

Winnetka Village Council
STUDY SESSION
Village Hall
510 Green Bay Road
Tuesday, May 10, 2016
7:00 PM

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AGENDA

- 1) Call to Order
- 2) Stormwater Alternatives Evaluation – Council Update.....2
- 3) Public Comment
- 4) Closed Session
- 5) Adjournment

NOTICE

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

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Agenda Item Executive Summary

Title: Stormwater Alternatives Evaluation - Council Update

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

Agenda Date: 05/10/2016

Consent: YES NO

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

Item History:

In October, 2015, the Village hired Strand Associates to re-evaluate the Village's western drainage basins for creative, cost-effective non-STADI improvements for the 100-year storm, taking into account the Village's flood-control objectives. Project scope includes consideration of grey and green infrastructure approaches, conveyance, detention, retention, infiltration, property buyout or individual protection retrofit programs, and other traditional and emerging stormwater management technologies. The Village's flood protection goals include preventing structure flooding, reducing surface flooding on private property, and passable flood depths in streets from a target storm producing 4.85 inches of rainfall over a 3-hour period of time. Strand Associates has conducted five public meetings: two Awareness Phase Open Houses, two Exploration Phase Open Houses, and a Vision Phase Workshop. Strand proposes a series of 15 projects that balance flood reduction, cost-effectiveness, and phased implementation. If fully executed, these projects would significantly reduce the number of homes at risk of flooding for the design storm event. Since the Stormwater Vision Workshop, the Village has been gathering input from citizens, affected public agency stakeholders, and other interested parties, so the Stormwater Vision can be further developed before Council consideration.

Executive Summary:

There are several actions that should be undertaken to further develop the Stormwater Vision so it can be most effectively evaluated by the Village Council. These steps are summarized below:

1. Cook County Forest Preserve District engagement. CCFPD has been receptive to discussing the possibility of a stormwater improvement that would be mutually beneficial, especially in the area south and east of the Village's closed landfill. They have raised several issues, shown in Attachment #5. However, since the project is still in the conceptual phase, there is a lack of the detail necessary to further address specifics like tree impacts, seed stock/vegetation selection, and long-term maintenance. Several additional activities should be undertaken to assure that this key portion of the Stormwater Vision is truly viable.
2. New Trier High School engagement concerning Duke Childs Field. While NTHS is open to cooperating for use of Duke Childs Field as part of a stormwater flood relief program, they have been clear that a) the Village should not expect NTHS to fund any improvements and b) NTHS cannot lose any programmable field space. The question of replacement fields on top of the Village's closed landfill needs to be addressed.
3. Park District planning and engagement process for Crow Island Woods. The conceptual stormwater project in the Crow Island Woods area affects diverse stakeholder groups, and will require focused public dialogue, with the goal of achieving consensus. The Winnetka Park District, which owns the property, proposes development of an overall Park Master Plan that will incorporate existing engineering metrics, add more detailed site design, and ecological planning and science. This process will work in tandem with Village's efforts to develop and implement an overall community storm water management plan.
4. Property owner engagement along Sunset Road. A proposed new 5' by 10' storm sewer beneath Sunset Road west of Locust Street, and between two homes along the west side of the Crow Island Park property, will affect adjacent property owners. Village staff has had discussions with several residents about how the proposed construction would affect their properties; however, at this early stage, it is impossible to thoroughly address specific questions and detailed questions.
5. School District 36 engagement. The District is receptive to the potential construction of an underground stormwater storage facility between Washburne and Skokie Schools, provided that project design and construction take into account the timing, scheduling, access. Further meetings are needed to identify and discuss the District's needs, so these can be incorporated into the final project design.
6. Study Scope. Strand was directed to evaluate potential solutions for the 100-year design event. In response to community questions, Strand should be directed to evaluate less robust storage and conveyance construction options to determine estimated costs and flood protection benefits of these lower-level alternatives.
7. Present project summary and concept report to Village Council. Strand has nearly completed their project; now that the Vision has been presented, Strand should be directed to complete their contract by presenting a Concept Report to the Village Council, detailing their work-to-date, explaining the conceptual stormwater vision, and identifying open issues, engagement opportunities, Vision refinement, and other steps to complete the Vision process. Strand is prepared to present their report to the Council on June 7, 2016. Many of these next steps will require additional engineering services beyond Strand's current contractual scope of work. If the Council directs, Strand is prepared to provide the associated scope of work, deliverables, schedule, and project fees at the June 7 Council Meeting.

Recommendation:

Review and discuss Strand's progress to-date and evaluate the proposed next steps for further detail development, communication and engagement with other agencies, interested residents, and other interested parties, and provide policy direction. Should Strand Associates prepare proposals to conduct the following potential next steps as outlined in this report?

1. Cook County Forest Preserve District engagement.
2. New Trier High School engagement concerning Duke Childs Field.
3. Park District planning and engagement process for Crow Island Woods.
4. Property owner engagement for stormwater conveyance along Sunset Road
5. School District 36 engagement.
6. Review conceptual options, including estimated construction costs and flood reduction performance, of lower-level alternatives.

Attachments:

- Agenda Report
- Attachment #1: Summary of Awareness Phase
- Attachment #2: Summary of Exploration Phase
- Attachment #3: Summary of Vision Phase
- Attachment #4: NTHS Board memorandum
- Attachment #5: CCFPD questions and open items
- Attachment #6: Proposal for Park Planning Services – The Lakota Group

Agenda Report

Subject: Winnetka Stormwater Alternatives Evaluation – Village Council Update

Prepared By: Steven M. Saunders, Director of Public Works/Village Engineer

Date: May 6, 2016

Background

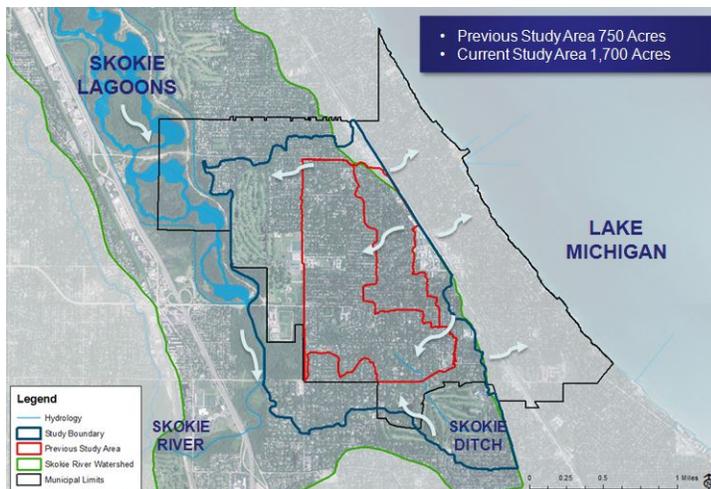
Last fall, the Village engaged Strand Associates for engineering services to re-evaluate the Village's western drainage basins for creative, cost-effective westward looking improvements for the 100-year event, taking into account the Village's flood-control goals and objectives. Strand is taking a holistic approach to this project, evaluating a variety of grey and green infrastructure approaches, conveyance, detention, retention, infiltration, property buyout or individual protection retrofit programs, and a host of other traditional and emerging stormwater management technologies. Strand's fee for this project is \$256,050.

Study Scope

Below is a general summary of the current scope of work:

Study Area

The study boundaries are shown below:



Data gathering and review

Comprehensive evaluation of available data characterizing the conditions of the watershed such as topography, density of homes and development, impervious ground cover and soil conditions, roadway network, utilities, frequency of flooding and historical extents of flooding, property

ownership, neighborhood and community character, and various plans for improvements or changes in the watershed.

Evaluate hydrologic and hydraulic modeling for verification of existing conditions and historical flooding

Verify the computer models used in the study accurately reflect the conditions Winnetka experiences during various rainfall events to determine whether potential stormwater management alternatives are realistic, appropriate, and feasible to provide the level of protection expected by the community.

Alternatives development

Identify the many potential stormwater management and flood control opportunities within the watershed and carefully considering the feasibility, practicality, cost, benefit, and measure of protection of each opportunity; a wide spectrum of stormwater management solutions will be considered, which includes many traditional stormwater management controls as well as a selection of more innovative and creative solutions that may not have been previously considered.

Stakeholder engagement

Create a community effort around the planning and implementation, as there are critical community entities in the watershed that will be integral to successful and sustainable stormwater and flood mitigation improvements; explore partnerships and collaborative opportunities with stakeholders whose goals and objectives are directly impacted by stormwater issues and will also benefit from the Village's stormwater management efforts.

Public participation

Conduct an extensive public participation effort will be directed towards gaining valuable input from the community; inform and involve the public throughout the planning and design processes to understand the needs, desires, and opportunities addressed by the identified alternatives.

Awareness Phase

On January 21 and 23, 2016, Strand Associates conducted the initial Awareness Phase Public Open Houses at Washburne School. The two meetings were identical in format and content and focused on communicating the results of model verification and the consultant's early observations. Strand listened to the community to solicit innovative ideas and receive input on experiences in these flood-prone areas.

Strand Associates made a brief introductory presentation, which outlined the study area, explained how the geography and topography of the area contributes to the Village's flooding problems, and showed detailed flood modeling results. After this presentation, Strand Associates conducted breakout activity stations, where residents in each study sub-area (South of Willow Road area, the "Tree Streets" area, Provident area, and North of Pine Street area) viewed model predictions of flooding under current conditions, shared their flooding observations to help

Strand confirm the hydraulic modeling, learned about the wide variety flood reduction techniques that might be considered, and provided comments and input. The input received at and after these meetings informed Strand's evaluation of the feasibility and benefits of various approaches to flood reduction in the project areas. A summary of the Awareness Phase is shown in **Attachment #1**.

Exploration Phase

On March 3 and 5, 2016, two Open Houses were held at the Winnetka Community House, during which myriad potential opportunities for stormwater and flood control were presented and discussed. The Village has established flood protection goals to prevent home and structure flooding, reduce surface flooding on private property, and provide for passable flood depths in streets from a target storm event producing 4.85 inches of rainfall over a 3-hour period of time.

Strand presented for discussion a number of opportunities they identified to achieve these goals, including a mix of distributed homeowner-level green infrastructure improvements, neighborhood stormwater management and conveyance, and watershed-based stormwater storage. No single improvement will reach the Village's goal, so a combination of improvement opportunities were reviewed to inform a vision for stormwater and flood control in western and southwestern Winnetka.

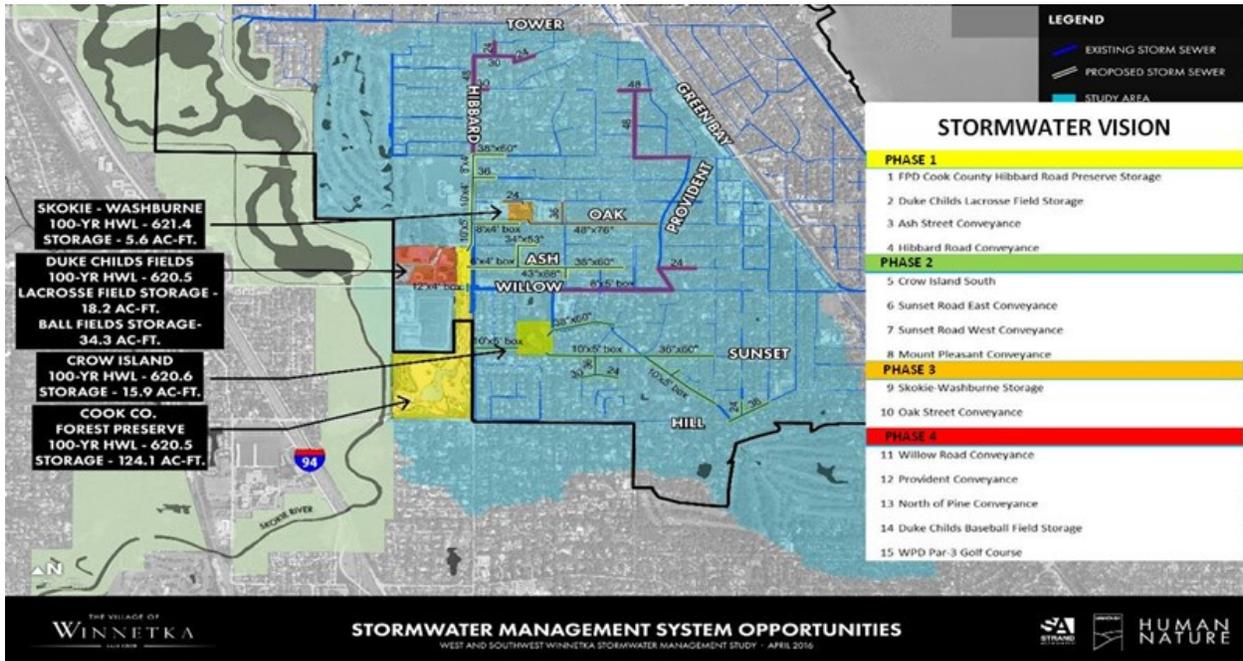
Following Strand's presentation, breakout stations allowed participants to view, engage with, and discuss these opportunities directly with Strand. A video of the presentation and the presentation materials were also made available via the Village's website for additional public involvement and comment. Comments received from the workshop sessions, and from parties that engaged with these materials via the Village's website, were used by Strand as they evaluated the potential stormwater opportunities and developed the current Stormwater Vision. A summary of the Exploration Phase is shown in **Attachment #2**.

Vision Phase

On April 12, 2016, Strand held a Vision Phase Workshop at Washburne Middle School, building upon the preliminary opportunities identified and presented during the March 2016 Open Houses. Strand Associates outlined a conceptual vision for stormwater and flood control. Over 125 people attended to hear the presentation and to ask questions, provide comments, and discuss the project with the Strand team.

Based on Strand's modeling and evaluation to-date, they have proposed a combination of conceptual projects that produces an advantageous balance of flood reduction benefit, cost-effectiveness, and phased implementation. Strand has identified a series of projects that, if fully implemented, would significantly reduce the number of homes in the watershed that are at risk of floodwater intrusion for the design event. The proposed vision consists of 15 discrete stormwater storage and conveyance projects, water quality management improvements, and distributed green

infrastructure improvements, in four phases. The current Stormwater Vision is shown in the following figure:



The estimated project cost to implement all four phases, including engineering and necessary contingencies, is \$57,717,000 in current dollars. The project cost is illustrated by phase in the figure on the following page:

● Phase 1	Cost
○ FPDCC Hibbard Road stormwater storage project	\$ 8,582,000
○ Duke Childs lacrosse field stormwater storage project	\$ 1,005,000
○ Winnetka landfill improvements - lacrosse field relocation	\$ 2,331,000
○ Ash Street conveyance project	\$ 5,107,000
○ Hibbard Road North conveyance project	\$ 6,553,000
Total	\$ 23,578,000
● Phase 2	Cost
○ Crow Island South stormwater storage project	\$ 1,841,000
○ Sunset Drive East conveyance project	\$ 10,356,000
○ Sunset Drive West conveyance project	\$ 2,821,000
○ Mount Pleasant conveyance project	\$ 1,362,000
Total	\$ 16,380,000
● Phase 3	Cost
○ Washburne-Skokie school underground stormwater storage project	\$ 1,381,000
○ Oak Street conveyance project	\$ 3,294,000
Total	\$ 4,675,000
● Phase 4	Cost
○ Provident local storm sewer improvement project	\$ 2,930,000
○ Willow Road local storm sewer improvement project	\$ 5,284,000
○ North of Pine conveyance project	\$ 2,408,000
○ Duke Childs/WPD Par-3 Golf Course/FPDCC storage project	\$ 2,461,000
Total	\$ 13,084,000
Project Total	\$ 57,717,000

A summary of the Vision Phase is shown in **Attachment #3**.

Current Status of Stormwater Alternatives Evaluation

To date, Strand Associates has identified and made a presentation of a conceptual Stormwater Vision that provides significant flood risk reduction for 87% of the 474 structures in the study areas that are currently at risk of flood damage from the design 100-year event. This conceptual Stormwater Vision includes a combination of projects producing an advantageous balance of flood reduction benefit, cost-effectiveness, and phased implementation, at an estimated cost of \$57,717,000. Since the Stormwater Vision was presented at the April 12 Vision Phase Workshop, the Village has been gathering comments and input from citizens, other public agencies which own key open spaces related to the Stormwater Vision, and other interested parties so that the Stormwater Vision can be further developed before being presented to the Village Council for consideration and determination of next steps. Comments and questions thus far have been primarily centered around several key facets of the Vision.

Phase 1 – Cook County Forest Preserve District. First among these items is the reliance of the Stormwater Vision on a significant storage and wetland improvement on Cook County Forest Preserve District (CCFPD) property south of Willow Road and west of Hibbard Road. This conceptual improvement would provide approximately 124.1 acre-feet (40.4 million gallons) of stormwater storage in a designed habitat improvement consisting of open water, wetlands, sedge meadows (seasonally wet), mesic prairie, and upland forest ecosystems, as well as recreational use paths and interpretive signage. This project accounts for approximately 63% of the total stormwater storage volume that would be constructed via all four Phases. Because this project is located in property owned by the CCFPD, their approval, through their Board of Commissioners, is required.

Strand and Village staff have had several preliminary discussions with CCFPD staff about this project, and while their staff has been receptive to the concept, there are many questions and details to be addressed. They have been very clear that CCFPD land use policy generally prohibits use of CCFPD property for stormwater improvements, and that the major reasons that they are conceptually considering the Village's proposed improvement are 1) the adjacent Skokie Lagoons were originally constructed as a flood management project and this project would be an extension of that concept; 2) the Stormwater Vision includes significant efforts to provide storage and water quality improvements in the Village, upstream of CCFPD property; and 3) the project concept includes amenities and enhancements that would benefit the CCFPD and further their mission. While this important piece of the Stormwater Vision appears to be feasible at this time, additional discussions with CCFPD staff, including developing more detailed information, are necessary to continue to clarify the acceptability of this concept to the CCFPD.

Phase 1 – Duke Childs Field. A second Phase 1 project is a proposed stormwater storage and water quality improvement located on Duke Childs Field, at the northwest corner of Willow Road and Hibbard Road. The conceptual improvement consists of an above-ground storage facility, with a permanent wetland/water area, that will provide approximately 18.2 acre-feet (5.9 million gallons) of stormwater storage and bio-retention that will provide immediate flood relief to the neighborhoods immediately north of Willow Road and east of Hibbard Road. This area is owned by New Trier High School (NTHS), and is currently home to a lacrosse field and a soccer field. These fields are important assets to allow NTHS to deliver the quality athletic programming expected by the community. The conceptual stormwater storage project aims to maintain New Trier's ability to provide their athletic programming by relocating these two fields to a reconfigured area on top of the Village's closed landfill across Willow Road from the current fields. While Strand and Village staff have had preliminary discussions about this concept with NTHS staff, there are still details that need to be advanced to ascertain that the fields can be relocated in a manner that will be acceptable to NTHS. Additionally, NTHS' Board of Education had a preliminary discussion of this concept at a recent board meeting and has expressed reservations about the suitability of the concept. **Attachment #4** is a memorandum prepared by NTHS Superintendent Dr. Linda Yonke for the NTHS Board, and discussed at their April 18 meeting. Further discussions between the Village, Strand, and NTHS, including representatives from the Village Council and the New Trier Board of Education, are necessary to determine whether the proposed concept can feasibly be implemented.

Phase 2 – Crow Island Woods. The Village has received questions and comments about two Phase 2 projects. The first is a combined stormwater storage and water quality improvement project in the Crow Island Woods area. The conceptual project envisions providing approximately 15.9 acre-feet (5.2 million gallons) of stormwater storage and a water quality management wetland in the southern, wooded area of the park. Because there are numerous and diverse stakeholder groups for Crow Island Woods, this conceptual project will require focused public engagement and dialogue with the Winnetka Park District, who owns the property, the School District, who owns the adjacent Crow Island School, other adjacent property owners, park users, those who experience flood damage, and other stakeholders interested in the project. It will be important to hear concerns and address them, share information about the benefits derived from the project, further develop details in light of the interests, concerns, and values of interested groups, and hopefully develop and reach a consensus that reflects both values of place, and values of flood reduction, in a way that serves the Village as a whole.

The Winnetka Park District, who owns the property, has proposed to lead an engagement process that will attempt to balance these various interests and project goals. This proposed process is further described in “**Next Steps #3**”, below.

Phase 2 – Sunset Road Stormwater Conveyance. A second Phase 2 conceptual project requiring additional analysis and discussion involves the routing of a large conveyance storm sewer from flood-susceptible areas of Sunset Road, DeWindt Road, White Oak Lane, and Birch Street. This new 5’ by 10’ storm sewer would be constructed in existing utility easements beneath a private portion of Sunset Road west of Locust Street, and also through an existing utility easement between two homes along the west side of the Crow Island Park property, in order to direct stormwater to the proposed storage area in the CCFPD property. Adjacent private property owners, and representatives of the Sunset Road Homeowners Association, have raised questions about how the proposed storm sewer construction would affect their properties. While Village staff has had initial discussions with these interested parties, the current conceptual level of engineering renders it impossible to thoroughly address specific questions such as the length of disruption of property access, whether specific trees or landscape features will be affected by the construction process, and other similar detailed questions. Further discussions with these affected property owners, including identification and evaluation of any potential alternative routes, is necessary.

Phase 3 – Skokie-Washburne Athletic Field. Phase 3 contains a proposed project to provide approximately 5.6 acre-feet (1.8 million gallons) of below-ground, vaulted stormwater storage beneath the athletic fields between Skokie School and Washburne School, with restored athletic fields on top. Strand and Village staff have discussed this project with District 36 staff and the District is receptive to the concept, provided that project design and construction take into account the timing, scheduling, access and safety needs of the School District. Further discussions should take place between the Village, Strand, and District 36 to verify the District’s needs and concerns so that they can be incorporated into the final project design upon implementation.

Overall Project Design Level and Cost. An additional aspect of the project that has raised questions and comments relates to the overall protection levels and project costs, generally

similar to the following form: “I suggest you look at 25-year (or 50-year, or 10-year) rain levels and lower cost alternatives...” While this type of question is a completely appropriate policy-level question that the Village Council should engage when discussing the Stormwater Vision at the community level, Strand Associates was engaged to identify and recommend a program that would provide flood risk reduction for a 100-year design event (4.85 inches of rain over a 3-hour period). To continue to inform the community discussion, Strand should be directed to evaluate less robust storage and conveyance construction options to determine estimated costs and flood protection benefits of these lower-level alternatives. While not lowering the Village’s desired flood reduction goals, understanding cost and benefit tradeoffs involved with a lower-level design event will help inform funding and policy discussions going forward.

Proposed Next Steps

The current Stormwater Vision provides significant flood risk reduction for flood-susceptible areas of western Winnetka, at a conceptual estimated price tag of \$57,717,000. However, based on the concerns and questions outlined above, there are several actions that should be undertaken to further develop the Stormwater Vision so that it can be most effectively discussed and evaluated by the Village Council. These steps are summarized below:

1. Cook County Forest Preserve District engagement. CCFPD staff has been accessible and receptive on three previous occasions to discussing the possibility of a stormwater improvement that would simultaneously benefit the Village and the CCFPD, especially in the area south and east of the Village’s closed landfill. They have raised several issues for further discussion, shown in **Attachment #5**. While Strand and Village staff have begun to address these questions and concerns, the conceptual nature of the project development at this time does not contain some of the detail necessary to further address items related to specific tree impacts, seed stock/vegetation selection, long-term maintenance, and other items. Several additional activities should be undertaken to assure that this key portion of the Stormwater Vision is truly viable. Specifically:
 - a. A tree survey should be undertaken to determine the current condition of the property and the tree population, so that further discussions with CCFPD can be held to identify trees to be saved, worked around, or removed/replaced.
 - b. Soil borings should be completed to determine groundwater levels, the characteristics of site soils, and their suitability for re-use onsite or at the Village’s landfill, and to confirm soil excavation and disposal costs.
 - c. Further detail concerning contouring, planting, site amenities, and maintenance should be developed.
 - d. Additional meetings should be held with CCFPD staff.
 - e. With CCFPD staff assistance, Commissioner Suffredin, who has been following this project, should be engaged to begin to understand the views and perspectives of the CCFPD Board of Commissioners.
 - f. Other stakeholders with interest in the CCFPD property should be identified and engaged.

- g. A roadmap of the necessary milestones, processes, timelines and application deliverables should be developed to frame phasing and implementation timelines for this and other interrelated projects in the Stormwater Vision.
2. New Trier High School engagement concerning Duke Childs Field. While NTHS staff have indicated that they are open to cooperating with the Village to use Duke Childs Field as part of a stormwater flood relief program, they have been clear that a) the Village should not expect NTHS to fund any improvements and b) NTHS cannot lose any programmable field space as a result of any improvement. Strand has identified a conceptual improvement that would address these points by constructing replacement fields on top of the Village's closed landfill. NTHS has remained open to this possibility, while raising a number of further questions and details that need to be evaluated via the following activities:
 - a. Strand, Village staff, and Trustee representatives should meet with NTHS staff and Board representatives to discuss and identify issues.
 - b. The technical and operational requirements for IHSA fields, including field dimensions, buffer areas, surface grading requirements, wind and lighting issues, restroom access, and any other identified issues, need to be ascertained and evaluated.
 - c. Strand should further refine the landfill development concept plan and related engineering issues.
 - d. Although the current conceptual design provides storage in an above-ground facility so that natural water quality management practices can be employed, several comments have suggested that underground storage should be evaluated. Strand should evaluate and report on the cost, performance, and CCFPD implications of underground storage at Duke Childs Field.
 3. Park District planning and engagement process for Crow Island Woods. The conceptual stormwater storage and water quality improvement project in the Crow Island Woods area affects numerous and diverse stakeholder groups, and will require focused public engagement and dialogue with these groups to hopefully develop and reach a consensus that reflects both values of place, and values of flood reduction, in a way that serves the Village as a whole. The Winnetka Park District, who owns the property, has proposed to lead an engagement process that will attempt to balance these various interests and project goals.

The Park District has proposed to use The Lakota Group and Pizzo & Associates to engage in a Park Planning Process that will incorporate engineering metrics already developed by the Strand Engineering team and support it with more detailed site design, and ecological planning and science to provide a platform for common discussion, education and long term management of future improvements to the Crow Island Woods. This process will work in tandem with Village of Winnetka efforts to develop and implement an overall community storm water management plan and strategy for alleviating storm water flooding impacts in targeted neighborhoods of the community.

The proposed process aims to engage in a focused community/neighborhood dialogue with adjacent neighbors and the community. The Lakota Group will work with both the Winnetka Park District and the Village of Winnetka to outline an effective strategy of community/neighborhood engagement that incorporates both small group neighborhood

discussions, as well as a community open house(s). Additional outreach, updates and educational facts will be regularly posted to both electronic media as well as Village and Park District newsletters.

The Park District, Village, and Lakota Group are still preparing a detailed scope of work but a draft scope of work is shown in **Attachment #6**.

The culmination of this assignment will be a preferred site and ecological plan direction, adopted by the Park Board and subsequently Village Council, to be incorporated in the Village's Stormwater Vision. It will outline next step detailed design and engineering, associated costs and benefits, integration with Village storm water management infrastructure objectives and provide the framework for creating an economically sustainable long term management plan.

Lakota will work with the Winnetka Park District and the Village to assure completion of the above tasks in a reasonable timeframe, estimated at roughly 4-6 months from project kick-off to final presentation. The Park District anticipates a project start in late May with potential for completion on or about the beginning of October.

The Park District is proposing to be the lead contracting agency, with study costs to be reimbursed by the Village. The estimated cost for this engagement, including potential additional work needed by Strand Associates in support of the engagement, is approximately \$80,000 to \$100,000.

4. Property owner engagement for stormwater conveyance along Sunset Road. Constructing a new 5' by 10' storm sewer in existing utility easements beneath a private portion of Sunset Road west of Locust Street, and also through an existing utility easement between two homes along the west side of the Crow Island Park property, will affect adjacent property owners. While Village staff has had discussions with several residents about how the proposed storm sewer construction would affect their properties, the current conceptual level of engineering renders it impossible to thoroughly address specific questions such as the length of disruption of property access, whether specific trees or landscape features will be affected by the construction process, and other similar detailed questions. Further discussions with these affected property owners, including identification and evaluation of any potential alternative routes, is necessary.
 - a. The Village should engage Strand to perform additional engineering necessary to identify location of proposed pipe so that potential tree and landscaping conflicts, access limitations, roadway restoration, and other construction issues can be identified and discussed.
 - b. Strand should also be tasked with further evaluation of potential alternate conveyance routes to determine the associated cost and performance implications.
 - c. The Village should complete a tree survey to identify trees and landscaping that might potentially be affected by construction.
 - d. Strand and Village staff should meet with affected property owners to discuss issues.

5. School District 36 engagement. Strand and Village staff have discussed constructing an underground stormwater storage facility between Washburne and Skokie Schools with District 36 staff. The District is receptive to the concept, provided that project design and construction take into account the timing, scheduling, access and safety needs of the School District. The Village and Strand should meet with District 36 to identify and discuss the District's needs and concerns for program space, safety, construction scheduling, and restored field requirements, so these can be incorporated into the final project design.
6. Review conceptual options, including estimated construction costs and flood reduction performance, of lower-level alternatives. Strand was directed to evaluate potential solutions for the 100-year design event. In response to community questions, Strand should be directed to evaluate less robust storage and conveyance construction options to determine estimated costs and flood protection benefits of these lower-level alternatives. While not lowering the Village's desired flood reduction goals, understanding cost and benefit tradeoffs involved with a lower-level design event will help inform funding and policy discussions going forward.
7. Present project summary and concept report to Village Council. Strand's engagement is summarized in "**Study Scope**", above. Strand has completed their scope up to the point of presenting a Stormwater Vision to the community at the Vision Phase Workshop on April 12. Their scope envisioned identifying and presenting a Vision to reduce flood risk in affected areas of western and southwestern Winnetka. As the Vision has been presented, Strand should be directed to complete their current contract by presenting a Concept Report to the Village Council, detailing their work-to-date, explaining the current conceptual stormwater vision, and identifying open issues, further engagement opportunities, continued Vision refinement, and other next steps to be taken to complete the Vision process for Village Council discussion and adoption. Strand is prepared to present their report to the Council on June 7, 2016.

Many of these next steps will require additional engineering services beyond Strand's current contractual scope of work. If the Council directs, Strand is prepared to provide the associated scope of work, deliverables, schedule, and project fees at the June 7 Council Meeting.

Recommendation:

Review and discuss Strand's progress to-date and evaluate the proposed next steps for further detail development, communication and engagement with other agencies, interested residents, and other interested parties, and provide policy direction. Should Strand Associates prepare proposals to conduct the following potential next steps as outlined in this report?

1. Cook County Forest Preserve District engagement.
2. New Trier High School engagement concerning Duke Childs Field.
3. Park District planning and engagement process for Crow Island Woods.
4. Property owner engagement for stormwater conveyance along Sunset Road
5. School District 36 engagement.
6. Review conceptual options, including estimated construction costs and flood reduction performance, of lower-level alternatives.

Attachments:

1. Summary of Awareness Phase
2. Summary of Exploration Phase
3. Summary of Vision Phase
4. NTHS Board memorandum
5. CCFPD questions and open items
6. Proposal for Park Planning Services – The Lakota Group

ATTACHMENT #1
Summary of Awareness Phase

January 21 & 23 Public Open Houses- Summary & Materials

Last fall, the Village contracted with Strand Associates for engineering services to re-evaluate the Village's western drainage basins for creative, cost-effective westward looking improvements for storms ranging from the 10-year to the 100-year event, taking into account the Village's flood-control goals and objectives. Strand is taking a holistic approach to this project, evaluating a variety of grey and green infrastructure approaches, conveyance, detention, retention, infiltration, property buyout or individual protection retrofit programs, and a host of other traditional and emerging stormwater management technologies.

On January 21 and 23, Strand Associates conducted the initial Awareness Phase Public Open Houses in the north gymnasium at Washburne School. The two meetings were identical in format and content and focused on communicating the results of model verification and the consultant's early observations. Strand also focused on listening to the community to solicit innovative ideas and receive public input on experiences in these flood-prone areas.



Strand Associates made a brief introductory presentation, which outlined the study area, explained how the geography and topography of the area contributes to the Village's flooding problems, and showed detailed flood modeling results. To see the introductory presentation, [CLICK HERE](#).

After this presentation, Strand Associates conducted breakout activity stations, where residents in each study sub-area viewed model predictions of flooding under current conditions, shared their flooding observations to help Strand confirm the hydraulic modeling, learned about the wide variety flood reduction techniques that might be considered for sub-areas, and provided comments and input for Strand. You can view flood model simulations of the July, 2011 flood event by clicking below:

- [South of Willow Road](#)
- ["Tree Streets"](#) - Willow to Pine west of Locust Street
- [Provident Area](#) - North of Willow Road east of Locust Street
- [North of Pine Street](#)

We are still seeking and collecting resident comments and flooding observations, and we are particularly interested in any photographs you might have of the July 2011 or April 2013 flooding events. You can complete a [comment card form](#) and submit it or photographs by e-mail to stormwatercomments@winnetka.org.



Strand will document and communicate the input received at these meetings and will begin evaluating the feasibility and benefits of various approaches to flood reduction in the project areas. Strand's next engagement meetings, as part of their Exploration Phase, will focus on discussing and exploring possible flood reduction strategies and improvements and are expected to occur in early March 2016.

Keep abreast of the Stormwater Alternatives Study and progress by signing up for E-Winnetka (the Village's weekly e-mail news update): click "[Subscribe](#)" in the footer of the Village homepage, www.villageofwinnetka.org. We also encourage you to subscribe to Stormwater E-Alerts—whereby you receive any new stormwater-related articles summarized conveniently in an email digest.

ATTACHMENT #2
Summary of Exploration Phase

March 3 & 5 Exploration Phase Open Houses- Materials & Summary



Review Exploration Phase Materials:

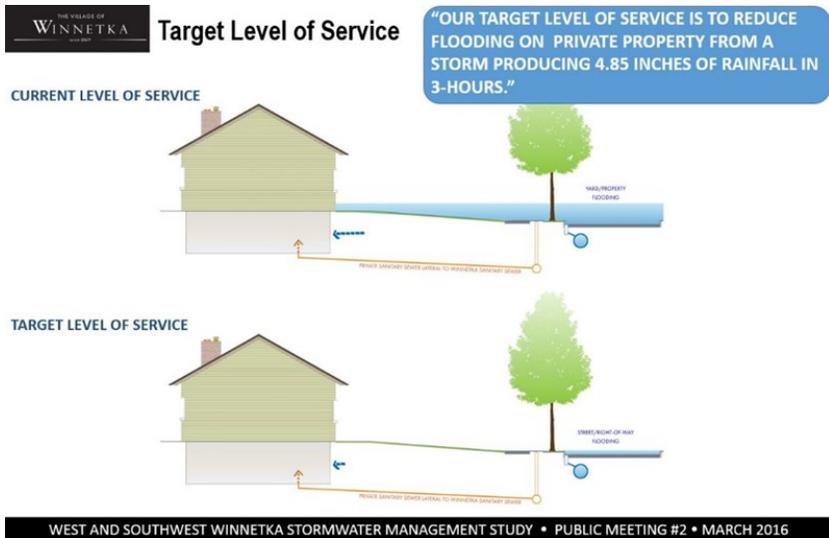
- [Video of Consultant Presentation](#) (click "Stormwater Videos" under Category)
- [Consultant PowerPoint Presentation](#)
- [Exploration Open House Comment Card](#)

Open House Summary:

On March 3 and 5, a series of Open Houses were held at which the potential opportunities for stormwater and flood control were presented and discussed.

Flood Protection Goals

The Village has established flood protection goals to prevent home and structure flooding, reduce surface flooding on private property, and provide for passable flood depths in streets from a target storm event producing 4.85 inches of rainfall over a 3-hour period of time, as reflected in Figure #1 (below).



A number of opportunities have been identified that achieve these goals, including a mix of distributed homeowner-level green infrastructure improvements, neighborhood stormwater management and conveyance, and watershed-based stormwater storage. No single improvement will reach the Village’s goal, so a combination of improvement opportunities are being assessed to create a final vision for stormwater and flood control in western and southwestern Winnetka, as displayed in Figure #2 (below).



The opportunities that make-up this vision must be technically feasible, cost-effective, and community supported.

Distributed Green Infrastructure

Green infrastructure opportunities being considered include homeowner-level improvements like rain barrels, rain gardens, and pervious driveways. These opportunities alone are not able to address the target 100-year storm event, but they do provide relief during more frequent, less intense

rainfalls. Additionally, these opportunities are instrumental in providing water quality improvements, which is an important aspect of the Village's final stormwater management vision. The effectiveness of these opportunities is based on participation by property owners and would probably be implemented over an extended period of time.

Distributed green infrastructure also includes local neighborhood improvements such as street curb bump outs (Figure #3, below), rain garden parkways, and green intersections.



These improvements also provide benefit during smaller intensity rainfall events and add another valuable layer of water quality improvements. Challenges to be considered with these opportunities include changes to traffic patterns, permanent closing of streets, and loss of mature parkway trees.

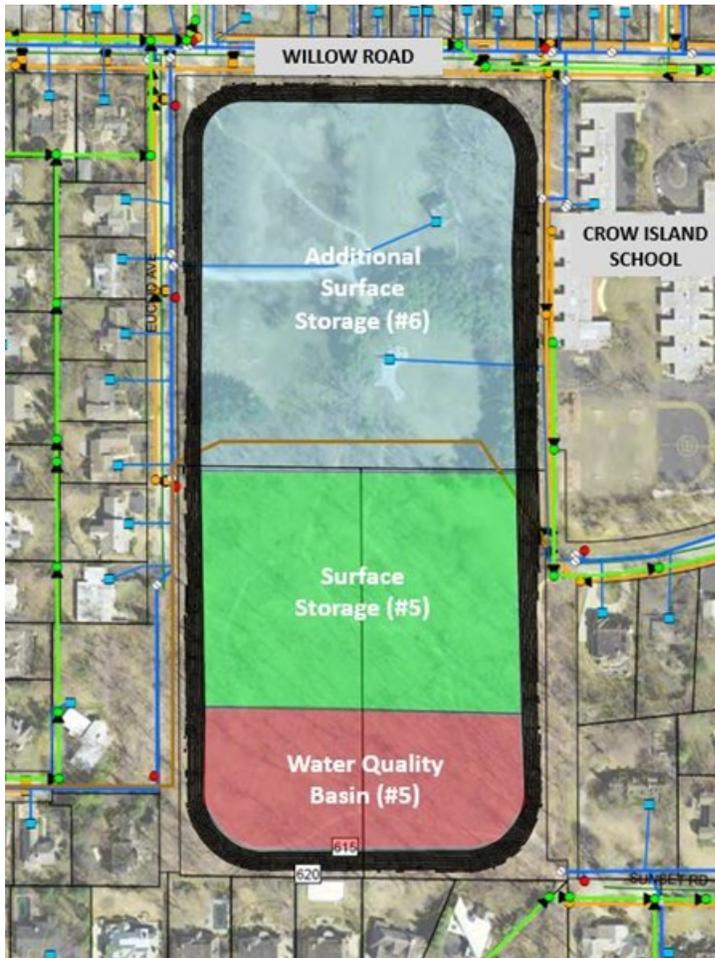
A limitation to all of the green infrastructure opportunities are local soil conditions. Winnetka is underlain by stiff clay soils (Class D Soils) which have very limited infiltration capability. So the green infrastructure opportunities are generally intended for slowing down and cleansing of stormwater runoff rather than significantly reducing the total volume of runoff.

Stormwater Storage

Potential opportunities for stormwater storage require identification of available open space and generally fall into one of two types: neighborhood opportunities and watershed opportunities. Potential neighborhood opportunities include the Washburne-Skokie Play Field, which would entail providing underground stormwater storage and replacing the surface play fields.

Other potential storage opportunities are being explored, including West Elm Street Park, Crow Island Park, and Indian Hill Golf Course. Stormwater storage at West Elm Street Park would require significant tree removal and change the character of the park. Strand's model analysis shows that during significant rain events, portions of the Indian Hill Golf Course become inundated, affecting playability and course conditions. The potential exists to find ways to manage stormwater inundation so that both

course recovery times and neighborhood flood risk would be reduced. Obviously, any improvements will have to be worked into the playability of the golf course and the requirements of the club. Crow Island Park (Figure #4, below) poses one of the best storage opportunities and would entail restoration of this area to its historical wetland and wet prairie conditions. Crow Island Park also represents a great water quality opportunity.

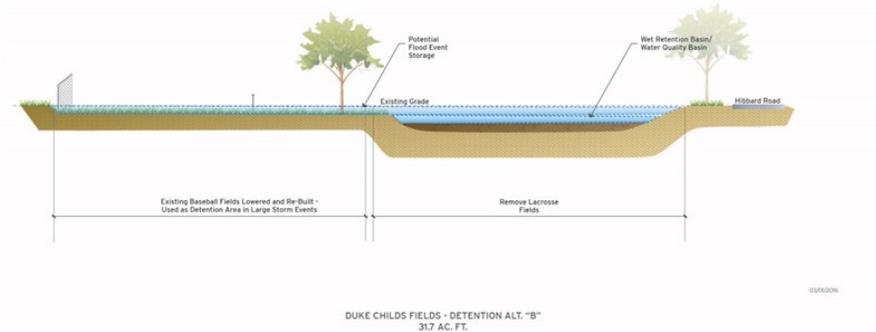


Another potential neighborhood storage opportunity would be to purchase vacant parcels or buy-out existing home sites. However, often the available vacant parcels are not connected to the areas that flood and provide limited benefit. Buying out existing home sites is very challenging, and in Winnetka's case, may not be cost-effective.

Numerous potential watershed opportunities have been identified including the lands of Forest Preserve District of Cook County, New Trier High School, and Park District. Historical research has revealed that the Forest Preserve lands were lowland wet prairie and wetlands prior to development of the Skokie Lagoons and the Skokie River levee system. Conversion of the lands east of the Skokie River and south of the Skokie Lagoons back to these historical conditions would result in significant stormwater storage volumes, restoration of native habitat, and removal of invasive species while also providing for increased access and use of these lands for passive and active recreational use.

The Skokie Lagoons have also been considered for stormwater storage, but the elevation of the lagoons is actually higher than some of the flood prone areas in Winnetka. In addition to regulatory concerns and potential impacts to lagoon ecology, significant pumping—over 10 times the Village’s current pumping capacity—would be required to transfer flood waters to the Lagoons, making this alternative far more expensive and less feasible than the other identified opportunities.

Potential watershed storage opportunities on Duke Childs Field north of Willow Road, owned by the New Trier High School District, range from use of the existing lacrosse field along Hibbard Road to use of the entire field, including the baseball fields. Conversion of the lacrosse field to a wet or wetland pond represents one of the best stormwater storage and water quality opportunities identified to-date



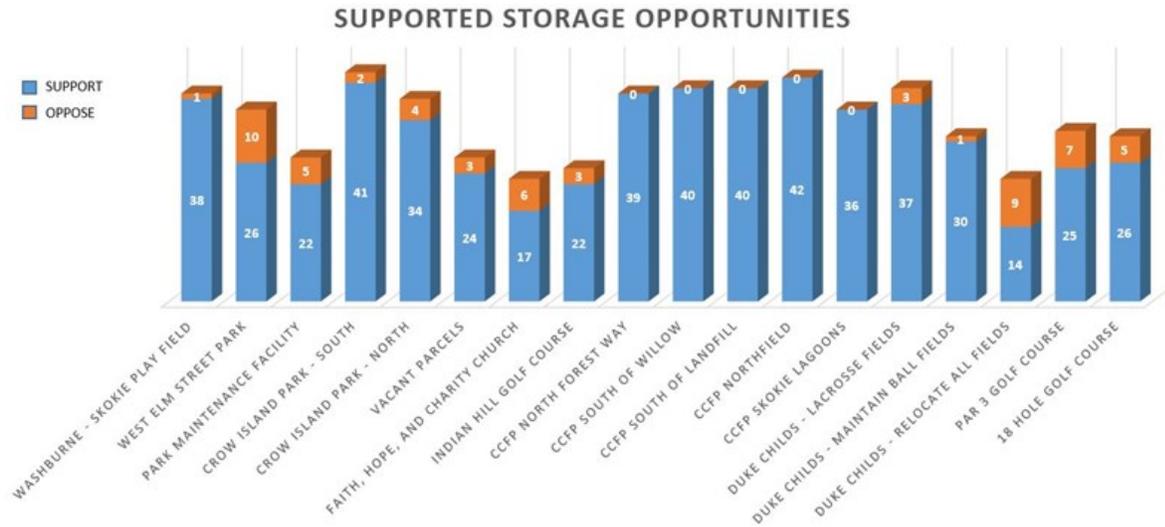
In order to maintain current activities and levels of use for the High School, the lacrosse fields could be relocated to the top of the landfill south of Willow Road with modifications for public use, access, and parking. Additional storage could be realized by lowering the baseball fields to provide storage during large storm events with a system to drain the fields when flood waters recede. If an alternate location can be identified that provides sufficient land and logistics for the baseball fields, the entire Duke Childs Field could be converted to stormwater storage. Figure #5 (above) shows storage opportunities at this site.

Stormwater Conveyance

Integral to implementation of any identified stormwater storage opportunity is the conveyance system that transports the stormwater away from private properties. Among the conveyance opportunities identified are new large diameter storm sewers and box culverts. The size of the conveyance infrastructure will require significant work in roadways and may require dedication of easements from private property owners. But the benefit of these new systems could result in removal of many of the Village’s existing pumping stations—reducing the Village’s dependence on pumping and elimination of reliability issues from pump or power failures.

Public Involvement

Comments received from the public are being used to evaluate the potential stormwater opportunities and to develop the Village’s final vision for stormwater management and flood control. Figure #6 (below) presents a summary of feedback the Village has received via comment cards from March 3 and 5.



Moving forward, Strand will identify the combination of opportunities that together make up the Village’s recommended stormwater management and flood control vision. Public input is welcome as this process proceeds to the Vision Phase Workshop at the **Washburne School Theater at 7:00 p.m. on Tuesday, April 12**. Please note there will be no Village Council meeting that night. At that time, the public will have the chance to hear about the process used to develop the final vision, see renderings of the recommended improvements, understand the anticipated costs and timeline for implementation of the vision, and provide comments for consideration in finalizing the Vision for Village Council deliberation.

Study materials, concepts, cost estimates and feedback forms are available at: <http://www.villageofwinnetka.org/residents/stormwater-alternatives-evaluation/>.

ATTACHMENT #3
Summary of Vision Phase

April 12 Vision Phase Workshop phase Open Houses- Materials & Summary

Review Vision Phase Materials:

The April 12 Vision Phase Workshop builds upon the preliminary opportunities identified and presented during the March 2016 Open Houses (those materials can be reviewed at the [2016 Open Houses page](#)). Strand Associates presented and discussed a conceptual vision for stormwater and flood control. Over 125 people attended to hear the presentation and to ask questions, provide comments, and discuss the project with the Strand team. The presentation and Powerpoint can be viewed via the following links:

- [Video of Consultant Presentation](#) (click "Stormwater Videos" under Category)
- [Consultant PowerPoint Presentation](#)
- [Vision Phase Workshop Comment Card](#)

Presentation Summary and Highlights:

Flood Protection Goals

The Village has established flood protection goals to prevent home and structure flooding, reduce surface flooding on private property, and provide for passable flood depths in streets from a design storm event producing 4.85 inches of rainfall over a 3-hour period of time.

Summary of Watershed Investigations

A number of opportunities have been identified that achieve these goals, including a mix of distributed homeowner-level green infrastructure improvements, neighborhood stormwater management and conveyance, and watershed-based stormwater storage. No single improvement will reach the Village's goal, so a combination of improvement opportunities is being assessed to create a final vision for stormwater and flood control in western and southwestern Winnetka.

Green infrastructure opportunities being considered include homeowner-level improvements like rain barrels, rain gardens, and pervious driveways, and neighborhood-level improvements such as parkway rain gardens and infiltration areas. Potential opportunities for stormwater storage require identification of available open space and generally fall into two types of opportunities: neighborhood and watershed.

Neighborhood opportunities include the Washburne-Skokie Play Field, which would entail providing underground stormwater storage and replacing the surface play fields. Other potential neighborhood storage opportunities are being explored, including Crow Island Woods, which poses one of the best storage opportunities and advances the Village's water quality goals.

At the watershed level, Strand is evaluating storage on lands belonging to the Forest Preserve District of Cook County, New Trier High School, and Park District. Historical research has revealed that the Forest Preserve lands were lowland wet prairie and wetlands prior to development of the Skokie Lagoons and

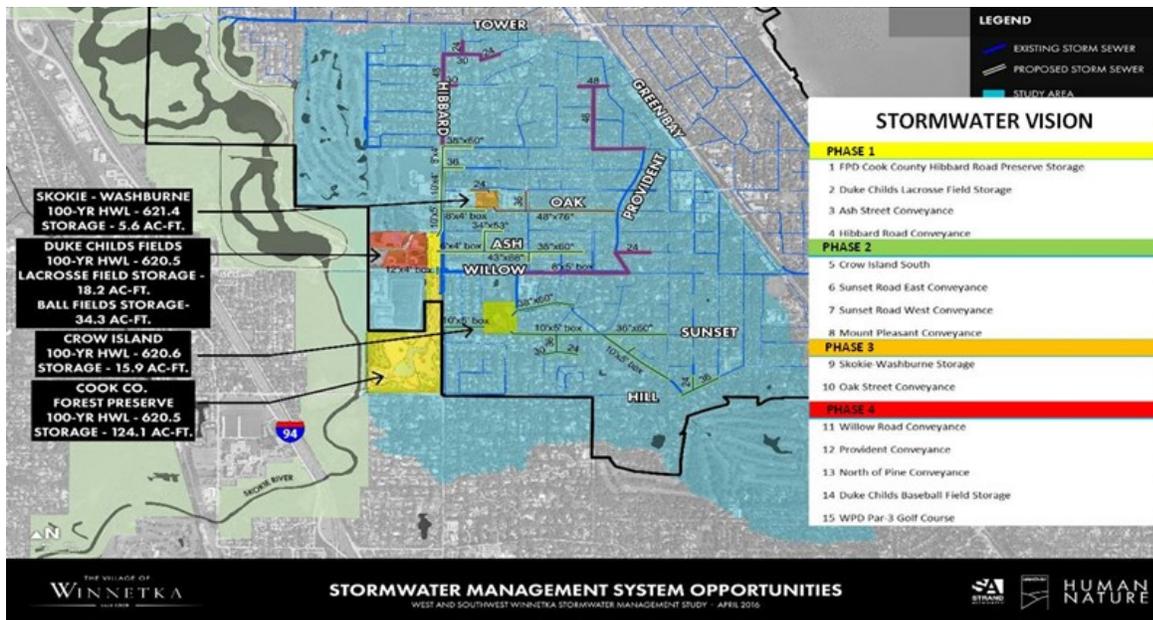
the Skokie River levee system. Conversion of the Forest Preserve lands east of the Skokie River and south of the Skokie Lagoons back to these historical conditions would result in significant stormwater storage volumes, restoration of native habitat, and removal of invasive species. The current vision would also provide for increased access and use of these lands for passive and active recreational use.

Conversion of the lacrosse fields at Duke Childs Field, north of Willow Road (and owned by New Trier High School District), to a wet or wetland pond represents one of the best stormwater storage and water quality opportunities identified to-date. In order to maintain current activities and levels of use for the High School, the lacrosse fields could be relocated to the top of the landfill south of Willow Road with modifications for public use, access, and parking.

Integral to implementation of any identified stormwater storage location is the conveyance system that transports the stormwater away from private properties. Strand's conveyance improvements include new large diameter storm sewers and box culverts. The size of the conveyance infrastructure will require significant work in roadways and may require dedication of easements from private property owners. But the benefit of these new systems could result in removal of many of the Village's existing pumping stations—reducing the Village's dependence on pumping and elimination of reliability issues from pump or power failures.

Overall Vision

Based on Strand's modeling and evaluation to-date, they have proposed a combination of conceptual projects that produces an advantageous balance of flood reduction benefit, cost-effectiveness, and phased implementation. Strand has identified a series of projects that, if fully implemented, would significantly reduce the number of homes in the watershed that are at risk of floodwater intrusion for the design event. The proposed vision consists of 15 discrete stormwater storage and conveyance projects, water quality management improvements, and distributed green infrastructure improvements, in four phases. These elements are shown in Figure #1 (below).



Phase 1

Phase 1 conceptual improvements consist of a large constructed wetland improvement on Cook County Forest Preserve property south of Willow Road west of Hibbard Road, and a wetland and stormwater storage facility on the Duke Childs Field property at Willow Road and Hibbard Road. The two lacrosse/soccer fields would be relocated to open space at the top of the Village's landfill property. Phase I improvements would also include large stormwater conveyance pipes on Ash Street, Cherry Street, Oak Street, Pine Street, Spruce Street, and Hibbard Road to carry stormwater to the new storage areas.

The critical Phase 1 improvement is a restored, constructed wetland on Cook County Forest Preserve property located to the south and to the east of the Village's landfill, along Hibbard Road and Winnetka Avenue. This improvement, which still requires significant additional cooperative evaluation with the Forest Preserve District staff, and ultimately Forest Preserve Board approval, provides wetland restoration, habitat and water quality improvements, and approximately 124.1 acre-feet (40.4 million gallons) of stormwater holding capacity. This conceptual improvement is illustrated in Figure #2 below.



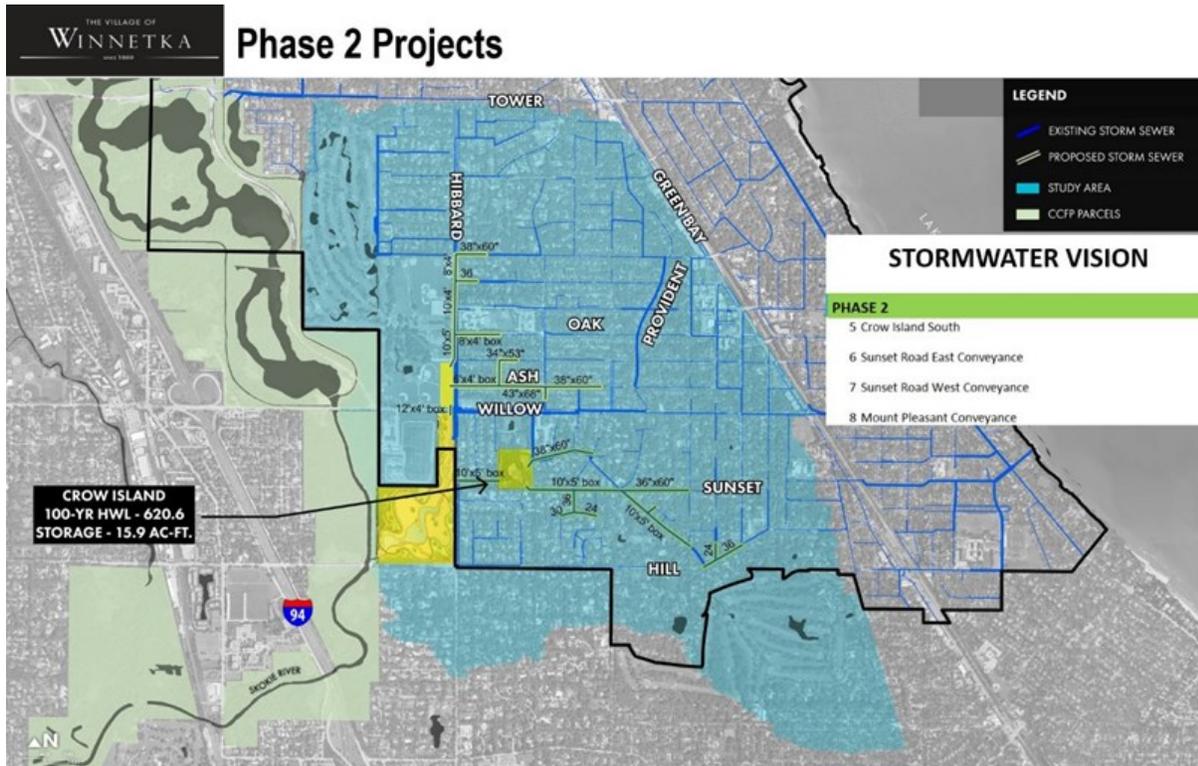
A second key improvement would be located in Duke Childs Field, at the northwest corner of Willow Road and Hibbard Road. This concept involves relocating the existing lacrosse and soccer fields to the top of the Village's landfill, across Willow Road, and creating approximately 18.2 acre-feet (5.9 million gallons) of stormwater storage capacity as well as a water quality enhancement area. Preliminary evaluation indicates that with re-contouring, there is sufficient space on the landfill to safely

accommodate the two fields, but many details remain to be worked out. It is important to note that Duke Childs Field is owned by New Trier High School and is valuable to their athletic programming. Any stormwater improvements at that location need to be coordinated with and approved by the New Trier Board of Education.

These two storage projects, and the associated larger storm sewer pipes under Ash Street, Cherry Street, Oak Street, Spruce Street, Pine Street, and Hibbard Road, will bring relief to areas north of Willow Road.

Phase 2

Phase 2 projects are focused on flood reduction for areas south of Willow Road, and consist of conveyance improvements along Sunset Road, the Skokie Ditch, Mount Pleasant Street, and the Chestnut/Hill intersection, and a water quality and stormwater detention project in the Crow Island Woods area. These projects are shown in Figure #3 below.



The conceptual Crow Island Woods project would involve creating approximately 15.9 acre-feet (5.2 million gallons) of stormwater storage capacity along with a water quality enhancement wetland, in the currently wooded southern section of the park. The northern section, with the pavilion, Burnham Log Cabin, picnic areas, tribal council ring, and open fields would not be modified. This conceptual project is shown in Figure #4 below.

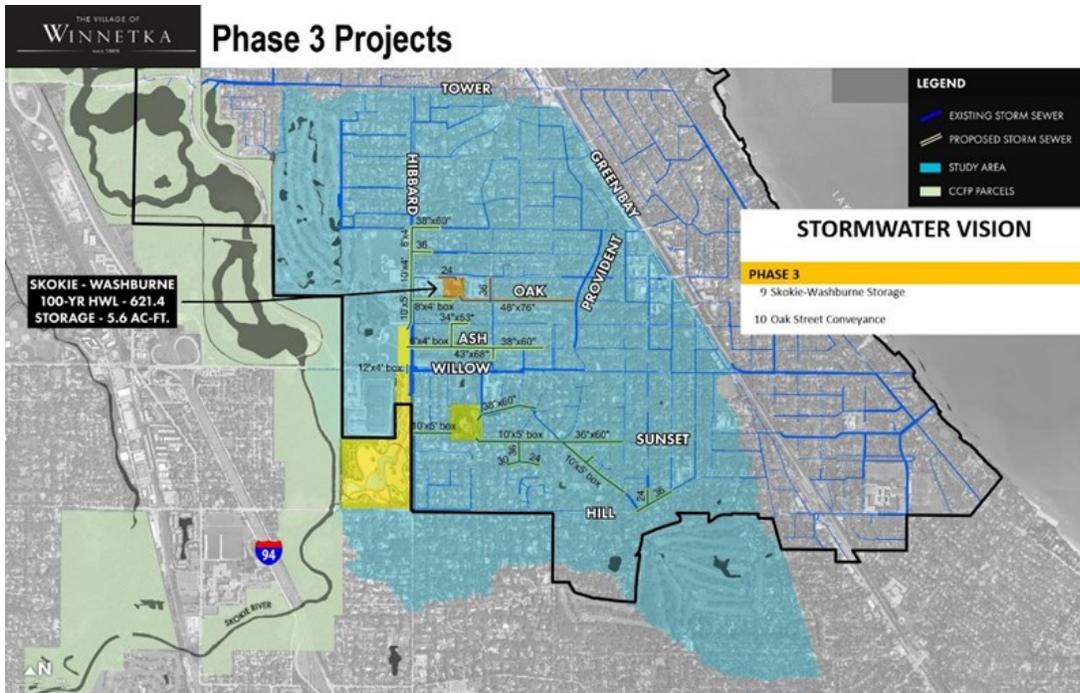


The conceptual vision for Crow Island Woods includes a permanent pool and wetland environment, for water quality enhancement, as well as upland areas with walking paths and forested areas.

Phase 2 also requires construction of larger storm sewers (10-foot x 5-foot) underneath Sunset Road and along the Skokie Ditch to convey water to the Crow Island and Forest Preserve storage areas. The Phase 2 projects, in conjunction with the Forest Preserve project, will bring significant stormwater relief to areas south of Willow Road.

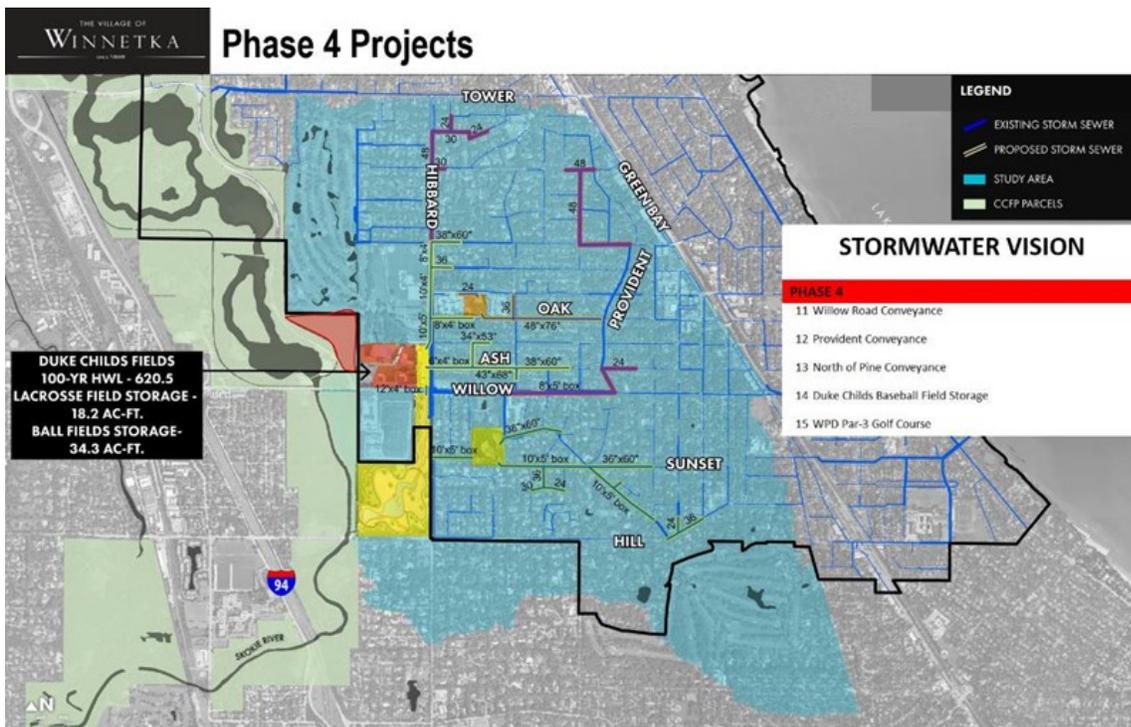
Phase 3

The Phase 3 projects call for new larger storm sewers on Oak Street, and an underground stormwater storage vault beneath the Skokie-Washburne athletic fields that provides 5.6 acre-feet (1.8 million gallons) of stormwater storage capacity. These projects, which would bring further relief to areas north of Willow Road, are shown in Figure #5 below. These fields belong to Winnetka School District 36 and any improvements in this location will require cooperation with and approval by the School District.



Phase 4

Phase 4 projects are primarily conveyance projects – larger storm sewers – but also includes implementing some additional storage opportunities north of Willow Road. These projects that bring flood relief to areas farther north and east in the study area are shown in Figure #6 below.

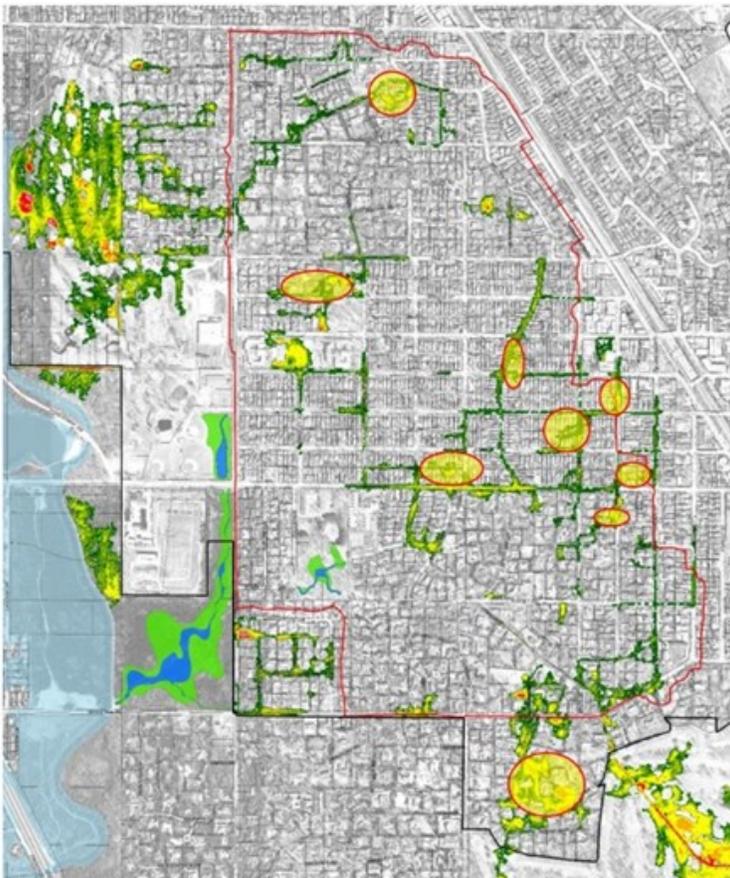


Mitigation Zones

If all of these projects are implemented, the extent of flooding and number of at-risk residences will be significantly reduced. Under existing conditions, modeling has indicated that approximately 474 residences are at risk of flooding from the design event. If the full vision is implemented, this number would be significantly reduced, to approximately 61 properties that would need to be addressed by a process of individual property mitigation. Strand will evaluate individual homes or small areas to identify specific buildings with flood risk and to identify individual or group property protection activities to protect buildings against the design storm. These mitigation zones are shown in Figure #7 below.



Mitigation Zones



Mitigation measures might include things like protecting low entry points like basement doors or window wells, raising buildings, grading properties to provide flood protection, or other localized measures.

Green Infrastructure

Green infrastructure is a key part of the storage projects envisioned for the Cook County Forest Preserve, Duke Childs Field, and Crow Island Woods. Stormwater wetlands use natural biological

processes to filter stormwater prior to discharge to waterways. A variety of neighborhood level green infrastructure improvements, such as parkway and intersection rain gardens, are critical to the Village's vision as they provide water quality and storage benefits in key areas, for smaller storms. Sample green infrastructure installations are shown in Figure #8 below.



Neighborhood Level Green Infrastructure



- Anticipate 15 to 20 intersections
- Anticipate 12 to 15 parkways (without tree removal)
- To be constructed along with other conveyance improvements

Provides 4 to 5 ac-ft. of storage volume
Provides valuable water quality improvements

Concept Level Cost Estimates

Strand has developed conceptual level costs estimates for all of the improvements outlined in the current Vision. These estimates were developed using current unit cost information. The total project cost estimate, for all four phases, is \$57,717,000. Individual phases and component costs are shown in the following Figure #9.

● Phase 1	Cost
○ FPDCC Hibbard Road stormwater storage project	\$ 8,582,000
○ Duke Childs lacrosse field stormwater storage project	\$ 1,005,000
○ Winnetka landfill improvements - lacrosse field relocation	\$ 2,331,000
○ Ash Street conveyance project	\$ 5,107,000
○ Hibbard Road North conveyance project	\$ 6,553,000
Total	\$ 23,578,000
● Phase 2	Cost
○ Crow Island South stormwater storage project	\$ 1,841,000
○ Sunset Drive East conveyance project	\$ 10,356,000
○ Sunset Drive West conveyance project	\$ 2,821,000
○ Mount Pleasant conveyance project	\$ 1,362,000
Total	\$ 16,380,000
● Phase 3	Cost
○ Washburne-Skokie school underground stormwater storage project	\$ 1,381,000
○ Oak Street conveyance project	\$ 3,294,000
Total	\$ 4,675,000
● Phase 4	Cost
○ Provident local storm sewer improvement project	\$ 2,930,000
○ Willow Road local storm sewer improvement project	\$ 5,284,000
○ North of Pine conveyance project	\$ 2,408,000
○ Duke Childs/WPD Par-3 Golf Course/FPDCC storage project	\$ 2,461,000
Total	\$ 13,084,000
Project Total	\$ 57,717,000

It is important to note that this estimate includes approximately \$10.9 million in total contingencies – accounting for the many uncertainties present at the current conceptual level of design. The total also captures \$6.1 million for detailed final engineering and project permitting.

Public Involvement

Comments received from the public at open house forums and through electronic communications are being reviewed, and to-date, have been heavy influences to evaluate the potential stormwater opportunities and to develop a phased approach and vision. Moving forward, Strand will continue to analyze and refine the combination of opportunities that together make up the Village’s recommended stormwater management and flood control vision. Public input is welcome as this process proceeds through the Vision Phase. Additional public engagement opportunities will be available to review and comment on the conceptual vision, see renderings of the recommended improvements, understand the anticipated costs and timeline for implementation of the vision, and provide comments for consideration before the vision is transmitted to the Village Council for deliberation.

ATTACHMENT #4
New Trier High School Board Memorandum
(Source: New Trier District 203 Website)

NEW TRIER TOWNSHIP HIGH SCHOOL DISTRICT 203

To commit minds to inquiry, hearts to compassion, and lives to the service of humanity.®



TO: Board of Education
FROM: Linda Yonke
RE: Village of Winnetka Storm Water System Study
DATE: April 14, 2016

The Village of Winnetka has been studying flood mitigation for a number of years. After the decision to abandon the “Deep Tunnel” approach for storm water management due to feasibility questions and high cost estimates, the Village hired Strand Associates, Inc. to study other options.

Last spring, representatives from Strand and from the Village invited administrators from the Cook County Forest Preserve District, Winnetka Park District, Winnetka Elementary District 36, and New Trier District 203 to meet with them separately to discuss the challenge of flooding in the Village and to see the preliminary results of their study. The Village and consultants had decided to focus only on the area of Winnetka west of Green Bay and south of Tower Road, with the primary objective being to relieve flooding in the “tree” streets of the Village as well as the area east of Hibbard and south of Willow Road. They are studying storage and conveyance methods for managing storm water – retention ponds, underground detention, underground conveyance, and pumping systems. Since the very first meeting, I have made clear that all of the land at Duke Childs Field is important to the extracurricular program at New Trier, and that any plans would have to result in no loss of acreage and no cost to District 203. New Trier owns the entire area known as Duke Child Fields, including the two baseball fields, the softball field, and these soccer/lacrosse fields. The fields under consideration are used for lacrosse and soccer practice and occasional contests, with softball sometimes using space at the north end of the field for pitching or batting practice (especially since the loss of space at Winnetka). In addition, we allow use of the fields by some AYSO Soccer teams and the Winnetka Park District. We use the fields in spring, summer, and fall, though not every day.

This winter, Village officials have invited me to two meetings to preview their plans. Their plans impact Duke Childs Field in a significant way. This past Tuesday, the Village and Strand Associates conducted a public meeting at Washburne School to present their study results and the conceptual plans, including a preliminary budget. I have attached five slides from that presentation, which Greg Robitaille and I attended.

1. The first slide shows an overview of the areas being studied, with insets showing where work would be done to mitigate flooding. Those areas include the Skokie-Washburne play fields; Duke Childs Field; Crow Island Woods; and Cook County Forest Preserve land north of Winnetka Avenue, west of Hibbard, and south of Willow Road. Each of these areas was described as critically important to the success of the project, though there is no formal agreement between the Village and any other governmental entities at this time.
2. The second slide shows the plans for Duke Childs Field. The baseball and softball fields would remain intact in Phase 1 of the project, but New Trier is being asked to give up the soccer/lacrosse fields that are located adjacent to the baseball/softball fields running along Hibbard from Willow Road to the Cherry Street extension. The Village would like to significantly lower these fields and create a retention pond that would have 5-6 feet of water at all times at the south end and would be sloped around this pool to hold storm water runoff after significant rainfalls.
3. The third slide shows a street-level view/rendering of the proposed retention pond at Duke Childs Field.
4. In considering our stipulation that we cannot lose any acreage due to this project, the Village and Strand are proposing that they replace our lost acreage with newly-constructed fields on top of the Willow Road landfill. The fourth slide shows the fields and surrounding parking and access road, as well as a new Forest Preserve retention pond. Part of the road around the landfill is already in existence, but their plan is to use the land that is excavated at Duke Childs and the Forest Preserve to build up the landfill and level the top to make the new fields. This slide also shows the retention pond that would be created in the Hibbard Road Woods where water from Duke Childs and the Crow Island Woods would flow, eventually ending up in the river. This entire area of the forest preserve would be cleared, excavated, and recreated as a wetland space, similar to what it was in the 1930s when the Skokie Lagoons were created.
5. The fifth slide shows plans from Phase 4 of the project. If work from the first three phases does not mitigate the flooding issues in Winnetka, the plan is to continue with Phase 4, including lowering the Duke Childs baseball and softball fields five to six feet, reconstructing all facilities and fields, thereby creating more detention area for storm water runoff in significant rain events.

Concerns about the project proposal include the following:

1. Loss of contiguous field space: Having the fields adjacent to the baseball and softball spaces makes for easier transport of students to the site, supervision of students, and access to trainers. Students on those fields have easier access to the amenities that are on Duke Childs Field that would not be easily accessible from across the busy street.

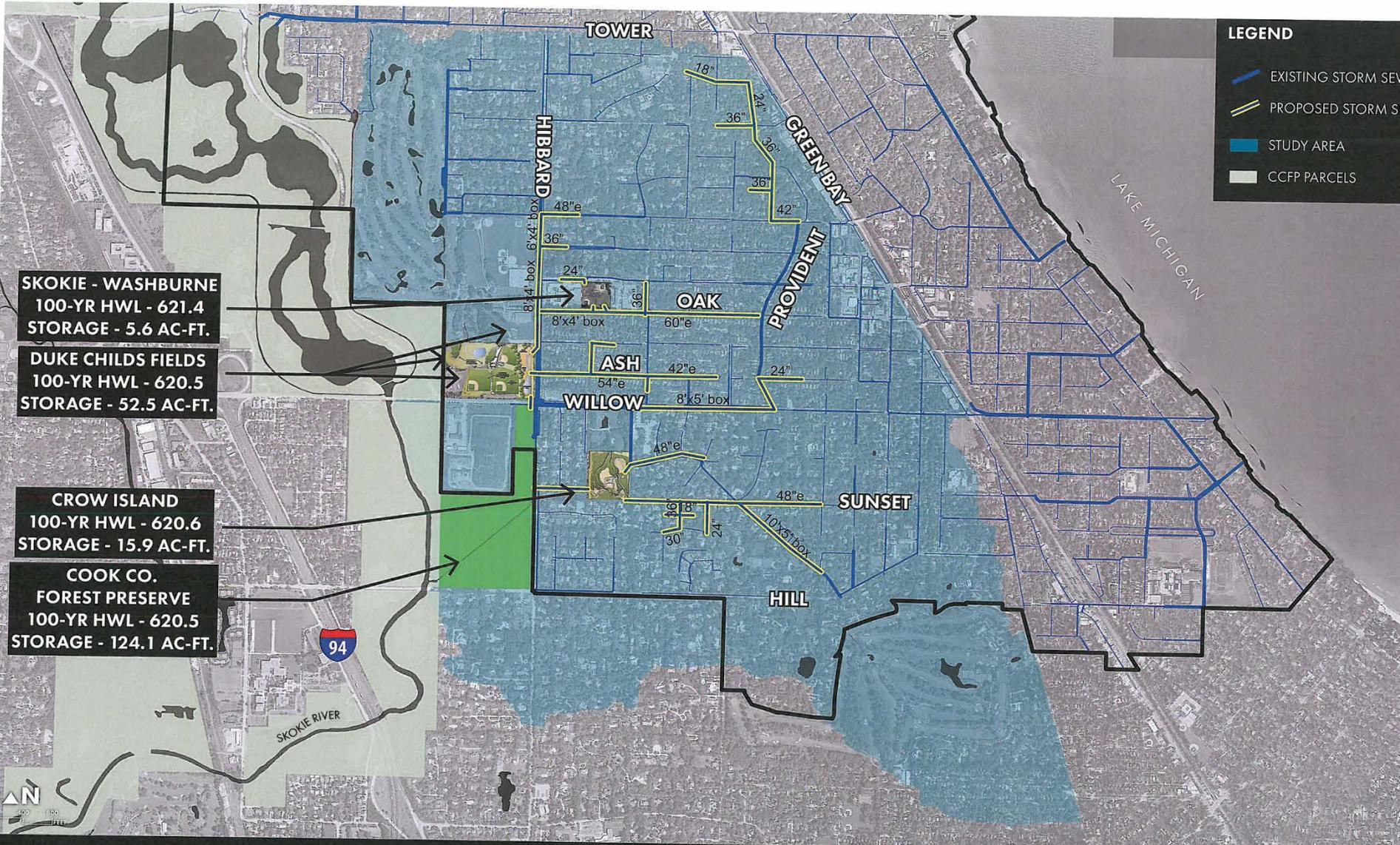
2. Underground detention: In our meetings with the Village, we have proposed underground storm water detention instead of the creation of the permanent pool and retention pond. They cite the increased cost of that solution, but that is what they are doing at the Skokie playfields and that is what the Park District did in their reconstructed fields to the north of Duke Childs. I am concerned that the cost of building the fields on the landfill has been underestimated with a price tag of around \$2.1M, and that perhaps the cost of building underground detention would not be as prohibitive as first estimated.
3. Landfill fields: In addition to the high cost of construction and the decreased accessibility of landfill fields, other concerns arise. Will the environment be safe for students who play on the landfill? Will the landfill continue to sink? (It has dropped 10 feet since it was closed and capped in 1994, mostly in the first ten years.) Will the additional dirt added for construction accelerate its rate of sinking? Can any amenities be included in the field construction, including restrooms and shelters in case of storms? Will there be handicapped accessibility?
4. Timing/Logistics: Strand representatives indicate that they expect it to take two or more years to secure all the needed permissions from the Cook County Forest Preserve, assuming they do agree to include their land in the project. Winnetka would like to begin the project by excavating at Duke Child and then constructing the landfill site. New Trier would be without those fields for up to two years.
5. Baseball/Softball field reconstruction: I have serious concerns about lowering the height of the baseball and softball fields, including the amount of down time that would occur and the fact that they would be flooded more severely and more frequently in significant rain events. There is no substitute location for our baseball and softball fields to use either temporarily or permanently.
6. Ownership/Lease: New Trier District 203 owns the land at Duke Childs Field. We would not own the fields on the landfill; the Village cannot sell landfill space. Questions about ownership of the Duke Child fields as well as control of the new fields, if that option were to occur, would need to be worked out.

The purpose of presenting this item is to inform the Board about the storm water planning in the Village and to seek guidance about working with the Village on the project. We want to be good neighbors, and we recognize that flooding is a significant issue in much of the Village of Winnetka. However, we also have a strong interest in providing space for our athletic program and protecting land that we own. How to balance these interests will be an ongoing discussion as Winnetka further develops its plans for storm water management.

Village of Winnetka Storm-Water System Study



APRIL 18, 2016
NEW TRIER DISTRICT 203
BOARD OF EDUCATION
MEETING



LEGEND

- EXISTING STORM SEW
- PROPOSED STORM SEW
- STUDY AREA
- CCFP PARCELS

SKOKIE - WASHBURNE
 100-YR HWL - 621.4
 STORAGE - 5.6 AC-FT.

DUKE CHILDS FIELDS
 100-YR HWL - 620.5
 STORAGE - 52.5 AC-FT.

CROW ISLAND
 100-YR HWL - 620.6
 STORAGE - 15.9 AC-FT.

COOK CO. FOREST PRESERVE
 100-YR HWL - 620.5
 STORAGE - 124.1 AC-FT.

STORMWATER MANAGEMENT SYSTEM OPPORTUNITIES

WEST AND SOUTHWEST WINNETKA STORMWATER MANAGEMENT STUDY · APRIL 2016

THE VILLAGE OF
WINNETKA
SINCE 1869

SA STRAND ASSOCIATES landscape design **HUMANATURAL**



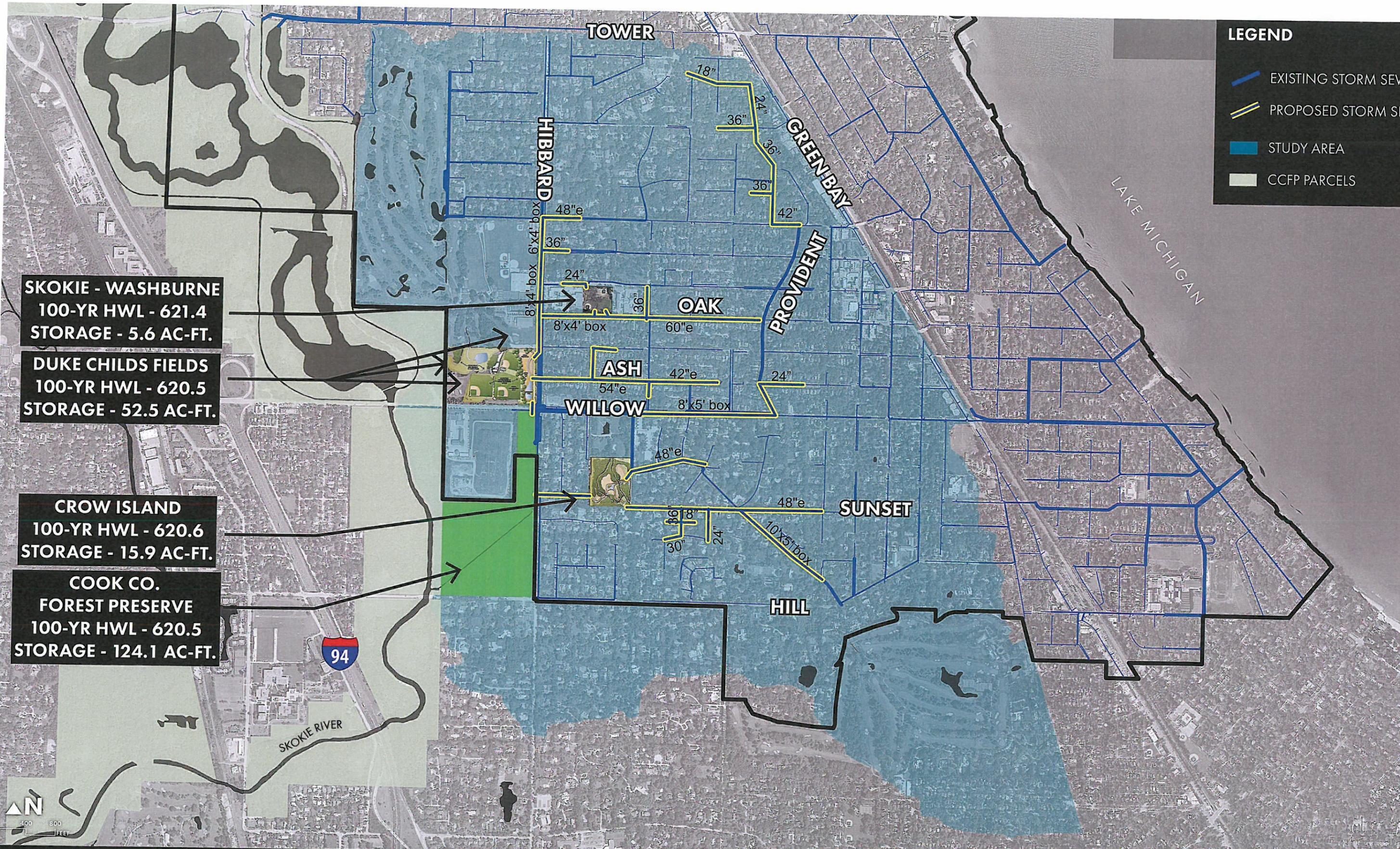






Willow Rd

Hibbard Rd



LEGEND

- EXISTING STORM SEW
- PROPOSED STORM SEW
- STUDY AREA
- CCFP PARCELS

SKOKIE - WASHBURNE
 100-YR HWL - 621.4
 STORAGE - 5.6 AC-FT.

DUKE CHILDS FIELDS
 100-YR HWL - 620.5
 STORAGE - 52.5 AC-FT.

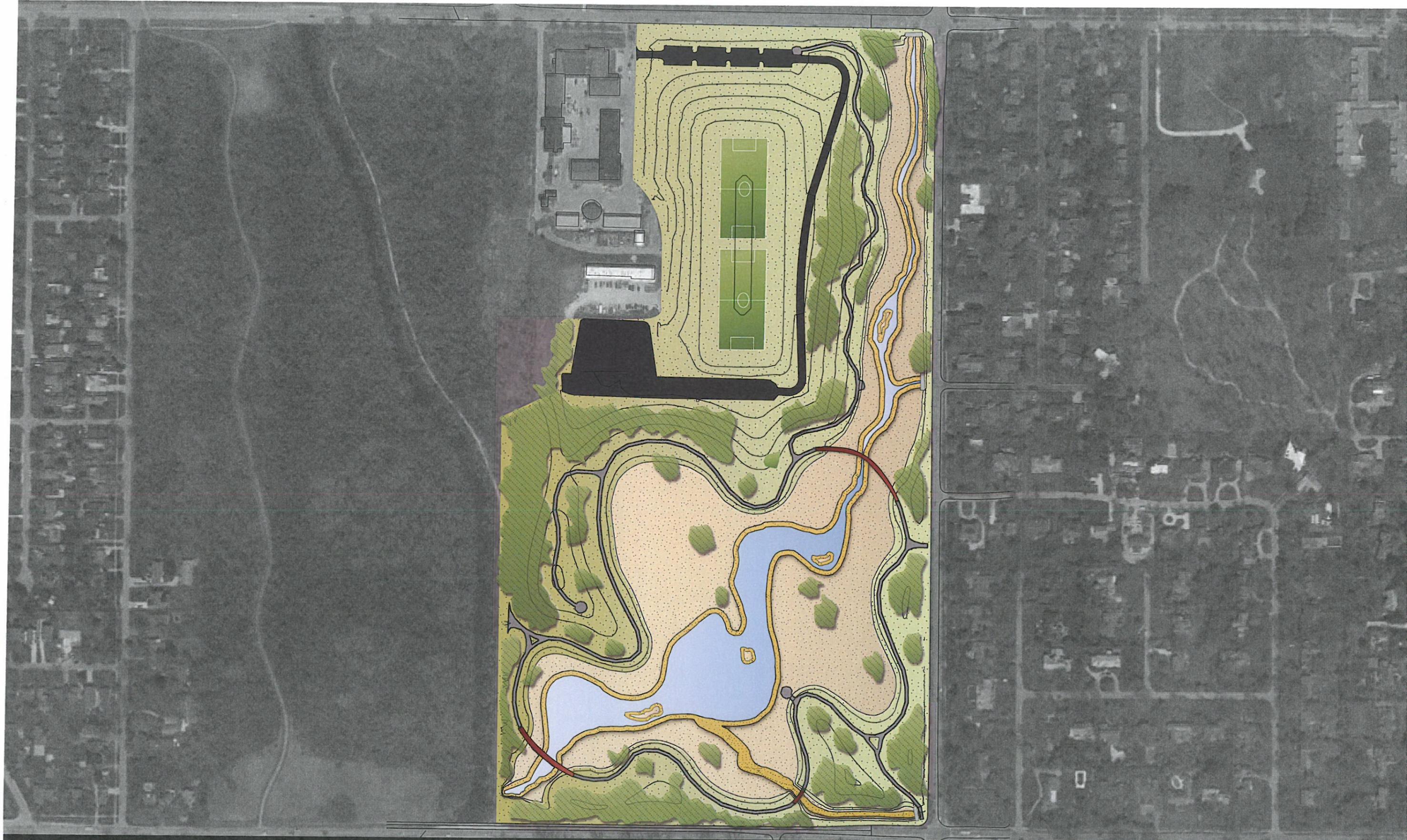
CROW ISLAND
 100-YR HWL - 620.6
 STORAGE - 15.9 AC-FT.

COOK CO. FOREST PRESERVE
 100-YR HWL - 620.5
 STORAGE - 124.1 AC-FT.



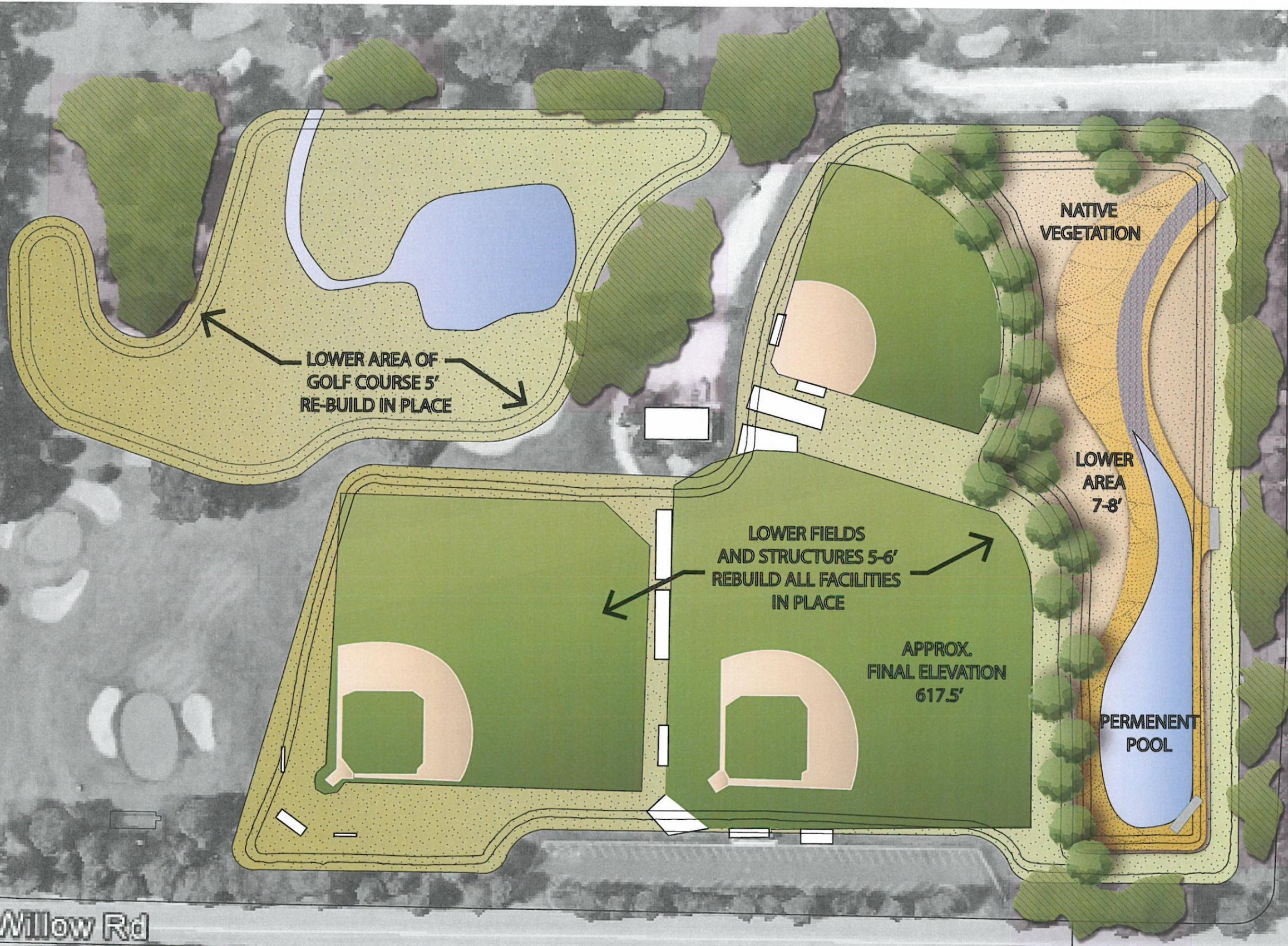






FOREST PRESERVE

WEST AND SOUTHWEST WINNETKA STORMWATER MANAGEMENT STUDY · APRIL 2016



Willow Rd

Hibbard Rd

ATTACHMENT #5
Cook County Forest Preserve
Questions and Issues

Village of Winnetka – Proposed Stormwater Management Project - Questions/Comments from Preliminary Concepts

- 1) Is Winnetka prepared to fund the planning, design, construction, and maintenance of all the proposed improvements (stormwater management areas, vegetation, trails, parking lots, interpretive signage, etc.)? If not, what will be funded?
- 2) Please confirm that the Village is planning to maximize the stormwater detention options on properties outside the FP. Also, the watersheds that will drain to the proposed constructed stormwater wetlands are fully developed, and as such the runoff will contain all the common urban pollutants. The FP supports the idea of water quality improvement, but the preserves should not act as a receptacle for pollutants and requests that BMP's be implemented in the watershed to capture and treat the first flush prior to discharge to the FP.
- 3) Please provide the depth, duration and limits/extents of storage, above the NWL for a variety of storm recurrence intervals at each of the proposed storage areas. How often would the sedge meadow area be inundated with water and how would this affect its persistence? The proposed design should consider soil erosion and sediment control, both during and post construction, to limit or preclude soil loss and promote the establishment and survival of vegetation.
- 4) Our experience is that despite the best efforts, the vegetation planted in these naturalized detention areas, particularly the sedge meadow zone, will revert to a few native species tolerant of high nutrient loads and urban runoff and invasive species such as common reed, cattails, and reed canary grass. What would be done to prevent this? Do you have examples of similar built systems that have been managed successfully for the diverse habitats proposed?
- 5) What would be the seed source for plugs and native plantings? North Branch ecotype seed source would be ideal to prevent non-local species and ecotypes from entering into the system and being washed and spread downstream; expanding habitat of local ecotypes; providing potential seed source for future collection and restoration efforts; and having the highest probability of robust establishment and persistence. The FP could provide sources of desired species, collection sites, collection dates, and permits could be provided by Ecology section for seeds collected locally to be sent to propagators.
- 5) With the concerns above from urban runoff (high nutrients from lawn treatments, road salt, sediment, etc) there is the high probability of invasive species being a continual issue that will need to be addressed long term. Besides the concerns on these sites, invasive seed will wash downstream into other preserves so invasive species need to be controlled here. Annual assessments and control treatments will need to be made. This would be an ongoing effort. Is Winnetka prepared to do maintenance of the restoration, particularly invasive control for the long term?
- 6) It appears that there is no change to the Skokie Lagoons proper. Can you confirm that this proposed work will not affect water quality or levels or in the Lagoons?

- 7) How will the project be funded, local, federal or grant \$? Would the Village be willing to support priority restoration efforts at sites nearby such as Somme Woods or Harms Woods as mitigation for this project?
- 8) Can the large cottonwood, over 77" DBH, the largest measured in the North Branch region perhaps the county, be preserved?

ATTACHMENT #6
Lakota Group Proposal
Crow Island Park Planning Engagement



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CROW ISLAND WOODS

PARK PLANNING SERVICES – Draft for review

WINNETKA, ILLINOIS

May 2, 2016

Professional Services Agreement between
THE LAKOTA GROUP and THE WINNETKA PARK DISTRICT

PROJECT DESCRIPTION:

The Lakota Group is pleased to provide our simple professional planning and landscape architectural design proposal to help the Winnetka Park District engage in a Park Planning Process for Crow Island Woods in Winnetka, Illinois. More specifically this study will work in tandem with Village of Winnetka efforts to develop and implement an overall community storm water management plan and strategy for alleviating storm water flooding impacts in targeted neighborhoods of the community. The Village along with their storm water engineering consultant, Strand Associates, has developed and shared with the community a range of conceptual solutions which aim at solving these flooding problems through a series of storm water management strategies. These concepts identify several open space areas in the community where various storm water solutions may be employed in a phased implementation manner. One of these areas includes the Crow Island Woods.

The Crow Island Woods is an open area of land south and west of a well-known community and cultural asset, Crow Island School. This historic school site was developed by world renowned architects Eero Saarinen and Dwight Perkins, and it rests on the site of former reclaimed swamp land. The Crow Island Woods is adjacent to the school site and is primarily passive open space used for community events, managed resident and school functions, and general walking and nature enjoyment. The Winnetka Historical Society undertook a major initiative several years ago to relocate Winnetka's oldest home and community landmark, The Schmidt-Burnham Log House to a portion of the park just north of the woods site. While many area institutions use this site, The Winnetka Park District owns, manages and programs this community open space.

Additionally, this site connects to several area neighborhoods both south and west through a series of informal pathways. These pathways provide a passive connection for neighborhood residents to walk to and through the site, and most importantly a means for area school children to access Crow Island, Skokie and Washburn Schools. These adjacent neighborhoods represent an area of significant flooding concerns in the community and hence the Village places a high priority on working towards achievable solutions to support them.

When concept plans were presented by the Village and their consultants to look at Crow Island Woods as a potential site for storm water management, area neighbors and residents expressed concerns about the changes to the character, beauty, safety, and appearance of this wooded area. These concerns represent the rationale for the Winnetka Park District to expeditiously move forward with a focused community and neighborhood dialogue and study of the conceptual project. More specifically our design and planning team, led by the Lakota Group and strengthened by Pizzo and Associates will leverage the talents and engineering metrics already developed by the Strand Associates engineering team and support it with more detailed site design, and ecological planning and science to provide a platform for common discussion, education and long term management of future improvements to the Crow Island Woods.

Our team will work closely with Village staff and leadership to better understand the overall storm water management goals and implementation approach and utilize this base data as the starting point to evaluate a range of plan options for the site. Critical to our planning and design study is developing an open dialogue with adjacent neighbors and the community. We will work with both the Winnetka Park District and the Village of Winnetka to outline an effective strategy of community/neighborhood engagement that incorporates both small group neighborhood discussions, as well as a community open house(s). Additional outreach, updates and educational facts will be regularly posted to both electronic media as well as Village and Park District newsletters.

While we will work with Park District staff and leadership to refine the project timeline and work program, and understand that this planning and design program needs to move quickly and efficiently. Our work scope approach below outlines a series of tasks that are anticipated to extend 4-6 months in duration. The culmination of this assignment will be a preferred site and ecological plan direction, adopted by the Park Board and subsequently Village Council. It will outline next step detailed design and engineering, associated costs and benefits, integration with Village storm water management infrastructure objectives and provide the framework for creating an economically sustainable long term management plan.

The following work scope outline identifies a series of tasks and meetings anticipated to complete a strong community engagement process coupled with more specific site and ecological design and planning. The Lakota team will work closely with WPD and village staff and leadership to refine the tasks and meeting schedule to meet timeline objectives and coordinate with on-going storm water management planning and engineering.

Proposed Work Scope

Task 1: Project Initiation

Conduct project kick-off meeting to discuss project goals, timelines, deliverables, and an outreach/communication strategy (ies). Conduct on-site tour with project team to review specific site conditions and related planning and engineering elements that will impact the design and planning process moving forward. Assist Park District staff in identifying key neighborhood or area stakeholders and coordinate project team roles and responsibilities.

Assemble relevant current project data, including, but not limited to maps, plans, reports/studies, and schematic drawings for project team's use in developing plans and programs. Preparation of base maps and information as needed. Our team anticipates working in tandem with Strand Associates to better understand the regional storm water management plan, phasing and supporting science and metrics to base our next level site and ecological design on.

Task 2: Initial Stakeholder Input

Conduct a study area site walking tour, informal outreach discussion session, and working sessions to identify key issues, opportunities and concerns to be addressed and studied as part of the design and planning process. Develop a simple summary assessment of existing site conditions, issues and concerns along with preliminary recommendations for site or ecological design solutions to be distributed to project team, Parks and Village staff and all stakeholders involved.

Task 3: Preliminary Site Planning

Using input gained to this point, prepare preliminary site and ecological planning schemes (assume 3-4 options). Develop additional metrics and/or exhibits as necessary to support preliminary planning concepts. Conduct a working session with project team members to review and comment on preliminary site design and planning schemes and metrics. Develop impact/benefit matrix for each scheme.

Revise and refine initial planning schemes (assume initial concepts narrowed down to 2-3 options). Informally present refined planning schemes to Park District Board to provide internal progress update. Identify community or neighborhood feedback to date and outline next step outreach.

Task 4: Plan Development and Community Outreach

Assist Park District and Village staff in preparation and distribution of newsletter/web site update regarding the Crow Island Woods design and planning process to date. Identify area resident key concerns and provide responses or feedback providing factual information or data collected to date.

Conduct and facilitate a public open house to allow public review and comment on planning scheme options and related metrics/exhibits. All input and feedback from the public will be identified and posted to the project outreach media following the open house.

Following input from Open House #1, refine the alternative schemes into one or more preferred plans. We anticipate preparation of at least 2 preferred schemes and related metrics. At this juncture, our team will develop more detailed illustrative renderings to convey the site plan character and ecological improvements that are envisioned.

Prepare for and facilitate a second public Open House to present the refined preferred park site plan and ecological improvement concepts, metrics and supporting exhibits. All input and feedback from the public will be identified and posted to the project outreach media following the open house. Refine the preferred master plan alternatives, related metrics and exhibits based on community, Park District and Village staff review and input.

Task 5: Crow Island Woods Park Planning Summary Report and Presentations

Develop a project summary report summarizing the planning and design process, key area concerns and issues and data to support the findings of the preferred site and ecological master plan direction. In addition to plan and ecological initiatives narrative, define project costs and outline a long term sustainable management strategy necessary to support and protect this natural area. Present draft summary report and final Site and Ecological Plan direction to Park Board members. Provide standard edits and updates to report as directed.

Preparation and presentation of Crow Island Woods Park Master Plan and summary report to the Village Board. One round of standard update/edits to report as necessary based on Park District and Village Board comments.

PROJECT TIMELINE:

Lakota will work with the Winnetka Park District to assure completion of the above tasks in a reasonable timeframe, estimated at roughly 4-6 months from project kick-off to final presentation. ***We anticipate a project start in late May with potential for completion on or about the beginning of October.***

ESTIMATED PROJECT FEES:

The above services will be provided on an hourly rate basis with a not to exceed fee of **\$67,900** according to the firm's current rates, plus reimbursable expenses.

Total Estimated Fees are as follows:

- Lakota Professional Fees	\$49,480
- Pizzo and Associates	\$18,420
- Standard Reimbursable Expenses (5%)	\$3,395
- Illustrative Rendering(s) Allowance (\$4,500)	<u>\$TBD</u>
Total:	\$71,295