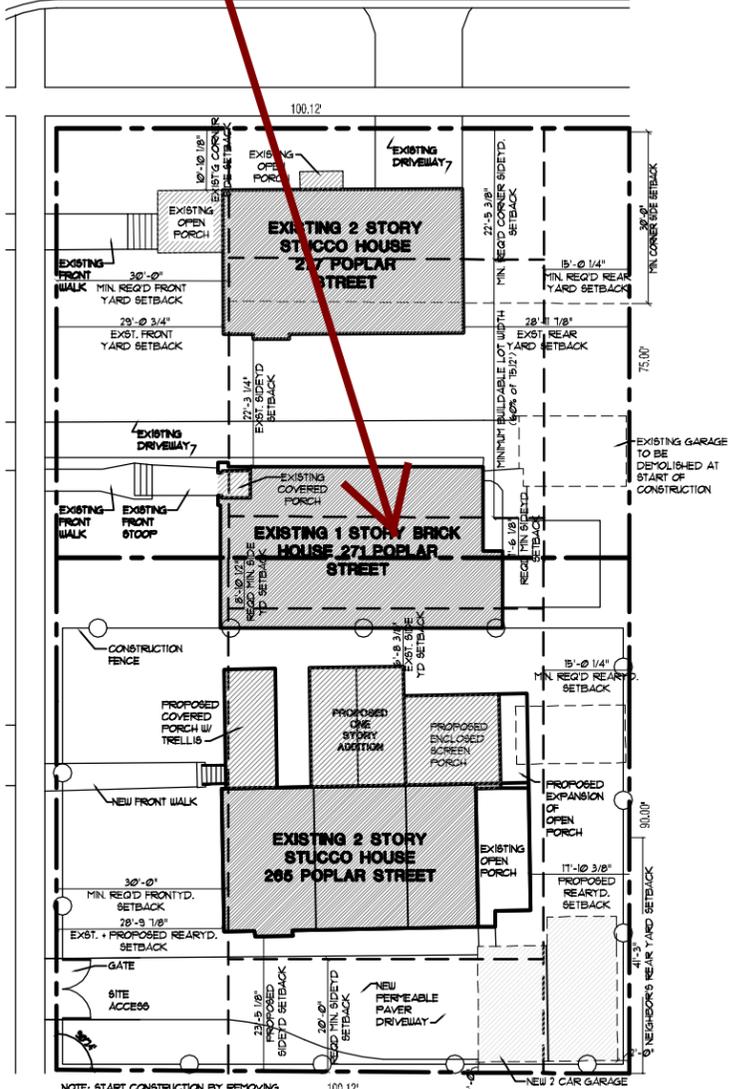
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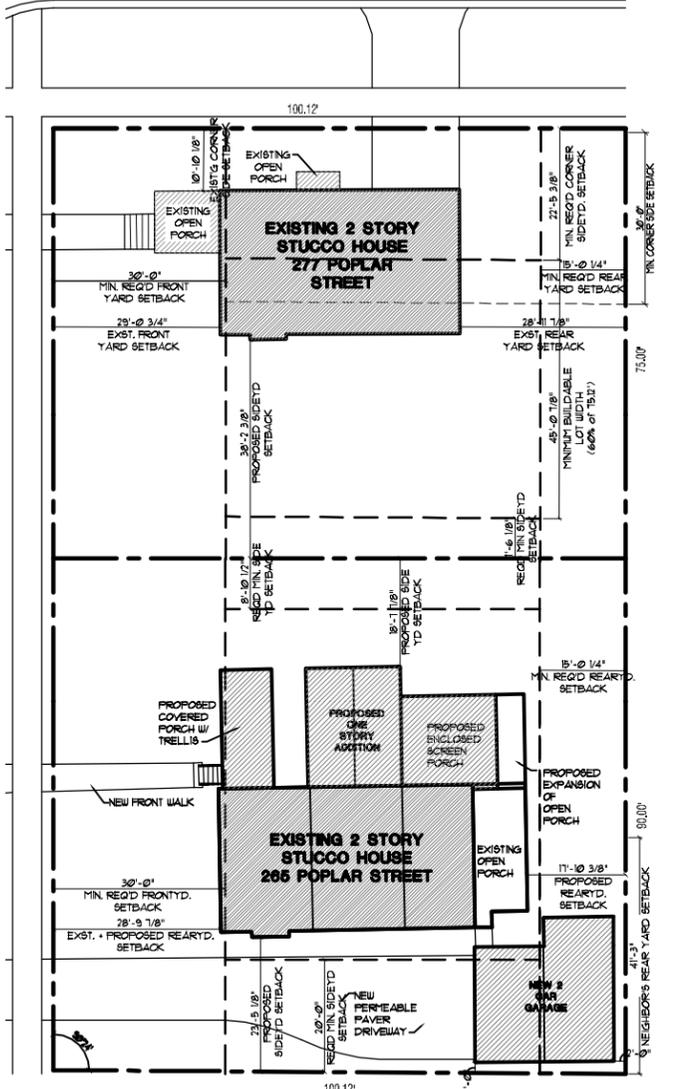
1 EXISTING SITE PLAN  
 1/32" = 1'-0"



2 PROPOSED SUBDIVISION PLAN  
 1/32" = 1'-0"



3 PROPOSED CONSTRUCTION SITE PLAN  
 1/32" = 1'-0"



4 PROPOSED SITE PLAN  
 1/32" = 1'-0"

**GROUP EXHIBIT C**

**ZBA MINUTES**

**(SEE ATTACHED EXHIBIT C)**

# EXHIBIT C

Minutes adopted 07.14.2014

## WINNETKA ZONING BOARD OF APPEALS EXCERPT OF MINUTES JUNE 9, 2014

**Zoning Board Members Present:** Joni Johnson, Chairperson  
Chris Blum  
Andrew Cripe  
Mary Hickey

**Zoning Board Members Absent:** Carl Lane  
Jim McCoy  
Scott Myers

**Village Staff:** Michael D'Onofrio, Director of Community  
Development  
Ann Klaassen, Planning Assistant

\*\*\*

**Case No. 14-15-V2:** 277 Poplar Street  
Joseph McGowan  
Variation by Ordinance  
1. Front and Corner Yard Setbacks

### **277 Poplar Street, Case No. 14-15-V2, Joseph McGowan, Variation by Ordinance – Front and Corner Yard Setbacks**

Mr. D'Onofrio read the public notice. The purpose of this hearing is to hear testimony and receive public comment regarding a request by Joseph McGowan, 277 Poplar Street, and Dave and Elisa Bartels, 265 Poplar Street concerning a variation by ordinance from Section 17.30.050 [Front and Corner Yard Setbacks] of the Winnetka Zoning Ordinance to permit a nonconforming Corner (Front) Yard Setback from Hawthorn Lane for the existing residence at 277 Poplar Street of 9.84 feet, whereas a minimum of 22.54 feet is required, a variation of 12.7 feet (56.34%) that is created by the subdivision of the three lots known at 277, 271 and 265 Poplar Street into two lots. As part of the proposed subdivision, the existing residence at 271 Poplar would be demolished.

Chairperson Johnson swore in those that would be speaking on this case.

Mike Shively with Morgante Wilson Architects introduced himself to the Board along with the Bartels. He stated that he assumed that the Board has the plans which were submitted.

Chairperson Johnson asked if the Bartels owned the property.

Mr. Shively stated that he is representing Joseph McGowan, the owner of the property at 277 Poplar Street because Mr. McGowan could not attend the meeting. He confirmed that the Bartels

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own the property at 265 Poplar Street and 271 Poplar Street.

Mr. Shively stated that the issue related to subdividing 271 Poplar Street so that portions of that lot go to the other two properties. He stated that the end result would be lot sizes which would be more in keeping with others in the neighborhood. Mr. Shively then stated that the Bartels' lot measured 90 feet and the corner lot measured 75 feet. He indicated that there is a zoning issue in the widening of the corner lot in that it increased the nonconformity of the corner yard setback. Mr. Shively noted that no work is proposed for that home.

Chairperson Johnson asked if there were any questions.

Ms. Hickey asked if they could discuss the matter without the McGowans here.

Chairperson Johnson stated that Mr. Shively is presenting the case on their behalf since his firm is listed on the application. She also referred to a May 8, 2014 letter which she noted was not signed by Mr. Shively and added that the property owner did not have to be here. Chairperson Johnson stated that the Bartels applied as well. She then stated that it is not relevant, but perhaps the Plan Commission may think it is relevant as far as the plans are concerned. She stated that the Board is only concerned with regard to the nonconformity as a result of the resubdivision. Chairperson Johnson stated that she wanted to make it clear if the subdivided property of the McGowans is brought into compliance with the codes and is a larger lot, they did not have any jurisdiction only because it increased the nonconformity because of the lot size increase. She noted that in the agenda report, the Bartels' lot did not have any nonconformities.

Mr. Cripe asked Mr. Bartels if he purchased the home as two lots.

Mr. Bartels confirmed that is correct.

Mr. D'Onofrio stated that the architect is representing the McGowans and that the Bartels are representing themselves.

Chairperson Johnson asked if there were any other questions.

Mr. Cripe referred to the process for the demolition of the home first.

Mr. D'Onofrio stated that it would go through for approval on the demolition regardless. He described it as what comes first, the chicken or the egg and that he did not know if they applied for demolition yet. Mr. D'Onofrio then stated that the subdivision would be conditioned on the removal of the home.

Chairperson Johnson asked if there were any questions in connection with the nonconformity.

Mr. Blum asked Mr. Shively to speak to how the property cannot yield reasonable return. He stated that the letter did not really say why it cannot.

Mr. Bartels referred to the property in between.

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Mr. Shively stated that it is their contention that the lots at their current widths are substandard in comparison to others in the neighborhood. He stated that the idea of splitting the middle lot is that the resulting lot sizes would be more in character with the neighborhood as opposed to combining it with the lot next door and ending up with a wide lot on the corner.

Ms. Hickey referred to 25 feet and that it would enhance the backyard which she described as quite narrow.

Mr. Shively agreed that is correct and that it would help everyone.

Ms. Hickey then asked if there is a fence or is it open.

Mr. Bartels responded that it is open.

Mr. Cripe asked what the state of the home to be demolished is and if there was anyone living in it.

Mr. Bartels stated that the occupants would be gone before the home is demolished and that they do own it. He reiterated that the 265 Poplar Street owners own the property at 271 Poplar Street.

Mr. Blum stated that with regard to the taxable value of the land statement, it will not decrease. He then stated that in looking at the variation, he asked how did they consider that. Mr. Blum also asked if they have any information on the impact of taking the middle property off of the tax roll.

Mr. D'Onofrio stated that the variance request is being made because of the subdivision and that it has to do with the corner front setback on 277 Poplar Street. He then stated that home is not going anywhere. Mr. D'Onofrio stated that in connection with what the variation request is specific to, the standards have to address the enlargement of the existing nonconforming setback which is currently at 14.05 feet and that with the subdivision and increase in lot width, it would go to 22.54 feet. He then stated that the taxable value standard is specific to 277 Poplar Street.

Mr. Blum stated that he is fine with that explanation.

Chairperson Johnson asked if there were any other questions from the Board. No additional questions were raised by the Board at this time. She then asked if there were any questions from the audience.

Mr. Shively stated that it would be great for the neighborhood to get the variation and asked the Board if they had any questions for him.

Chairperson Johnson referred to the issue of the driveway nonconformity on Hawthorn. She asked why and if it is a setback issue.

Ms. Klaassen responded that the front-facing attached garage below the first floor level is considered an existing nonconformity.

Mr. Shively stated that while not speaking for Mr. McGowan, he referred to the vision to change

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the driveway. He also referred to the current driveway at 271 Poplar Street and that once the property is subdivided, they might switch and build a decent garage which would be more in keeping with the neighborhood.

Chairperson Johnson informed the audience that is more of a factor for the Plan Commission in terms of the subdivision and that any time there is a demolition which would leave vacant land it would be taxed at a lower rate than a lot with a home on it. She then stated that the Board is not to look at it in terms of the variation, but whether the variation would diminish taxable value. Chairperson Johnson indicated that it might be balanced by the improvements to the other two lots. She then called the matter in for discussion. Chairperson Johnson noted that the Board is a recommending body and that the request would go to the Plan Commission and then to the Village Council.

Mr. Blum stated that they have a situation where they have a home existing as is and the setback line is in the middle of the home. He then stated that the reasonable return standard was quickly met in that they cannot have that situation. Mr. Blum also stated that it is unique in that they are assuming that the subdivision would be done and that when they have a property with this issue, a variation would make sense. He stated that with regard to the request altering the character of the locality, there is no issue.

Mr. Cripe stated that given the limited focus of the Board to consider just the variation on 277 Poplar Street and not on the larger issues which may concern other people by the elimination of the property that is not within the Board's scope. He stated that he would be in support of the variation.

Ms. Hickey stated that she is also in support.

Chairperson Johnson then asked for a motion.

Mr. Blum moved to recommend that the request be approved and stated that after hearing the testimony, they found that with regard to reasonable return they have a have situation where the setback ran through the home and that the alternative to tear down the home and relocate it would not be reasonable. He stated that with regard to unique circumstances, he referred to the lot requiring modification under the existing home. Mr. Blum stated that the request would not alter the character of the locality and that there is no indication that it would alter the character of the locality. He then stated that the light and air to surrounding properties could be improved and that with regard to the setback to the street, there is no indication that the adequate supply of light and air would be affected. Mr. Blum state that there would be no hazard from fire and that the taxable value of the land would not be affected. He stated that congestion would not increase and that the public health, safety, comfort, morals and welfare of the Village will not be otherwise impaired and moved to recommend approval of the variation.

Chairperson Johnson added that the increased lot width would bring the lot into compliance with the minimum lot width requirement.

Mr. Blum stated that is fine to add that to the motion.

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Chairperson Johnson also noted for the record that any future improvements or alterations would have to meet the zoning requirements and that they are not binding the Village to allow future variations.

Ms. Hickey seconded the motion. A vote was taken and the motion was unanimously passed, 4 to 0.

AYES: Blum, Cripe, Hickey, Johnson  
NAYS: None

### **FINDINGS OF THE ZONING BOARD OF APPEALS**

1. The requested variation is within the final jurisdiction of the Village Council.
2. The requested variation is in harmony with the general purpose and intent of the Winnetka Zoning Ordinance. The proposal is compatible, in general, with the character of existing development within the immediate neighborhood with respect to architectural scale and other site improvements.
3. There are practical difficulties or a particular hardship which prevents strict application of Section 17.30.050 [Front and Corner Yard Setbacks] of the Winnetka Zoning Ordinance which is related to the use or the construction or alteration of buildings or structures.

The evidence in the judgment of the Zoning Board of Appeals has established:

1. The property cannot yield a reasonable return if permitted to be used only under the conditions allowed by regulations in that zone. The existing home is nonconforming with respect to the corner setback. The proposed subdivision would increase the lot width and subsequently the required corner setback resulting in an increase of the nonconformity. The only alternative is to tear down the residence and rebuild in a conformation location, which is unreasonable.
2. The plight of the owner is due to unique circumstance. Such circumstances must associated with the characteristics of the property in question, rather than being related to the occupants. The existing residence does not comply with the required corner setback from Hawthorn Lane. The proposed subdivision requires approval of the variation because the degree of the nonconformity would be increased based on the increase in lot width.
3. The variation, if granted, will not alter the essential character of the locality. No alterations are proposed for the residence at 277 Poplar St. Therefore, the existing conditions will remain and there will be no alteration to the essential character of the locality.
4. An adequate supply of light and air to the adjacent property will not be impaired. The setback of the existing home will remain the same so there will be no change to the supply

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- of light and air to the adjacent property.
5. The hazard from fire or other damages to the property will not be increased. No improvements to the residence are proposed at this time.
  6. The taxable value of land and buildings throughout the Village will not diminish. The existing nonconformity exists today and there are not changes proposed for the existing residence, therefore the taxable value of land will not diminish.
  7. The congestion in the public street will not increase. The structure will continue to be used as a single-family residence. Furthermore, the proposed subdivision and resulting demolition of the adjacent home may in fact decrease congestion.
  8. The public health, safety, comfort, morals and welfare of the inhabitants of the Village will not otherwise be impaired. No evidence was provided to the contrary.

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Minutes adopted 09.08.2014

### WINNETKA ZONING BOARD OF APPEALS EXCERPT OF MINUTES AUGUST 11, 2014

**Zoning Board Members Present:** Carl Lane, Acting Chairman  
Chris Blum  
Andrew Cripe  
Mary Hickey

**Zoning Board Members Absent:** Joni Johnson  
Jim McCoy  
Scott Myers

**Village Staff:** Michael D'Onofrio, Director of Community  
Development

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**Case No. 14-20-V2:** 265 Poplar, 271 Poplar and 277 Poplar Street  
Dave and Elise Bartels and Joseph McGowan  
Variation by Ordinance  
1. Permitted Uses

#### **265, 271 and 277 Poplar Street, Case No. 14-20-V2, Dave and Elise Bartels and Joseph McGowan, Variation by Ordinance - Permitted Uses**

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Mr. D'Onofrio read the public notice. The purpose of this hearing is to hear testimony and receive public comment regarding a request by Dave and Elise Bartels, the owners of 265 Poplar and 271 Poplar St., and Joseph McGowan, the owner of 277 Poplar St., concerning a variation by Ordinance from Section 17.12.020 [Permitted Uses] of the Winnetka Zoning Ordinance to allow the existing residence at 271 Poplar St. to remain temporarily during construction of additions to 265 Poplar St. subsequent to the proposed resubdivision of the three lots known as 265 Poplar, 271 Poplar, and 277 Poplar into two lots, whereas only one dwelling unit is permitted on each lot.

Chairman Lane noted that the Board would be using the same standards for granting a variation as they normally would. He added that the Board would be making a recommendation to the Village Council. Chairman Lane then swore in those that would be speaking on this case.

Dave Bartels of 265 Poplar Street introduced himself to the Board and described the request as fairly unusual. He noted that they were here before and talked about what they are trying to do with the subdivision. Mr. Bartels then stated that the reason they are interested in staying at 271 Poplar while the work is being done on 265 Poplar is for a few reasons. He informed the Board that their children are within walking distance from Greeley School and that there would be a minimum disruption on them through this process. Mr. Bartels also stated that they like the neighborhood and the neighbors and that they want to stay as close to the home as possible. He

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then stated that as construction is going on, to the extent there are any issues, they would be located right next door. Mr. Bartels informed the Board that his wife is there most of the time.

Mr. Bartels also stated that there are financial concerns and noted that rental homes are not cheap and close enough for their children to walk to school. He stated that there would be a financial benefit in them doing it this way. Mr. Bartels noted that those are the main reasons they are interested in temporarily residing at 271 Poplar while 265 Poplar is being improved. He added that the renovation involved a kitchen renovation which would make it difficult for them to live through the construction process and that they would need to move out with 271 Poplar being the most convenient place for them to go.

Chairman Lane referred to the component of providing the Village with a letter of credit. He asked Mr. Bartels to explain the amount and how it is determined.

Mr. Bartels informed the Board that they received an estimate on the cost to tear down the home and that it would be 100% of that cost which included a fee to the Village. He informed the Board that they offered to do a letter of credit, to put money into an escrow and cash. Mr. Bartels indicated that it would be more cost effective for them to do that and that banks charge for a letter of credit. He also stated that they are open to whatever suggestion is preferred but that it is their preference to give money to the Village to hold. Mr. Bartels then stated that if for some reason something happened, the Village would have the money to tear down the home. He noted that the goal is not to have a structure with a property line going through it. Mr. Bartels stated that they expect the project to be in the 6 to 9 month range and reiterated that they would work with the Village.

Chairman Lane stated that if there is a cash escrow or letter of credit, the bank would make them cash collateralize it anyway. He then asked if they set a deadline to move out.

Mr. Bartels confirmed that is correct.

Mr. D'Onofrio confirmed that the applicants would work with the Community Development Department and Mr. Norkus.

Mr. Cripe asked Mr. Bartels if they looked at the option of a surety bond.

Mr. Bartels responded that they did not and that it would be easiest this way.

Ms. Hickey asked when construction would commence.

Mr. Bartels stated that it would be in the spring with a March project start and that they would move into 271 Poplar through the end of the year.

Ms. Hickey stated that she would like to reiterate Chairman Lane's comments with regard to having an end date.

Mr. Bartels confirmed that they did.

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Mr. D'Onofrio informed the Board that the applicants would be required to put up the letter of credit before the subdivision is recorded. He then stated that once the subdivision is recorded, it is a triggering mechanism. Mr. D'Onofrio reiterated that they would work with the applicants to determine when they anticipate the completion of the project and that they would add several months to that date. He noted that the goal is to complete the project and that they would work with them on the deadline. Mr. D'Onofrio referred to the triggering event to get it to record the subdivision and added that the variation is requesting that there be more than one principal structure on the lot.

Chairman Lane stated that with regard to the reasonable return requirement, he asked what is the incremental cost to the project for the applicants to move to another property and rent it.

Mr. Bartels estimated that it would cost \$5,000 month to rent a home and that while he did not know the specific figure, he stated that it is not cheap. He also stated that he did not know what would be on the market in March. Mr. Bartels stated that in 9 months, there would be an additional cost of \$45,000 plus the extra months Mr. D'Onofrio estimated be added.

Mr. Blum asked if there were no other plans for the middle structure, if it is not used, would it sit empty.

Mr. Bartels responded that it would and that the home would be torn down absent the variation with the subdivision. He then stated that they plan not to have a structure with a property line running through it.

Chairman Lane asked if there were any other questions. He then asked if there were any unique circumstance comments. No comments were made by the Board at this time. Chairman Lane then asked if there were any comments from the audience. No comments were made by the audience at this time.

Chairman Lane then stated that the first standard is easier for the Board to identify. He referred to the situation of the cost associated with it which would be a substantial amount of money and would impact reasonable return. Chairman Lane also stated that it is vacant property that the applicants already own. He then stated that the unique circumstances standard is less clear to him. Chairman Lane stated that as obvious as it is, the Board still had to apply the standards.

Mr. Cripe stated that the challenging things are the boxes that they have to fill in. He stated that while he is in support of the request, there should be some common sense which should prevail. Mr. Cripe stated that with regard to the unique circumstances issue, he wrestled with what actually is the variation. He stated that once the property is subdivided and recorded, it would be legal.

Mr. D'Onofrio informed the Board that they would not issue a building permit unless they are making the improvements and until the subdivision is recorded.

Mr. Cripe stated that the variation they are dealing with is an amendment to what has already been approved.

Chairman Lane stated that he was thinking the same thing. He added that granting the

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subdivision did not create unique circumstances.

Mr. Cripe stated that it addressed adequately that they felt comfortable with regard to the first zoning variation and that this would be an amendment to that. He also stated that he would piggy back on the reasons stated before.

Mr. Blum stated that it made sense and that they have a conflict here with regard to how to get the project done. He noted that this is the first time they have ever had this situation and that in the global context of what they are getting done, there would be a line going through the middle of the property. Mr. Blum also stated that tearing down the home instead of using it seemed unique.

Chairman Lane referred to the fact that they provided that the variance cannot be a unique circumstance.

Ms. Hickey referred to Mr. Cripe's comment with regard to the ordinance saying that the home cannot be used and that they are granting its use. She suggested that they come at it with a common sense approach and stated that she is in agreement with the request.

Chairman Lane stated that he would be comfortable in allowing the Village to structure a time frame and form of legal agreement.

Mr. Blum and Mr. Cripe agreed that would be fine.

Mr. Cripe indicated that he liked the letter of credit approach and that in the alternative; he suggested a surety bond or performance bond which would guarantee that the demolition will occur. He added that the premium would be significantly cheaper than a letter of credit. Mr. Cripe stated that he can suggest a variety of companies for them to use.

Mr. Blum stated that he would be in agreement and that to clarify, to understand that they have a timeline agreement, they covered that.

Chairman Lane asked when would the subdivision get executed.

Mr. D'Onofrio responded that it would be once this issue is decided on and the applicants post the surety bond, letter of credit or cash bond. He indicated that the Village likes a letter of credit and that they would work with them. Mr. D'Onofrio then stated that once they get that that would guarantee that the home would be demolished.

Mr. Blum asked if nothing could happen until this is decided.

Chairman Lane stated that the property can be subdivided, but that the home would be torn down. He referred to the expectation of construction in the spring and asked if there would be a 10 to 12 month timeframe.

Mr. Bartels confirmed that is correct. He added that there is a tenant living there now.

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Chairman Lane asked if this variation would be for Mr. Bartels to move in the home and for the tenant to move out.

Mr. Bartels confirmed that is correct. He also stated that if the subdivision is approved right away, it would be for both.

Chairman Lane stated that they would not be providing a place for the tenant, but for the owners to live in the property.

Mr. D'Onofrio stated that in order to keep the request on the right path, he informed the Board that Mr. Bartels needed the extra square footage to make the proposed addition to the home and that he cannot do the project until the subdivision takes place or a different variation would be needed for the addition.

Mr. Blum asked if the subdivision goes through as is and the home is demolished, what is the tenant plan.

Mr. Bartels stated that if they require that the home be demolished upon the subdivision's approval, they would proceed with that process until the tenant is out. He then stated that if the request is approved, there would be a line running through the dwelling with a person living there and confirmed that is what they plan on. Mr. Bartels added that if it did not work, they would have to push the whole thing back and wait.

Mr. D'Onofrio informed the Board that if the applicants were building a new home, it would not be an issue and that the demolition would not be permitted until plans for the new home were ready. He noted that they would not issue a demolition permit for this home until the proposed additions are ready to be approved by the Village. Mr. D'Onofrio noted that what triggered this request did not trigger the demolition requirement and that before they record the subdivision, they want a surety that the home would be demolished.

Chairman Lane asked at what point did the subdivision have to be recorded.

Mr. D'Onofrio responded that in order for there to be a variation, it would have to be perfected within 12 months. He then stated that if the Village Council granted the variation, once there is a surety and the variation is in place, they can record the subdivision which could happen within 30 to 60 days.

Ms. Hickey asked when did the clock start.

Mr. D'Onofrio stated that it would start for the owner to occupy the property. He indicated that they did not see a problem and that the tenant would be out by year end, they can get the variation granted by the September date and would have until September 2015 to demolish the home. Mr. D'Onofrio referred to the Board recommending the approval of the variation to allow two principal structures on one lot of record.

Chairman Lane stated that the purpose of leaving the renter there is different than what was stated

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as their request.

Mr. Bartels stated that they plan for the renter to stay until the year end which is on the lease. He stated that the plan is to start the project and move in 271 Poplar which would last approximately one year.

Mr. Blum stated that the applicants have to get their ducks in a row and that they cannot start until everything is approved.

Chairman Lane suggested that they require the variation to be contingent upon the tenant moving out at year end on December 31, 2014. He referred to the issue that it made sense for the tenant to stay. Chairman Lane then asked if there were any other questions.

Mr. Blum agreed that it made sense.

Ms. Hickey stated that she would be comfortable with the proposal with an end date for the tenant.

Chairman Lane then asked for a motion.

Mr. Cripe moved to recommend approval of the variation that two primary structures be permitted on the property even after the subdivision is recorded so long as the residence at 271 Poplar is not tenant occupied after December 31, 2014 and for the variation to be approved to allow the owners to occupy the residence at 271 Poplar while construction is making progress with the expected completion date within one year. He noted that one condition of the variation is to have a surety in a form acceptable to the Village to be provided in the form of a letter of credit, the posting of cash or an actual surety performance bond.

Mr. Cripe stated that the basis for evidentiary findings is as follows. He stated that first, in reviewing the unique situation, in many respects, they are looking at this as a modification of the original variation and therefore incorporate the reasons in support of that variation in support of this one. Mr. Cripe stated that with regard to reasonable return, he referred to the reasons cited in the prior variation and stated that in addition, to note the significant cost associated with requiring a suitable living structure while construction is proceeding. He stated that with regard to unique circumstances, the site is unique as previously cited in the previous variation granted and that the unique situation is analogous to the situation where the demolition permit would not be issued until a Certificate of Occupancy is issued. Mr. Cripe stated that the request would not alter the character of the locality and that they would only be altering the time frame from A to B. He stated that the light and air to the surrounding properties would not be affected and that there would be no hazard from fire. Mr. Cripe stated that the taxable value of the land would not be impaired and that congestion would not increase. He concluded by stating that the public health, safety, comfort, morals and welfare of the Village would not be otherwise impaired.

Chairman Lane stated that for clarification, the amount of the cash collateral should be 150% of the estimates provided in the package.

Mr. Cripe also stated that the letter of credit or surety concept is different and guaranteed the faithful performance of the teardown on or before a certain date. He added that the penalty

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amount of the bond is that amount.

Mr. Blum stated that the estimates provided did not include the cost to the Village of the permit and that it was said to be part of that. He added that it was not included in the 150% calculation amount.

The motion was seconded. A vote was taken and the motion was unanimously passed, 4 to 0.

AYES: Blum, Cripe, Hickey, Lane

NAYS: None

### **FINDINGS OF THE ZONING BOARD OF APPEALS**

1. The requested variation is within the final jurisdiction of the Village Council.
2. The requested variation is in harmony with the general purpose and intent of the Winnetka Zoning Ordinance. The proposal is compatible, in general, with the character of existing development within the immediate neighborhood with respect to architectural scale and other site improvements.
3. There are practical difficulties or a particular hardship which prevents strict application of Section 17.12.020 [Permitted Uses] of the Winnetka Zoning Ordinance which is related to the use or the construction or alteration of buildings or structures.

The evidence in the judgment of the Zoning Board of Appeals has established:

1. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by regulations in that zone. The existing lots at 265, 271, and 277 Poplar are substandard in comparison to what is typical for the neighborhood. In splitting lot 271 and subdividing the properties, the lots become wider and comparable to the neighborhood standard. Furthermore, the building on lot 271 will be demolished, effectively decreasing the density of the resulting lots to be more in keeping with their surroundings.

The owner of 265 Poplar purchased 271 Poplar to expand and renovate their house and lot, thereby increasing the value of their property and their neighbor's property. By maintaining residence at 271 Poplar during construction, the owners are able to continue their lives in Winnetka where their children attend school. Allowing the family to stay in the residence at 271 Poplar during construction greatly relieves the family from high rental prices necessary to stay in the school district while improvements are made to their house at 265 Poplar.

2. The plight of the owner is due to unique circumstance. Such circumstances must be associated with the characteristics of the property in question, rather than being related to the occupants. This is a unique opportunity for this neighborhood as the owners have two neighboring lots and can make significant improvements to their home, while increasing

## EXHIBIT C

the lot size for their neighbor.

3. The variation, if granted, will not alter the essential character of the locality. Upon completion of construction and demolition of the center structure, the variation, if granted, will improve the essential character of the locality by decreasing the density of the lot and its neighboring lots.
4. An adequate supply of light and air to adjacent property will not be impaired. If the variation is granted, the residence at 271 Poplar will be torn down after completion of additions to 265 Poplar. Therefore, the supply of light and air to adjacent property will not be impaired, it may even be increased.
5. The hazard from fire and other damages to the property will not be increased. Upon completion of construction at 265 Poplar and demolition of the 271 Poplar residence, the variation, if granted, will result in a decreased density and an increased distance between structures. Therefore, the hazard from fire and other damages to the property will be decreased.
6. The taxable value of the land and buildings throughout the Village will not diminish. The variation, if granted, will allow for improvements and increased size of the structure at 265 Poplar, thus increasing its property value. The increased lot size at 277 Poplar will result in increased property value due to an increased property size as well. Consequently, an increase in the taxable value of the land and buildings throughout the Village will ensue.
7. The congestion in the public street will not increase. The variation, if granted, will decrease density and therefore decrease the congestion in the public street.
8. The public health, safety, comfort, morals and welfare of the inhabitants of the Village will not otherwise be impaired. The variation, if granted, will ultimately decrease density, increase taxable property and land values, and transform lots 265 and 277 Poplar to be in keeping with the character of the surrounding neighborhood. Therefore the public health, safety and comfort of the inhabitants of the Village will be improved, and the morals and welfare will not otherwise be impaired.

### **Adjournment:**

The meeting was adjourned at 8:21 p.m.

Respectfully submitted,

Antionette Johnson

**EXHIBIT D**

**UNCONDITIONAL AGREEMENT AND CONSENT**

TO: The Village of Winnetka, Illinois (“*Village*”):

**WHEREAS**, (i) David and Elisa Bartels (collectively, the “*Bartels*”) own the properties commonly known as 265 Poplar Street (“*265 Poplar Property*”) and 271 Poplar Street (“*271 Poplar Property*”), both in the Village; and (ii) Joseph and Lisa McGowan (collectively, the “*McGowans*”) (collectively, the Bartels and the McGowans are the “*Owners*”) own the property commonly known as 277 Poplar Street (“*277 Poplar Property*”) (collectively, the 265 Poplar Property, the 271 Poplar Property, and the 277 Poplar Property are the “*Properties*”), in the Village; and

**WHEREAS**, Ordinance No. M-9-2014, adopted by the Village Council on \_\_\_\_\_, 2014 (“*Ordinance*”), grants variations from Sections 17.30.050 and 17.12.020 of the Winnetka Zoning Ordinance, as amended, to permit the resubdivision of the properties, a decreased minimum corner yard setback, and certain zoning lots with more than one dwelling unit located thereon; and

**WHEREAS**, Section 8.A.4 of the Ordinance provides, among other things, that the Ordinance will be of no force or effect unless and until the Owners have filed, within 30 days following the passage of the Ordinance, their unconditional agreement and consent to accept and abide by each and all of the terms, conditions, and limitations set forth in the Ordinance;

**NOW, THEREFORE**, the Owners do hereby agree and covenant as follows:

1. The Owners hereby unconditionally agree to accept, consent to, and abide by each and all of the terms, conditions, limitations, restrictions, and provisions of the Ordinance.
2. The Owners acknowledge that public notices and hearings have been properly given and held with respect to the adoption of the Ordinance, have considered the possibility of the revocation provided for in the Ordinance, and agree not to challenge any such revocation on the grounds of any procedural infirmity or a denial of any procedural right.
3. The Owners acknowledge and agree that the Village is not and will not be, in any way, liable for any damages or injuries that may be sustained as a result of the Village’s granting of the variations or adoption of the Ordinance, and that the Village’s approval of the variations does not, and will not, in any way, be deemed to insure the Owners against damage or injury of any kind and at any time.
4. The Owners hereby agree to hold harmless and indemnify the Village, the Village’s corporate authorities, and all Village elected and appointed officials, officers, employees, agents, representatives, and attorneys, from any and all claims that may, at any time, be asserted against any of such parties in connection with the Village’s adoption of the Ordinance granting the variation.

[SIGNATURE PAGE FOLLOWS]

Dated: \_\_\_\_\_, 2014

ATTEST: DAVID AND ELISA BARTELS

By: \_\_\_\_\_ By: \_\_\_\_\_  
Its: \_\_\_\_\_ Its: \_\_\_\_\_

ATTEST: JOSEPH AND LISA MCGOWAN

By: \_\_\_\_\_ By: \_\_\_\_\_  
Its: \_\_\_\_\_ Its: \_\_\_\_\_

ATTACHMENT C



CASE NO. \_\_\_\_\_

APPLICATION FOR LAND SUBDIVISION  
WINNETKA PLAN COMMISSION

**Owner Information:** Name, Address, Telephone, Fax & Email

Elisa and Dave Bartels 265 Poplar Street Winnetka IL 60093



**Surveyor Information:** Name, Address, Telephone, Fax & Email

GEODETIC SURVEY LTD, 1121 DEPOT STREET, GLENVIEW, IL 60025  
(847) 904.7690 FAX: (847) 904.7691 info@gsurvey.net

**Architect Information:** Name, Address, Telephone, Fax & Email

Frederick Wilson 2834 Central Street Evanston IL 60201  
fwilson@morgantewilson.com (T) 847.332.1001 (F) 847.332.2388

**Attorney Information:** Name, Address, Telephone, Fax & Email

\_\_\_\_\_  
\_\_\_\_\_

Date Property Acquired by Owner \_\_\_\_\_

**Note:** This application must be accompanied by a written narrative summary of the proposed subdivision together with associated improvements.

Signature:

Date: Apr 22, 2014

June 17<sup>th</sup>, 2014

**Village of Winnetka, Illinois  
Department of Community Development  
Zoning Board of Appeals**

Narrative:

The Owners of 265 Poplar Street – Dave and Elisa Bartels – have purchased the neighboring lot 271 Poplar with the intent of subdividing the lot and selling a portion to their neighbor, Joseph McGowan, at 277 Poplar so as to increase the widths of both lots. Once approved, the Owners propose an addition and renovation of their home at 265 Poplar.

In increasing the width of 277, the “existing non-conforming” corner side yard setback will be increased. The minimum required corner side yard setback for the 277 Poplar lot varies based on lot width. The actual dimension is based on the width of the buildable area (not less than 60% of lot width) as measured from the minimum required interior side yard setback. If the lot becomes 60 feet wide, the minimum required interior side yard setback varies (based on 6 feet plus 10% of the lot width in excess of 60 feet). This issue was reviewed by the Zoning Board of Appeals on June 9<sup>th</sup>, 2014 and unanimously approved.

During construction of 265 Poplar, the Bartels wish to reside in their existing house at 271 Poplar. This will provide significant relief for the family and their children, who attend school nearby.

Included in the application is a phasing plan showing how a construction fence will encompass the site and align with the existing structure at 271 Poplar. The new curb cut to the south of the house will be installed and the two existing garages will be demolished at the start of construction to allow site access.

Also included is a bid for demolition and site restoration, and a letter of credit assigned to the Village of Winnetka for 150% of the value to provide assurance to the Village that the demolition and site restoration will be completed.

Upon completion of construction at 265 Poplar, the existing structure at 271 Poplar will be demolished and the site will be restored. At this time, the addition and renovation of 265 Poplar will conform to all zoning requirements.



ATTACHMENT D

CASE NO. K-15-V2

APPLICATION FOR VARIATION  
WINNETKA ZONING BOARD OF APPEALS

Owner Information:

Name: JOSEPH MCGOWAN

Property Address: 277 Poplar Winnetka IL 60093

Home and Work Telephone Number: [REDACTED]

Fax and E-mail: [REDACTED]

Architect Information: Name, Address, Telephone, Fax & E-mail:

Fred Wilson 2834 Central Street Evanston IL 60201

fwilson@morganicwilson.com

847.332.1001

Attorney Information: Name, Address, Telephone, Fax & E-mail:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Property Acquired by Owner: \_\_\_\_\_

Nature of Any Restrictions on Property: \_\_\_\_\_

Explanation of Variation Requested: Pending a proposed subdivision of 265, 271, and 277  
(Attach separate sheet if necessary)

Poplar, the "existing nonconforming" corner side yard setback at 277 Poplar  
Street will be increased. The minimum required corner side yard setback for the  
277 Poplar lot varies based on lot width. The actual dimension is based on the width  
of the buildable area (not less than 60% of lot width) as measured from the minimum required  
interior side yard setback. If the lot becomes 60ft wide, the minimum required interior side yard  
setback varies (based on 6 feet plus 10% of the lot width in excess of 60 feet).

OFFICE USE ONLY

Variation Requested Under Ordinance Section(s): \_\_\_\_\_

Staff Contact: \_\_\_\_\_ Date: \_\_\_\_\_

**STANDARDS FOR GRANTING OF ZONING VARIATIONS**

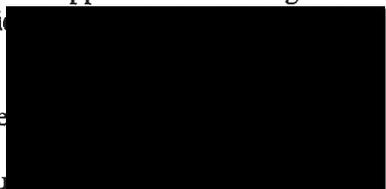
Applications must provide evidence and explain in detail the manner wherein the strict application of the provisions of the zoning regulations would result in a clearly demonstrated practical difficulty or particular hardship. In demonstrating the existence of a particular difficulty or a particular hardship, please direct your comments and evidence to each of the following items:

1. The property in question can not yield a reasonable return if permitted to be used only under the conditions allowed by regulations in that zone.
2. The plight of the owner is due to unique circumstance. Such circumstances must be associated with the characteristics of the property in question, rather than being related to the occupants.
3. The variation, if granted, will not alter the essential character of the locality.
4. An adequate supply of light and air to the adjacent property will not be impaired.
5. The hazard from fire and other damages to the property will not be increased.
6. The taxable value of the land and buildings throughout the Village will not diminish.
7. The congestion in the public street will not increase.
8. The public health, safety, comfort, morals, and welfare of the inhabitants of the Village will not otherwise be impaired.

For your convenience, you will find attached examples of general findings, for and against the granting of a variation, which have been made by the Zoning Board of Appeals and Village Council in prior cases.

**NOTE:** The Zoning Board of Appeals or the Village Council, depending on which body has final jurisdiction, must make a finding that a practical difficulty exists in order to grant a variation request.

Property Owner's Signature

 4/26/14

(Proof of Ownership is required)

**Variations, if granted, require initiation of construction activity within 12 months of final approval. Consider your ability to commence construction within this 12 month time period to avoid lapse of approvals.**



May 8<sup>th</sup>, 2014

**Village of Winnetka, Illinois  
Department of Community Development  
Zoning Board of Appeals**

Zoning Board of Appeals:

Pending a proposed subdivision of 265, 271, and 277 Poplar, the "existing non-conforming" corner side yard setback at 277 Poplar Street will be increased. The minimum required corner side yard setback for the 27 Poplar lot varies based on lot width. The actual dimension is based on the width of the buildable area (not less than 60% of lot width) as measured from the minimum required interior side yard setback. If the lot becomes 60ft wide, the minimum required interior side yard setback varies (based on 6 feet plus 10% of the lot width in excess of 60 feet). There are eight specific standards for the granting of zoning variations, addressed below.

1. *The property in question can not yield a reasonable return if permitted to be used only under the conditions allowed by regulations in that zone.*

The existing lots at 265, 271, and 277 Poplar are sub-standard in comparison to what is typical for the neighborhood. In splitting lot 271 and subdividing the properties, the lots become wider and comparable to the neighborhood standard. Furthermore, the building on lot 271 will be demolished, effectively decreasing the density of the resulting lots to be more in keeping with their surroundings.

2. *The plight of the owner is due to unique circumstance. Such circumstances must be associated with the characteristics of the property in question, rather than being related to the occupants.*

At the property in question, lot 277 Poplar, no work is being permitted. Rather, the size of the existing non-conforming side yard setback will be increased due to a proposed subdivision of neighboring lots. Thus, the circumstances of this variance are associated with the characteristics of the property.

3. *The variation, if granted, will not alter the essential character of the locality.*

The variation, if granted, will improve the essential character of the locality by decreasing the density of the lot and its neighboring lot, and

4. *An adequate supply of light and air to the adjacent property will not be impaired.*

The variation, if granted, will decrease density and therefore increase the supply of light and air to the adjacent property.

5. *The hazard from fire and other damages to the property will not be increased.*

The variation, if granted, will result in a decreased density and an increased distance between structures. Therefore the hazard from fire and other damages to the property will be decreased.

6. *The taxable value of the land and buildings throughout the Village will not diminish.*

The variation, if granted, will allow for improvements and increased size of the structure at 265 Poplar, thus increasing its property value. The lot increased lot size at 277 Poplar will result in increased property value due to an increased property size. Consequently, an increase in the taxable value of the land and buildings throughout the Village will ensue.

7. *The congestion in the public street will not increase.*

The variation, if granted, will decrease density and therefore decrease the congestion in the public street.

8. *The public health, safety, comfort, morals, and welfare of the inhabitants of the Village will not otherwise be impaired.*

The variation, if granted, will decrease density, increase taxable property and land values, and transform lots 265 and 277 to be in keeping with the character of the surrounding neighborhood. Therefore the public health, safety and comfort of the inhabitants of the Village will be improved, and the morals and welfare will not otherwise be impaired.

Thank you for your time and consideration.

# PLAT OF SURVEY

H. R. SMITH  
R. R. HANSEN

**B. H. SUHR & COMPANY**

MEMBERS: Illinois Professional Land Surveyors Association.

ESTABLISHED IN 1911

1415 SHERMAN AVENUE, EVANSTON, ILLINOIS 60201

CHICAGO TELEPHONE (312) 273-5315

EVANSTON TELEPHONE (708) 864-6315

BOOK 91 PAGE 247 ORDER NO 91 - 247 EVANSTON MARCH 14, 19 91

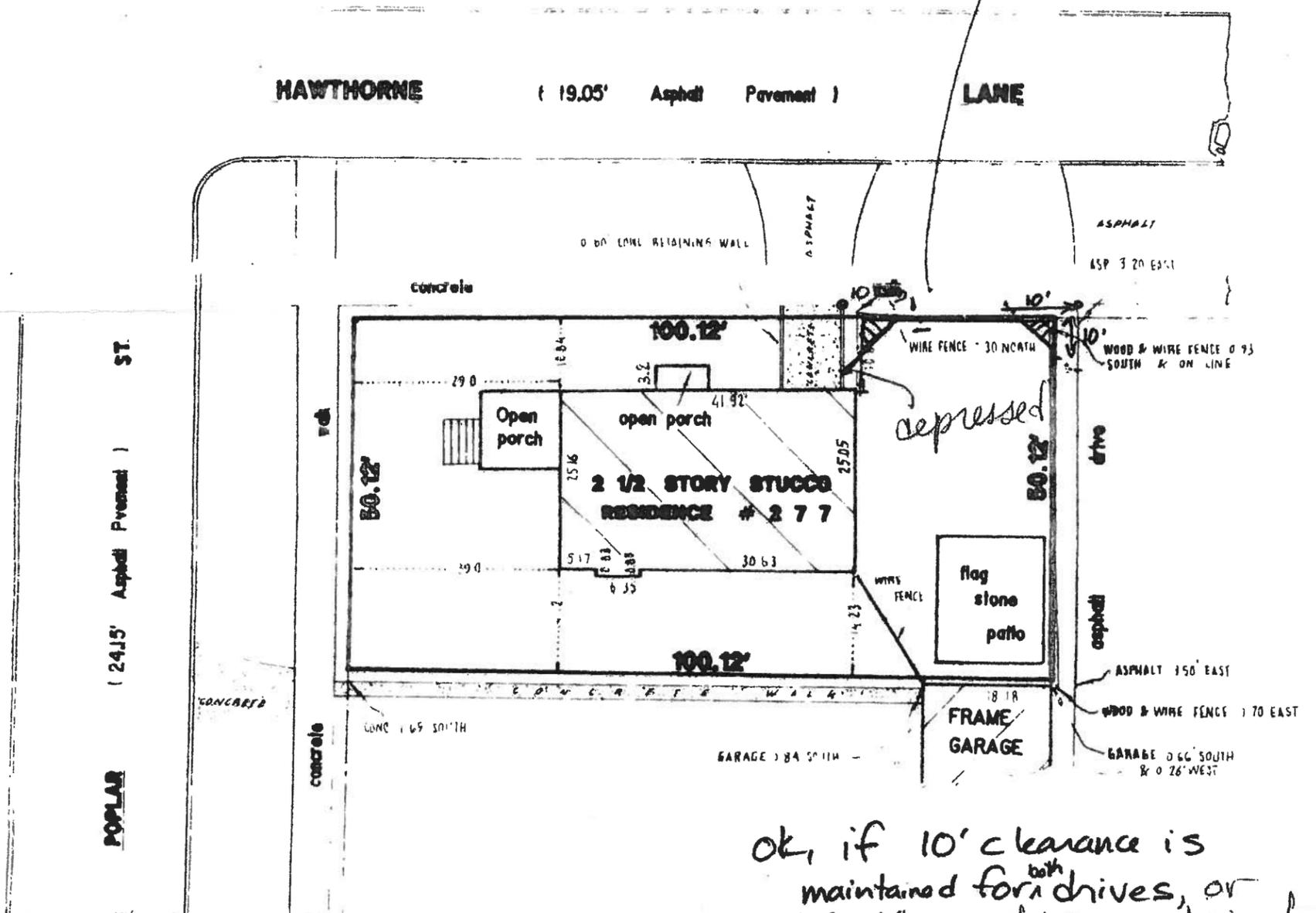
ORDERED BY WILDMAN, HARROLD, ALLEN & DIXON FOR

Lots 6 and 7 (except the South 115 ft thereof) in the Resubdivision of Lots 1 to 7 and replat of Lots 8 to 14 in Block 18 in the Subdivision of Blocks 18, 21 and 23 in John C. Garland's Addition to Winnetka, being a Subdivision of the North 120 acres of the South West quarter of Section 21, Township 42 North, Range 13, East of the Third Principal Meridian, in Cook County, Illinois.

Commonly known as

277 POPLAR ST., WINNETKA, ILLINOIS

NOTE:  
10' sight  
clearance  
for fences



ok, if 10' clearance is maintained for both drives, or if 4" operation maintained between spindles  
MGM - 5/13/92

SCALE 1" = 20'  
TOP OF PLAT IS NORTH

EVANSTON MARCH 14, 19 91

STATE OF ILLINOIS  
COUNTY OF COOK  
We hereby certify that the buildings on lot shown are within property lines and that the adjoining improvements do not encroach on said premises, except as noted.  
[Signature]  
SURVEYOR

STATE OF ILLINOIS  
COUNTY OF COOK  
This is to certify that we have surveyed the above described property and the above plat correctly represents said survey.  
B. H. SUHR & COMPANY  
SURVEYORS  
By [Signature]  
HERBERT R. SMITH

Compare the description in this plat with your deed abstract or certificate of title also compare all points before building by same and report any difference at once  
Building lines are shown only where they are so recorded in the maps Refer to your deed or abstract  
This survey has been made for the use in connection with a mortgage loan transaction or Real Estate Transfer and is not to be used for any other purpose  
Dimensions are shown in feet and decimal parts thereof. No dimension is to be assumed by scaling



# PLAT OF SURVEY

-BY-

**SAMBORSKI, MATTIS, INC.**  
**LAND SURVEYORS**

4332 OAKTON STREET SKOKIE, IL 60076  
 PH: (847) 674- 7373 FX: (847) 674-7385

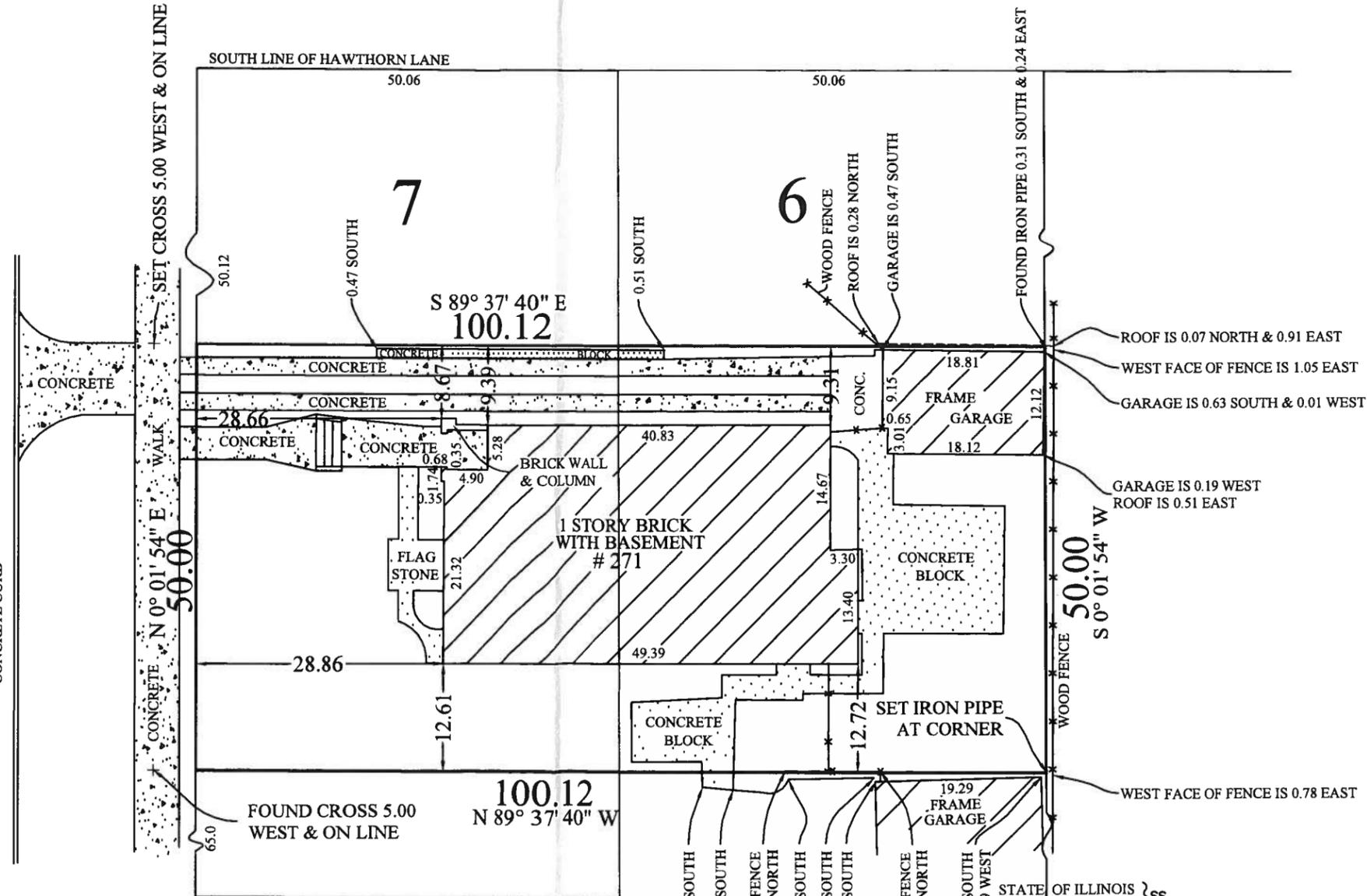
OF

THE 50 FEET NORTH AND AJOINING THE SOUTH 65 FEET OF LOTS 6 AND 7 IN RESUBDIVISION OF LOTS 1 TO 7, AND REPLAT OF LOTS 8 TO 14 IN BLOCK 18 IN THE SUBDIVISION OF BLOCKS 18 , 21 , 22 , AND 23 IN JOHN C. GARLAND'S ADDITION TO WINNETKA , BEING A SUBDIVISION OF THE NORTH 120 ACRES OF THE SOUTH WEST QUARTER OF SECTION 21 , TOWNSHIP 42 NORTH , RANGE 13 EAST OF THE THIRD PRINCIPAL MERIDIAN , IN COOK COUNTY , ILLINOIS.

PLAT OF SUBDIVISION RECORDED JULY 14 , 1911 AS DOCUMENT 4793680

**POPLAR STREET**

ASPHALT PAVEMENT  
 CONCRETE CURB



Measurements are shown in feet and decimals and are correct at 68 degrees Fahrenheit.

Note:

1. Please check Legal Description with Deed and report any discrepancies immediately.
2. Compare all points before building by same and report any discrepancies at once.
3. Building lines, if any, shown hereon are building lines shown on the recorded subdivision plat.
4. Consult local authorities for building lines established by local ordinance.
5. No dimensions are to be assumed by scaling.
6. Coordinate and Bearing Datums are assumed unless otherwise noted.
7. R = Record Dimension M = Measured Dimension

This is to certify that this Professional Service conforms to the current Illinois Minimum Standards of Practice applicable to boundary surveys. Field work completed this 15th day of DECEMBER A.D. 2009

Michael J. Mattis Jr. Illinois Professional Land Surveyor No. 3227  
 Illinois Professional Land Survey Firm No. 048-000128

License expires 11/30/2010  
 ©2009 Samborski, Mattis, Inc

Order No. : 203-09

Ordered By: RUTH VUTETAKIS

P.I.N. : 05-21-314-002-0000

Property Address: 271 POPLAR WINNETKA

# ARS

## SURVEYING SERVICES, LLC

108 LEE LANE

BOLINGBROOK, ILLINOIS 60440

PH:(630) 226-9200 FAX: (630) 226-9234



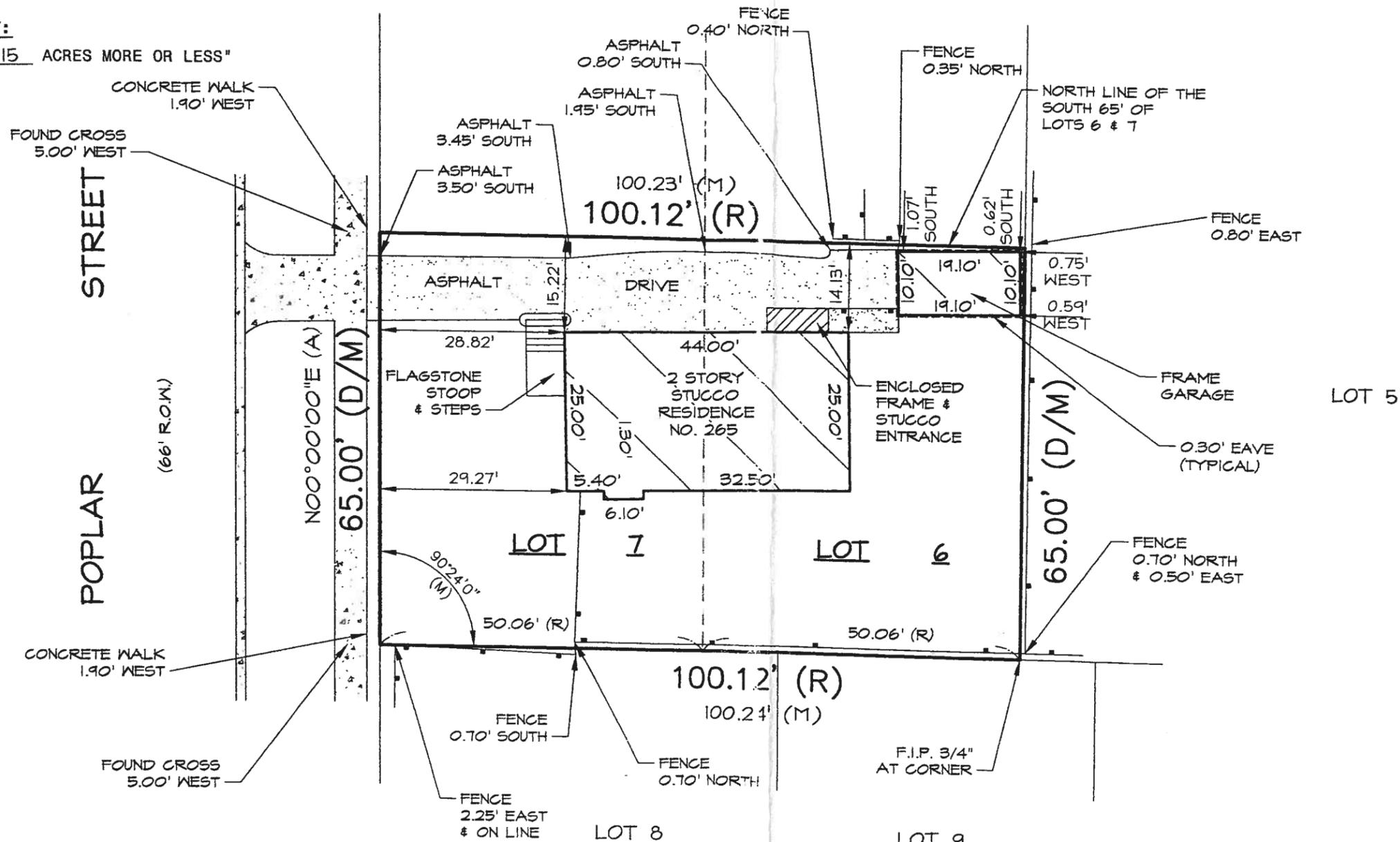
**BASIS OF BEARING:**  
EAST LINE OF POPLAR STREET AS MONUMENTED, AND OCCUPIED PER RECORDED SUBDIVISION PLAT.  
N 0°00'00" E (A)



THE SOUTH 65 FEET OF LOTS 6 AND 7 IN THE RESUBDIVISION OF LOTS 1 TO 7 AND REPLAT OF LOTS 8 TO 14, IN BLOCK 18 IN THE SUBDIVISION OF BLOCKS 18, 21, 22 AND 23 IN JOHN C. GARLAND'S ADDITION TO WINNETKA, BEING A SUBDIVISION OF THE NORTH 120 ACRES OF THE SOUTHWEST QUARTER OF SECTION 21, TOWNSHIP 42 NORTH, RANGE 13 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN COOK COUNTY, ILLINOIS.

**AREA OF SURVEY:**

CONTAINING 6,515 SQ. FT. 0.15 ACRES MORE OR LESS"



STATE OF ILLINOIS }  
COUNTY OF WILL }SS

I, THE UNDERSIGNED, AN ILLINOIS PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT "THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR A BOUNDARY SURVEY," AND THAT THE PLAT HEREON DRAWN IS A CORRECT REPRESENTATION OF SAID SURVEY.

DATED, THIS 30TH DAY OF MARCH, A.D., 2009, AT BOLINGBROOK, ILLINOIS.

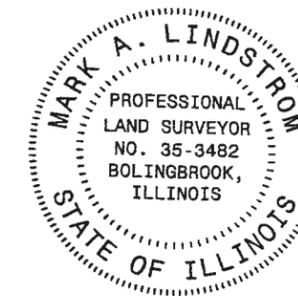
CLIENT TULLAI  
JOB NO. 96240-09

ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 035-3482

FIELDWORK DATE. 03-30-09

ILLINOIS PROFESSIONAL DESIGN FIRM NO. 184-2961

LEGEND		
(R) = RECORD	(NW) = NORTHWESTERLY	— x — x — x — x — = CHAIN LINK FENCE
(M) = MEASURED	(NE) = NORTHEASTERLY	— xx — xx — xx — xx — = WIRE FENCE
(D) = DEED	(SW) = SOUTHWESTERLY	— — — — — = WOOD FENCE
(C) = CALCULATED	(SE) = SOUTHEASTERLY	— o — o — o — o — = SPLIT RAIL FENCE
(L) = ARC LENGTH	(RAD) = RADIUS	— □ — □ — □ — □ — = WROUGHT IRON FENCE
(CH) = CHORD	(A) = ASSUMED	P.U. & D.E. = PUBLIC UTILITY & DRAINAGE EASEMENT
(R.O.W.) = RIGHT OF WAY	(F.I.P.) = FOUND IRON PIPE	B.S.L. = BUILDING SETBACK LINE
	(F.I.R.) = FOUND IRON ROD	



LICENSE EXPIRES ON NOVEMBER 30, 2010



ATTACHMENT E

CASE NO. 14-20-V2

APPLICATION FOR VARIATION
WINNETKA ZONING BOARD OF APPEALS

Owner Information:

Name: Elisa and Dave Bartels
Property Address: 265, 271, [REDACTED] Poplar Street Winnetka, IL 60093
Home and Work Telephone Number: [REDACTED]
Fax and E-mail: [REDACTED]

Architect Information: Name, Address, Telephone, Fax & E-mail:

Frederick Wilson 2834 Central Street Evanston, IL 60201
fwilson@morgantewilson.com (T) 847.332.1001
(F) 847.332.2388

Attorney Information: Name, Address, Telephone, Fax & E-mail:

[REDACTED]

Date Property Acquired by Owner:

Nature of Any Restrictions on Property:

Explanation of Variation Requested: The owners of 265 Poplar Street - Dave and Elisa Bartels - have purchased the neighboring lot 271 Poplar with the intent of subdividing the lot and selling a portion to their neighbor, Joseph McGowan, at 277 Poplar so as to increase both lot widths. Once approved, the Owners propose an addition and renovation to their home at 265 Poplar. During construction of 265 Poplar, the Bartels wish to reside in their existing house at 271 Poplar. This will provide significant relief for the family and their children, who attend school nearby. Upon completion of construction at 265 Poplar, the existing structure at 271 Poplar will be demolished and the site will be restored.
OFFICE USE ONLY

Variation Requested Under Ordinance Section(s):
Staff Contact: Date:

**STANDARDS FOR GRANTING OF ZONING VARIATIONS**

Applications must provide evidence and explain in detail the manner wherein the strict application of the provisions of the zoning regulations would result in a clearly demonstrated practical difficulty or particular hardship. In demonstrating the existence of a particular difficulty or a particular hardship, please direct your comments and evidence to **each** of the following items:

1. The property in question can not yield a reasonable return if permitted to be used only under the conditions allowed by regulations in that zone.
2. The plight of the owner is due to unique circumstance. Such circumstances must be associated with the characteristics of the property in question, rather than being related to the occupants.
3. The variation, if granted, will not alter the essential character of the locality.
4. An adequate supply of light and air to the adjacent property will not be impaired.
5. The hazard from fire and other damages to the property will not be increased.
6. The taxable value of the land and buildings throughout the Village will not diminish.
7. The congestion in the public street will not increase.
8. The public health, safety, comfort, morals, and welfare of the inhabitants of the Village will not otherwise be impaired.

For your convenience, you will find attached examples of general findings, for and against the granting of a variation, which have been made by the Zoning Board of Appeals and Village Council in prior cases.

**NOTE:** The Zoning Board of Appeals or the Village Council, depending on which body has final jurisdiction, must make a finding that a practical difficulty or a particular hardship exists in order to grant a variation request.

Property Owner's Signature



July 11, 2014

(Proof of Ownership is required)

**Variations, if granted, require initiation of construction activity within 12 months of final approval. Consider your ability to commence construction within this 12 month time period to avoid lapse of approvals.**

June 17<sup>th</sup>, 2014

**Village of Winnetka, Illinois  
Department of Community Development  
Zoning Board of Appeals  
Application for Land Subdivision**

Zoning Board of Appeals:

Pending a proposed subdivision of 265, 271, and 277 Poplar, the “existing non-conforming” corner side yard setback at 277 Poplar Street will be increased. The minimum required corner side yard setback for the 277 Poplar lot varies based on lot width. The actual dimension is based on the width of the buildable area (not less than 60% of lot width) as measured from the minimum required interior side yard setback. If the lot becomes 60ft wide, the minimum required interior side yard setback varies (based on 6 feet plus 10% of the lot width in excess of 60 feet).

Additionally, if a subdivision is granted for 265, 271, and 277 Poplar, the Bartels (owners of both 265 and 271) have requested to maintain residence at 271 Poplar during construction of their house at 265 Poplar. Upon approval of subdivision, the lot line between 265 and 277 will run through the existing structure at 271 Poplar. The proposed additions to 265 Poplar will yield a separation of 6’8” between the addition and the existing structure at 271. A construction fence will be erected during construction which will encompass the site and align with the exterior of 271 Poplar. Upon completion of construction and approval of occupancy, the existing structure at 271 Poplar will be demolished and the site will be restored. At this time the addition and renovation of 265 Poplar will conform to all zoning requirements.

There are eight specific standards for the granting of zoning variations, addressed below.

- 1. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by regulations in that zone.*

The existing lots at 265, 271, and 277 Poplar are sub-standard in comparison to what is typical for the neighborhood. In splitting lot 271 and subdividing the properties, the lots become wider and comparable to the neighborhood standard. Furthermore, the building on lot 271 will be eventually demolished, effectively decreasing the density of the resulting lots to be more in keeping with their surroundings.

The owner of 264 Poplar purchased the lot and structure at 271 to expand and renovate their house and lot, thereby increasing the value of their property and their neighbor’s property. By maintaining residence at 271 during construction, the owners are able to continue their lives in Winnetka where their kids are in school. Allowing the family to stay in the structure at 271 during construction greatly relieves the family from high rental prices necessary to stay in the school district while improvements are made to their house.

- 2. The plight of the owner is due to unique circumstance. Such circumstances must be associated with the characteristics of the property in question, rather than being related to the occupants.*

At the property in question, lot 277 Poplar, no work is being permitted. Rather, the size of the existing non-conforming side yard setback will be increased due to a proposed subdivision of neighboring lots. Thus, the circumstances of this variance are associated with the characteristics of the property.

This is a unique opportunity for this area as the owners have two neighboring lots and can make significant improvements to their home, while increasing the lot size for their neighbor.

*3. The variation, if granted, will not alter the essential character of the locality.*

The variation, if granted, will maintain the essential character of the locality by not altering the density of the lots. Upon completion of construction and demolition of the center structure the variation, if granted, will improve the essential character of the locality by decreasing the density of the lot and its neighboring lot.

*4. An adequate supply of light and air to the adjacent property will not be impaired.*

The variation, if granted, will not alter the density and therefore not alter the supply of light and air to the adjacent property. Upon completion of construction and demolition of the center structure the variation, if granted, will decrease the density and therefore increase the supply of light and air to the adjacent property.

*5. The hazard from fire and other damages to the property will not be increased.*

The variation, if granted, will not alter the density. Therefore the hazard from fire and other damages to the property will not be increased. Upon completion of construction and demolition of the center structure the variation, if granted, will result in a decreased density and an increased distance between structures. Therefore the hazard from fire and other damages to the property will be decreased.

*6. The taxable value of the land and buildings throughout the Village will not diminish.*

The variation, if granted, will allow for improvements and increased size of the structure at 265 Poplar, thus increasing its property value. The lot increased lot size at 277 Poplar will result in increased property value due to an increased property size. Consequently, an increase in the taxable value of the land and buildings throughout the Village will ensue.

*7. The congestion in the public street will not increase.*

The variation, if granted, will decrease density and therefore decrease the congestion in the public street. Construction traffic will be directed to the south at a new curb cut.

*8. The public health, safety, comfort, morals, and welfare of the inhabitants of the Village will not otherwise be impaired.*

The variation, if granted, will ultimately decrease density, increase taxable property and land values, and transform lots 265 and 277 to be in keeping with the character of the surrounding neighborhood. Therefore the public health, safety and comfort of the inhabitants of the Village will be improved, and the morals and welfare will not otherwise be impaired.

Thank you for your time and consideration.

"Your idea with the best quality"



**TOMKAL CONSTRUCTION INC.**

**Tomasz Kalejta  
301 Jessica Ln.  
Bartlett, IL 60103  
773-727-5553**

**Proposal**

Client name: **Elisa and David Bartels**

Address: 265 Poplar Street, Winnetka IL. 60093

Date: 06/17/2014

Job name: Demolition – Teardown the house at 271 Poplar Street in Winnetka.

According to provided information we hereby propose:

1. Teardown the house at 271 Poplar Street in Winnetka include:
  - all utility disconnect (gas, water, and sewer)
  - rough grade site
  - demolition of detached garage and all hardscaping.
2. All permits required by Village of Winnetka to be paid by owner.

**Total labor and material: \$21,150.00**

*All prices valid for 30 days only and can be changed according to new layout or sketch provided by designer or the owner.*

Approving signature: \_\_\_\_\_

Date: \_\_\_\_\_

Contractor's signature: \_\_\_\_\_

Date: 06/17/2014



**Proposal**  
Number: MOR271-C001  
Date: 06/17/2014  
Created by: BW, BE

**Prepared for:**

Morgante Wilson Architects  
Regarding: 265 & 277 Poplar Street  
Winnetka, IL 60093

Item Description	Unit	Qty	Unit Cost	Total
<b>Site Work</b>				
Removals and Preparation				
Turf: Supply and install premium bluegrass mineral sod *Does not include grading or soil	sy	191.463	\$5.00	\$957.32
<b>Site Work Subtotal:</b>				<b>\$957.32</b>
<b>Project Total</b>				<b>\$957.32</b>
<b>Deposit</b>				<b>\$287.20</b>



**Proposal**  
 Number: MOR271-C001  
 Date: 06/17/2014  
 Created by: BW, BE

Item Description	Unit	Qty	Unit Cost	Total
------------------	------	-----	-----------	-------

**Terms and Conditions of Contract**

Eiserman and Associates will provide a one year guarantee on all work installed for the above mentioned project provided the contract amount is paid in full. Lack of maintenance, watering, vandalism, or act of God will void this guarantee. If the guaranteed item is not available, Eiserman and Associates will provide a substitute item of equal and suitability as approved by client and/or landscape architect.

Eiserman and Associates will water plant material and turf once immediately after installation, it is the owners responsibility to maintain adequate watering practices after the completion of the project assuming no unreasonable delays are incurred outside of the control of Eiserman and Associates.

This proposal is subject to revisions if not accepted after 30 days from the proposal date.

Eiserman and Associates will call J.U.L.I.E. before starting work. It will be the owners responsibility to locate any additional lines not considered public. Eiserman and Associates is not responsible for unmarked private utilities. Parking permits are included in this contract and will be obtained by Eiserman and Associates.

Eiserman and Associates requires a 30% deposit on all proposals accepted. The deposit will be applied to each invoice in an amount equal to the percentage of the contract being invoiced. Example: If 50% of the contract is being invoiced, 50% of the deposit will be applied to the invoice.

Payment is due upon receipt and a service charge of 2% monthly (24% annually) will be assessed on all open balances 30 days past the invoice date. We do not accept credit cards at this time.

*The attached proposal, prices and above conditions totaling ..... \$957.32  
 are agreed and accepted. Eiserman and Associates, LLC is authorized to perform the work as specified.  
 Payments will be made as outlined above.*

*30% deposit \$287.20*

Morgante Wilson Architects

Date:

Bill Eiserman

Date:

# ATTACHMENT F

**DRAFT**

## WINNETKA PLAN COMMISSION EXCERPT OF MEETING MINUTES JULY 23, 2014

**Members Present:** Bill Krucks, Chairman  
Caryn Adelman  
Jan Bawden  
Paul Dunn  
John Golan  
Louise Holland  
Keta McCarthy  
Scott Myers  
John Thomas

**Non-voting Members Present:** Richard Kates

**Members Absent:** Jack Coladarci  
Chuck Dowding  
Matt Hulsizer  
Jeanne Morette

**Village Staff:** Brian Norkus, Assistant Director of Community  
Development

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### **Consideration of Final Approval of Proposed Wabozo Resubdivision of 265, 271 and 277 Poplar Street**

Chairman Krucks swore in those that would be speaking on this case.

Mr. Norkus informed the Commission that the proposed subdivision involved three improved lots which he identified as 265, 271 and 277 Poplar Street and noted that the applicants reside at 265 Poplar Street and acquired the property at 271 Poplar for the purpose of resubdivision. He stated that the applicant joined with the neighbors at 277 Poplar and developed a plan and that instead of consolidating the two lots, to split the center lot evenly between the two parcels. Mr. Norkus informed the Commission that currently, all three lots are nonconforming with regard to the minimum lot area and that they range between 5,000 and 6,500 square feet. He stated that the resulting lot area would be 9,025 square feet which would bring the lot at 265 Poplar into conformity with the zoning ordinance in connection with minimum lot area. Mr. Norkus then stated that the area of the proposed lot to the north would be increased to 7,500 square feet which would decrease the nonconformity of that lot and that it would have a minimum lot size of 8,700 square feet. He stated that in addition, the increased lot area would bring the two lots closer into

the range of lot sizes on the immediate block and that the block surrounding the parcel lots range between 8,200 and 16,000 square feet. Mr. Norkus added that the proposed lot size expansion would also bring the two lots into a closer range of the neighboring lots.

Mr. Norkus then stated that with regard to the agenda materials, there are items which require specific consideration by the Commission. He stated that in connection with subdivision regulations, when the existing subdivided land contained a nonconformity, the Commission has to determine whether there would be any material adverse impact as a result of the subdivision. Mr. Norkus stated that with regard to the subject parcels, there two existing zoning nonconformities and that they would remain after the subdivision is approved. He informed the Commission that with regard to the first lot, the depth from east to west currently would remain at 100 feet. Mr. Norkus noted that the ordinance required that there be a minimum lot depth of 120 feet. He stated that the second lot to the north would be increased in area to 7,533 square feet and would remain nonconforming with regard to the minimum lot area of 8,900 square feet. Mr. Norkus then stated that because of the nonconformity, the Commission may find that the continued existence of the nonconformity may have an adverse impact on the subdivision and deny the request.

Mr. Norkus stated that on the other hand, the Commission may find that there would be no adverse impact from the increased lot area. He noted that the minimum lot area requirements and lot depth standards are intended with the other standards to preserve and enhance the neighborhoods, light and air to adjacent properties, etc. Mr. Norkus added that the Commission may make a finding that there would be no adverse impact attributable to the subdivision and recommend approval of the request to the Village Council.

Mr. Norkus then stated that in addition to the existing nonconformities that the Commission is to look at, the agenda materials describe a zoning variation which was given consideration by the ZBA on June 9, 2014 and which found unanimously to recommend approval of the related zoning variation due to the quirk in the way that regulations apply on the corner lot. He noted that setbacks on corner lots are dictated by width of the lot. Mr. Norkus stated that in this case, because the corner lot would increase in width, the setback for that lot would increase from 14 feet to 22.5 feet. He then stated that Village Council of that increase, the ZBA considered and was in favor of the request for related zoning relief to increase that degree of nonconformity.

Mr. Norkus stated that lastly, what would get built in either lot would not normally be the subject of review by the Commission, the applicants are asking for additional relief zoning. He informed the Commission that a project like this entailed the demolition of the home on the center lot and that prior to recording the subdivision, the applicants want approval to expand the south lot and live in the middle home temporary. Mr. Norkus noted that the lot line would run through the center of the home. He also stated that the Bartels have already purchased the center residence and want to live in it while additions are constructed to their home. Mr. Norkus stated that the request for additional relief required consideration by the ZBA as well. He indicated that the agenda report explained such an arrangement and that if viewed favorably by the Commission, the ZBA and the Village Council, it was recommended that there be a guaranty with regard to the ultimate demolition of the center home in the event of unforeseen circumstances. Mr. Norkus noted that the applicants provided a contract for the cost of demolition as the cost of surety. He then asked the Commission if they had any questions.

Chairman Krucks stated that there are two questions and that first, they must determine whether the proposed subdivision would have a material adverse impact with regard to the existing nonconforming lot size and depth and to either approve or disapprove the subdivision. He then stated that second, they must consider the applicants' request to temporarily occupy the home at 271 Poplar during the course of the construction of the addition to the current home at 265 Poplar. Chairman Krucks stated that with the Commission's approval, the applicants can present their case. He also asked them to keep in mind that each Commission member had the opportunity to review the full set of materials on the application plans.

Dave Bartels of 265 Poplar informed the Commission that they have been in the home for 5 years and that they have owned the property at 271 Poplar for 3½ years. He then thanked Mr. Norkus for his presentation and stated that he did not have much to add. Mr. Bartels stated that there are two questions being asked, the first of which was whether the request would have a material adverse impact. He stated that the lots were described as substandard and did not fit the neighborhood and are crowded.

Mr. Bartels stated that when the request is finished, the two lots would fit better and that all of the neighbors are supportive of the request, noting that none of the neighbors are present. He also stated that it would be an enhancement to the neighborhood and reiterated that it would fit better. Mr. Bartels indicated that it did not seem that there would be an adverse impact and that they would not be creating a large lot. He then stated that the request would bring the lots more into conformity with the adjacent lots.

Mr. Bartels stated that with regard to the second point, they are requesting that they be able to live in the home at 271 Poplar temporarily. He indicated that it is a rather unusual request and referred to the home that would have a lot line running through it as a result of the subdivision. Mr. Bartels reiterated that it would be temporary and that there would be a defined date to end the arrangement. He also stated that they would be willing to put up money to ensure if that there are unforeseen circumstances, the demolition would go forward. Mr. Bartels informed the Commission that the reason behind the request is that they have a family with two children and would like to continue to live in the neighborhood. He added that they love living there and want to stay which is the primary reason behind the request. Mr. Bartels stated that obviously, there is a financial issue and stated that rental homes are expensive and that this would be their temporary home. He stated that this home is right there which would make it easier on them financially. Mr. Bartels also stated that it is close by and that it would allow them to follow updates on the construction on their current home. He then asked the Commission if they had any questions.

Mr. Dunn asked Mr. Bartels how long did they plan to stay in the center home.

Mr. Bartels responded that they would start in the spring and continue through the fall and that hopefully it would be by the end of 2015 if not earlier.

Mr. Dunn then stated that there are several large trees between the home and the home to be torn down. He asked Mr. Bartels if they plan to tear them down or preserve them.

Mr. Bartels informed the Commission that for sure, the tree in the front and also that they need to

understand the root structure with regard to the tree in the back. He indicated that they would like to keep it if possible.

Mr. Thomas stated that the reconstruction plans for 265 Poplar call for a new two car garage. He asked if the garage would be the right size and have the rights setbacks in terms of zoning.

Mr. Bartels confirmed that it would be. He noted that they cannot park any vehicles in their existing garage. Mr. Bartels also stated that the garage would be put in the back right corner and located against other garages there. He noted that it would not encroach on any side setbacks.

Mr. Thomas then asked if the building plans and remodel of the new garage would go before the ZBA.

Mr. Norkus stated that the issue before the ZBA would be the question specifically regarding the request to occupy the center residence with a lot line splitting the residence. He then stated that the plans shown are for the addition at 265 Poplar including the garage which would be in compliance with the zoning ordinance. Mr. Norkus also stated that with regard to the question in connection with the detached garage, the ordinance allowed a detached single story garage to be located within the east and south property lines as shown.

Ms. McCarthy stated that she would like to clarify that the family is planning to live in the home to be torn down until construction is finished on the current home.

Mr. Bartels confirmed that is correct.

Ms. Holland informed the Commission that she lived on Poplar Street many years ago and that she tried to do what the applicants are doing. She then stated that she would like to applaud their plans to provide light and air to the block and commented that it is a nice plan.

Ms. Adelman stated that there are concerns with regard to the addition and zoning and open space left when the applicants are finished with the other additions.

Mr. Bartels stated that they made sure that there is enough room for the additions which is why they purchased the lot next door. He then stated that without getting a variation, they cannot do anything to the current home. Mr. Bartels informed the Commission that it is a 100 year old home and that the improvements would make the home more livable and keep the character and green space.

Mr. Golan described the request as straightforward and commented that it is a great idea. He then asked Mr. Bartels if there were any plans with their neighbors in terms of landscaping.

Mr. Bartels responded that they have not finalized or discussed that fully. He added that they are good gardeners and that they would take care of their side and that they trust each other.

Chairman Krucks asked if there were any other comments. He stated that she assumed that the required notice went out to the neighbors.

Mr. Norkus confirmed that is correct.

Chairman Krucks asked if there were any comments from the audience. No comments were made by the audience at this time. He then called the matter in for discussion. Chairman Krucks stated that he assumed that they do not have architectural drawings for the new construction.

Mike Shively of Morgante Wilson Architects stated that they are not finalized yet. He also stated that they have enjoyed working with the Bartels. Mr. Shively described it as inspiring work for them and that they have a passion for old homes and the character that the home has. He commented that there are a few less character driven homes in the neighborhood and that they want to do something sympathetic with the additions. Mr. Shively also commented that it is great that they want to do sympathetic additions. He then stated that with regard to the plans, when they are developed, they plan to meet with Mr. Norkus for zoning review, but not for permit or construction details.

Chairman Krucks asked Mr. Sheeley for his best guess in terms of the time frame.

Mr. Shively indicated that it would be driven by the Bartels and that it would be pending approval and once they get the drawings done, it would be up to them as to when they want to start construction. He added that it would be a 10 month project.

Chairman Krucks asked if there were any other questions. No additional questions were raised at this time. He again called the matter in for discussion.

Mr. Golan referred to the fact that it would not impact the neighborhood negatively. He described the applicants staying in the home in the middle as unorthodox.

Mr. Dunn stated that he would be in favor of the request and stated that it would be an improvement for the neighborhood.

Mr. Thomas commented that it is a great idea and informed the Commission that he walked by the home a lot of the time. He stated that the request would result in open light and air and that once it is done, there would be two homes where there were previously three and that it would result in a very large play area for both homes which he described as wonderful.

Mr. Myers stated that the request would come before the ZBA and that he would abstain from the vote.

Ms. McCarthy commented that the request is fine and commented that if the owners of 277 Poplar decide to have an addition, it would eliminate a lot of the open space.

Mr. Myers stated that it would have to comply with zoning.

Ms. Bawden stated that she had the same thought.

Mr. Bartels informed the Commission that with regard to 7,500 square feet, it is fairly limited.

Ms. Bawden commented that it is unorthodox for the applicants to live in the home with construction and added that it is a brilliant idea. She also stated that it would enable them to do the work quicker as opposed to working around them and that it is a good idea.

Ms. Holland stated that she is very much in favor of the request and that the LPC would like to look at the home in terms of a preservation award.

Mr. Kates stated that the applicants love the home and that the character would be good and that he would be in favor of the request.

Ms. Adelman stated that as a representative of the Environmental and Forestry Commission, there are concerns with regard to the trees as well as the long driveway. She asked the applicants if they considered the use of a permeable surface and drainage.

Ms. Holland stated that they have said that they would use a permeable paver driveway.

Ms. Bawden stated that they would be increasing the amount of permeable surface by taking out the home.

Mr. Bartels informed the Commission that the driveway is there on the left side of the home.

Chairman Krucks indicated that it appeared that the Commission is prepared to make a finding that there would be no material increased adverse impact with respect to the existing nonconforming lot size and would approve the proposed subdivision of 265, 271 and 277 Poplar Street as submitted. He then asked for a motion.

Mr. Thomas moved that the Commission make a finding that there would be no material increase in the adverse impact with respect to the existing nonconforming lot size and depth outlined on page 5 of the applicants' submission and moved to approve the proposed subdivision at 265, 271 and 277 Poplar Street as submitted.

Several Commission members seconded the motion.

Chairman Krucks asked if there was any other discussion. No additional discussion was made at this time.

A vote was taken and the motion was unanimously passed.

AYES:	Adelman, Bawden, Dunn, Golan, Holland, Krucks, McCarthy, Thomas
NAYS:	None
NON-VOTING:	Kates
ABSTAINED:	Myers

Chairman Krucks then stated that the second question related to the request for the applicants to temporarily occupy the residence to be demolished which he described as unusual.

Mr. Norkus stated that this is the first time he has seen such as request in his time with the Village.

Chairman Krucks stated that it is his understanding that there is concern of the Village staff in connection with the arrangement and that security has been worked out with the applicants to ensure that the home would be torn down.

Mr. Norkus stated that they do not like to make things unnecessarily complicated, but that a certain aspect of his position is to foresee the unforeseeable circumstances. He indicated that they have seen other projects stalled by circumstances which were not anticipated. Mr. Norkus then stated that they would like ensure that the request posted a means for providing for the demolition of the home in case something happened down the road.

Mr. Bartels agreed that would be fine.

Chairman Krucks asked if it would be worked out among the applicants, the Village staff and the Village Council.

Mr. Norkus confirmed that is correct and that before the request went to the Village Council, the final details would be worked out by posting a form of a letter of credit by the bank. He informed the Commission that the Bartels requested the ability to make a cash deposit versus a letter of credit. Mr. Norkus also stated that the Village Council would benefit from the Commission's recommendation on the issue and that they would like to support the details of the surety and that the language would be worked out by the Village staff.

Chairman Krucks called the matter in for discussion.

Mr. Golan agreed that it would be fine.

Mr. Dunn also agreed that it would be fine and described it as a straightforward, good solution.

Everyone else agreed that it would be fine.

Mr. Kates referred to the use of a cash deposit versus a surety bond and collateral of 100% and that it did not make sense to pay that premium. He suggested that the applicants be allowed to put up a surety bond or cash in order to save them that money.

Chairman Krucks then asked for a motion. He stated that she recognized that it appeared that the Commission is prepared to approve the request and for the Commission to make a positive recommendation to the Village Council for the applicants to be allowed to temporarily occupy the residence at 271 Poplar Street during construction to 265 Poplar Street, subject to the applicants and the Village Council reaching an agreement on the appropriate security whether it be a cash deposit, letter of credit or restrictive covenant to guaranty the demolition of 271 Poplar Street in a form acceptable to the Village staff, the Village attorney and the Village Council.

Mr. Golan moved to recommend approval of the request and for the Commission to make a positive recommendation to the Village Council for the applicants to be allowed to temporarily

occupy the residence at 271 Poplar Street during construction to 265 Poplar Street, subject to the applicants and the Village Council reaching an agreement on the appropriate security whether it be a cash deposit, letter of credit or restrictive covenant to guaranty the demolition of 271 Poplar Street in a form acceptable to the Village staff, the Village attorney and the Village Council.

Mr. Thomas seconded the motion.

Chairman Krucks asked if there was any further discussion. No further discussion was made at this time.

A vote was taken and the motion was unanimously passed.

AYES:	Adelman, Bawden, Dunn, Golan, Holland, Krucks, McCarthy, Thomas
NAYS:	None
NON-VOTING:	Kates
ABSTAINED:	Myers

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## Agenda Item Executive Summary

**Title:** Bid #014-007: Scott Avenue Parking Structure- Electrical and Energy Efficient Lighting Retrofit

**Presenter:** Steven M. Saunders, Director of Public Works/Village Engineer

**Agenda Date:** 09/16/2014

**Consent:**  YES  NO

- Ordinance
- Resolution
- Bid Authorization/Award
- Policy Direction
- Informational Only

**Item History:**

2014 Budget Item

**Executive Summary:**

On September 11, 2014, the Village opened Bid #014-007 for the Scott Avenue Parking Structure - Electrical and Energy Efficient Lighting Retrofit project. The project consists of upgrading the existing lighting system on both levels with energy-efficient fixtures to increase lighting levels while reducing energy consumption. The project also includes replacing aging electrical conduit and wiring and a new electrical panel at the 24 year-old facility. The Village received 4 bids, summarized below:

Contractor	Base Bid
Arc 1 Electric	\$136,780.00
Argon Electric	\$138,200.00
Adlite Electric	\$159,187.00
Monarch Electric	\$177,000.00

The low bid of \$136,780.00 was submitted by Arc 1 Electric of Hickory Hills, IL, a qualified contractor. Staff recommends awarding Bid #014-007 to Arc 1 Electric.

The FY 2014 Budget Contains \$100,000 in Downtown revitalization Fund account 420.15.01-558 for this project. The project is also being supported by \$60,000 in grant funding from the Illinois Municipal Electric Agency Energy Efficiency Grant program.

**Recommendation:**

Consider awarding a contract to Arc 1 Electric of Hickory Hills, IL in the amount of \$136,780.00 to complete electrical and energy efficient lighting retrofit improvements at the Scott Avenue Parking Facility.

**Attachments:**

None



## Agenda Item Executive Summary

**Title:** Street Rehabilitation Program Review

**Presenter:** James Bernahl, Assistant Director of Public Works & Engineering

**Agenda Date:** 09/16/2014

**Consent:**  YES  NO

- Ordinance
- Resolution
- Bid Authorization/Award
- Policy Direction
- Informational Only

### Item History:

During the FY 2014 budget presentations, the Council expressed a desire for staff to provide the Council with a review of the IMS pavement survey results and pavement maintenance program so that the Council could understand and review the proposed street program and budgetary implications of making street rehabilitation decisions.

### Executive Summary:

The Village of Winnetka is responsible for maintaining and/or repairing approximately 55 miles of roadway. Annual budgeted expenditures for reconstruction and rehabilitation projects to maintain the network are around \$1.2 million. Clearly, pavement rehabilitation and maintenance is a significant expense for the Village. The Village has reached the point where, with the exception of a few relatively minor streets, each public roadway has curbing, and has been resurfaced at least once over the past 25 years. Having reached this point, the Village engaged IMS Infrastructure Management Services of Rolling Meadows, IL, to undertake a complete condition evaluation of the Village's street network. Data gathered from this undertaking allows the Village to more effectively plan and budget for appropriate continuation of the Village's pavement management activities.

The program used automated inspection technology to evaluate pavement surface and load-carrying conditions for the entire network of Village roadways. This survey was completed using the Road Surface Tester (RST), a vehicle-mounted inspection system. The information gathered in this survey includes inventory, roughness, rut depth, cracking, and texture. Each street test section surveyed also received a deflection test, permitting an analysis of the structural capabilities of the existing street section. This provides valuable information on the capabilities of the pavement, base and subgrade sections, and the interaction between these sections.

The Village also received the PavePRO Manager software, fully loaded with IMS collected field data. The software provides information on existing conditions, future performance, viable maintenance and rehabilitation strategies, optimization, schedules, budgets and multiyear programs. Staff is able to link between the Village's GIS program and the pavement management data to enable generation and display of color-coded maps based upon existing pavement conditions, street rehabilitation plans or budget scenarios. Information is kept current through staff updating conditions as streets are rehabilitated. To obtain maximum benefit from the program, the street network should be re-tested every 5-7 years, as budgets allow.

### Recommendation:

Information only. Staff will provide a presentation on the pavement management program, the data that was obtained, current street ratings, so that the Council can begin to review the information in advance of FY 2015 Budget presentations.

### Attachments:

Handouts to be provided