



STORMWATER MANAGEMENT COMMISSION

MEMORANDUM

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**TO:** Lake County Stormwater Management Commission **DATE:** January 11, 2019  
**FROM:** Kurt Woolford, Water Resource Professional  
Mike Warner, Executive Director  
**RE:** Stormwater Infrastructure Repair Fund (SIRF) – FY19 Budget \$100,000

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**ACTION REQUESTED: APPROVAL OF ELIGIBILITY AUTHORIZATIONS**

**Village of Wauconda, Larkdale Subdivision – Stormsewer Rehabilitation Project**

SMC staff recommends approval of the Eligibility Authorization for the Village of Wauconda’s Project. The proposed project includes the repair and lining of stormsewers in the Larkdale Subdivision at the intersection of Willow Rd. and Walnut Rd. and at Larkdale Row north of Clover Lane. Consistent with SIRF program objectives, the project will provide structural damage relief for residential structures for the 100-year design storm; and reduce street and nuisance flooding. The total estimated project cost is \$122,690. The Village has requested \$60,000 of FY2019 SIRF funds. Attached is the SIRF Eligibility Authorization Form for the project, which includes a project description, location map, and other pertinent information.

**Village of Long Grove—Chickamauga Drive Drainage Improvements Project**

SMC staff recommend approval of the Eligibility Authorization for the Village of Long Grove’s project. The proposed project scope involves installation of an inlet, flared end sections, a catch basin, and a section of 24-inch storm sewer pipe to collect and convey water from Chickamauga Lane to Buffalo Creek via an existing easement. The critical duration storm for this design of a 10-year, 1-hour event will be accommodated by this improvement. Consistent with SIRF program objectives, the project will benefit multiple jurisdictions, provide beneficial results during flood events up to and including the 100-year, 24-hour storm event, and help alleviate and prevent flood damages. The estimated project cost is \$61,828, with local share of \$30,914 and a requested SIRF funding amount of \$30,914. The SIRF Eligibility Authorization Form, which includes a project description, location map, and other information, for this project is attached.

**Farm Trails HOA, Lake Barrington—Farm Trails Eastside Drainage Improvement Project**

SMC staff recommend approval of the Eligibility Authorization for the Farm Trails HOA’s project. The proposed project scope involves installation of approximately 730 feet of PVC storm sewer pipe and 4 inlet structures to alleviate residential flooding. The new system will be installed parallel to an existing (limited capacity) concrete storm sewer. Consistent with SIRF program objectives, the project will benefit multiple jurisdictions, provide beneficial results during flood events up to and including the 100-year, 24-hour storm event, and help alleviate and minimize structural, residential property, and roadway flooding. The estimated project cost is \$30,400, with a local share from the HOA of \$10,000. Additional cost sharing may be determined and will be included in the Project Agreement. The SIRF Eligibility Authorization Form, which includes a project description, location map, and other information, for this project is attached.

## Stormwater Infrastructure Repair Fund Eligibility Authorization Form

**Disclaimer: Approval of the project described herein is an acknowledgement of potential program eligibility only and in no way authorizes payment of funds, reimbursement of expenses incurred for the project and does not guarantee any future funding for the project. Funding may be available once the project has met all the eligibility requirements and a project agreement has been approved and executed by the Commission.**

Applicant Jurisdiction (s) (Community, Township, HOA)	Village of Wauconda		
Brief Project Title	Larkdale Stormsewer Rehabilitation Project		
General Location	Near intersection of Walnut Rd. and Willow Rd. and Cook St. and Larkdale Row.		
Contact Person	Brad Fink, Village of Wauconda, Bill Rickert-RHMG Engineers, Inc.		
Address	302 Slocum Lake Rd.		
City, State Zip	Wauconda, IL 60084	Phone	847-526-9610
<b>Resource Request</b>			
<input checked="" type="checkbox"/> SIRF Funds <input type="checkbox"/> SMC Staff Capacity <input type="checkbox"/> Combination Funds and Staff			
<p>Project Description (use additional sheets if necessary):</p> <p>This project consists of repairing and lining separated stormsewers. The separated stormsewers have created holes and the lack of adequate stormwater conveyance impedes stormwater flow, creating nuisance flooding. Project work includes the design, permitting, repair and lining of 15", 24" and 42" storm sewers in the Larkdale Subdivision (see Project Location Map).</p> <p>Due to its size, the 42" pipe will be lined with a geopolymer cement mortar liner that will ultimately become a new structural pipe within the existing pipe. The contractor will first perform any necessary spot repairs, then the old pipe will act as a form for the spray liner application. The final result will be a new structural pipe approximately 40" in diameter.</p> <p>The smaller diameter storm sewers will be lined with an epoxy resin felt liner. The geopolymer liner cannot be applied to pipe diameter below 36". The epoxy liner is comparable to that used in sanitary sewer installations and will be continuous through the limits of the pipe sections.</p>			

Cost Estimate	\$122,690	Applicant Share	\$62,690	SIRF Share	\$60,000
In-Kind Service Person Hours	Applicant	0 hrs	SMC	0 hrs	
In-Kind Service Description					
Project Timing		Start Date: Spring 2019		Completion Date: Summer 2019	
<b>Summary of Project Area Damages (Quantify Below # and type of damages incurred or threatened to occur)</b>					
Damage Priority	Flood Damage Type	Number of Occurrences	Frequency of Occurrences (e.g. Every Year, every two years)		
1	Structural Damage	2	Annual (starting 2017)		
2	Flooded Building	2	Annual (starting 2017)		
3	Health and Safety	2	Annual (starting 2017)		
4	Road Flooding	4	2 x per Year (starting 2017)		
5	Disruption of Revenue	-	-		
6	Parking Lot Flooding	-	-		
7	Nuisance Flooding	Multiple	With most rainfalls		
* SEE MEMORANDUM FOR CLARITY					
<b>Summary of Project Benefits (how much of the quantified damage is to be relieved and to what extent)</b>					
Consistent with SIRF program objectives, the project will benefit multiple jurisdictions, provide beneficial results during flood events up to and including the 100-year event, and help alleviate (and prevent) flood damages.					
The benefits of the proposed improvements include a significant reduction in localized nuisance flooding and improve conditions of the conveyance of the stormwater drainage way. The proposed project will follow all soil erosion and sediment control regulations to maintain downstream water quality.					
<b>Statement of Local Commitment (assurance that applicant has sufficient matching funds and staff capacity)</b>					
Funding for the project shall consist of entirely public funds. If the SMC agrees to grant this project, the Village of Wauconda will undertake the remaining cost of the project.					



Signature of Authorized Representative of the Cost Sharing Entity

**BRAD C. FINK**

Name (Print)

Requested Attachments:

1. Location Map
2. Detailed project Description
3. Detailed (per criteria) Statement on Benefits, including quantifiable benefits.
4. Statement of compliance with SMC policies, local plans and Ordinance
5. Other comments or supporting documents.

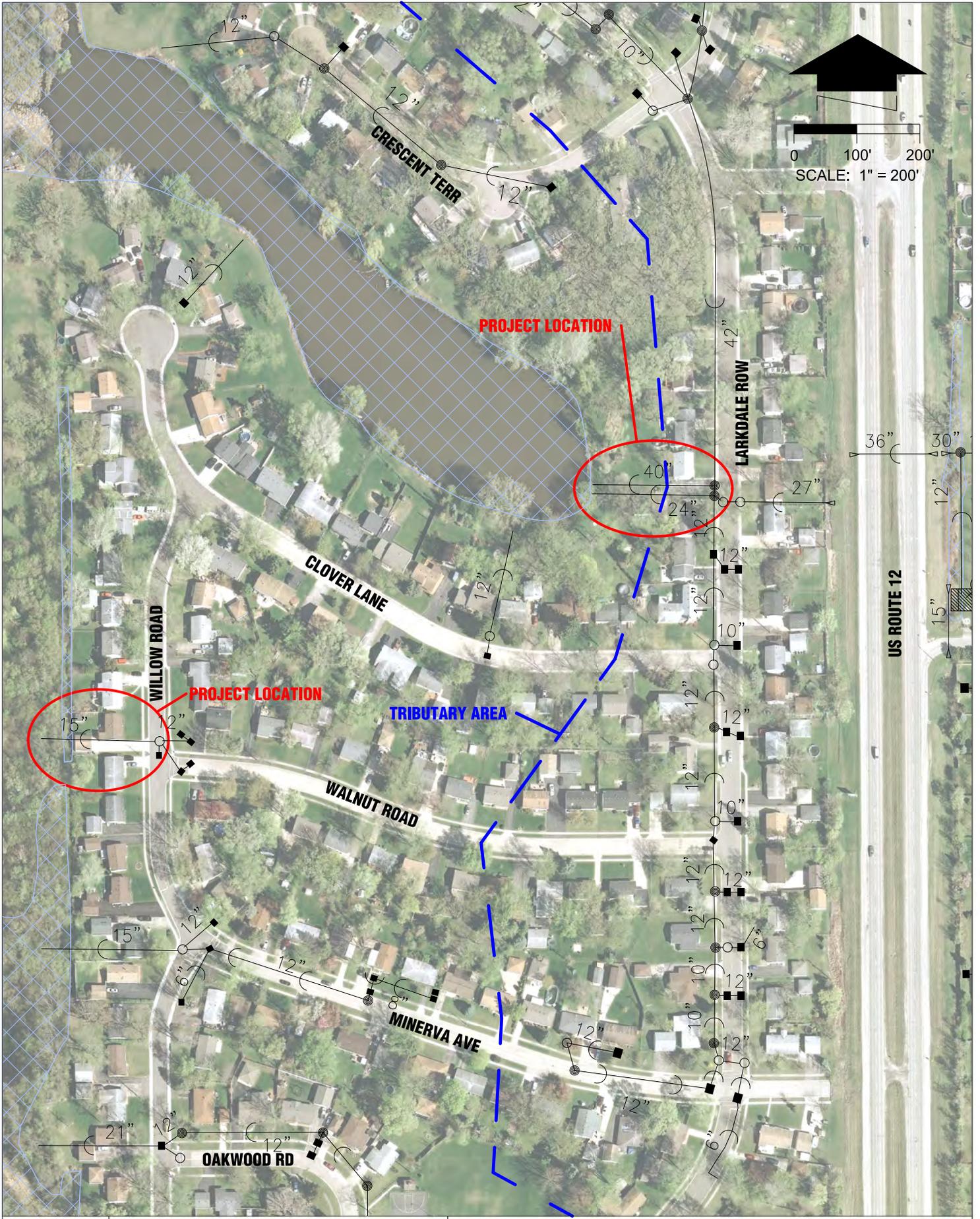


**Applicant:** Village of Wauconda

**Project Title:** Larkdale Storm Sewer Rehabilitation Project

**Statement of Compliance**

This project will comply with all Lake County Stormwater Management Commission policies, local plans and ordinances, and applicable state and federal regulations.



**RHM ENGINEERS, INC.**  
 975 CAMPUS DRIVE  
 MUNDELEIN, ILLINOIS 60060  
 847-362-5959

DATE: 08/30/18

**LARKDALE SUBDIVISION STORM  
 SEWER REHABILITATION**

PROJ#: 21919000

**Engineers Preliminary Opinion of Probable Cost**  
**Village of Wauconda**  
**Larkdale Subdivision Storm Sewer Rehabilitation**  
**Project No. 21919000 Created: September 10, 2018**

No.	Description	Qty.	Unit	Unit Cost	Total Price
<b>PHASE 2A (TALMADGE - BEACH)</b>					
1.	Geopolymer Mortar Lining (40" Storm)	200	LF	\$ 350	\$ 70,000
2.	Felt Resin Epoxy Lining (24" Storm)	200	LF	\$ 75	\$ 15,000
3.	Spot Repairs	3	EA	\$ 7,500	\$ 22,500
<b>Total Engineers Preliminary Opinion of Probable Construction Cost</b>					<b>\$107,500</b>
Design & Bidding Engineering					\$ 10,134
Construction Engineering					\$ 5,056
<b>Total Engineers Preliminary Opinion of Probable Project Cost</b>					<b>\$ 122,690</b>



## MEMORANDUM

To: Stormwater Management Commission

From: RHMG Engineers, Inc.  
William R. Rickert, PE, CFM  
President

Date: December 10, 2018

RE: **Village of Wauconda  
SIRF Application  
Larkdale Storm Sewer Rehabilitation Project  
RHMG Project No. 21919000**

**Project Description** – The project scope consists of spot repairs and lining of 15", 24" & 42" storm sewers.

Due to its size, the 42" pipe will be lined with a geopolymer cement mortar liner that will ultimately become a new structural pipe within the existing pipe. The contractor will first perform any necessary spot repairs, then the old pipe will act as a form for the spray liner application. The final result will be a new structural pipe approximately 40" in diameter.

The smaller diameter storm sewers will be lined with an epoxy resin felt liner. The geopolymer liner cannot be applied to pipe diameter below 36". The epoxy liner is comparable to that used in sanitary sewer installations and will be continuous through the limits of the pipe sections.

**Inter-Jurisdictional Benefits** – The upland area consists of Illinois Department of Transportation right-of-way, a business district, residential development and approximately 36 acres of wetlands. The maintenance and rehabilitation of this infrastructure is paramount to the storm water conveyance of the region.

**Flood Hazard Reduction Benefits** – Potential failure of the storm culverts would have a serious negative impact to the region. The Larkdale subdivision was built prior to stormwater ordinance and overland flow routes were not established. Failure would potentially result in immediate residential structural damage, flood portions of US Rte 12, and negatively impact upstream detention facilities and wetlands.

**Structural Damage** – Structural damage repair to the pipe itself is the primary emphasis. The pipe joints have started to fail resulting in sink holes (see attached photos) in both the asphalt driveway and yard causing health/safety concerns. The pipes need to be repaired and then structurally lined to eliminate future sink holes and potential structural damage to the surrounding residential structures. In addition, localized secondary structures have experienced flooding during large storm events.

Stormwater Management Commission  
Re: Village of Wauconda  
SIRF Application  
December 10, 2018  
Page 2

**Water Quality Benefits** – The structural repair to the storm culverts would protect downstream water bodies. The existing failures are allowing sediment into the system and potentially contaminating/filling the downstream water bodies.

**Natural Resource Benefits** – Aside from the downstream water body as discussed above, the proper conveyance of water through these pipes help ensure the continuing functionality of the upstream wetlands. Maintaining existing high water elevations promotes proper discharge from the wetland to maintain aquatic life.

**Nuisance Flood Reduction Benefits** – The potential failure of these storm culverts would have a negative impact to the existing transportation road network; both with local jurisdiction and State jurisdiction. Flood water conveyance is described above under Flood Hazard Reduction Benefits.

**Phosphorus Public Education Component** – The Village previously issued newsletter articles suggesting the reduction and/or elimination of phosphorus based fertilizer and continues to do so annually as part of their NPDES public education initiative.

### **Summary of Project Area Damages**

1. Structural Damage
  - a. The asphalt driveway has collapsed due to the sink hole formed from the separated piping and washout during storm events. This first occurred in 2017 and continues to deteriorate.
2. Flooded Buildings
  - a. A garage and back yard shed have been flooded each year since 2017.
3. Health and Safety
  - a. Poor downstream water quality exists from the washout material.
  - b. Sink holes have formed in the yard causing several safety concerns for the immediate resident.
4. Road Flooding
  - a. The existing piping does not convey the stormwater efficiently due to the separated joints and fill material accumulating in the piping. The result is localized flooding in the street and affecting over forty (40) local homes and the general commuting population of the neighborhood.
  - b. Complete failure of the lines would result in a significantly larger affected footprint causing regional transportation issues.
7. Nuisance Flooding
  - a. Due to the poor condition of the piping, normal rainfall events result in localized nuisance flooding within the neighborhood. This occurs constantly throughout the year.

## Stormwater Infrastructure Repair Fund Eligibility Authorization Form

**Disclaimer: Approval of the project described herein is an acknowledgement of potential program eligibility only and in no way authorizes payment of funds, reimbursement of expenses incurred for the project and does not guarantee any future funding for the project. Funding may be available once the project has met all the eligibility requirements and a project agreement has been approved and executed by the Commission.**

Applicant Jurisdiction (s) (Community, Township, HOA)	Village of Long Grove		
Brief Project Title	Chickamauga Drive Drainage Improvement Project		
General Location	Within Long Grove Country Club Estates, between 1564 and 1566 Chickamauga Lane		
Contact Person	David Lothspeich, Village of Long Grove; Geoffrey Perry, Gewalt Hamilton Assoc. Inc.		
Address	3110 Old McHenry Rd.		
City, State Zip	Long Grove, IL 60047	Phone	847-478-9440
<b>Resource Request</b>			
<input checked="" type="checkbox"/> SIRF Funds <input type="checkbox"/> SMC Staff Capacity <input type="checkbox"/> Combination Funds and Staff			
<b>Project Description (use additional sheets if necessary):</b>			
<p>This project in the Village of Long Grove (see attached location map) involves drainage work to collect and convey water from Chickamauga Lane to Buffalo Creek in a non-erosive manner through an existing easement. Currently, the collection and ponding of stormwater in the road right-of-way has resulted in concentrated runoff undermining the road, driveway pavements, and utility pedestals.</p> <p>Proposed drainage improvements include the construction of the following improvements (see attached figure):</p> <ol style="list-style-type: none"> <li>1. Site preparation (e.g., clearing, grubbing and tree removal, erosion control installation);</li> <li>2. Replacement of existing driveway culverts (one 15-inch-diameter culvert and one 18-inch-diameter culvert);</li> <li>3. Installation of flared end sections, a 2-foot diameter inlet, a 4-foot diameter catch basin, new 24-inch-diameter storm sewer pipe, and riprap outlet protection;</li> <li>4. Establishment of a 100-year overland swale; and</li> <li>5. Restoration of disturbed areas.</li> </ol>			

Cost Estimate	\$61827.50	Applicant Share	\$30,913.75	SIRF Share	\$30,913.75
In-Kind Service Person Hours	Applicant	0 hrs	SMC	0 hrs	
In-Kind Service Description					
Project Timing		Start Date: Spring 2019		Completion Date: August 2019	
<b>Summary of Project Area Damages (Quantify Below # and type of damages incurred or threatened to occur)</b>					
Damage Priority	Flood Damage Type	Number of Occurrences	Frequency of Occurrences (e.g. Every Year, every two years)		
1	Structural Damage	5+	Progressive annual damage		
2	Flooded Building	0			
3	Health and Safety	1-3	Annual		
4	Road Flooding	0			
5	Disruption of Revenue	N/A			
6	Parking Lot Flooding	N/A			
7	Nuisance Flooding	5+	Annually, after significant events		
<b>Summary of Project Benefits (how much of the quantified damage is to be relieved and to what extent)</b>					
<p>Consistent with SIRF program objectives, the project will benefit multiple jurisdictions, provide beneficial results during flood events up to and including the 100-year event, and help alleviate (and prevent) flood damages.</p> <p>Benefits of the proposed improvements include minimizing the potential for adverse effects on driveways, the roadway, and the utility pedestal cluster; reducing localized nuisance flooding; alleviation of stagnant water; and improving conveyance for the stormwater drainage way. The proposed project will follow all soil erosion and sediment control regulations to maintain downstream water quality.</p>					
<b>Statement of Local Commitment (assurance that applicant has enough matching funds and staff capacity)</b>					
<p>Funding for the project will consist of entirely public funds. If the SMC agrees to grant this project, the Village of Long Grove will undertake the remaining cost of the project.</p>					



Signature of Authorized Representative of the Cost Sharing Entity

*David Lettsperch*

Name (Print)

- Requested Attachments:
1. Location Map
  2. Detailed project Description
  3. Detailed (per criteria) Statement on Benefits, including quantifiable benefits.
  4. Statement of compliance with SMC policies, local plans and Ordinance
  5. Other comments or supporting documents.

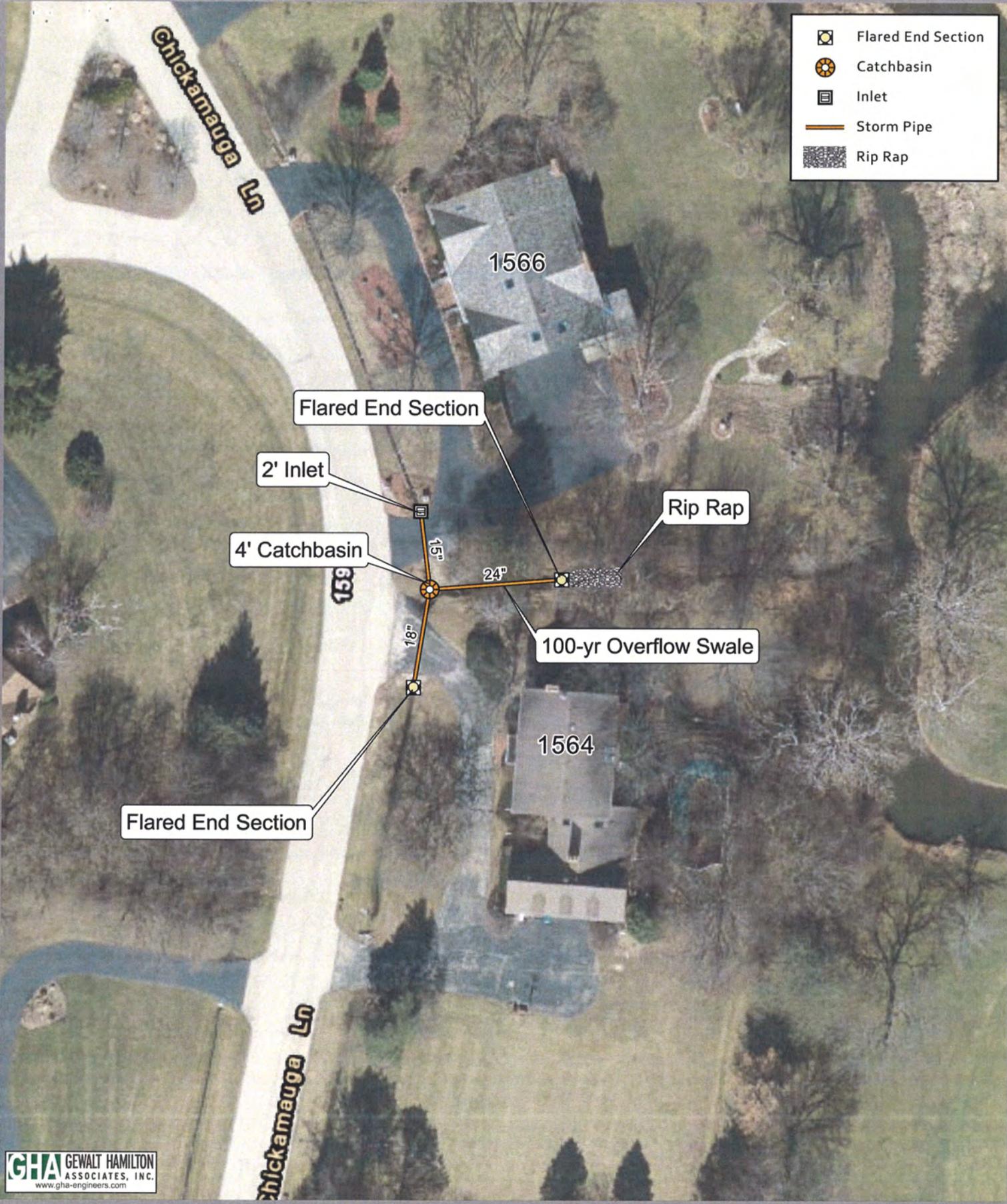
**Statement of Compliance with SMC Policies, Local Plans and Ordinance**

The Village of Long Grove, as Project Sponsor, will comply with all policies of the Lake County Stormwater Management Commission, local plans, and applicable ordinances in the development and execution of this project.



\_\_\_\_\_  
Signature of WMB Member

-  Flared End Section
-  Catchbasin
-  Inlet
-  Storm Pipe
-  Rip Rap



World Imagery, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**GHA** GEWALT HAMILTON  
ASSOCIATES, INC.  
www.gha-engineers.com

Drawn By: gmatson; File: P:\5000-5045\5000.001\Long Grove\5000.033\Chickamauga Drive Change\Improvements\GIS\Map\prop\5000\_033\_Chickamauga Drive\WMB Grant.aprx



1 inch = 50  
Feet

## Proposed Improvements

Chickamauga Lane WMB Grant  
Village of Long Grove, Illinois

**PRELIMINARY ENGINEER'S OPINION OF PROBABLE COST**

Chickamauga Drive Drainage Improvements  
 1564/1566 Chickamauga Drive  
 Long Grove, Illinois  
 GHA #5000.033

Date: October 5, 2018  
 Prepared by: Edward Speckart, P.E.



625 Forest Edge Drive, Vernon Hills, IL 60061  
 TEL 847.478.9700 ■ FAX 847.478.9701  
 www.gha-engineers.com

**EQUALIZER PIPE IMPROVEMENTS**

Pay Item	Description	Quantity	Unit	Unit Price	Value
1	Clearing, Grubbing, & Tree Removal	1.0	LS	\$3,500.00	\$3,500.00
2	Restoration	1.0	LS	\$4,000.00	\$4,000.00
3	Earthwork	1.0	LS	\$3,000.00	\$3,000.00
4	SESC	1.0	LS	\$2,500.00	\$2,500.00
5	Asphalt Patching (Chickamauga & Driveways)	1.0	LS	\$5,500.00	\$5,500.00
6	Reinforced Concrete Flared End Sections	2.0	EA	\$1,500.00	\$3,000.00
7	15" RCP Storm Sewer	35.0	FT	\$75.00	\$2,625.00
8	18" RCP Storm Sewer	45.0	FT	\$80.00	\$3,600.00
9	24" RCP Storm Sewer	55.0	FT	\$85.00	\$4,675.00
10	2' Inlet	1.0	EA	\$1,500.00	\$1,500.00
11	4' Catch Basin with Beehive Grate	1.0	EA	\$3,000.00	\$3,000.00
12	Stone Riprap	15.0	SY	\$75.00	\$1,125.00
13	Dewatering & Bypass Pumping	1.0	LS	\$2,500.00	\$2,500.00
14	Mobilization	1.0	LS	\$1,500.00	\$1,500.00
15	Traffic Control & Protection	1.0	LS	\$1,000.00	\$1,000.00

Sub-Total Construction Costs: \$43,025.00  
 Contingency (10%): \$4,302.50

**Total Construction Costs: \$47,327.50**

Topographic Survey: \$1,250.00  
 Phase II Engineering: \$5,000.00  
 Phase III Engineering: \$7,500.00  
 Record Drawings: \$750.00

**Total Soft Costs: \$14,500.00**

**Grand Total Project Costs: \$61,827.50**

**Detailed Description:**

This is a preliminary Engineer's Opinion of Probable Cost for submission with the Lake County Watershed Management Board Grant Application (2018). The scope of work is generally depicted on the aerial exhibit, prepared by Gewalt Hamilton Associates, Inc. dated October 5, 2018 and more fully described in the grant application.

\*Since Gewalt-Hamilton Associates Inc. Has No Control Over the Cost of Labor, Materials, or Equipment, or Over the Contractor's Methods of Determining Prices, or Over Competitive Bidding of Market Conditions, Opinions of Probable Costs, as Provided for Herein, Are to be Made on the Basis of Experience and Qualifications and Represent the Best Judgment as a Design Professional Familiar with the Construction Industry. Gewalt-Hamilton Associates, Inc., Cannot and Does Not Guarantee That Proposals, Bids, or The Construction Costs Will Not Vary From Opinions of Probable Cost Prepared for the Owner.

# Chickamauga Drive Drainage Improvements Project

## SIRF Project Description and Assessment

### Project Description

This project in the Village of Long Grove involves drainage work to collect and convey water from Chickamauga Lane to Buffalo Creek in a non-erosive manner through an existing easement. Currently, the collection and ponding of stormwater in the road right-of-way has resulted in concentrated runoff undermining the road, driveway pavements, and utility pedestals.

To address the erosion, infrastructure damage, flooding and standing water issues, proposed drainage improvements include the following actions (see attached figure):

1. Site preparation (e.g., clearing, grubbing and tree removal, erosion control installation);
2. Replacement of existing driveway culverts (one 15-inch-diameter culvert and one 18-inch-diameter culvert);
3. Installation of flared end sections, a 2-foot diameter inlet, a 4-foot diameter catch basin, new 24-inch-diameter storm sewer pipe, and riprap outlet protection;
4. Restoration of eroded areas to pre-erosion conditions;
5. Establishment of a 100-year overland swale; and
6. Restoration of disturbed areas.

This project will not change existing drainage patterns, and the ultimate discharge water (Buffalo Creek) likewise will remain unchanged. Buffalo Creek is within the 100-year floodplain; however, the project does not propose any work within the floodplain.

*Background*—At the northwest corner of 1564 Chickamauga Lane and southwest corner of 1566 Chickamauga Lane, significant erosion is occurring that has undermined Chickamauga Lane, the driveway pavements, and is causing sediment to be carried into Buffalo Creek. In this area, drainage is conveyed generally west to east to Buffalo Creek. The Creek is located approximately 200 feet east of Chickamauga Drive at the proposed project site, and there is an existing utility easement between 1564 and 1566 Chickamauga Drive that conveys flow from the right of way (ROW) to Buffalo Creek. Buffalo Creek then drains south, generally following The Grove Country Club golf course.

Runoff in the area converges at the project location (i.e., the southwest corner of 1566 Chickamauga and the northwest corner of 1564 Chickamauga) at high velocities through open drainage swales and driveway culverts. Erosion has undermined public utility pedestals (i.e., telephone) and is causing portions of Chickamauga Drive and the driveways to deteriorate and fall into the drainage path. Once the runoff exits the ROW, the channel running along the side yards exhibits the same erosion, which has undermined trees, causing them to fall onto private property.

This situation appears attributable to the flow volume and velocities being greater in this area than was anticipated by the subdivision design. Country Club Estates Unit 5 was platted in 1965, with the infrastructure constructed thereafter as evidenced in the historic 1974 aerial. More intense rain events and greater amounts of rainfall have overwhelmed the system that was initially installed.

## Project Evaluation

1. *Identify one or more clearly defined stormwater infrastructure problems that the project will address.*

Proposed drainage improvements will have infrastructure damage reduction benefits by helping prevent conditions that have damaged the existing roadway, driveways (2), and utility pedestals (telephone). Culvert and ditch work also will reduce nuisance flooding, increase safety (fewer mosquitoes, etc.), and reduce erosion and the subsequent sediment discharging into Buffalo Creek.

Consistent with SIRF program objectives, the project will benefit multiple jurisdictions, provide beneficial results during flood events up to and including the 100-year, 24-hour storm event, and help alleviate (and prevent) flood damages. The critical duration storm for this design is the 10-year, 1-hour; this storm will also be accommodated by this improvement. More specifically, the following jurisdictions will benefit:

- a. The Village of Long Grove, by restoring the ROW and preventing damage to Chickamauga Drive.
  - b. The Lake County Forest Preserve District, by addressing upstream erosion and potential sediment discharge into Buffalo Creek Forest Preserve and the Buffalo Creek Reservoir.
  - c. The Buffalo Creek Watershed, by addressing upstream erosion and potential sediment discharge.
  - d. The Grove Country Club, by addressing upstream erosion and reducing storm velocities of runoff entering their property.
  - e. Adjacent property owners, by stabilizing the channel, protecting their driveways, and property from erosion.
  - f. The Long Grove Country Club Estates Unit 5 Subdivision, by addressing repeated damage due to flooding and erosion of the utility pedestals.
  - g. AT&T and ComEd, by addressing repeated damage due to flooding and erosion of the utility pedestals.
2. *Produce a clear work plan, which describes the tasks to be accomplished, end results, method for evaluating the effects of the project, products to be completed, and the time frame to accomplish.*

One of the conditions of the grant agreement with the Village of Long Grove will be for the Village to, at the outset of the project, provide SMC with a detailed work plan for the project, describing the tasks to be completed, expected project results, and methods that will be used to evaluate the project results, and including a detailed project schedule. In general, construction is anticipated to begin in June 2019 and be completed by September 2019.

3. *All requests for resources shall result in the implementation of in-the-ground projects, although funding requests may be in the categories of planning, engineering analysis, alternate solution evaluation, design, capital construction, maintenance and repairs, and property acquisition. Projects required as part of a regulatory permit are not eligible for SIRF funding.*

This project will result in the implementation of in-the-ground improvements, with 100% of the requested SIRF funding to be used for design and construction costs, including construction management. The project is not required as part of any regulatory permit.

- 4. Applicants shall be equal co-sponsors with SMC and shall cost-share at least 50% with cash contribution, in-kind or professional services, property donation value, or a combination of these. Several project partners could combine resources to meet the applicant share, or applicants may propose other funding sources to meet the cost-share requirement.*

The total estimated project cost is \$ 61,827.50, of which \$ 30,913.75 is the applicant's (i.e., the Village of Long Grove) share. As such, the Village is the primary project sponsor and will fund at least 50% of the project cost through cash and in-kind service contributions. Based on the current project cost estimate and the requested SIRF funding, the Village will be funding at least 50% of the project cost and will complete the design and construction, including construction management. There are no in-kind services being requested of SMC as part of the project.

- 5. Communities requesting SIRF funds as an applicant or local sponsor shall be in good standing with the National Flood Insurance Program (NFIP) and comply with SMC policies.*

The applicant, the Village of Long Grove, is a community in good standing with the National Flood Insurance Program and in compliance with all SMC policies.

- 6. The project shall comply and/or be consistent with the Lake Co. Watershed Development Ordinance, applicable watershed plans, and all regulations, laws, and statutes.*

The Village of Long Grove has acknowledged that the project will comply with and be consistent with all applicable watershed plans and stormwater management ordinances and all applicable regulations, laws, and statutes.

This project also is a goal of the *2015 Buffalo Creek Watershed Plan*. Specifically, the proposed project is on the borders of SMUs 6A and 6B, which have been identified as sediment load hotspots and obtained a Critical Area SMU ranking of 30 within the Buffalo Creek Watershed (pages 5-41 and 5-46). Reduction of sediment load to Buffalo Creek will help meet watershed plan objectives to improve water quality, protect natural resources, and coordinate with residents to implement projects that benefit the watershed.

- 7. Approval and execution of project agreements are limited to SIRF funds and SMC staff capacity not currently encumbered by work plan commitments or prior executed project agreements.*

The SIRF funding to be granted under this agreement is not currently encumbered by work plan commitments or previously executed project agreements. The applicant (the Village of Long Grove) is not requesting any SMC staff time to be granted under this agreement.

- 8. "Land Rights:" For all properties where in-the-ground construction will or may occur, the applicant shall provide owner-authorized land access and/or land rights or evidence of possessory interest in the form of previously recorded documentation or written authorization from all property owners affected. Documentation or authorization may include, recorded permanent easements, land covenants, deed-restricted areas, prescriptive easements (with the*

*owner's authorization or evidence of possessory interest), or other owner-approved and SMC-accepted legal instruments (e.g., owner-executed license agreement). Work within public road rights-of-way shall not be performed without appropriate permits or authorization from the jurisdictional road authority.*

Much of the proposed project will occur within an existing utility easement located between 1564 and 1566 Chickamauga Drive. Construction may involve work and/or improvements on privately owned land and/or land not owned or otherwise held by the applicant. One of the conditions of the grant agreement with the Village of Long Grove will be for the Village, prior to construction, to provide SMC with evidence that all land rights necessary to complete the project have been obtained from the owners of properties upon which the proposed project will be constructed. Such land rights may be granted to the Village by the property owners through easement agreement, license agreement, permit, or other acceptable legal instrument (e.g., written authorization).

Attachment:

1. Site Development Plan

## Stormwater Infrastructure Repair Fund Eligibility Authorization Form

**Disclaimer:** Approval of the project described herein is an acknowledgement of potential program eligibility only and in no way authorizes payment of funds, reimbursement of expenses incurred for the project and does not guarantee any future funding for the project. Funding may be available once the project has met all the eligibility requirements and a project agreement has been approved and executed by the Commission.

Applicant Jurisdiction (s) (Community, Township, HOA)	Farm Trails HOA	
Brief Project Title	Eastside drainage pipe	
General Location	East edge of Farm Trails subdivision	
Contact Person	Rob Jones	
Address	25152 N. Cayuga Trail	
City, State Zip	L. Barrington, IL 60010	Phone 847 651 6871
<b>Resource Request</b>		
<input checked="" type="checkbox"/> SIRF Funds <input type="checkbox"/> SMC Staff Capacity <input type="checkbox"/> Combination Funds and Staff		
Project Description (use additional sheets if necessary):  Drainage project to improve drainage + limit flooding on the east edge of Farm Trails		

Cost Estimate \$ 30,400 Applicant Share \$ 10,000 SIRF Share \$

In-Kind Service Person Hours Applicant SMC

In-Kind Service Description

Project Timing Start Date Spring 2019 Completion Date Summer 2019

**Summary of Project Area Damages (Quantify Below # and type of damages incurred or threatened to occur)**

Damage Priority	Flood Damage Type	Number of Occurrences	Frequency of Occurrences (e.g. Every Year, every two years)
1	Structural Damage	4	every 2-3 yrs
2	Flooded Building	4	every 2-3 yrs
3	Health and Safety	constant	constant
4	Road Flooding	0	
5	Disruption of Revenue	0	
6	Parking Lot Flooding	0	
7	Nuisance Flooding	constant	constant

**Summary of Project Benefits (how much of the quantified damage is to be relieved and to what extent)**  
 This will benefit all homeowners on the east property line & will improve drainage for standing water in the area between Farm Trails & Town Lake.

**Statement of Local Commitment (assurance that applicant has sufficient matching funds and staff capacity)**  
 Farm Trails has sufficient funds to complete the match for this project



Signature of Authorized Representative of the Cost Sharing Entity

Robert M. Jones

Spell Name Above

- Requested Attachments:
1. Location Map
  2. Detailed project Description
  3. Detailed (per criteria) Statement on Benefits, including quantifiable benefits.
  4. Statement of compliance with SMC policies, local plans and Ordinance
  5. Other comments or supporting documents.

# Lake Barrington/Tower Lakes Flooding



Lake County, Illinois



Map Printed on 1/9/2019



**Disclaimer:**

The selected feature may not occur anywhere in the current map extent. A Registered Land Surveyor should be consulted to determine the precise location of property boundaries on the ground. This map does not constitute a regulatory determination and is not a base for engineering design. This map is intended to be viewed and printed in color.

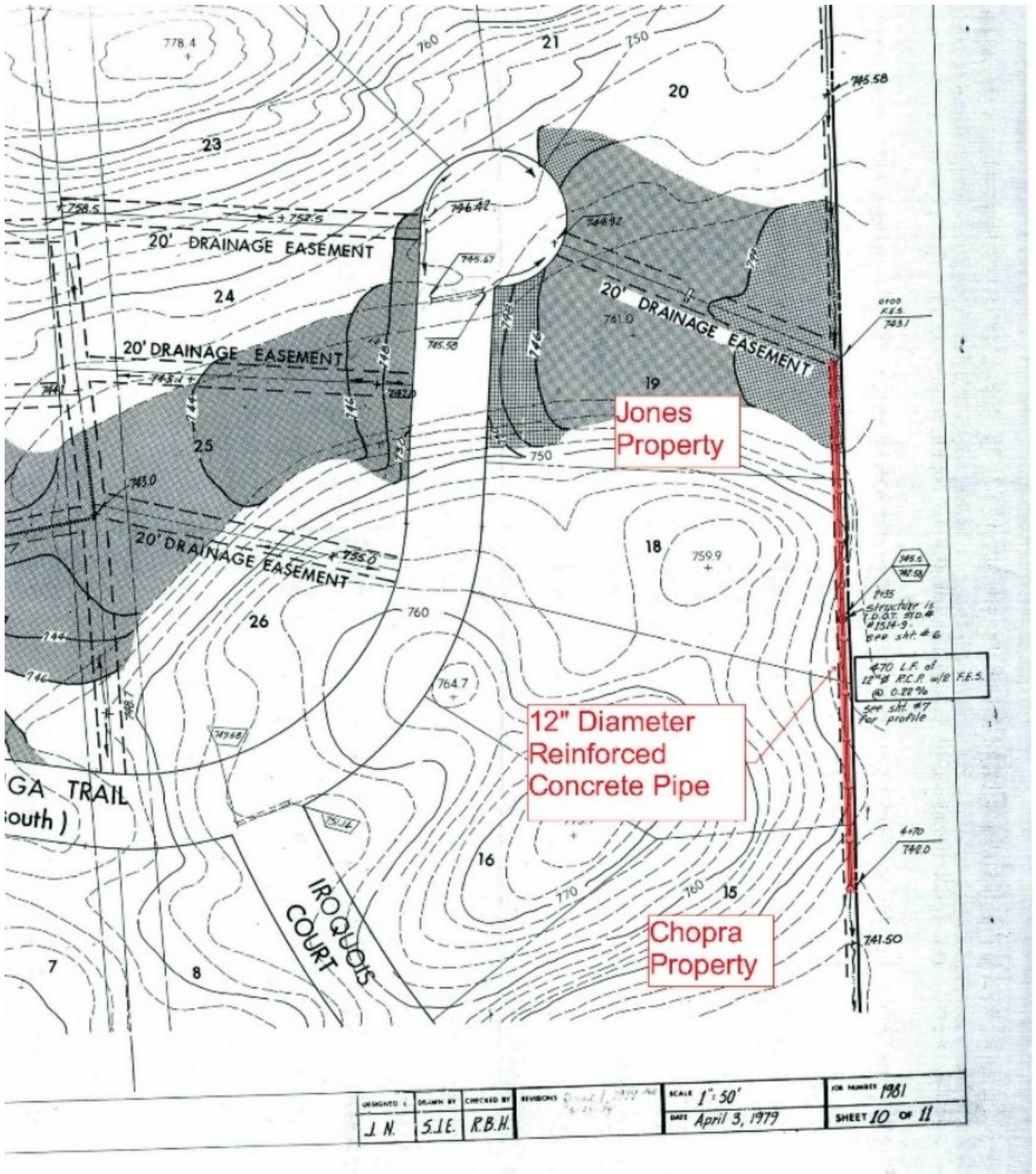


Exhibit A: Excerpt from Farm Trails Subdivision Plans / 12" pipe on east side

Bartnick Inc.  
 3730 Westminster Place  
 McHenry, IL 60050

# Estimate

Date	Estimate #
11/29/2018	616

PHONE & FAX # 1-847-526-3260

Name / Address
RON JONES FARM TRAILS HOA

P.O. No.	Terms	Project

Item	Description	Qty	Rate	Total
STORM SE...	CUT DOWN TREES TO INSTALL NEW 12 INCH SDR 35 STORM SEWER		2,500.00	2,500.00
STORM SE...	REPLACE 12 INCH CONCRETE PIPE WITH NEW 12 INCH PVC SDR 35 PIPE APPROXIMATE 485 FEET	480	30.00	14,400.00
STORM SE...	INSTALL ADDITIONAL 250 FEET OF PIPE	250	30.00	7,500.00
STORM SE...	INSTALL 3 INLETS WITH BEE-HIEVE GRATES FOR CLEAN OUTS, JETTING AND FUTURE TIE INS FOR BACK YARD DRAINAGE	4	1,500.00	6,000.00
	ALL LANDSCAPING TO BE DONE BY OTHERS INCLUDING PATH FROM ROADWAY TO INSTALLATION SITE			

<b>Total</b>	\$30,400.00
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Signature \_\_\_\_\_

**Project Description:**

Improve drainage for our subdivision by replacing pipe on the east side of subdivision, or create an open air drainage system to carry water faster towards the south east corner of subdivision into the Wagner Fen. Design and permits will need input from Lake County/Village of Lake Barrington. Work to be completed by approved contractor.

**Inter-Jurisdictional Benefits:**

The current system/pipe in question moves water from the Farm Trails neighborhood and also the Tower Lakes subdivision. This project will benefit both entities and will hopefully achieve a partnership with the Village of Lake Barrington and Lake County Stormwater Management to complete.

**Flood Hazard Reduction Benefits:**

Flooding has occurred regularly on the north end of the pipe in question and along sides of the pipe as it moves to the south.

**Structural Damage:**

There has been structural damage to the property on the north end of the pipe including land erosion and flooding into the structure on multiple occasions. The property directly to the south of this property needed to have their whole septic field replaced due to flooding.

**Water Quality Benefit:**

This improvement will protect septic fields for both subdivisions from flooding as well as protect the aquifer. Water quality could also be improved with an open air solution if there are natural plants along with pathway which leads to the fen and would improve water quality in the fen promoting self-sustaining revitalization.

**Natural Resource Benefit:**

The fen could benefit from more water flowing into it. Higher quality water would be achieved with an open air solution.

**Nuisance Flood Reduction Benefit:**

Stagnant water would be reduced from 10+ lots along with Farm Trails/Tower Lakes border. It would greatly reduce chance of structural damage from flooding.

**Multiple Use Benefits:**

Beneficiaries of this project would be Farm Trails, Tower Lakes and the Wagner Fen along with all residents upstream from the project.

**Phosphorus Public Education Component:**

As an HOA Board we would be willing to make and distribute flyers to our community as well as surrounding communities to educate the public about the benefits to reducing phosphorus in fertilizers to improve the quality of storm water runoff. We could also look into instituting a rule that bans the use of fertilizers and detergents containing phosphorus.