

AGENDA
COMMITTEE OF THE WHOLE
November 14, 2017
2200 Harnish Drive
Village Board Room
- AGENDA -
7:30 P.M.

Trustee Jasper – Chairperson
Trustee Brehmer
Trustee Glogowski
Trustee Steigert
Trustee Sosine
Trustee Spella
President Schmitt

1. **Roll Call – Establish Quorum**
2. **Public Comment – Audience Participation** (*Persons wishing to address the Committee on an item on this agenda must register with the Chair prior to roll call.*)
3. **Community Development**
4. **General Administration**
 - A. Review 2017 Algonquin Police Pension Fund Property Tax Levy Request
 - B. Consider a Resolution Authorizing the Acceptance of the Municipal Compliance Report for the Fiscal Year Ending April 30, 2017
 - C. Consider a Resolution Determining the Amount of Funds to be Levied for 2017 Real Estate Taxes
 - D. Consider an Ordinance Levying Taxes for Special Service Area Number 1 in the Village of Algonquin for the 2017 Tax Year (Riverside Square or Plaza)
 - E. Consider a Resolution Adopting a Grant Management Policy
5. **Public Works & Safety**
 - A. Consider an Agreement with Copenhaver Construction for the Algonquin/Carpentersville Water System Interconnect West
 - B. Consider an Agreement with Copenhaver Construction for the Structure Demolition of 101 S. Main Street
 - C. Consider an Agreement with Trotter and Associates Phase 1 Design Engineering Services for the Wastewater Treatment Facility Phase 6B Improvements
 - D. Consider a Resolution Adopting the McHenry county Natural Hazard Mitigation Plan
6. **Executive Session**
7. **Other Business**
8. **Adjournment**



VILLAGE OF ALGONQUIN
GENERAL SERVICES ADMINISTRATION

– M E M O R A N D U M –

DATE: October 18, 2017

TO: Tim Schloneger, Village Manager

FROM: Michael Kumbera, Assistant Village Manager

SUBJECT: Police Pension Fund Tax Levy Request

Background:

The Algonquin Police Pension Fund Board of Trustees is requesting that the Village Board levy an amount \$1,983,552 (\$1,984,000 rounded) in accordance with the actuarial valuation results for the year beginning May 1, 2017. This is a \$84,000 or 4.4 percent increase from last year's levy. A copy of the request and actuarial valuation from Lauterbach and Amen is attached.

The fund is 62.95 percent funded (up 4.57 percent) from the prior year and the amortization target remains 100 percent by 2033 (16 years). This recommendation has been tentatively placed in the 2017 tax levy resolution that the Committee of the Whole will consider on November 14.

Recommendation:

Staff recommends the Committee of the Whole forward this item to the Village Board for acceptance by motion at their meeting on November 21.

C: Susan Skillman, Comptroller

MEMORANDUM

TO: Village President and Board of Trustees
FROM: Stan W. Helgerson, President, Police Pension Fund
DATE: July 26, 2017
RE: 2017 Tax Levy Request

The Police Pension Fund Board is hereby requesting that the Village Board levy \$1,983,552 for the Police Pension Fund. The amount was determined by an actuary that was jointly hired by the Village and the Pension Board.

Thank you for your consideration.

cc: Algonquin Police Pension Board

Lauterbach & Amen, LLP
27W457 Warrenville Road
Warrenville, IL 60555-3902

Actuarial Valuation
as of May 1, 2017



ALGONQUIN POLICE
PENSION FUND

Utilizing Data as of April 30, 2017
For the Contribution Year May 1, 2017 to April 30, 2018

LAUTERBACH & AMEN, LLP

Actuarial Valuation – Funding Recommendation



Lauterbach & Amen, LLP

CERTIFIED PUBLIC ACCOUNTANTS

ALGONQUIN POLICE PENSION FUND

Contribution Year Ending: April 30, 2018

Actuarial Valuation Date: May 1, 2017

Utilizing Data as of April 30, 2017

Submitted by:

Lauterbach & Amen, LLP
630.393.1483 Phone
www.lauterbachamen.com

Contact:

Todd A. Schroeder
September 12, 2017

LAUTERBACH & AMEN, LLP



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ACTUARIAL CERTIFICATION

This report documents the results of the actuarial valuation of the Algonquin Police Pension Fund. The purpose is to report the actuarial contribution requirement for the contribution year May 1, 2017 to April 30, 2018. Determinations for purposes other than meeting the employer's actuarial contribution requirements may be significantly different from the results herein.

The results in this report are based on information and data submitted by the Village of Algonquin, Illinois including studies performed by prior actuaries. We did not prepare the actuarial valuations for the years prior to May 1, 2016. Those valuations were prepared by other actuaries whose reports have been furnished to us, and our disclosures are based upon those reports. An audit of the information was not performed, but high-level reviews were performed for general reasonableness, as appropriate, based on the purpose of the valuation. The accuracy of the results is dependent upon the accuracy and completeness of the underlying information. The results of the actuarial valuation and these supplemental disclosures rely on the information provided.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The Village of Algonquin, Illinois selected certain assumptions, while others were the result of guidance and/or judgment. We believe that the assumptions used in this valuation are reasonable and appropriate for the purposes for which they have been used.

To the best of our knowledge, all calculations are in accordance with the applicable funding requirements, and the procedures followed and presentation of results conform to generally accepted actuarial principles and practices. The undersigned of Lauterbach & Amen, LLP, with actuarial credentials, meets the Qualification Standards of the American Academy of Actuaries to render this Actuarial Opinion. There is no relationship between the Village of Algonquin, Illinois and Lauterbach & Amen, LLP that impairs our objectivity.

The information contained in this report was prepared for the use of the Algonquin Police Pension Fund and the Village of Algonquin, Illinois in connection with our actuarial valuation. It is not intended or necessarily suitable for other purposes. It is intended to be used in its entirety to avoid misrepresentations.

Respectfully Submitted,

LAUTERBACH & AMEN, LLP

Todd A. Schroeder, EA





MANAGEMENT SUMMARY

Contribution Recommendation
Funded Status
Management Summary

MANAGEMENT SUMMARY

CONTRIBUTION RECOMMENDATION

	Prior Valuation	Current Valuation
Contribution Requirement	\$1,899,008	\$1,983,552
Expected Payroll	\$4,138,344	\$4,314,452
Contribution Requirement as a Percent of Expected Payroll	45.89%	45.97%

*Recommended
Contribution
has Increased
\$84,544 from
Prior Year.*

FUNDED STATUS

	Prior Valuation	Current Valuation
Normal Cost	\$861,720	\$1,038,677
Market Value of Assets	\$22,296,006	\$25,647,185
Actuarial Value of Assets	\$23,670,504	\$26,283,605
Actuarial Accrued Liability	\$40,545,898	\$41,750,218
Unfunded Actuarial Accrued Liability	\$16,875,394	\$15,466,613
Percent Funded		
Actuarial Value of Assets	58.38%	62.95%
Market Value of Assets	54.99%	61.43%

*Funded
Percentage has
Increased 4.57
on an
Actuarial
Value of Assets
Basis.*



MANAGEMENT SUMMARY

MANAGEMENT SUMMARY – COMMENTS AND ANALYSIS

Contribution Results

The contribution recommendation is based on the funding policies and procedures that are outlined in the “Actuarial Funding Policies” section of this report.

The State of Illinois statutes for pension funds contain parameters that should be used to determine the minimum amount of contribution to a public pension fund. Those parameters and the resulting minimum contribution can be found in the “Illinois Statutory Minimum Contribution” section of this report.

Defined Benefit Plan Risks

Asset Growth

Pension funding involves preparing plan assets to pay benefits for the members when they retire. During their working careers, assets need to build with contributions and investment earnings, and then the pension fund distributes assets during retirement. Based on the fund’s current mix of employees and funded status, the fund should be experiencing positive asset growth on average if requested contributions are made and expected investment earnings come in. In the current year, the fund asset growth was positive by approximately \$3.4 million dollars.

Asset growth is important long-term. Long-term cash flow out of the pension fund is primarily benefit payments. Expenses make up a smaller portion. The fund should monitor the impact of expected benefit payments and the impact on asset growth in the future. In the next 5 years, benefits payments are anticipated to increase 60-65%, or approximately \$615,000. In the next 10 years, the expected increase in benefit payments is 160-165%, or approximately \$1.6 million dollars.

Unfunded Liability:

Unfunded liability represents dollars we expect to be in the pension fund already for the fund members based on funding policy. To the extent dollars are not in the pension fund the fund is losing investment returns on those dollars going forward. Payments to unfunded liability pay for the lost investment earnings, as well as the outstanding unfunded amount. If payment is not made, the unfunded liability will grow.

In the early 1990s, many pension funds in Illinois adopted an increasing payment to handle unfunded liability due to a change in legislation. The initial payments decreased, and payments were anticipated to increase annually after that. In many situations, payments early on may be less than the interest on unfunded liability, which means unfunded liability is expected to *increase* even if contributions are at the recommended level.



MANAGEMENT SUMMARY

The current contribution recommendation includes a payment to unfunded liability that is approximately \$287,000 more than interest on the unfunded liability. All else being equal and contributions being made, unfunded liability would still be expected to decrease. The employer and the fund should anticipate currently that improvement in the funded percent will be mitigated in the short-term. The employer and the fund should understand this impact as we progress forward to manage expectations.

Actuarial Value of Assets:

The pension fund smooths asset returns that vary from expectations over a five-year period. The intention over time is that asset returns for purposes of funding recommendations are a combination of several years. The impact is intended to smooth out the volatility of contribution recommendations over time, but not necessarily increase or decrease the level of contributions over the long-term.

When asset returns are smoothed, there are always gains or losses on the Market Value of Assets that are going to be deferred for current funding purposes, and recognized in future years. Currently, the pension fund is deferring approximately \$636,000 in losses on the Market Value of Assets. These are asset losses that will be recognized in upcoming periods, independent of the future performance of the Market Value of Assets.

Plan Assets

The results in this report are based on the assets held in the pension fund. Assets consist of funds held for investment and for benefit payments as of the valuation date. In addition, assets may be adjusted for other events representing dollars that are reasonably expected to be paid out from the pension fund or deposited into the pension fund after the actuarial valuation date as well.

The current fund assets are audited.

The actuarial value of assets under the funding policy is equal to the fair market value of assets, with unexpected gains and losses smoothed over 5 years. More detail on the Actuarial Value of Assets can be found in the funding policy section of the report.

*The Plan
Assets Used in
this Report
are Audited.*



MANAGEMENT SUMMARY

Demographic Data

Demographic factors can change from year to year within a pension fund. Changes in this category include hiring new employees, employees retiring or becoming disabled, retirees passing away, and other changes. Demographic changes can cause an actuarial gain (contribution that is less than expected compared to the prior year) or an actuarial loss (contribution that is greater than expected compared to the prior year).

Demographic gains and losses occur when the assumptions over the one-year period for employee changes do not meet our long-term expectation. For example, if no employees become disabled during the year, we would expect a liability gain. If more employees become disabled than anticipated last year, we would expect a liability loss. Generally, we expect short-term fluctuations in demographic experience to create 1%-3% gains or losses in any given year, but to balance out in the long-term.

In the current report, the key demographic changes were as follows:

New hires: The fund added 3 new active members in the current year through hiring. When a new member is admitted to the pension fund, the employer contribution will increase to reflect the new member. The increase in the recommended contribution in the current year for the new fund members is approximately \$12,000.

Retirement: There was 1 member of the fund who retired during the year. When a fund member retires, the normal cost will decrease. Any change in the actuarial liability will be considered when determining the amount to pay towards unfunded liability each year. The decrease in the recommended contribution in the current year due to the retirement experience is approximately \$1,000.

Salary Increases: Salary increases were less than anticipated in the current year. Most active members received salary increases of 2.00% or less. This caused a decrease in the recommended contribution in the current year of approximately \$37,000.

Assumption Changes

In the current valuation, we have updated the mortality assumption to include mortality improvements as stated in the most recently released MP-2016 table. In addition, the rates are being applied on a fully-generational basis. These changes were made to better reflect the future anticipated experience in the fund. See page 28 for more details on the specific mortality updates made and the table on the following page for the impact of these changes on the current valuation.

Funding Policy Changes

The funding policy was not changed from the prior year.



MANAGEMENT SUMMARY

ACTUARIAL CONTRIBUTION RECOMMENDATION - RECONCILIATION

Actuarial liability is expected to increase each year for both interest for the year and as active employees earn additional service years towards retirement. Similarly, actuarial liability is expected to decrease when the fund pays benefits to inactive employees.

Contributions are expected to increase as expected pay increases under the funding policy for the Fund.

	Actuarial Liability	Contribution Recommendation
Prior Valuation	\$ 40,545,898	\$ 1,899,008
Expected Changes	2,659,419	56,970
Initial Expected Current Valuation	\$ 43,205,317	\$ 1,955,978

Other increases or decreases in actuarial liability (key changes noted below) will increase or decrease the amount of unfunded liability in the plan. To the extent unfunded liability increases or decreases unexpectedly, the contribution towards unfunded liability will also change unexpectedly.

	Actuarial Liability	Contribution Recommendation
Salary Increase Less than Expected	(478,260)	(37,208)
Demographic Changes	262,030	25,328
Assumption Changes	(1,238,868)	7,959
Asset Return Less than Expected *	-	27,328
Contributions Less than Expected	-	4,166
Total Actuarial Experience	\$ (1,455,099)	\$ 27,574
Current Valuation	\$ 41,750,218	\$ 1,983,552

*The impact on contribution due to asset performance is based on the Actuarial Value of Assets.

Key demographic changes were discussed in the prior section.





VALUATION OF FUND ASSETS

Market Value of Assets
Actuarial Value of Assets

VALUATION OF FUND ASSETS

MARKET VALUE OF ASSETS

Statement of Assets

	Prior Valuation	Current Valuation
Cash and Cash Equivalents	\$ 579,272	\$ 529,772
Money Market	279,796	436,040
Fixed Income	8,891,084	9,279,622
Stock Equities	2,674,681	2,751,475
Mutual Funds	9,791,956	12,565,575
Receivables (Net of Payables)	79,218	84,701
Net Assets Available for Pensions	\$ 22,296,006	\$ 25,647,185

*The Total
Value of Assets
has Increased
\$3,351,179
from Prior
Valuation.*

Statement of Changes in Assets

Total Market Value - Prior Valuation	\$ 22,296,006
Plus - Employer Contributions	1,837,000
Plus - Employee Contributions	423,716
Plus - Return on Investments	2,101,966
Less - Benefit and Related Payments	(971,371)
Less - Other Expenses	(40,133)
Total Market Value - Current Valuation	\$ 25,647,185

*The Return on
Investment on
the Market
Value of Assets
for the Fund was
Approximately
9.0% Net of
Administrative
Expenses.*

The return on investments shown has been determined as the Return on Assets from the statement of changes in assets, as a percent of the average of the beginning and ending Market Value of Assets. Return on Investment is net of the Other Expenses as shown. The Return on Investments has been excluded from the Total Market Value of Assets at the end of the year for this calculation.



VALUATION OF FUND ASSETS

MARKET VALUE OF ASSETS (GAIN)/LOSS

Current Year (Gain)/Loss on Market Value of Assets

Total Market Value - Prior Valuation	\$ 22,296,006
Contributions	2,260,716
Benefit Payments	(971,371)
Expected Return on Investments	1,548,496
Expected Total Market Value - Current Valuation	25,133,847
Actual Total Market Value - Current Valuation	25,647,185
Current Market Value (Gain)/Loss	<u>\$ (513,338)</u>
Expected Return on Investments	\$ 1,548,496
Actual Return on Investments (Net of Expenses)	2,061,834
Current Market Value (Gain)/Loss	<u>\$ (513,338)</u>

*The Return on
the Market
Value of Assets
was Higher than
Expected Over
the Most Recent
Year.*

The (Gain)/Loss on the Market Value of Assets has been determined based on expected returns at the actuarial rate.



VALUATION OF FUND ASSETS

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS

Total Market Value - Current Valuation		\$ 25,647,185
Adjustment for Prior (Gains)/Losses		
	Full Amount	
First Preceding Year	\$ (513,338)	(410,670)
Second Preceding Year	1,581,362	948,817
Third Preceding Year	272,409	108,964
Fourth Preceding Year	(53,457)	(10,691)
Total Deferred (Gain)/Loss		636,420
Initial Actuarial Value of Assets - Current Valuation		\$ 26,283,605
Less Contributions for the Current Year and Interest		-
Less Adjustment for the Corridor		-
Actuarial Value of Assets - Current Valuation		\$ 26,283,605

The Actuarial Value of Assets is Equal to the Fair Market Value of Assets with Unanticipated Gains/Losses Recognized over 5 Years. The Actuarial Value of Assets is Currently 102% of the Market Value.

(GAIN)/LOSS ON THE ACTUARIAL VALUE OF ASSETS

Total Actuarial Value - Prior Valuation	\$ 23,670,504
Plus - Employer Contributions	1,837,000
Plus - Employee Contributions	423,716
Plus - Return on Investments	1,363,888
Less - Benefit and Related Payments	(971,371)
Less - Other Expenses	(40,133)
Total Actuarial Value - Current Valuation	\$ 26,283,605

The Return on Investment on the Actuarial Value of Assets for the Fund was Approximately 5.4% Net of Administrative Expenses.

The Actuarial Value of Assets incorporates portions of gains and losses over multiple years.



VALUATION OF FUND ASSETS

HISTORICAL ASSET PERFORMANCE

The chart below shows the historical rates of return on plan assets for both Market Value of Assets and Actuarial Value of Assets.

	<u>Market Value</u>	<u>Actuarial Value</u>
First Preceding Year	9.0%	5.4%
Second Preceding Year	(0.4%)	4.9%

The returns on assets shown above were calculated based on the annual return on investment for the year, as a percentage of the average value of the assets for the year.

For purposes of determining the average value of assets during the year, the ending market value of assets has been adjusted to net out to the portion related to the investment returns themselves. All other cash flows are included.

For purposes of determining the annual return on investment we have adjusted the figures shown on the preceding pages. The figures shown on the preceding pages are net of investment expenses. We have made an additional adjustment to net out administrative expenses. Netting out administrative expenses allows us to capture returns for the year that can be used to make benefit payments as part of the ongoing actuarial process.

The adjustment we make is for actuarial reporting purposes only. By netting out administrative expenses and capturing return dollars that are available to pay benefits, it provides us a comparison to the estimated rate of return on assets, but does not provide a figure that would be consistent with the return rates that are determined by other parties. Therefore, this calculated rate of return should not be used to analyze investment performance of the Fund or the performance of the investment professionals.





RECOMMENDED CONTRIBUTION DETAIL

Actuarial Accrued Liability

Funded Status

Development of the Normal Cost

Recommended Contribution

Actuarial Methods – Recommended Contribution

RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL ACCRUED LIABILITY

	Prior Valuation	Current Valuation
Active Employees	\$ 23,544,455	\$ 23,098,251
Inactive Employees		
Terminated Employees - Vested	138,505	153,799
Retired Employees	14,995,169	16,586,094
Disabled Employees	1,867,769	1,912,074
Other Beneficiaries	-	-
Total Inactive Employees	17,001,443	18,651,967
Total Actuarial Accrued Liability	\$ 40,545,898	\$ 41,750,218

*The Total
Actuarial
Liability has
Increased
\$1,204,320 from
Prior Valuation.*

FUNDED STATUS

	Prior Valuation	Current Valuation
Total Actuarial Accrued Liability	\$ 40,545,898	\$ 41,750,218
Total Actuarial Value of Assets	23,670,504	26,283,605
Unfunded Actuarial Accrued Liability	\$ 16,875,394	\$ 15,466,613
Total Market Value of Assets	\$ 22,296,006	\$ 25,647,185
Percent Funded		
Actuarial Value of Assets	<u>58.38%</u>	<u>62.95%</u>
Market Value of Assets	<u>54.99%</u>	<u>61.43%</u>

*Funded
Percentage as of
the Valuation Date
is Subject to
Volatility on
Assets and
Liability in the
Short-Term.*



RECOMMENDED CONTRIBUTION DETAIL

DEVELOPMENT OF THE EMPLOYER NORMAL COST

	Prior Valuation	Current Valuation
Total Normal Cost	\$ 861,720	\$ 1,038,677
Estimated Employee Contributions	(410,110)	(427,562)
Employer Normal Cost	\$ 451,610	\$ 611,115

*At a 100%
Funding Level,
the Normal Cost
Contribution is
Still Required.*

NORMAL COST AS A PERCENTAGE OF EXPECTED PAYROLL

	Prior Valuation	Current Valuation
Expected Payroll	\$ 4,138,344	\$ 4,314,452
Employee Normal Cost Rate	<u>9.910%</u>	<u>9.910%</u>
Employer Normal Cost Rate	<u>10.91%</u>	<u>14.16%</u>
Total Normal Cost Rate	<u>20.82%</u>	<u>24.07%</u>

*Ideally, the
Employer
Normal Cost
Rate will Remain
Stable.*

CONTRIBUTION RECOMMENDATION

	Prior Valuation	Current Valuation
Employer Normal Cost*	\$ 509,776	\$ 652,365
Amortization of Unfunded Accrued Liability/(Surplus)	1,389,232	1,331,187
Funding Requirement	\$ 1,899,008	\$ 1,983,552

*The
Recommended
Contribution has
Increased 4.5%
from Prior
Valuation.*

*Employer Normal Cost Contribution includes interest through the end of the year.



RECOMMENDED CONTRIBUTION DETAIL

ACTUARIAL METHODS – RECOMMENDED CONTRIBUTION

Actuarial Valuation Date	May 1, 2017
Data Collection Date	April 30, 2017
Actuarial Cost Method	Entry Age Normal (Level % Pay)
Amortization Method	Level % Pay (Closed)
Amortization Target	100% Funded over 16 years
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described. The actuarial cost and amortization method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

The recommended contribution amount shown in this report is based on the methods summarized above. The Actuarial Funding Policies section of the report will include a more detail description of the funding methods being used.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way dollars are contributed towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.





ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Minimum Contribution
Methods and Assumptions

ILLINOIS STATUTORY MINIMUM CONTRIBUTION

STATUTORY MINIMUM CONTRIBUTION

	<u>Minimum Contribution</u>
Contribution Requirement	\$1,288,698
Expected Payroll	\$4,314,452
Contribution Requirement as a Percent of Expected Payroll	29.87%

FUNDED STATUS – STATUTORY MINIMUM

	<u>Minimum Contribution</u>
Normal Cost	\$1,167,612
Market Value of Assets	\$25,647,185
Actuarial Value of Assets	\$26,283,605
Actuarial Accrued Liability	\$37,488,472
Unfunded Actuarial Accrued Liability	\$11,204,867
Percent Funded	
Actuarial Value of Assets	70.11%
Market Value of Assets	68.41%



ILLINOIS STATUTORY MINIMUM CONTRIBUTION

The Statutory Minimum Contribution is based on funding methods and funding parameters in the Illinois statutes for pension funding. The resulting contribution is lower than the recommended contribution for the current plan year. The lower contribution amount is not recommended because it represents only a deferral of contributions when compared to the recommended contribution method.

Actuarial Funding methods for pensions are best applied to provide a balance between the long-term goals of a variety of stakeholders:

1. Beneficiaries – the fund participants are interested in benefit security and having the dollars there to pay benefits when retired
2. Employers – cost control and cost stability over the long-term
3. Taxpayers – paying for the services they are receiving from active employees

The Statutory Minimum Contribution methods are not intended to provide a better system in any of the above categories long-term. The parameters are not recommended for a long-term funding strategy.

The Statutory Minimum methods put into place in 2011 were intended to provide short-term budget relief for Employer contributions. An employer using the Statutory Minimum parameters for current funding should view the contributions as short-term relief. Our recommendation in this situation is for a pension fund and an employer to work towards a long-term funding strategy that better achieves the long-term funding goals, over a period that does not exceed 3-5 years.

The Securities and Exchange Commission in 2013 used the phrase “Statutory Underfunding” to describe situations where contributions appear to be more manageable in the short-term, but set up future contribution requirements that are less likely to be manageable.



ILLINOIS STATUTORY MINIMUM CONTRIBUTION

ACTUARIAL METHODS – ILLINOIS STATUTORY MINIMUM CONTRIBUTION

Actuarial Valuation Date	May 1, 2017
Data Collection Date	April 30, 2017
Actuarial Cost Method	Projected Unit Credit (Level % of Pay)
Amortization Method	Level % Pay (Closed)
Remaining Amortization Period	90% Funded over 23 years
Asset Valuation Method	5-Year Smoothed Market Value

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described. The actuarial cost and amortization method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

The Actuarial Funding Methods are meant to provide a systematic process for determining contributions on an annual basis. The methods do not impact the expectation of future benefit payments. The methods only impact the way dollars are contributed towards future benefit payments.

Different Actuarial Funding Methods may achieve funding goals with differing levels of success. Certain methods are more efficient and more stable on an annual basis.





ACTUARIAL VALUATION DATA

Active Employees
Retirees and Beneficiaries

ACTUARIAL VALUATION DATA

ACTIVE EMPLOYEES

	Prior Valuation	Current Valuation
Vested	38	38
Nonvested	6	8
Total Active Employees	44	46
Total Payroll	\$ 4,077,186	\$ 4,250,692

INACTIVE EMPLOYEES

	Prior Valuation	Current Valuation
Terminated Employees - Vested	1	1
Retired Employees	12	13
Disabled Employees	3	3
Other Beneficiaries	0	0
Total Inactive Employees	16	17

SUMMARY OF BENEFIT PAYMENTS

	Prior Valuation	Current Valuation
Terminated Employees - Vested	\$ 2,751	\$ 2,751
Retired Employees	69,023	76,472
Disabled Employees	8,229	8,229
Other Beneficiaries	-	-
Total Inactive Employees	\$ 80,003	\$ 87,453

Benefits shown for terminated employees under deferred retirement are not currently in pay status.





ACTUARIAL FUNDING POLICIES

Actuarial Cost Method
Financing Unfunded Accrued Liability
Actuarial Value of Assets

ACTUARIAL FUNDING POLICIES

ACTUARIAL COST METHOD

The actuarial cost method allocates the projected obligations of the plan over the working lifetimes of the plan participants.

In accordance with the Pension Fund's Funding Policy the actuarial cost method for the recommended contribution basis is Entry Age Normal (Level Percent of Pay). The Entry Age Normal Cost Method is a method under which the actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis over the earnings or service of the individual between entry age and assumed exit age. The portion of this actuarial present value allocated to a valuation year is called normal cost. The portion of the actuarial present value not provided at a valuation date by the actuarial present value of future normal costs is called the actuarial liability.

FINANCING UNFUNDED ACTUARIAL ACCRUED LIABILITY

The Unfunded Actuarial Accrued Liability may be amortized over a period either in level dollar amounts or as a level percentage of projected payroll.

In accordance with the Pension Fund's Funding Policy for the recommended contribution the unfunded actuarial accrued liabilities are amortized by level percent of payroll contributions to 100% funding target over the remaining 16 future years.

ACTUARIAL VALUE OF ASSETS

The pension fund is an ongoing plan. The employer wishes to smooth the effect of volatility in the market value of assets on the annual contribution. The Actuarial Value of Assets is equal to the Market Value of Assets with unanticipated gains/losses recognized over five years.

The asset valuation method is intended to create an Actuarial Value of Assets that remains reasonable in relation to the Market Value of Assets over time. The method produces results that can fall above and below the Market Value of Assets. The period of recognition is short.

It is intended that the period of recognition is short enough to keep the Actuarial Value of Assets within a decent range of the Market Value. The employer has not placed a specific corridor around the Market Value of Assets.





ACTUARIAL ASSUMPTIONS

Nature of Actuarial Calculations
Actuarial Assumptions in the Valuation Process
Actuarial Assumptions Utilized

ACTUARIAL ASSUMPTIONS

NATURE OF ACTUARIAL CALCULATIONS

The results documented in this report are estimates based on data that may be imperfect and on assumptions about future events. Certain plan provisions may be approximated or deemed immaterial, and, therefore, are not valued. Assumptions may be made about participant data or other factors. Reasonable efforts were made in this valuation to ensure that significant items in the context of the actuarial liabilities or costs are treated appropriately, and not excluded or included inappropriately.

Actual future experience will differ from the assumptions used in the calculations. As these differences arise, the expense for accounting purposes will be adjusted in future valuations to reflect such actual experience.

A range of results different from those presented in this report could be considered reasonable. The numbers are not rounded, but this is for convenience only and should not imply precision which is not inherent in actuarial calculations.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contribution and benefit values of the Pension Fund are calculated by applying actuarial assumptions to the benefit provisions and census information furnished, using the actuarial cost methods described in the previous section.

The principal areas of financial risk which require assumptions about future experience are:

- Long-term Rates of Investment Return
- Patterns of Pay Increases for Members
- Rates of Mortality Among Members and Beneficiaries
- Rates of Withdrawal of Active Members
- Rates of Disability Among Members
- Age Patterns of Actual Retirement

Actual experience of the Pension Fund will not coincide exactly with assumed experience. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments to the computed contribution requirement.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations).

Details behind the selection of the actuarial assumptions can be found in the assumption document provided to the client. The client has reviewed and approved the assumptions as a reasonable expectation of the future anticipated experience under the plan.



ACTUARIAL ASSUMPTIONS

ACTUARIAL ASSUMPTIONS UTILIZED

Expected Return on Investments	6.75% net of administrative expenses.
CPI-U	2.50%
Total Payroll Increases	3.00%
Individual Pay Increases	4.00% - 21.51%

Individual salary increases include a long-term average increase for inflation, average annual increases for promotions, and any additional increases for a step program. Sample Rates as Follows:

Service	Rate	Service	Rate
0	8.05%	8	4.00%
1	8.39%	9	4.00%
2	8.11%	10	4.00%
3	8.03%	15	4.00%
4	8.23%	20	4.00%
5	8.22%	25	4.00%
6	8.23%	30	4.00%
7	21.51%	35	4.00%

Retirement Rates

100% of the L&A Assumption Study Cap Age 65 for Police 2016.
Sample Rates as Follows:

Age	Rate	Age	Rate
50	0.117	53	0.139
51	0.124	54	0.147
52	0.131	55	0.156



ACTUARIAL ASSUMPTIONS

Withdrawal Rates

100% of the L&A Assumption Study for Police 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
25	0.041	40	0.027
30	0.039	45	0.014
35	0.036	50	0.003

Disability Rates

100% of the L&A Assumption Study for Police 2016. Sample Rates as Follows:

Age	Rate	Age	Rate
25	0.0005	40	0.0028
30	0.0010	45	0.0043
35	0.0018	50	0.0064

Mortality Rates

Active Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study, with Blue Collar Adjustment. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Retiree Mortality follows the L&A Assumption Study for Police 2016. These Rates are Experience Weighted with the Raw Rates as Developed in the RP-2014 Study, with Blue Collar Adjustment and Improved Generationally using MP-2016 Improvement Rates.

Disabled Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study for Disabled Participants, with Blue Collar Adjustment. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Spouse Mortality follows the Sex Distinct Raw Rates as Developed in the RP-2014 Study. These Rates are Improved Generationally using MP-2016 Improvement Rates.

Married Participants

80% of Active Participants are Assumed to be Married. Female Spouses are Assumed to be 4 Years Younger than Male Spouses.





SUMMARY OF PRINCIPAL PLAN PROVISIONS

Establishment of the Fund
Administration
Employee Contributions
Normal Retirement Pension Benefits
Pension to Survivors
Termination Benefits
Disability Benefits

SUMMARY OF PRINCIPAL PLAN PROVISIONS

ESTABLISHMENT OF THE FUND

The Police Pension Fund is established and administered as prescribed by “Article 3. Police Pension Fund – Municipalities 500,000 and Under” of the Illinois Pension Code.

ADMINISTRATION

The Police Pension Fund is administered by a Board of Trustees located in each municipality maintaining a pension fund for its police officers. Its duties are to control and manage the pension fund, to hear and determine applications for pensions, to authorize payment of pensions, to establish rules, to pay expenses, to invest funds, and to keep records.

EMPLOYEE CONTRIBUTIONS

Employees contribute 9.910% of salary.

NORMAL RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

Eligibility: Age 50 with at least 20 years of creditable service and no longer a police officer.

Benefit: 50% of final salary is payable commencing at retirement for 20 years of service. An additional 2.5% of final salary is added for each additional year of service in excess of 20 years of service (not to exceed 75% of final salary). “Final salary” is the salary attached to rank held on the last day of services or for 1 year prior to the last day, whichever is greater.

Annual Increase in Benefit: An officer will receive an initial increase of 1/12 of 3% for each month that has elapsed since retirement. The initial increase date will be the later of the first day of the month following the attainment of age 55, or the first anniversary of the date of retirement. Subsequent increases of 3% of the current pension amount (including prior increases) will be provided in each January thereafter.



SUMMARY OF PRINCIPAL PLAN PROVISIONS

NORMAL RETIREMENT PENSION BENEFIT - CONTINUED

Hired on or After January 1, 2011

Eligibility: Age 55 with at least 10 years of creditable service and no longer a police officer.

Benefit: 2.5% of final average salary for each year of service is payable at retirement (not to exceed 75% of final average salary). "Final average salary" is determined by dividing the highest total salary over 96 consecutive months of service in the last 120 months of service by the total number of months of service in the period. Annual salary for this purpose will not exceed \$106,800, indexed by the lesser of 3% or $\frac{1}{2}$ of the CPI-U for the 12 months ending with the September preceding each November 1. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the January 1st following the later of the attainment of age 60, or the first anniversary of the date of retirement. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or $\frac{1}{2}$ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original benefit.

EARLY RETIREMENT PENSION BENEFIT

Hired Prior to January 1, 2011

None

Hired on or After January 1, 2011

Eligibility: Age 50 with at least 10 years of creditable service and no longer a police officer.

Benefit: The normal retirement pension benefit reduced by $\frac{1}{2}$ of 1% for each month that the police officer's age is under age 55.

Annual Increase in Benefit: The initial increase date will be the January 1st following the later of the attainment of age 60, or the first anniversary of the date of retirement. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or $\frac{1}{2}$ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original benefit.



SUMMARY OF PRINCIPAL PLAN PROVISIONS

PENSION TO SURVIVORS

Hired Prior to January 1, 2011

Death - Line of Duty

Surviving spouse is entitled to 100% of the salary attached to the rank of the police officer on the last day of service, payable immediately.

Death - Non-Duty

Current Pensioners (Including Disabled Pensioners): Surviving spouse to receive continuation of the pension.

Active Employee with 20+ Years of Service: Surviving spouse is entitled to the full pension earned by the police officer at the time of death.

Active Employee with 10-20 Years of service: Surviving spouse is entitled to 50% of the salary attached to the rank of the police officer on the last day of service, payable immediately

Annual Increase in Benefit: None.

Hired on or After January 1, 2011

Death - Line of Duty

Surviving spouse is entitled to 100% of the salary attached to the rank of the police officer on the last day of service, payable immediately.

Death - Non-Duty

Current Pensioners (Including Disabled Pensioners), Active Employee with 20+ Years of Service, and Active Employee with 10-20 Years of service: Surviving spouse to receive 66 ⅔% of the police officer's earned pension at the date of death.

Annual Increase in Benefit: The initial increase date will be the January 1st after the attainment of age 60 by the recipient of the survivor's pension. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original survivor's benefit amount.



SUMMARY OF PRINCIPAL PLAN PROVISIONS

TERMINATION BENEFIT

Hired Prior to January 1, 2011

Eligibility: At least 8 years but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service is payable beginning at age 60. "Final salary" is based on the greater of salary during the last year of service prior to termination of employment or the pay rate for the police officer at termination of employment.

Annual Increase in Benefit: An officer will receive an initial increase of 3% on the first anniversary of the date of start of payments. Subsequent increases of 3% of the current pension amount will be provided in each January thereafter.

Hired on or After January 1, 2011

Eligibility: At least 10 years but less than 20 years of creditable service.

Benefit: 2.5% of final salary for each year of service is payable beginning at age 60. "Final salary" is based on the greater of salary during the last year of service prior to termination of employment or the pay rate for the police officer at termination of employment. Annual salary for this purpose will not exceed \$106,800, indexed by the lesser of 3% or ½ of the CPI-U for the 12 months ending with the September preceding each November 1. The salary cap will not decrease.

Annual Increase in Benefit: The initial increase date will be the January 1st following the first payment. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 mos. ending with the September preceding each November 1, applied to the original benefit amount.



SUMMARY OF PRINCIPAL PLAN PROVISIONS

DISABILITY BENEFIT

Hired Prior to January 1, 2011

Eligibility: Disability (duty or non-duty).

Benefit: A police officer who becomes disabled on duty is entitled to receive a pension equal to the greater of 65% of final salary or the pension they would have been entitled to upon retirement at the time of disability. For a non-duty disability, the police officer is entitled to 50% of final salary. "Final salary" is based on the pay rate for the police officer on the last day of service.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60. Subsequent increases will occur on each subsequent January 1st. The first increase is 3% of the original benefit for each full year that has passed since the pension began. Subsequent increases will be the 3% of the original pension benefit amount.

Hired on or after January 1, 2011

Eligibility: Disability (duty or non-duty).

Benefit: A police officer who becomes disabled on duty is entitled to receive a pension equal to the greater of 65% of final salary or the pension they would have been entitled to upon retirement at the time of disability. For a non-duty disability, the police officer is entitled to 50% of final salary. "Final salary" is based on the pay rate for the police officer on the last day of service.

Annual Increase in Benefit: The initial increase date will be the January 1st following the attainment of age 60. Subsequent increases will occur on each subsequent January 1st. The first increase and subsequent increases will be the lesser of 3% of the original benefit or ½ of the CPI-U for the 12 months ending with the September preceding each November 1, applied to the original benefit amount.





GLOSSARY OF TERMS

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability –The actuarial present value of future benefits based on employees’ service rendered to the measurement date using the selected actuarial cost method. It is that portion of the Actuarial Present Value of plan benefits and expenses allocated to prior years of employment. It is not provided for by future Normal Costs.

Actuarial Cost Method – The method used to allocate the projected obligations of the plan over the working lifetimes of the plan participants.

Actuarial Value of Assets – The value of the assets used in the determination of the Unfunded Actuarial Accrued Liability. The Actuarial Value of Assets is related to Market Value of Assets, with adjustments made to spread unanticipated gains and losses for a given year over a period of several years. Actuarial Value of Assets is generally equally likely to fall above or below the Market Value of Assets, and generally does not experience as much volatility over time as the Market Value of Assets.

Asset Valuation Method – A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an asset valuation method is to provide for the long-term stability of employer contributions.

Funding Policy – A set of procedures for a Pension Fund that outlines the “best practices” for funding the pension benefits based on the goals of the plan sponsor. A Funding Policy discusses items such as assumptions, Actuarial Cost Method, assets, and other parameters that will best help the sponsor meet their goal of working in the best interest of the plan participant.

Market Value of Assets – The value of the cash, bonds, securities and other assets held in the pension trust as of the measurement date.

Normal Cost –The present value of future benefits earned by employees during the current fiscal year. It is that portion of the Actuarial Present Value of benefits and expenses which is allocated to a valuation year by the Actuarial Cost Method.

Unfunded Actuarial Accrued Liability – The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets. The Unfunded Actuarial Accrued Liability is amortized over a period either in level dollar amounts or as a level percentage of projected payroll.





VILLAGE OF ALGONQUIN
GENERAL SERVICES ADMINISTRATION

– M E M O R A N D U M –

DATE: October 26, 2017

TO: Tim Schloneger, Village Manager

FROM: Michael Kumbera, Assistant Village Manager

SUBJECT: Municipal Compliance Report

Background:

Pursuant to House Bill 5088, attached please find the Municipal Compliance Report for the Algonquin Police Pension Fund. The Police Pension Board is required to report annually to the Board of Trustees on the condition of the pension fund at the end of each fiscal year for tax levy purposes.

Recommendation:

Staff recommends the Committee of the Whole forward this item to the Village Board for acceptance by resolution at their meeting on November 21.

C: Susan Skillman, Comptroller

VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND

HOUSE BILL 5088 - MUNICIPAL COMPLIANCE REPORT

FOR THE FISCAL YEAR ENDED

APRIL 30, 2017

VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND

House Bill 5088 (Public Act 95-950) - Municipal Compliance Report
For the Fiscal Year Ending April 30, 2017

The Pension Board certifies to the Board of Trustees of the Village of Algonquin, Illinois on the condition of the Pension Fund at the end of its most recently completed fiscal year the following information:

- 1) The total cash and investments of the fund and their current market value of those assets:

	<u>Current Fiscal Year</u>	<u>Preceding Fiscal Year</u>
Total Cash and Investments	<u>\$ 25,647,185</u>	<u>\$ 22,296,006</u>
Total Net Position	<u>\$ 25,647,185</u>	<u>\$ 22,296,006</u>

- 2) The estimated receipts during the next succeeding fiscal year from deductions from the salaries of police officers and from other sources:

Estimated Receipts - Employee Contributions	<u>\$ 430,600</u>
Estimated Receipts - All Other Sources	
Investment Earnings	<u>\$ 1,731,200</u>
Municipal Contributions	<u>\$ 1,983,552</u>

- 3) The estimated amount required during the next succeeding fiscal year to (a) pay all pensions and other obligations provided in Article 3 of the Illinois Pension Code, and (b) to meet the annual requirements of the fund as provided in Sections 3-125 and 3-127:

(a) Pay all Pensions and Other Obligations	<u>\$ 1,264,400</u>
(b) Annual Requirement of the Fund as Determined by:	
Illinois Department of Insurance	<u>\$ N/A</u>
Private Actuary- Lauterbach & Amen, LLP	
Recommended Municipal Contribution	<u>\$ 1,983,552</u>
Statutory Municipal Contribution	<u>\$ 1,288,698</u>

VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND

House Bill 5088 (Public Act 95-950) - Municipal Compliance Report
For the Fiscal Year Ending April 30, 2017

- 4) The total net income received from investment of assets along with the assumed investment return and actual investment return received by the fund during its most recently completed fiscal year compared to the total net income, assumed investment return, and actual investment return received during the preceding fiscal year:

	Current Fiscal Year	Preceding Fiscal Year
Net Income Received from Investment of Assets	\$ 2,101,966	\$ (67,455)
Assumed Investment Return		
Illinois Department of Insurance	N/A	6.75%
Private Actuary- Lauterbach & Amen, LLP	6.75%	6.75%
Actual Investment Return	9.17%	(0.31)%

- 5) The total number of active employees who are financially contributing to the fund:

Number of Active Members	46
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- 6) The total amount that was disbursed in benefits during the fiscal year, including the number of and total amount disbursed to (i) annuitants in receipt of a regular retirement pension, (ii) recipients being paid a disability pension, and (iii) survivors and children in receipt of benefits:

	Number of	Total Amount Disbursed
(i) Regular Retirement Pension	13	\$ 872,626
(ii) Disability Pension	3	\$ 98,745
(iii) Survivors and Child Benefits	0	\$ 0
Totals	16	\$ 971,371

VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND

House Bill 5088 (Public Act 95-950) - Municipal Compliance Report
For the Fiscal Year Ending April 30, 2017

- 7) The funded ratio of the fund:

	Current Fiscal Year	Preceding Fiscal Year
Illinois Department of Insurance	N/A	65.66%
Private Actuary- Lauterbach & Amen, LLP	62.95%	58.38%

- 8) The unfunded liability carried by the fund, along with an actuarial explanation of the unfunded liability:

Unfunded Liability:

Illinois Department of Insurance	\$ N/A
Private Actuary- Lauterbach & Amen, LLP	\$ 15,466,613

The accrued liability is the actuarial present value of the portion of the projected benefits that has been accrued as of the valuation date based upon the actuarial valuation method and the actuarial assumptions employed in the valuation. The unfunded accrued liability is the excess of the accrued liability over the actuarial value of assets.

- 9) The investment policy of the Pension Board under the statutory investment restrictions imposed on the fund.

Investment Policy - See Attached.

Please see Notes Page attached.

CERTIFICATION OF MUNICIPAL POLICE
PENSION FUND COMPLIANCE REPORT

The Board of Trustees of the Pension Fund, based upon information and belief, and to the best of our knowledge, hereby certify pursuant to §3-143 of the Illinois Pension Code 40 ILCS 5/3-143, that the preceding report is true and accurate.

Adopted this _____ day of _____, 2017

President	_____	Date	_____
Secretary	_____	Date	_____

VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND

House Bill 5088 (Public Act 95-950) - Municipal Compliance Report
For the Fiscal Year Ending April 30, 2017

INDEX OF ASSUMPTIONS

- 1) Total Cash and Investments - as Reported in the Audited Financial Statements for the Years Ended April 30, 2017 and 2016.

Total Net Position - as Reported at Market Value in the Audited Financial Statements for the Years Ended April 30, 2017 and 2016.

- 2) Estimated Receipts - Employee Contributions as Reported in the Audited Financial Statements for the Year Ended April 30, 2017 plus 4.45% Increase (Actuarial Salary Increase Assumption) Rounded to the Nearest \$100.

Estimated Receipts - All Other Sources

Investment Earnings - Cash and Investments as Reported in the Audited Financial Statements for the Year Ended April 30, 2017, times 6.75% (Actuarial Investment Return Assumption) Rounded to the Nearest \$100.

Municipal Contributions - Recommended Tax Levy Requirement as Reported by Lauterbach & Amen, LLP, Actuarial Valuation for the Year Ended April 30, 2017.

- 3) (a) Pay all Pensions and Other Obligations - Total Deductions as Reported in the Audited Financial Statements for the Year Ended April 30, 2017, plus a 25% Increase, Rounded to the Nearest \$100.

(b) Annual Requirement of the Fund as Determined by:

Illinois Department of Insurance - No April 30, 2017 Actuarial Valuation available at the time of this report.

Private Actuary

Recommended Amount of Tax Levy as Reported by Lauterbach & Amen, LLP in the April 30, 2017 Actuarial Valuation.

Statutorily Required Amount of Tax Levy as Reported by Lauterbach & Amen, LLP in the April 30, 2017 Actuarial Valuation.

**VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND**

**House Bill 5088 (Public Act 95-950) - Municipal Compliance Report
For the Fiscal Year Ending April 30, 2017**

INDEX OF ASSUMPTIONS - Continued

- 4) Net Income Received from Investment of Assets - Investment Income (Loss) net of Investment Expense, as Reported in the Audited Financial Statements for the Years Ended April 30, 2017 and 2016.

Assumed Investment Return

Illinois Department of Insurance - Preceding Fiscal Year Interest Rate Assumption as Reported in the April 30, 2016 Actuarial Valuation. No April 30, 2017 Actuarial Valuation available at the time of this report.

Private Actuary - Current and Preceding Fiscal Year Interest Rate Assumption as Reported in the Lauterbach & Amen, LLP, April 30, 2017 and 2016 Actuarial Valuations.

Actual Investment Return -Net Income Received from Investments as Reported Above as a Percentage of the Average of the Beginning and Ending Balances of the Fiscal Year Cash Investments, Excluding Net Investment Income, Gains, and Losses for the Fiscal Year Return Being calculated, as Reported in the Audited Financial Statements for the Fiscal Years Ended April 30, 2017, 2016 and 2015.

- 5) Number of Active Members - Illinois Department of Insurance Annual Statement for April 30, 2017 - Schedule P.
- 6) (i) Regular Retirement Pension - Illinois Department of Insurance Annual Statement for April 30, 2017 - Schedule P for Number of Participants and Expense page 1 for Total Amount Disbursed.
- (ii) Disability Pension - Same as above.
- (iii) Survivors and Child Benefits - Same as above.

VILLAGE OF ALGONQUIN, ILLINOIS
POLICE PENSION FUND

House Bill 5088 (Public Act 95-950) - Municipal Compliance Report
For the Fiscal Year Ending April 30, 2017

INDEX OF ASSUMPTIONS - Continued

7) The funded ratio of the fund:

Illinois Department of Insurance - Preceding Fiscal Year Net Present Assets as a percentage of Total Assets as Reported in the April 30, 2016 Actuarial Valuation. No April 30, 2017 Actuarial Valuation available at the time of this report.

Private Actuary - Current and Preceding Fiscal Year Net Present Assets as a percentage of Total Assets as Reported in the Lauterbach & Amen, LLP, April 30, 2017 and April 30, 2016 Actuarial Valuations.

8) Unfunded Liability:

Illinois Department of Insurance - Deferred Asset (Unfunded Accrued Liability) - No April 30, 2017 Actuarial Valuation available at the time of this report.

Private Actuary - Deferred Asset (Unfunded Accrued Liability) as Reported by Lauterbach & Amen, LLP in the April 30, 2017 Actuarial Valuation.



VILLAGE OF ALGONQUIN
GENERAL SERVICES ADMINISTRATION

– M E M O R A N D U M –

DATE: November 1, 2017

TO: Tim Schloneger, Village Manager

FROM: Michael Kumbera, Assistant Village Manager/Treasurer

SUBJECT: *2017 Property Tax Levy*

The attached resolution establishes the amount the Village is requesting for its 2017 property tax levy. State statutes require that the corporate authorities of the Village pass a resolution estimating the amount of tax to be levied not less than 20 days prior to the adoption of the final levy, which is scheduled to be presented at the December 19 Village Board meeting.

Background

For the 2016 tax levy year, the Village's portion of resident's tax bill was approximately 6.25 percent (with some minor variations depending on exact location of household). In FY 17/18, property taxes comprise 31 percent of the General Fund revenue, which includes the Road and Bridge tax levy, which is levied by the township level of government. The Village, a home-rule unit of government, is not subject to the Property Tax Extension Limitation Law (PTELL), however, the Village is required to comply with the "Truth in Taxation Law." The law places requirements on the Village in the adoption of the 2017 property tax levy if the proposed 2017 gross property tax levy is 105 percent greater than the 2016 net property tax extension. Property tax revenues are not used to support business-like activities that are accounted for in enterprise funds, such as the Village's Water and Sewer Utility.

Recommendation

The recommendation for the 2017 Tax Levy is \$5,600,000. This amount is the same as the 2016 tax levy. The details are shown in Exhibit A which is attached. As the proposed levy is 100 percent of last year's extensions, there is no requirement for a public hearing under the Truth in Taxation Statute. The recommendation does take into consideration several factors that will impact the FY 18/19 financial plan including:

- The actuarial contribution recommendation for the Algonquin Police Pension Fund which exceeds the statutory requirement with a 100 percent funding level by 2033.
- The long-term stability of state-shared revenues, including the 10 percent reduction in receipts from the Local Government Distributive Fund (LGDF).
- Growth in Equalized Assessed Valuation (EAV) from both property value appreciation and new construction.

Projected EAV

Based on preliminary data obtained from Kane and McHenry County, equalized assessed valuation in the Village will increase for the third consecutive year. The estimate of EAV for 2017 is \$915,000,000 which is 7.3% more than last year which illustrates appreciation of real estate values and new construction. The assessors in each county use a three year history of property values including sales experience in determining the reassessment or current valuation. Assessments generally lag behind current market pricing by 18 months. The estimated tax rate for 2017 would be .612 per \$100 of EAV (refer to Exhibit A for details) which is less than 2016. A draft resolution reflecting this data is also attached.

Requested Action

Please forward the proposed tax levy information to the Committee of the Whole for review and possible action.

Attachments

RESOLUTION 2017-R-

**DETERMINING THE AMOUNT OF FUNDS TO BE LEVIED
FOR THE 2017 TAX YEAR THROUGH REAL ESTATE TAXES FOR THE
VILLAGE OF ALGONQUIN, KANE AND McHENRY COUNTIES, ILLINOIS**

**BE IT RESOLVED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE
VILLAGE OF ALGONQUIN, KANE AND McHENRY COUNTIES, ILLINOIS:**

1. That it is determined that the amount of taxes to be levied by the Village of Algonquin, exclusive of election costs, is \$5,600,000, which is less than 105 percent of the prior year's extension.
2. That the amount of taxes proposed to be levied is 100.0 percent of the prior year's extension.
3. That the intent of the Village to levy less than 105 percent does not require an advertisement in the newspaper or a public hearing in accordance with the Truth in Taxation Law (35 ILCS 200/18-55 et seq.).

John C. Schmitt, Village President

(SEAL)

Attest: _____
Gerald S. Kautz, Village Clerk

VILLAGE OF ALGONQUIN
PROPOSED REAL ESTATE TAX LEVY
2017 TAX LEVY

EQUALIZED ASSESSED VALUATION * \$915,000,000 (7.3% INCREASE)

PURPOSE	ESTIMATED RATE	PROPOSED LEVY
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CORPORATE	0.000	\$0
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POLICE PENSION	0.217	1,990,000
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SOCIAL SECURITY	0.049	450,000
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IMRF	0.033	300,000
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SCHOOL CROSSING GUARDS	0.002	15,000
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LIABILITY INSURANCE	0.048	440,000
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POLICE PROTECTION	0.262	2,400,000
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ESDA	0.001	5,000
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	=====	=====
TOTAL	0.612	5,600,000

* *Estimated*

VILLAGE OF ALGONQUIN
SCHEDULE OF PROPERTY TAX RATES & EAV

<u>Tax Levy Year</u>	<u>Rate (\$/\$100)</u>	<u>Levy (\$)</u>	<u>EAV (\$)</u>	<u>% Change EAV</u>
1988	0.600	\$560,450	\$110,909,000	-
1989	0.599	\$693,900	\$135,617,000	22.3%
1990	0.520	\$870,250	\$166,102,000	22.5%
1991	0.554	\$1,099,915	\$192,167,000	15.7%
1992	0.566	\$1,154,155	\$211,172,000	9.9%
1993	0.529	\$1,344,234	\$232,032,000	9.9%
1994	0.556	\$1,439,688	\$269,127,000	16.0%
1995	0.477	\$1,677,581	\$308,854,325	14.8%
1996	0.484	\$1,841,828	\$356,504,156	15.4%
1997	0.486	\$1,873,385	\$419,401,278	17.6%
1998	0.483	\$2,098,213	\$429,661,002	2.4%
1999	0.494	\$2,280,130	\$463,158,850	7.8%
2000	0.489	\$2,350,739	\$513,584,881	10.9%
2001	0.502	\$2,870,821	\$578,127,467	12.6%
2002	0.456	\$3,031,293	\$658,305,942	13.9%
2003	0.484	\$3,613,946	\$747,072,297	13.5%
2004	0.477	\$3,975,083	\$834,437,331	11.7%
2005	0.464	\$4,392,662	\$947,091,750	13.5%
2006	0.464	\$4,829,500	\$1,038,991,569	9.7%
2007	0.470	\$5,242,000	\$1,115,890,792	7.4%
2008	0.485	\$5,601,000	\$1,155,073,386	3.5%
2009	0.484	\$5,601,000	\$1,157,591,396	0.2%
2010	0.523	\$5,601,000	\$1,077,620,673	-6.9%
2011	0.564	\$5,575,000	\$981,280,749	-8.9%
2012	0.621	\$5,481,000	\$887,200,696	-9.6%
2013	0.678	\$5,481,000	\$805,011,458	-9.3%
2014	0.705	\$5,481,000	\$777,811,422	-3.4%
2015	0.716	\$5,731,000	\$800,571,395	2.9%
2016	0.657	\$5,600,000	\$852,365,740	6.5%
2017	0.612	\$5,600,000	\$915,000,000	7.3%



VILLAGE OF ALGONQUIN
GENERAL SERVICES ADMINISTRATION

– M E M O R A N D U M –

DATE: November 1, 2017

TO: Tim Schloneger, Village Manager

FROM: Michael Kumbera, Assistant Village Manager

SUBJECT: *2017 Tax Levy Adoption Procedures*

1. The corporate authorities of the Village of Algonquin must determine the estimated amounts of money necessary to be raised by property taxation. The resolution determining the amount to be levied must be approved not less than 20 days prior to the adoption of the aggregate levy. A draft resolution is attached for consideration of the Committee of the Whole on November 14, 2017 and Village Board approval at a special meeting on November 28, 2017.
2. Since the Village intend to levy an aggregate tax less than 105 percent of the previous years' extension, a public hearing is not required.
3. The Village must adopt a tax levy ordinance in order to direct each county (Kane and McHenry) to collect the property taxes. It is recommended that the levy ordinance be considered for approval at the regular Village Board meeting on December 19, 2017.
4. A certified copy of the tax levy must be delivered to each County Clerk before the last Tuesday of December 2017, which falls on December 26, 2017. Due to the holidays, it is recommended that the filing be performed prior to December 22.

c: File



VILLAGE OF ALGONQUIN
GENERAL SERVICES ADMINISTRATION

– M E M O R A N D U M –

DATE: November 6, 2017

TO: Tim Schloneger, Village Manager

FROM: Michael Kumbera, Assistant Village Manager/Treasurer

SUBJECT: Special Service Area #1 Tax Levy

Pursuant to Ordinance 2012-O-38, the owner of Riverside Plaza agreed to reimburse the Village for Streetscape Construction Special Services provided adjacent to the property located at 1 N. Main St. Special Service Area (SSA) #1 was established by Ordinance 2013-O-10 and provides that the Village may levy an amount not to exceed \$70,000 annually from the date of the establishment of the SSA, for five consecutive or more years until the Village is fully reimbursed \$350,000.

Staff recommendation for the 2017 Tax Levy is \$11,000. The benchmark for hearing purposes pursuant to 35 ILCS 200/27-32 is 105 percent of the comparable 2016 tax extensions. This proposed levy is 95.7 percent of last year's extension (\$11,500), therefore no public hearing is required.

Please note that if the property owner can prove that all 63 units are owner occupied as of July 1, 2018, the Village will reimburse Riverside the \$350,000, or portion thereof, that had been previously collected through the SSA. However, if not all 63 units are owner occupied by July 1, 2018, none of that amount previously collected will be paid.

Recommendation:

Staff recommends the Committee of the Whole forward this item to the Village Board for approval by ordinance at their special meeting on November 28.

Attachement

Village of Algonquin, Illinois
Special Service Area #1
2017 Levy Worksheet

2017 EAV Estimate	\$	1,964,188
- <i>Rate Setting EAV</i>	\$	303,214
Incremental Value	\$	1,660,974

2017 SSA Levy	\$	11,000
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Calculated Increment Rate	3.628%
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Incremental Value	\$	1,660,974
Calculated Increment Rate		3.628%
Additional Increment Generated	\$	60,257

2017 SSA Levy	\$	11,000
Additional Increment Generated	\$	60,257

TOTAL	\$	71,257
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ORDINANCE NO. 2017-O-

An Ordinance Levying Taxes for Special Service Area Number 1 in the Village of Algonquin for the 2017 Tax Year (Riverside Square or Plaza)

WHEREAS, the Village of Algonquin, McHenry and Kane Counties, Illinois, passed Ordinance 2013-O-10 on March 5, 2013 entitled *An Ordinance Establishing Special Service Area Number 1 Within the Village of Algonquin for the Property Commonly Known as Riverside Square or Plaza*; and

WHEREAS, this Special Service Area Ordinance provided that the Village could levy a tax not to exceed \$70,000 annually from the date of the establishment of Special Service Area Number 1, for five consecutive or more years until the Village is fully reimbursed \$350,000; and

WHEREAS, a hearing was held on January 22, 2013, after notice of said hearing was published in the *Northwest Herald* and a notice was mailed to all property owners within the proposed boundaries of said Special Service Area; and

WHEREAS, Ordinance 2013-O-10 was passed after the deadline for property owners to submit petitions, signed by at least 51 percent of the electors residing within the Special Service Area and by at least 51 percent of the owners of record of land included within the boundaries of the Special Service Area, objecting to the formation of the Special Service Area, and Ordinance 2013-O-10 became effective 10 days after its passage.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Algonquin, McHenry and Kane Counties, Illinois, as follows:

SECTION 1: There is hereby levied over all the taxable property within Village of Algonquin Special Service Area Number 1 the total sum of \$11,000.00 for the 2017 tax year.

SECTION 2: The Clerk of the aforesaid Village is hereby directed to file with the Clerk of the aforesaid County a duly certified copy of this Ordinance.

SECTION 3: If any section, paragraph, subdivision, clause, sentence or provision of this Ordinance shall be adjudged by any Court of competent jurisdiction to be invalid, such judgment shall not affect, impair, invalidate or nullify the remainder thereof, which remainder shall remain and continue in full force and effect.

SECTION 4: All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict.

SECTION 5: This Ordinance shall be in full force and effect upon its passage, approval and publication in pamphlet form (which publication is hereby authorized) as provided by law.

Ayes:

Nays:

Absent:

Abstain:

APPROVED:

President John C. Schmitt

(SEAL)

ATTEST: _____
Village Clerk Gerald S. Kautz

Passed:

Approved: _____

Published: _____

C E R T I F I C A T I O N

I, GERALD S. KAUTZ, do hereby certify that I am the duly appointed, acting and qualified Clerk of the Village of Algonquin, McHenry and Kane Counties, Illinois, and that as such Clerk, I am the keeper of the records and minutes and proceedings of the President and Board of Trustees of said Village of Algonquin.

I do further certify that at a regular meeting of the President and Board of Trustees of the Village of Algonquin, held on the ____ day of _____ 2017, the foregoing Ordinance entitled *An Ordinance Levying Taxes for Special Service Area Number 1 in the Village of Algonquin for the 2017 Tax Year (Riverside Square or Plaza)* was duly passed by the President and Board of Trustees of the Village of Algonquin.

The pamphlet form of Ordinance No. 2017-O-____, including the Ordinance and a cover sheet thereof, was prepared, and a copy of such Ordinance was available in the Ganek Municipal Center, commencing on the _____ day of _____, 2017, and continuing for at least 10 days thereafter. Copies of such Ordinance were also available for public inspection upon request in the office of the Village Clerk.

I do further certify that the original, of which the attached is a true and correct copy, is entrusted to me as the Clerk of said Village for safekeeping, and that I am the lawful custodian and keeper of the same.

Given under my hand and seal of the Village of Algonquin this _____ day of _____, 2017.

Gerald S. Kautz, Village Clerk
Village of Algonquin,
McHenry and Kane Counties, Illinois

(SEAL)



VILLAGE OF ALGONQUIN
GENERAL SERVICES ADMINISTRATION

– M E M O R A N D U M –

DATE: November 7, 2017

TO: Tim Schloneger, Village Manager

FROM: Michael Kumbera, Assistant Village Manager

SUBJECT: Grant Policy

Background:

During the Village's most recent audit process, the Village Auditor noted a deficiency in control process as it pertains to grant management. Grant management in our organization is decentralized with the applicant Departments administering grants independently.

While there are no inherent deficiencies with a decentralized grant management process, a grant policy was recommended to provide guidance with the Single Audit Act, OMB Circular A-133, the OMB Circular Compliance Supplement and Government Auditing Standards.

The OMB A-133 audit, is a rigorous, organization-wide examination of an entity that expends \$750,000 or more of Federal assistance (commonly known as Federal funds, Federal grants, or Federal awards) received for its operations. These funds may be received from federal agencies directly, or more commonly, through state and regional conduits, which can add some difficulty in managing.

The anticipated outcome of the grant policy is to remove the risk of material financial misstatements due to non-compliance with the Single Audit Act by providing clear guidance and open communication between the operating and financial reporting functions.

Recommendation:

Staff recommends the Committee of the Whole forward this item to the Village Board for acceptance by resolution at their special meeting on November 28.

C: Susan Skillman, Comptroller



Village of Algonquin

GRANT POLICY

Finance Department

The Village of Algonquin encourages Village Departments to seek grant funding in order to further the mission of the Village while ensuring there is a thorough understanding of a grant's operational, compliance, and/or monitoring requirements prior to the application for a grant, execution of a grant agreement, or execution of an Intergovernmental Agreement funded in whole or in part by a grant.

1. **Grant Identification and Application.** Any Village Department seeking a grant is required to provide advance formal and written notification to the Assistant Village Manager, or designee, prior to or in tandem with making application so the effects on the Village may be understood in advance including the following elements:
 - a. **Strategic Alignment.** An explanation of how the grant would further the Village's mission or strategies, including outcome measures and an assessment of potential grant risks (e.g. the Village will spend its own funds to support personnel beyond the grant period).
 - b. **Funding Analysis.** A multi-year cost-benefit analysis of grant revenues received, local matching funds required, direct costs associated with the grant, overhead costs, in-kind contributions, cost allowability, close-out costs as well as any potential costs that may be incurred by the Village beyond the grant period.
 - c. **Administrative and Operational Support.** A project plan specifying the responsible staff member and describe how the new activities, assets or personnel funded by the grant will be implemented or integrated; a provision for training those responsible for the grant so they can effectively carry out their role; and clearly state grant accounting, tracking and audit requirements.
2. **Grant Agreement Approval.** Prior to acceptance of any funding or expenditure of funds for any grant activity, a written contract is required. Presently any grant agreement which includes the disbursement of funds of \$30,000 or more on a reimbursable basis or a local match of \$30,000 or more shall be presented to the Committee of the Whole, and passed by Village Board before the grant agreement may be executed. Those grants under \$30,000 may be approved by the Village Manager but shall be communicated to the Village Board as an advisory item. The outsourcing of grant applications does not alleviate the responsible staff from ensuring compliance with this Policy.
3. **Compliance with Village Ordinances.** The procurement of goods or services funded by grants must be made in accordance with the Village of Algonquin's Purchasing Ordinance(s), and the hiring of personnel funded by grants must be made in accordance with the Village's various personnel policies and regulations. The outsourcing of grant applications does not alleviate the responsible staff from ensuring compliance with Village Ordinances.

4. **Compliance with Grant Requirements.** The Village Department which applied for and received the grant is responsible for compliance with all aspects of the grant requirements including monitoring to ensure that grant activities are properly accomplished; submitting requests for reimbursement accurately and on time; and maintaining sufficient documentation to properly account for the grant activity. Any and all communication between the Village and the granting agency must be forwarded to the Assistant Village Manager, or designee, at least quarterly unless grant requirements call for more frequent reporting. The outsourcing of grant management does not alleviate the responsible staff from ensuring compliance with grant requirements.
5. **Amendments to the Policy.** The Village will periodically review this policy and update as required by governmental provisions.



VILLAGE OF ALGONQUIN
PUBLIC WORKS DEPARTMENT

– M E M O R A N D U M –

DATE: Thursday, November 02, 2017
 TO: Mr. Robert Mitchard, II
 FROM: Mr. Shawn M. Hurtig
 SUBJECT: *Letter of Recommendation – Construction Contract*
Carpentersville/Algonquin Water System Interconnect (West) – VoA15-05-18B

This memo is to advise you of the recommendation I have for the bids on the **Carpentersville/Algonquin Water System Interconnect– VoA15-05-18B** project that the Village of Algonquin is proposing. Each bid was reviewed to ensure conformance with the bid specifications (certification, security, cost, etc..). With that I have the following comments and recommendation.

In total 8 firms submitted a bid by the deadline of 10-31-16 @ 11AM, below is a summary.

FIRM	Read Total	Calc. Total	Matched	SECURITY	CERT	REFER	NON-COLS	NON-CONF
Bolder Contractors	\$118,855.00	\$118,855.00	YES	5% Bond	Yes	Yes	Yes	Yes
Maneval Construction	\$129,498.88	\$129,498.88	YES	5% Bond	Yes	Yes	Yes	Yes
Berger Excavating	\$142,095.50	\$142,095.50	YES	5% Bond	Yes	Yes	Yes	Yes
Abitua Plumbing	\$109,721.00	\$109,721.00	YES	5% Bond	Yes	Yes	Yes	Yes
Martam Construction	\$128,446.00	\$128,446.00	YES	5% Bond	Yes	Yes	Yes	Yes
Copenhaver	\$95,452.00	\$95,452.00	YES	5% Bond	Yes	Yes	Yes	Yes
Mauro Sewer	\$109,952.00	\$109,952.00	YES	5% Bond	Yes	Yes	Yes	Yes
IHC Const.	\$132,880.00	\$132,880.00	YES	5% Bond	Yes	Yes	Yes	Yes

Average Cost	\$120,862.55		
Full Bid Results Spread	\$46,643.50	49%	Max \$ to Min \$Difference
Difference Avg to Lo	-\$25,410.55	-21%	Reduction in \$ from Low to Avg
Difference Avg to Hi	\$21,232.95	18%	Increase in \$ from Avg to Hi

3 Low Total Bid Average	\$105,041.67		
3 Low Total Bid Spread	\$14,500.00	14%	3 Low Bid Spread

Engineers Estimate of Probable Cost	\$120,500.00	-13%	Increase in \$ from 3 Low bid to EEOC
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Village Budgeted Amount	\$115,000.00	-9%	Increase in \$ from 3 Low bid to EEOC
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Analysis

Per the bid requirements all firms submitted a cost based on 21 line items. This project has an above average cost spread, as there is 49% cost difference from the max and min bids received. The 3 low bids fell within 14% of each other, thus indicating that pricing on the base bid low end was relatively competitive.

Budget Information:

This project has an engineers estimate of cost at \$120,500.00, which is \$5.5K higher than the Village budgeted amount. The Village of Algonquin has budgeted an amount of \$115K for this project, however the Village is cost sharing this project with Carpentersville. The Village of Algonquin will be administering the contract, thus will pay the contract the full amount, but will be reimbursed 50% or more of the cost through an IGA with the Village of Carpentersville. Thus, not only have the bids come in under the budgeted amount, but Algonquin has appropriately fully funded the project (thus eliminating the need for progress payments from Carpentersville, and allowing us to provide a single project invoice to them)

Recommendation

The Village has work numerous times in recent years with Copenhagen Construction. They have previously completed the Surrey Lane Drainage project, and are well equipped to handle the scope of work in this project. It is for those reasons and the analysis conducted that I recommend Copenhagen Construction, Inc. for award in the amount of \$92,452.00 for the subject project contract. Please confirm this recommendation so that I may prepare the award and contract.

Projected Project Schedule (2016)

9/15 – Notice to Bidders **(Completed)**
10/31 – Bid Opening **(Completed)**
11/9 – Bid Recommendation for Committee of the Whole **(Pending)**
11/14 – Committee of the Whole Approval **(Pending)**
11/16 – Prepare Contract Signature Documents
11/21 – Village Board Approval
12/11 – Awarded Contractors Contract & Insurance Due

12/18 – Start of Construction
1/26/18 – Completion of Construction



VILLAGE OF ALGONQUIN
PUBLIC WORKS DEPARTMENT

– M E M O R A N D U M –

DATE: Wednesday, September 07, 2016
 TO: Mr. Robert Mitchard, II
 FROM: Mr. Shawn M. Hurtig
 SUBJECT: *Letter of Recommendation – Construction Contract*
 101 S. Main St. Structure Demolition – VoA17-09-01A

This memo is to advise you of the recommendation I have for the bids on the **101 S. Main St. Structure Demolition** project that the Village of Algonquin is proposing. Each bid was reviewed to ensure conformance with the bid specifications (certification, security, cost, etc.). With that I have the following comments and recommendation.

In total 4 firms submitted a bid by the deadline of 10-31-16 @ 11:30AM, below is a summary.

BID RESULTS AS READ ALOUD & IN ORDER OF BID RECEIVED

<u>FIRM</u>	<u>BASE</u>	<u>Read Total</u>	<u>Calc. Total</u>	<u>Matched</u>	<u>SECURITY</u>
Alliance Concrete Sawing	\$64,095.00	\$64,095.00	\$64,095.00	YES	Bond
Copenhaver Construction	\$29,000.00	\$29,000.00	\$29,000.00	YES	Bond
American Demolition	\$42,000.00	\$42,000.00	\$42,000.00	YES	Bond
Midway General	\$54,000.00	\$54,000.00	\$54,000.00	YES	Bond

<u>FIRM</u>	<u>CERT</u>	<u>REFER</u>	<u>NON-COLS</u>	<u>NON-CONF</u>	<u>ADDN</u>
Alliance Concrete Sawing	Yes	Yes	Yes	Yes	Yes
Copenhaver Construction	Yes	Yes	Yes	Yes	Yes
American Demolition	Yes	Yes	Yes	Yes	Yes
Midway General	Yes	Yes	Yes	Yes	Yes

Average Cost	\$47,273.75		
Full Bid Results Spread	\$35,095.00	121%	Max \$ to Min \$Difference
Difference Avg to Lo	-\$18,273.75	-39%	Reduction in \$ from Low to Avg
Difference Avg to Hi	\$16,821.25	36%	Increase in \$ from Avg to Hi
3 Low Total Bid Average	\$41,666.67		
3 Low Total Bid Spread	\$25,000.00	60%	3 Low Bid Spread

Engineers Estimate of Probable Cost	\$0.00	#DIV/0!	Increase in \$ from 3 Low bid to EEOC
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Village Budgeted Amount	\$0.00	#DIV/0!	Increase in \$ from 3 Low bid to EEOC
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Analysis

Per the bid requirements all firms submitted a cost based on 1 Lump Sum line item. This project has an extremely wide cost spread, as there is 121% cost difference from the max and min bids received. It is unclear as to the reason behind this, especially considering the Village held a mandatory pre-bid site meeting to discuss the project, and provided access to the building to the contractors. This in essence should have put all contractors on very equal footing. The 3 low bids fell within 60% of each other, thus indicating that pricing on the base bid low end was not competitive. It is difficult to perform analysis on this as each of the bids were each approx.. 12K apart from each other (a very odd phenomenon) .

Budget Information:

This project did not have an engineers estimate of cost, but comparing previous demolition project performed recently in the area, it was estimated to be around \$30K. The project also is not indicated directly within the budget as this projects necessity came up during design of the Downtown Streetscape project elements (water & bridge).

Recommendation

The Village has worked extensively with Copenhaver Construction of Gilberts, IL. Copenhaver also performed the demolition of 5 S. Main & 115 W. Algonquin without issue. It is for those reasons and the analysis conducted that I recommend Copenhaver Construction, Inc. for award in the amount of \$29,000.00 for the subject project contract. Please confirm this recommendation so that I may prepare the award and contract.

Projected Project Schedule (2016)

9/15 – Notice to Bidders **(Completed)**
10/31 – Bid Opening **(Completed)**
11/9 – Bid Recommendation for Committee of the Whole **(Pending)**
11/14 – Committee of the Whole Approval **(Pending)**
11/16 – Prepare Contract Signature Documents
11/21 – Village Board Approval
12/11 – Awarded Contractors Contract & Insurance Due

12/18 – Start of Construction
12/29 – Completion of Construction



VILLAGE OF ALGONQUIN
PUBLIC WORKS DEPARTMENT

– M E M O R A N D U M –

DATE: Thursday, November 09, 2017
TO: Mr. Robert Mitchard, II
FROM: Mr. Shawn M. Hurtig
SUBJECT: *Letter of Recommendation – Civil Engineering Ph. 1 Design Services*

Bob,

I have reviewed the Proposals for the Phase 1 Design Engineering Services as indicated in the Request for Proposal for the Wastewater Treatment Facility (WWTF) Phase 6B Improvements (VoA17-09-20A) project in the Village of Algonquin. Please note that while this particular project name does not appear in the budget, the project is in fact a collection of a few other projects that are listed individually (Sewer System Project Plan & WWTF Solids Stabilization).

It became apparent during the scope meeting for these projects that there was emergency work also necessary on the plant. The plant operators have identified a leaking Dystor cover that if left unchecked would fail with severe ramifications. With that knowledge, the Village approached the plant needs with a different perspective. A reassessment of the critical needs of the plant led to the Village taking a valued approach to address this out of sequence improvement to the WWTF.

Through our discussions, it was determined that once we started work on the digesters, many other elements with the Wastewater Treatment Plant (WWTP) Facility Plan should be done at this time in order to reduce downtime, cost, and increase contractor efficiency. Thus in addition of two budgeted improvements, plus the digester corrective action, the Village has included the critical maintenance tasks of the Diffuser Membrane Replacement, Automation of Aerobic Digestion Aeration System and Bardenpho System, Replacement of Gravity Belt Thickener, and Replacement of the entire U-shaped Building Roof over the garage, administrative offices, lab, solids handling area, blower room and generators, and influent pump station. Finally, after reviewing the new scope, the Village saw additional savings in putting together several other lower level needs (Primary Clarifier Rehabilitation, UV System Replacement, Chemical Building Rehabilitation, and the addition of plant wide electrical system redundancy and reliability). These are all projects that are within the existing WWTP facility plan and as such were included in the rate study calculations. Furthermore, the savings identified fell into the following categories: Design (estimated 5% reduction in cost), Construction (estimated 10% savings due to lower mobilization, bonding, temp facility fees).

As you know Trotter & Associates, Inc. has been the Villages go to design firm for the past several plant improvement projects. As such the request for proposal was sent exclusively to them. I have reviewed there proposal with an emphasis on the firm's understanding of the key objectives. With that I have the following comments and recommendation.

The RFP was delivered to each company & contact listed below:

<u>Firm Name</u>	<u>First Name</u>	<u>Last Name</u>	<u>Street Address</u>	<u>Sub Address</u>	<u>City</u>	<u>State</u>
Trotter & Associates	Lou	Arrigoni	40W201 Wasco Rd.	Suite D	St. Charles	IL

The following firm has responded:

<u>Firm Name</u>	<u>Price</u>	<u>Attach C</u>	<u>Attach D</u>
Trotter & Associates	449,000.00	Yes	Yes

Proposal Review:

Following is the criteria I used above those mentioned in the RFP for my recommendation.

- 1) Reviewed each proposal for conformance to the RFP requirements:

The proposal has met all the requirements and adhered to our standard.

- 2) Reviewed the cost of each proposal to meet the scope of services outlined in RFP:

The scope of services was clearly outlined and broken out as requested by the Village. It is important to note that in order for the Village to utilize IEPA State Revolving Low Interest Loans, that a full project plan proposal be presented. As such, you will find that the TAI proposal includes not only the Phase 1 Design scope and cost, but also the Phase 2 & 3 Design scopes and cost. However, as requested by the Village, the Phase 1 Design services have been clearly identified and have been given a cost breakout. I have verified with TAI that the scope listed under Phase 1 services will be completed within the current FY.

- 3) Reviewed the technical aspects of the proposals, including any sub-consultants:

TAI has intimate knowledge of the Village WWTF and thus their technical expertise on this project is unmatched. While TAI has not expressly noted any sub-consultants for this project, history has shown that they typically utilize sub-consultants for the architectural &

electrical features of the design process. The Village, as part of this proposal, did not require any minimum requirements of sub-consultants.

4) Other items:

Trotter & Associates, Inc. uses a standard ASCE contract template for their projects. However, they have always agreed to the terms of our standard contract template and signed our agreements accordingly.

Budget Analysis

As noted in the introduction, the Village has not specifically budgeted for a project under this name. However, the project does include two of the project that are listed. Those two projects are listed below and are in the Capital Improvement fund code 12900400 - 42232. As indicated below those two projects only account for \$65K of the \$449K needed, thus leaving a shortfall of \$384K. In looking at the current status of the budget it was determined that the additional funds could be used from the Downtown Streetscape Stage 3 Utility Ph. 1 Design. You may recall that project coming in significant lower (\$152,640) than the approved budget (500K), therefore providing an additional funding source in the amount of \$347,360.00. However, that still leaves the project with a shortfall of \$36,640.00. Further investigation into the approved capital improvement design budget revealed that there is a 0% probability that the Huntington to Countryside WM (East) Ph. 2 Engineering will go out for proposal this year. Considering that fact, it was determined that we could utilize a portion of that projects Ph. 2 design budget of \$120K to cover the remaining \$36,640.00 necessary to fully fund the WWTF project.

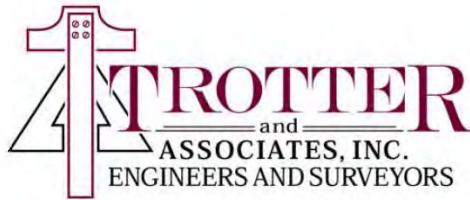
<u>BUDGET</u>	<u>%</u>	<u>Budget</u>
<u>Budget Items (Combined into master project)</u>		
Sewer System Project Plan	6%	\$25,000.00
WWTF Solids Stabilization	9%	\$40,000.00
<u>Budget Surplus (Under Contract)</u>		
Downtown Streetscape Stage 3 Utility Ph. 1 Eng.	77%	\$347,360.00
<u>Budget Surplus (Project off Schedule)</u>		
Huntington to Countryside WM Ph. 2 Eng.	8%	\$36,640.00
12900400-42232 WWTF Ph. 6B Improvement	100%	\$449,000.00

Recommendation

Trotter & Associates, Inc. has a well-documented history with the Village of Algonquin. They have consistently provided good engineering design and decision making and thus far have planned a facility that operates well within its configuration. In addition to their history, I am genuinely comfortable in the staff they have provided for the processing of our IEPA SRF Low Interest Loan application. Therefore the recommendation is that **Trotter & Associates, Inc.** be considered by the COTW in the amount of **\$449,000.00** . This cost is based on FIXED FEE.

The project is scheduled for award by the Village Board on October 3rd, 2017. Thus, the recommendation should go before the Committee of the Whole on September 26th, 2017.

Should you have any questions, comments, or concerns, please do not hesitate to contact me.



September 21, 2017

Mr. Bob Mitchard
Public Works Director
Village of Algonquin
110 Meyer Drive
Algonquin, Illinois 60102

Re: Village of Algonquin WWTF Phase 6B Improvements
Professional Services Agreement

Dear Mr. Mitchard:

We sincerely appreciate this opportunity to offer our services. Enclosed for your review is the engineering services agreement for the referenced project. Please contact us if there are any questions or changes to the listed scope of services. If you would like to proceed with the contract, please sign and return one copy of the agreement.

Sincerely,

TROTTER & ASSOCIATES, INC.

Robert Scott Trotter, P.E., BCEE
President

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September 21, 2017

Mr. Bob Mitchard
Public Works Director
Village of Algonquin
110 Meyer Drive
Algonquin, Illinois 60102

Re: Village of Algonquin WWTF Phase 6B Improvements
Professional Services Agreement

Dear Mr. Mitchard,

Trotter and Associates, Inc. (ENGINEER) is pleased to provide professional services to the Village of Algonquin, IL (CLIENT) for the WWTF Phase 6B Improvements Project (hereinafter referred to as the "PROJECT").

Project Background

The Village of Algonquin Wastewater Treatment Facility, collection system and lift stations were evaluated during the development of the 2014 Wastewater Facility Plan Update. The Facility Plan recommended several improvements categorized as critical needs, rehabilitation and replacement, and as needed. The Village would like to complete the projects collectively to expedite the completion schedule and minimize disruption to treatment facility operations. In addition, the Village has decided to fund the WWTF improvements through the IEPA State Revolving Fund (SRF) Loan Program, which makes it more conducive to completing the projects under one contract versus several smaller independent projects.

Project Understanding

The 2014 Wastewater Facility Plan identified several improvements needed at the WWTF. Through discussions with Village staff, certain projects were determined to be included in the Phase 6B Improvements and to be funded through the IEPA SRF Loan Program:

2014 Facility Plan Recommended Project	Category	Status	Funded by IEPA SRF
1. Influent Screening Improvements – Correct water hammer	Critical Needs	Complete	
2. Convert the ungrounded electrical system to high resistance ground	Critical Needs	Complete	
3. New Side Biological Process Improvements – Instrumentation	Critical Needs		✓
4. New Side Biological Process Improvements – Membrane Diffuser Replacement	Critical Needs		✓
5. Integrate automation capabilities & instrumentation into the aerobic digestion aeration system	Critical Needs		✓

6. Replace Gravity Belt Thickener	Critical Needs		✓
7. Replace Sludge Handling Building Roof	Critical Needs		✓
8. Raw Sewage Pump Station Improvements	Rehabilitation & Replacement		
9. Primary Clarifier Rehabilitation	Rehabilitation & Replacement		✓
10. UV System Replacement	Rehabilitation & Replacement		✓
11. Digestion Rehabilitation	Rehabilitation & Replacement		✓
12. Influent Screening Improvements – Odor Control	As Needed		
13. Chemical Building Improvements	As Needed		✓
14. Final Clarifier (60-ft) Erosion Issue	As Needed		
15. Primary Sludge Pump Improvements	As Needed	Complete	
16. Other Electrical Improvements (standby generator & motor operated throttling valves)	As Needed		✓

The following Packages A through G will be completed with a phased approach as Phases 1 through 3.

Package A –Biological Process Improvements

The 5-stage Bardenpho process was placed into operation in late 2007. The Biological Process Instrumentation Improvements include replacement of the ORP, DO, pH and temperature probes at all BNR tanks, as the existing instrumentation is obsolete. Nitrate and phosphorus monitoring will also be added. Electrical improvements will include reducing the number of controllers to a single head in order to retrieve readings on a continuous basis from a single device.

The aeration diffuser system is made up of structural components as well as EPDM membranes which diffuse air into fine bubbles. The PVC and stainless steel components have a service life of 20 years; however, the membrane component has a shorter life. The EPDM shrinks and becomes brittle over time which results in the loss of oxygen transfer efficiency. A loss in transfer efficiency translates to significantly higher air and horsepower requirements in order for the system to perform the same amount of work. At the end of their service life, the membranes will rip or tear completely and oxygen transfer efficiency will drop even lower. This may cause a violation with the NPDES permit. Replacement of damaged diffusers on an annual basis will control operating costs and extend the life of the aeration system. The estimated construction cost is approximately

Due to the corrosive characteristics of storing ferric chloride, metal hardware within the chemical building has corroded. Improvements include replacing the corroded components with corrosion resistant hardware.

The supplemental carbon system in the chemical building has not been needed since the 5-stage BNR plant went on-line in 2008. The system can use high strength sugar or other carbon source to improve the biological process. It was originally intended to be used with methanol. The manufacturer (Poly Processing) has visited the site since the original installation and recommended the addition of an anti-static system as a safety precaution prior to filling the tanks with methanol. Phase 6B Improvements include

updating the existing tanks to properly store a carbon source. The estimated construction cost is approximately \$860,000, including general conditions and contingency.

Package B – Digestion Rehabilitation

The Village utilizes both anaerobic and aerobic digestion. The capacity of the digestion facilities is based on anaerobically digesting primary sludge and 46% of WAS and aerobically digesting 54% of WAS. The plant currently stabilizes primary sludge through anaerobic digestion and 100% of WAS is aerobically digested. This sludge feed arrangement was adopted due to foaming issues with the existing Dystor membrane gas holder covers when feeding WAS to the anaerobic digesters. Consequently, the aerobic digestion system is overloaded with solids and does not have suitable detention time to properly digest the sludge. The 2014 Wastewater Facility Plan presented two upgrade options: upgrade the aerobic digestion facilities or expansion the anaerobic digestion facilities. Ultimately, the recommended alternative was to implement upgrades of the aerobic digestion facilities.

Upgrade of the aerobic digestion facilities includes retrofitting Aeration Tanks 801 and 802 to aerobic digestion capacity. This provides adequate digestion capacity for 100% of WAS at the 5 MGD design conditions. The upgrade includes demolition of the existing aeration system and installation of coarse bubble aeration equipment and two positive displacement (PD) blowers. Instrumentation and automated controls will also be added to control the digester blowers and optimize the aerobic digestion process.

As part of the 2014 Wastewater Facility Plan it was determined that the cover on Digester 904, dating back to the 1970's, requires replacement. The cover for Digester 903 was removed in approximately 2010 and the digester is not currently in use. The 2014 Facility Plan recommended new covers for both of these digesters. While the covers for 901 and 902 were originally scheduled for replacement in 2022, the membrane for 902 has developed a leak. Therefore, the anaerobic digestion cover upgrades has become a higher priority. The digestion rehabilitation project will include replacement of all four anaerobic digester covers, sludge piping and gas piping. Replacement of the cover on Digester 902 is imperative as there is a leak. Mechanical mixing systems will also be installed in Digesters 901 and 903.

In order to convert a portion of the aeration basins to aerobic digesters, the primary effluent splitter structure needs to be modified in order to maintain the proper balance to the biological process.

Lastly, the existing GBT has surpassed its design service life and requires replacement. While the original design included space for two GBTs, only one was installed. Therefore, it is critical that the equipment be replaced immediately since WAS is produced continuously and the sludge thickening process does not have any redundancy.

Package C – Roof Replacement

The Village has received a quote for replacement of the roof on the main building, including the sludge handling building, laboratory, garage, and influent pump station. The estimated construction cost is \$2,100,000, including contingency.

Package D – UV Disinfection Upgrade

The existing Trojan UV3000 disinfection equipment has been discontinued by the manufacturer and obtaining replacement parts is becoming very difficult. The Facility Plan recommended reusing the existing channels and concrete infrastructure and replacement of the existing UV system with a Trojan UV3000 Plus. The new system will include replacement of the level control gates with an extended weir for level control as well as modification to the existing SCADA system to provide for remote monitoring.

Package E – Electrical and Automation

Several electrical improvements were identified, including installation of a standby generator for the Intermediate Pump Station and motor operated throttling valves for restart of the old side blowers following a power outage.

Package F – Primary Clarifier Rehabilitation

Rehabilitation to the primary clarifiers include trough and weir plate replacement and modifications to scum collection and effluent launders to manage flow more efficiently. The estimated construction cost is approximately \$260,000, including general conditions and contingency.

Package G – IEPA Low-Interest Loan Application

Preparation of the IEPA Low-Interest Loan Application general includes the following tasks:

- a. Prepare and Submit Low Interest Loan Pre-Application
- b. Prepare cover letter for 2014 Wastewater Facility Plan summarizing proposed loan-funded projects and fulfil planning report requirements and submit to IEPA for approval. Projects to be funded include those listed within this proposal as well as Stage 1, 2 and 3 of the Downtown Streetscape Utility Improvements.
- c. Complete environmental analysis by contacting regulatory agencies required by IEPA, including IHPA, IDNR and CMAP.
- d. Complete necessary documents for the IEPA for the Village's approval and signatures.
- e. Act as liaison between the IEPA Project Manager and the Village to address the IEPA Low Interest Loan package review comments and correspondence.
- f. Work with the Village to develop the required ordinances/resolutions required for the Low Interest Loan.
- g. Incorporate IEPA required contract documents into the project specifications.

A summary of the improvements and anticipated construction costs are included below. The cost estimates have been escalated by 3% per year, anticipating construction in 2018.

Package A: Biological Process Improvements	\$860,000
Package B: Digestion Rehabilitation	\$6,550,000
Package C: Roof Replacement	\$2,100,000
Package D: UV Disinfection Upgrades	\$1,470,000
Package E: Electrical Improvements	\$860,000
Package F: Primary Clarifier Rehabilitation	\$260,000
Total Construction Cost	\$12,100,000

Scope of Services

Our services will consist of customary civil engineering and surveying services and related engineering services incidental thereto. The design will provide contract documents to facilitate the improvements as a single project, which was outlined by the narrative. The construction cost estimates from the Facility Plan have been revised and are included as Exhibit E. The scope of services are as follows;

Phase 1 Scope:

Preliminary Design

- a. Prepare a conceptual design report, including design calculations to determine sizing, loading, and other technical information required to verify consistency with the overall plant design values and to aid equipment selection.
- b. Meet with Village Staff on a bi-weekly basis to determine design layout details for the project.
- c. Make measured drawings of and investigate existing conditions or facilities, or to verify the accuracy of as-built drawings or other information furnished by the Village.
- d. Make necessary field and topographic surveys for design purposes.
- e. Conduct meetings with staff (and vendors) to review equipment selections.
- f. Set-up a FTP site to be utilized for the transference of files between TAI and the Village.
- g. Develop preliminary plans with layout of proposed structures, equipment and piping consisting of approximately 40 sheets.
- h. Based on preliminary design, prepare engineer's cost estimate for the proposed improvements.

Design and Development

- a. Prepare Phase 1 Engineering Plans and Specifications (60%) to show the scope, extent and character of the work to be furnished and performed by the Contractor for the proposed improvements. Include the following but not limited to these drawings.
 - i. General Construction Details and Notes
 - ii. Site Civil Drawings showing underground utilities, process piping, and site grading.
 - iii. Demolition drawings showing existing structures and utilities to be removed, if applicable.
 - iv. Architectural drawings including layout and elevation views.
 - v. Structural drawings including layout and section views.
 - vi. Mechanical Drawings including layouts and schedules.
 - vii. Process drawings including the equipment layout, valves, and process piping.
 - viii. Electrical Drawings depicting power distribution requirements within the proposed improvements.
 - ix. Instrumentation drawings depicting the scope and extent of the proposed control system.
 - x. Project specifications with all process equipment selected in accordance with the 32 / 64 Division CSI Format.
 - xi. Design of SCADA applications / improvements associated with the project.
- b. Coordinate with Sub-consultants and other engineers as required to deliver the Phase 1 drawings and specifications.

-
- c. Advise Village if additional reports, data, information, or testing services are necessary and assist Village in obtaining such reports, data, information, or services.
 - d. Submit an opinion of probable construction cost with each new submittal.
 - e. Provide the Village with comment disposition prior to each new submittal (plans and specifications).
 - f. Provide list of permit needs, along with the timeframes of each required permit.
 - g. Furnish the Phase 1 documents to and review with the Village.
 - h. Prepare and submit IEPA loan application and supporting documents.

Phase 1 Package Submittal:

Package A	Preliminary Plan Design (60%)
Package B	Conceptual Plan Design Preliminary Plan Design (60%)
Package C	Preliminary Plan Design (60%)
Package D	Preliminary Plan Design (60%)
Package E	Conceptual Plan Design Preliminary Plan Design (60%)
Package F	Preliminary Plan Design (60%)
Package G	Complete 75% of Loan Application Package

Phase 2 Scope:

Final Design Phase

- a. Meet with Village Staff on a bi-weekly basis to determine design layout details for the project.
- b. Provide the Village with comment disposition prior to each new submittal (plans and specifications).
- c. Based on the approved Phase 1 Design, prepare 90%, Pre-Final and Final Engineering Plans and Specifications to show the scope, extent and character of the work to be furnished and performed by the Contractor. Include the following drawings (but not limited to):
 - i. General Construction Details and Notes
 - ii. Site Civil Drawings showing process piping, underground utilities & site restoration.
 - iii. Demolition drawings if needed including plans, sections, details and schedules detailing existing structures and utilities to be removed.
 - iv. Architectural drawings including floor plans, roof plans, elevation views, sections, details and schedules for any proposed structures.
 - v. Structural drawings including plans, sections, details and schedules for construction of the digester covers.
 - vi. Mechanical drawings including plans, sections, details and schedules.
 - vii. Process drawings including the plans, sections, details and schedules for equipment and process piping.
 - viii. Electrical Drawings depicting controls and power distribution plans, elevations, and schedules.
 - ix. Instrumentation drawings depicting the scope and extent of the proposed control system.

-
- d. Utilize Village of Algonquin front end bidding and contract documents. Develop other documents necessary to bid the project.
 - e. Submit final engineering plans and specifications to Illinois EPA for construct and operate permit.
 - f. Acquire permits through Village Building Department and the IEPA.
 - g. Submit an opinion of probable construction cost with each new submittal.
 - h. Make revisions to the plans to incorporate changes required by reviewing agencies.
 - i. Complete Final drawings to the satisfaction of appropriate permitting agencies.

Bidding and Negotiating Phase

- a. Assist Village in advertising for and obtaining bids or negotiating proposals for the Work.
- b. Attend the Pre-bid Conference.
- c. Issue Addenda as appropriate to clarify, correct, or change the Bidding Documents.
- d. Attend the Bid opening, prepare Bid tabulation sheets, and assist the Village in evaluating Bids or proposals and in assembling and awarding contracts work.
- e. Participate in any negotiations or clarification discussion.
- f. Furnish and supply drawings and project specification copies as required.
- g. Coordinate all submittals with IEPA with respect to finalizing the loan agreement.

Phase 2 Package Submittal:

Package A	Final Plan Design (90%, Pre Final and Final plan set)
Package B	Final Plan Design (90%, Pre Final and Final plan set)
Package C	Final Plan Design (90%, Pre Final and Final plan set)
Package D	Final Plan Design (90%, Pre Final and Final plan set)
Package E	Final Plan Design (90%, Pre Final and Final plan set)
Package F	Final Plan Design (90%, Pre Final and Final plan set)
Package G	Revise as necessary and submit remaining Loan Application Package Finalize Loan Agreement

Phase 3 Scope:

Construction Phase

- a. Consult with the City and act as the City's representative during execution of construction.
- b. Provide full-time field engineering services (resident project representative) during the duration of construction activities. RPR services are anticipated to be full-time (40 hours per week).
- c. Assist the City in the selection of an independent testing laboratory to perform all necessary testing and inspections required during construction.
- d. Prepare and participate in a Pre-Construction Conference prior to commencement of Work at the Site.
- e. As appropriate, establish baselines and benchmarks for locating the work, which in Engineer's judgment are necessary to enable Contractor to proceed.
- f. Make additional visits to the Site at intervals appropriate to the various stages of construction, as Engineer deems necessary, in order to observe as and experienced and qualified design professional the progress and quality of the Work.
- g. Recommend to the City, if necessary, that Contractor's work be disapproved and rejected while it is in progress.

-
- h. Issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor's work.
 - i. Recommend Change Orders and Work Change Directives to the City, as appropriate, and prepare Change Orders and Work Change Directives as required.
 - j. Review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated in the Contract Documents.
 - k. Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor.
 - l. Require such special inspections or tests of Contractor's work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Contract Documents.
 - m. Provide weekly reports to City staff on status of construction, hours spent on site.
 - n. Schedule and conduct weekly construction meetings during construction phase.

Contractor's Completion Documents

- a. Receive and review maintenance and operating instructions, schedules, warranties, and guarantees.
- b. Receive bonds, certificates, or other evidence of insurance not previously submitted and required by the Contract Document's, certificates of inspection, tests and approvals, Shop Drawings, Samples and other data. Engineer shall transmit these documents to the City.
- c. After notice from Contractor that Contractor considers the entire Work ready for its intended use, in company with City and Contractor, conduct an inspection to determine if the Work is Substantially Complete.
- d. Prepare and furnish to the City Record Drawings showing appropriate record information based on Project annotated record documents received from Contractor.
- e. Preparation of operation and maintenance manuals and transmit these documents to the City.

Changes to the scope of services outlined in this agreement shall be authorized through execution of an Exhibit D - Contract Addendum.

Project Schedule

Task	Anticipated Date
Phase 1: Project Kick-off	November 2017
Phase 1 Complete	May 2018
Phase 2: Design Completion	July 2018
Phase 2: Permit Submittal	August 2018
Phase 2: Bid Advertisement	November 2018
Project Award	April 2019
Phase 2 Complete	May 2019
Phase 3: Commence Construction	July 2019
Phase 3: Substantial Completion	January 2021
Phase 3: Final Completion	February 2021

Compensation

A fixed fee amount of \$449,000 based on the following assumed distribution of compensation for Phase 1:

Phase 1	1. Preparation of IEPA Low Interest Loan Application	\$11,000
	2. Preliminary Design Phase	\$134,000
	3. Design and Development Phase	\$290,000
	4. Project Coordination	\$10,000
	5. Reimbursable Expenses	\$4,000
Phase 1 Total		\$449,000

Contracts for Phase 2 and Phase 3 will be approved upon completion of subsequent phases. A fixed fee amount for Phase 2 and Phase 3 is based on the following distribution:

Phase 2	1. Final Design Phase	\$307,000
	2. Bidding Phase	\$31,000
	3. Completion of IEPA Low Interest Loan Application	\$4,000
	4. Project Coordination	\$15,000
	5. Reimbursable Expenses	\$4,000
Phase 2 Total		\$361,000

Phase 3	Construction Phase	\$763,000
Phase 3 Total		\$763,000

Total Project Fee for Phases 1 , 2 and 3 \$1,573,000

ENGINEER may alter the distribution of compensation between individual phases noted herein to be consistent with services actually rendered, but shall not exceed the total Lump Sum amount unless approved in writing by the CLIENT. The Lump Sum includes compensation for ENGINEER's services and services of ENGINEER's Consultants, if any. Appropriate amounts have been incorporated in the Lump Sum to account for labor, overhead, profit, and Reimbursable Expenses. The portion of the Lump Sum amount billed for ENGINEER's services will be based upon ENGINEER's estimate of the proportion of the total services actually completed during the billing period to the Lump Sum.

Reimbursable Expenses. ENGINEER has budgeted \$8,000 for Reimbursable Expenses to cover printing and plotting required for the completion of the work. Any additional expenses for soil borings, additional testing, permit application fees, bid advertisement or others will be paid for directly by the client.

Miscellaneous

This Agreement constitutes the entire agreement between the parties and supersedes any prior oral or written representations. This agreement may not be changed, modified, or amended except in writing signed by both parties. In the event of any conflict among the exhibits, the exhibit of the latest date shall control.

ENGINEER may have portions of the Services performed by its affiliated entities or their employees, in which event ENGINEER shall be responsible for such services and CLIENT shall look solely to ENGINEER as if ENGINEER performed the Services. In no case shall CLIENT'S approval of any subcontract relieve ENGINEER of any of its obligations under this Agreement. However, ENGINEER is not responsible whatsoever for any obligations its subcontractors might have to its [subcontractors'] employees, including but not limited to proper compensation of its employees.

In the event CLIENT uses a purchase order form or other CLIENT developed document to administer this Agreement, the use of such documents shall be for the CLIENT's convenience only, and any provisions, terms or conditions within the CLIENT developed document shall be deemed stricken, null and void. Any provisions, terms or conditions which the CLIENT would like to reserve shall be added to Exhibit C – Supplemental Conditions and agreed to by both parties.

ENGINEER acknowledges that this project and the scope of work performed thereto will require ENGINEER and all lower tiered subcontractors of ENGINEER to comply with all obligations under and pursuant to the any applicable local, state and/or federal prevailing wage laws (e.g. Davis-Bacon Act, Illinois Prevailing Wage Act, etc.), including but not limited to all wage, notice and/or record keeping requirements to the extent applicable, necessitated and required by law.

If during negotiations or discussion with a Client it becomes clear that Client has determined prevailing wages are not applicable to the work performed by Trotter & Associates, it is best to confirm that understanding in writing with appropriate indemnification language. The following is draft language to consider:

Trotter & Associates' services performed is based on its understanding through the actions, statements and/or omissions of CLIENT that this project and the work performed relating thereto is professional in nature and not subject to prevailing wage requirements (federal, state or local). If Trotter & Associates' understanding is incorrect, CLIENT agrees and acknowledges that it shall immediately notify Trotter & Associates in writing within forty-eight (48) hours from receiving this notice so that Trotter & Associates may submit a revised proposal and/or invoice reflecting the additional costs associated with applicable prevailing wage laws. If at any time it is determined that this project is or was subject to prevailing wage requirements under federal, state or local law, then CLIENT agrees and acknowledges that it shall reimburse and make whole Trotter & Associates for any back wages, penalties and/or interest owed to its employees or any other third party, including any appropriate governmental agency. CLIENT also agrees that prices, costs and/or applicable fees will also be increased prospectively as required by the increase in wage payments to Trotter & Associates' employees. CLIENT understands and acknowledges that it shall notify Trotter & Associates of any prevailing wage requirements or obligations under applicable laws relating to the work or services performed by Trotter & Associates. CLIENT also agrees to indemnify and hold Trotter & Associates harmless from any error, act or omission on its part with regard to prevailing wage notification that causes any claim, cause of action, harm or loss upon Trotter & Associates, including but not limited to prompt reimbursement to Trotter & Associates of any and all back wages, penalties and/or interest owed to its employees or any other third party, including reasonable attorneys' fees and costs associated with such claim, cause of action, harm or loss.

Contents of Agreement

This Letter Agreement and the Exhibits attached hereto and incorporated herein, represent the entire understanding with respect to the Project and may only be modified in writing signed by both parties.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement.

Village of Algonquin:

Trotter and Associates, Inc.:

By: _____

By: R. Scott Trotter, PE, BCEE

Title: _____

Title: President

Effective Date: _____

Date Signed:

Address for giving notices:
2200 Harnish Drive
Algonquin, Illinois 60102

Address for giving notices:
40W201 Wasco Road, Suite D
St. Charles, Illinois 60175

Designated Representative

Designated Representative: Jillian Kiss, PE

Title:

Title: Engineer

Phone Number:

Phone Number: 847-507-1469

E-Mail Address:

E-Mail Address: j.kiss@trotter-inc.com

ATTACHMENTS:

EXHIBIT A – STANDARD TERMS AND CONDITIONS

EXHIBIT B – SCHEDULE OF HOURLY RATES AND REIMBURSIBLE EXPENSES

EXHIBIT C – SUPPLEMENTAL GENERAL CONDITIONS

EXHIBIT D – CONTRACT ADDENDUM

EXHIBIT E – FACILITY PLAN COST ESTIMATE (SEPARATE PROJECTS)

EXHIBIT F – SHEET LIST

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CLIENT Initial _____

TAI Initial _____

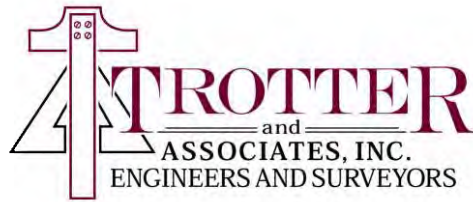


EXHIBIT A - STANDARD TERMS AND CONDITIONS

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ARTICLE 1 - SERVICES OF ENGINEER

1.01 Scope

- A. ENGINEER shall provide the Professional Services set forth herein and in the Letter Agreement.

- B. Upon this Agreement becoming effective, ENGINEER is authorized to begin Services.

ARTICLE 2 - CLIENT'S RESPONSIBILITIES

2.01 General

- A. Provide ENGINEER with all criteria and full information as to CLIENT's requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which CLIENT will require to be included in the Drawings and Specifications; and furnish copies of CLIENT's standard forms, conditions, and related documents for ENGINEER to include in the Bidding Documents, when applicable.
- B. Furnish to ENGINEER any other available information pertinent to the Project including reports and data relative to previous designs, or investigation at or adjacent to the Site.
- C. Following ENGINEER's assessment of initially-available Project information and data and upon ENGINEER's request, furnish or otherwise make available such additional Project related information and data as is reasonably required to enable ENGINEER to complete its Basic and Additional Services. Such additional information or data would generally include the following:
1. Property descriptions.
 2. Zoning, deed, and other land use restrictions.
 3. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.
 4. Explorations and tests of subsurface conditions at or contiguous to the Site, drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site, or hydrographic surveys, with appropriate professional interpretation thereof.
 5. Environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to the Project, the Site, and adjacent areas.
 6. Data or consultations as required for the Project but not otherwise identified in the Agreement or the Exhibits thereto.
- D. Give prompt written notice to ENGINEER whenever CLIENT observes or otherwise becomes aware of a Hazardous Environmental Condition or of any other development that affects the scope or time of performance of ENGINEER's services, or any defect or nonconformance in ENGINEER's services or in the work of any Contractor.

- E. Authorize ENGINEER to provide Additional Services as set forth in Exhibit D - Addendum of the Agreement as required.
- F. Arrange for safe access to and make all provisions for ENGINEER to enter upon public and private property as required for ENGINEER to perform services under the Agreement.
- G. Examine all alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents presented by ENGINEER (including obtaining advice of an attorney, insurance counselor, and other advisors or consultants as CLIENT deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.
- H. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the Project designed or specified by ENGINEER and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project.
- I. Provide, as required for the Project:
 - 1. Accounting, bond and financial advisory, independent cost estimating, and insurance counseling services.
 - 2. Legal services with regard to issues pertaining to the Project as CLIENT requires, Contractor raises, or ENGINEER reasonably requests.
 - 3. Such auditing services as CLIENT requires to ascertain how or for what purpose Contractor has used the moneys paid.
 - 4. Placement and payment for advertisement for Bids in appropriate publications.
- J. Advise ENGINEER of the identity and scope of services of any independent consultants employed by CLIENT to perform or furnish services in regard to the Project, including, but not limited to, cost estimating, project peer review, value engineering, and constructability review.
- K. Furnish to ENGINEER data as to CLIENT's anticipated costs for services to be provided by others for CLIENT so that ENGINEER may make the necessary calculations to develop and periodically adjust ENGINEER's opinion of Total Project Costs.
- L. If CLIENT designates a manager or an individual or entity other than, or in addition to, ENGINEER to represent CLIENT at the Site, the duties, responsibilities, and limitations of authority of such other party shall be disclosed to the ENGINEER and coordinated in relation to the duties, responsibilities, and authority of ENGINEER.
- M. If more than one prime contract is to be awarded for the Work designed or specified by ENGINEER, designate a person or entity to have authority and responsibility for coordinating the activities among the various prime Contractors, and define and set forth the duties, responsibilities, and limitations of authority of such individual or entity and the relation thereof to the duties, responsibilities, and authority of ENGINEER is to be mutually agreed upon and made a part of this Agreement before such services begin.
- N. Attend the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings, and Substantial Completion and final payment inspections.
- O. Provide the services of an independent testing laboratory to perform all inspections, tests, and approvals of Samples, materials, and equipment required by the Contract Documents, or to evaluate the performance of materials, equipment, and facilities of CLIENT, prior to their incorporation into the Work with appropriate professional interpretation thereof.
- P. Provide inspection or monitoring services by an individual or entity other than ENGINEER (and disclose the identity of such individual or entity to ENGINEER) as CLIENT determines necessary to verify:
 - 1. That Contractor is complying with any Laws and Regulations applicable to Contractor's performing and furnishing the Work.
 - 2. That Contractor is taking all necessary precautions for safety of persons or property and complying with any special provisions of the Contract Documents applicable to safety.
- Q. Provide ENGINEER with the findings and reports generated by the entities providing services pursuant to paragraphs 2.01.O and P.

ARTICLE 3 - TIMES FOR RENDERING SERVICES

3.01 General

- A. ENGINEER's services and compensation under this Agreement have been agreed to in anticipation of the orderly and continuous progress of the Project through completion. Unless specific periods of time or specific dates for providing services are specified in this Agreement, ENGINEER's obligation to render services hereunder will be for a period which may reasonably be required for the completion of said services.
- B. If in this Agreement specific periods of time for rendering services are set forth or specific dates by which services are to be completed are provided, and if such periods of time or dates are changed through no fault of ENGINEER, the rates and amounts of compensation provided for herein shall be subject to equitable adjustment. If CLIENT has requested changes in the scope, extent, or character of the Project, the time of performance of ENGINEER's services shall be adjusted equitably.
- C. For purposes of this Agreement the term "day" means a calendar day of 24 hours.

3.02 Suspension

- A. If CLIENT fails to give prompt written authorization to proceed with any phase of services after completion of the immediately preceding phase, or if ENGINEER's services are delayed through no fault of ENGINEER, ENGINEER may, after giving seven days written notice to CLIENT, suspend services under this Agreement.
- B. If ENGINEER's services are delayed or suspended in whole or in part by CLIENT, or if ENGINEER's services are extended by Contractor's actions or inactions for more than 90 days through no fault of ENGINEER, ENGINEER shall be entitled to equitable adjustment of rates and amounts of compensation provided for elsewhere in this Agreement to reflect, reasonable costs incurred by ENGINEER in connection with, among other things, such delay or suspension and reactivation and the fact

that the time for performance under this Agreement has been revised.

ARTICLE 4 - PAYMENTS TO ENGINEER

4.01 Methods of Payment for Services and Reimbursable Expenses of ENGINEER

- A. *For Basic Services.* CLIENT shall pay ENGINEER for Basic Services performed or furnished under as outlined in the Letter Agreement
- B. *For Additional Services.* CLIENT shall pay ENGINEER for Additional Services performed or furnished as outlined in Exhibit D.
- C. *For Reimbursable Expenses.* CLIENT shall pay ENGINEER for Reimbursable Expenses incurred by ENGINEER and ENGINEER's Consultants as set forth in Exhibit B.

4.02 Other Provisions Concerning Payments

- A. *Preparation of Invoices.* Invoices will be prepared in accordance with ENGINEER's standard invoicing practices and will be submitted to CLIENT by ENGINEER, unless otherwise agreed.
- B. *Payment of Invoices.* Invoices are due and payable within 30 days of receipt. If CLIENT fails to make any payment due ENGINEER for services and expenses within 30 days after receipt of ENGINEER's invoice therefor, the amounts due ENGINEER will be increased at the rate of 1.0% per month (or the maximum rate of interest permitted by law, if less) from said thirtieth day. In addition, ENGINEER may, after giving seven days written notice to CLIENT, suspend services under this Agreement until ENGINEER has been paid in full all amounts due for services, expenses, and other related charges. Payments will be credited first to interest and then to principal.
- C. *Disputed Invoices.* In the event of a disputed or contested invoice, only that portion so contested may be withheld from payment, and the undisputed portion will be paid.
- D. *Payments Upon Termination.*
 - 1. In the event of any termination under paragraph 6.06, ENGINEER will be entitled to invoice CLIENT and will be paid in accordance with Exhibit B for all services performed or furnished and all Reimbursable Expenses incurred through the effective date of termination.
 - 2. In the event of termination by CLIENT for convenience or by ENGINEER for cause, ENGINEER, in addition to invoicing for those items identified in subparagraph 4.02.D.1, shall be entitled to invoice CLIENT and shall be paid a reasonable amount for services and expenses directly attributable to termination, both before and after the effective date of termination, such as reassignment of personnel, costs of terminating contracts with ENGINEER's Consultants, and other related close-out costs, using methods and rates for Additional Services as set forth in Exhibit B.
- E. *Records of ENGINEER's Costs.* Records of ENGINEER's costs pertinent to ENGINEER's compensation under this Agreement shall be kept in accordance with generally accepted accounting practices. To the extent necessary to verify ENGINEER's charges and upon CLIENT's timely request, copies of such records will be made available to CLIENT at cost.

- F. *Legislative Actions.* In the event of legislative actions after the Effective Date of the Agreement by any level of government that impose taxes, fees, or costs on ENGINEER's services or other costs in connection with this Project or compensation therefore, such new taxes, fees, or costs shall be invoiced to and paid by CLIENT as a Reimbursable Expense to which a Factor of 1.0 shall be applied. Should such taxes, fees, or costs be imposed, they shall be in addition to ENGINEER's estimated total compensation.

ARTICLE 5 - OPINIONS OF COST

5.01 Opinions of Probable Construction Cost

- A. ENGINEER's opinions of probable Construction Cost provided for herein are to be made on the basis of ENGINEER's experience and qualifications and represent ENGINEER's best judgment as an experienced and qualified professional generally familiar with the industry. However, since ENGINEER has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, ENGINEER cannot and does not guarantee that proposals, bids, or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by ENGINEER. If CLIENT wishes greater assurance as to probable Construction Cost, CLIENT shall employ an independent cost estimator.

5.02 Designing to Construction Cost Limit

- A. If a Construction Cost limit is established between CLIENT and ENGINEER, such Construction Cost limit and a statement of ENGINEER's rights and responsibilities with respect thereto will be specifically set forth in Exhibit C - Supplemental General Conditions.

5.03 Opinions of Total Project Costs

- A. ENGINEER assumes no responsibility for the accuracy of opinions of Total Project Costs.

ARTICLE 6 - GENERAL CONSIDERATIONS

6.01 Standards of Performance

- A. The standard of care for all professional engineering and related services performed or furnished by ENGINEER under this Agreement will be the care and skill ordinarily used by members of ENGINEER's profession practicing under similar circumstances at the same time and in the same locality. ENGINEER makes no warranties, express or implied, under this Agreement or otherwise, in connection with ENGINEER's services.
- B. ENGINEER shall be responsible for the technical accuracy of its services and documents resulting therefrom, and CLIENT shall not be responsible for discovering deficiencies therein. ENGINEER shall correct such deficiencies without additional compensation except to the extent such action is directly attributable to deficiencies in CLIENT-furnished information.
- C. ENGINEER shall perform or furnish professional engineering and related services in all phases of the Project to which this Agreement applies. ENGINEER shall serve as CLIENT's prime professional for the Project. ENGINEER may employ such ENGINEER's Consultants as ENGINEER deems necessary to

assist in the performance or furnishing of the services.
ENGINEER shall not be required to employ any ENGINEER's Consultant unacceptable to ENGINEER.

- D. ENGINEER and CLIENT shall comply with applicable Laws or Regulations and CLIENT-mandated standards. This Agreement is based on these requirements as of its Effective Date. Changes to these requirements after the Effective Date of this Agreement may be the basis for modifications to CLIENT's responsibilities or to ENGINEER's scope of services, times of performance, or compensation.
- E. CLIENT shall be responsible for, and ENGINEER may rely upon, the accuracy and completeness of all requirements, programs, instructions, reports, data, and other information furnished by CLIENT to ENGINEER pursuant to this Agreement. ENGINEER may use such requirements, reports, data, and information in performing or furnishing services under this Agreement.
- F. CLIENT shall make decisions and carry out its other responsibilities in a timely manner and shall bear all costs incident thereto so as not to delay the services of ENGINEER.
- G. Prior to the commencement of the Construction Phase, CLIENT shall notify ENGINEER of any other notice or certification that ENGINEER will be requested to provide to CLIENT or third parties in connection with the Project. CLIENT and ENGINEER shall reach agreement on the terms of any such requested notice or certification, and CLIENT shall authorize such Additional Services as are necessary to enable ENGINEER to provide the notices or certifications requested.
- H. ENGINEER shall not be required to sign any documents, no matter by whom requested, that would result in the ENGINEER's having to certify, guarantee or warrant the existence of conditions whose existence the ENGINEER cannot ascertain. CLIENT agrees not to make resolution of any dispute with the ENGINEER or payment of any amount due to the ENGINEER in any way contingent upon the ENGINEER's signing any such certification.
- I. During the Construction Phase, ENGINEER shall not supervise, direct, or have control over Contractor's work, nor shall ENGINEER have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected by Contractor, for safety precautions and programs incident to the Contractor's work in progress, nor for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work.
- J. ENGINEER neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform the Work in accordance with the Contract Documents.
- K. ENGINEER shall not be responsible for the acts or omissions of any Contractor(s), subcontractor or supplier, or of any of the Contractor's agents or employees or any other persons (except ENGINEER's own employees) at the Site or otherwise furnishing or performing any of the Contractor's work; or for any decision made on interpretations or clarifications of the Contract Documents given by CLIENT without consultation and advice of ENGINEER.
- L. The General Conditions for any construction contract documents of the Construction Contract" as prepared by the Engineers Joint Contract Documents Committee (Document No. 1910-8, 1996 Edition) unless both parties mutually agree to use other General Conditions.

6.02 Authorized Project Representatives

- A. Contemporaneous with the execution of this Agreement, ENGINEER and CLIENT shall designate specific individuals to act as ENGINEER's and CLIENT's representatives with respect to the services to be performed or furnished by ENGINEER and responsibilities of CLIENT under this Agreement. Such individuals shall have authority to transmit instructions, receive information, and render decisions relative to the Project on behalf of each respective party.

6.03 Design without Construction Phase Services

- A. Should CLIENT provide Construction Phase services with either CLIENT's representatives or a third party, ENGINEER's Basic Services under this Agreement will be considered to be completed upon completion of the Final Design Phase or Bidding or Negotiating Phase as outlined in the Letter Agreement.
- B. It is understood and agreed that if ENGINEER's Basic Services under this Agreement do not include Project observation, or review of the Contractor's performance, or any other Construction Phase services, and that such services will be provided by CLIENT, then CLIENT assumes all responsibility for interpretation of the Contract Documents and for construction observation or review and waives any claims against the ENGINEER that may be in any way connected thereto.

6.04 Use of Documents

- A. All Documents are instruments of service in respect to this Project, and ENGINEER shall retain an ownership and property interest therein (including the right of reuse at the discretion of the ENGINEER) whether or not the Project is completed.
- B. Copies of CLIENT-furnished data that may be relied upon by ENGINEER are limited to the printed copies (also known as hard copies) that are delivered to the ENGINEER. Files in electronic media format of text, data, graphics, or of other types that are furnished by CLIENT to ENGINEER are only for convenience of ENGINEER. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk.
- C. Copies of Documents that may be relied upon by CLIENT are limited to the printed copies (also known as hard copies) that are signed or sealed by the ENGINEER. Files in electronic media format of text, data, graphics, or of other types that are furnished by ENGINEER to CLIENT are only for convenience of CLIENT. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk.
- D. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. ENGINEER shall not be responsible to maintain documents stored in electronic media format after acceptance by CLIENT.
- E. When transferring documents in electronic media format, ENGINEER makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating

systems, or computer hardware differing from those used by ENGINEER at the beginning of this Project.

- F. CLIENT may make and retain copies of Documents for information and reference in connection with use on the Project by CLIENT. Such Documents are not intended or represented to be suitable for reuse by CLIENT or others on extensions of the Project or on any other project. Any such reuse or modification without written verification or adaptation by ENGINEER, as appropriate for the specific purpose intended, will be at CLIENT's sole risk and without liability or legal exposure to ENGINEER or to ENGINEER's Consultants. CLIENT shall indemnify and hold harmless ENGINEER and ENGINEER's Consultants from all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting therefrom.
- G. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- H. Any verification or adaptation of the Documents for extensions of the Project or for any other project will entitle ENGINEER to further compensation at rates as defined in Exhibit B.

6.05 Insurance

- A. ENGINEER shall procure and maintain insurance as set forth below:
1. Workers Compensation & Employer's Liability
 - a. Each Occurrence: \$1,000,000
 2. General Liability
 - a. Each Occurrence: \$1,000,000
 - b. General Aggregate: \$2,000,000
 3. Excess or Umbrella Liability
 - a. Each Occurrence: \$5,000,000
 - b. General Aggregate: \$5,000,000
 4. Automobile Liability
 - a. Combined Single Limit (Bodily Injury and Property Damage):
Each Accident \$1,000,000
 5. Professional Liability
 - a. Each Occurrence: \$2,000,000
 - b. General Aggregate: \$2,000,000
- B. CLIENT shall cause ENGINEER and ENGINEER's Consultants to be listed as additional insureds on any general liability or property insurance policies carried by CLIENT which are applicable to the Project.
- C. CLIENT shall require Contractor to purchase and maintain general liability and other insurance as specified in the Contract Documents and to cause ENGINEER and ENGINEER's Consultants to be listed as additional insureds with respect to such liability and other insurance purchased and maintained by Contractor for the Project
- D. CLIENT and ENGINEER shall each deliver to the other certificates of insurance evidencing the coverage.
- E. All policies of property insurance shall contain provisions to the effect that ENGINEER's and ENGINEER's Consultants' interests are covered and that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder.

- F. At any time, CLIENT may request that ENGINEER, at CLIENT's sole expense, provide additional insurance coverage, increased limits, or revised deductibles that are more protective. If so requested by CLIENT, with the concurrence of ENGINEER, and if commercially available, ENGINEER shall obtain and shall require ENGINEER's Consultants to obtain such additional insurance coverage, different limits, or revised deductibles for such periods of time as requested by CLIENT.

6.06 Termination

- A. The obligation to provide further services under this Agreement may be terminated:
1. *For cause,*
 - a. By either party upon 30 days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.
 - b. By ENGINEER:
 - 1) upon seven days written notice if ENGINEER believes that ENGINEER is being requested by CLIENT to furnish or perform services contrary to ENGINEER's responsibilities as a licensed professional; or
 - 2) upon seven days written notice if the ENGINEER's services for the Project are delayed or suspended for more than 90 days for reasons beyond ENGINEER's control.
 - 3) ENGINEER shall have no liability to CLIENT on account of such termination.
 - c. Notwithstanding the foregoing, this Agreement will not terminate as a result of such substantial failure if the party receiving such notice begins, within seven days of receipt of such notice, to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt thereof; provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided for herein shall extend up to, but in no case more than, 60 days after the date of receipt of the notice.
 2. *For convenience,*
 - a. By CLIENT effective upon the receipt of notice by ENGINEER.
- B. The terminating party under paragraphs 6.06.A.1 or 6.06.A.2 may set the effective date of termination at a time up to 30 days later than otherwise provided to allow ENGINEER to demobilize personnel and equipment from the Site, to complete tasks whose value would otherwise be lost, to prepare notes as to the status of completed and uncompleted tasks, and to assemble Project materials in orderly files.

6.07 Controlling Law

- A. This Agreement is to be governed by the law of the state in which the Project is located.

6.08 Successors, Assigns, and Beneficiaries

- A. CLIENT and ENGINEER each is hereby bound and the partners, successors, executors, administrators and legal representatives of CLIENT and ENGINEER (and to the extent permitted by paragraph 6.08.B the assigns of CLIENT and ENGINEER) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this Agreement.
- B. Neither CLIENT nor ENGINEER may assign, sublet, or transfer any rights under or interest (including, but without limitation, moneys that are due or may become due) in this Agreement without the written consent of the other, except to the extent that any assignment, subletting, or transfer is mandated or restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.
- C. Unless expressly provided otherwise in this Agreement:
 - 1. Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by CLIENT or ENGINEER to any Contractor, Contractor's subcontractor, supplier, other individual or entity, or to any surety for or employee of any of them.
 - 2. All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of CLIENT and ENGINEER and not for the benefit of any other party. The CLIENT agrees that the substance of the provisions of this paragraph 6.08.C shall appear in the Contract Documents.

6.09 Dispute Resolution

- A. CLIENT and ENGINEER agree to negotiate all disputes between them in good faith for a period of 30 days from the date of notice prior to exercising their rights under provisions of this Agreement, or under law. In the absence of such an agreement, the parties may exercise their rights under law.
- B. If and to the extent that CLIENT and ENGINEER have agreed on a method and procedure for resolving disputes between them arising out of or relating to this Agreement, such dispute resolution method and procedure is set forth in Exhibit C, "Supplemental Conditions."

6.10 Hazardous Environmental Condition

- A. CLIENT represents to Engineer that to the best of its knowledge a Hazardous Environmental Condition does not exist.
- B. CLIENT has disclosed to the best of its knowledge to ENGINEER the existence of all Asbestos, PCB's, Petroleum, Hazardous Waste, or Radioactive Material located at or near the Site, including type, quantity and location.
- C. If a Hazardous Environmental Condition is encountered or alleged, ENGINEER shall have the obligation to notify CLIENT and, to the extent of applicable Laws and Regulations, appropriate governmental officials.
- D. It is acknowledged by both parties that ENGINEER's scope of services does not include any services related to a Hazardous Environmental Condition. In the event ENGINEER or any other party encounters a Hazardous Environmental Condition,

ENGINEER may, at its option and without liability for consequential or any other damages, suspend performance of services on the portion of the Project affected thereby until CLIENT: (i) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the Hazardous Environmental Condition; and (ii) warrants that the Site is in full compliance with applicable Laws and Regulations.

- E. CLIENT acknowledges that ENGINEER is performing professional services for CLIENT and that ENGINEER is not and shall not be required to become an "arranger," "operator," "generator," or "transporter" of hazardous substances, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (CERCLA), which are or may be encountered at or near the Site in connection with ENGINEER's activities under this Agreement.
- F. If ENGINEER's services under this Agreement cannot be performed because of a Hazardous Environmental Condition, the existence of the condition shall justify ENGINEER's terminating this Agreement for cause on 30 days notice.

6.11 Allocation of Risks

- A. Indemnification
 - 1. To the fullest extent permitted by law, ENGINEER shall indemnify and hold harmless CLIENT, CLIENT's officers, directors, partners, and employees from and against any and all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused solely by the negligent acts or omissions of ENGINEER or ENGINEER's officers, directors, partners, employees, and ENGINEER's Consultants in the performance and furnishing of ENGINEER's services under this Agreement.
 - 2. To the fullest extent permitted by law, CLIENT shall indemnify and hold harmless ENGINEER, ENGINEER's officers, directors, partners, employees, and ENGINEER's Consultants from and against any and all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) caused solely by the negligent acts or omissions of CLIENT or CLIENT's officers, directors, partners, employees, and CLIENT's consultants with respect to this Agreement or the Project.
 - 3. To the fullest extent permitted by law, ENGINEER's total liability to CLIENT and anyone claiming by, through, or under CLIENT for any cost, loss, or damages caused in part by the negligence of ENGINEER and in part by the negligence of CLIENT or any other negligent entity or individual, shall not exceed the percentage share that ENGINEER's negligence bears to the total negligence of CLIENT, ENGINEER, and all other negligent entities and individuals.
 - 4. In addition to the indemnity provided under paragraph 6.11.A.2 of this Agreement, and to the fullest extent permitted by law, CLIENT shall indemnify and hold harmless ENGINEER and its officers, directors, partners, employees, and ENGINEER's Consultants from and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or

arbitration or other dispute resolution costs) caused by, arising out of or resulting from a Hazardous Environmental Condition, provided that (i) any such cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than completed Work), including the loss of use resulting therefrom, and (ii) nothing in this paragraph 6.11.A.4. shall obligate CLIENT to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence or willful misconduct.

5. The indemnification provision of paragraph 6.11.A.1 is subject to and limited by the provisions agreed to by CLIENT and ENGINEER in Exhibit C, "Supplemental Conditions," if any.

6.12 Notices

- A. Any notice required under this Agreement will be in writing, addressed to the appropriate party at its address on the signature page and given personally, or by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.

6.13 Survival

- A. All express representations, indemnifications, or limitations of liability included in this Agreement will survive its completion or termination for any reason.

6.14 Severability

- A. Any provision or part of the Agreement held to be void or unenforceable under any Laws or Regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon CLIENT and ENGINEER, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

6.15 Waiver

- A. Non-enforcement of any provision by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

6.16 Headings

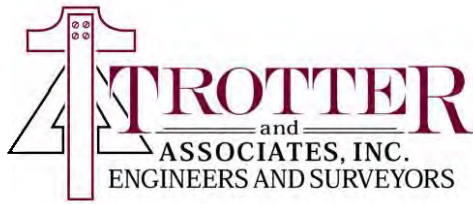
- A. The headings used in this Agreement are for general reference only and do not have special significance.

6.16 Definitions

- A. Defined terms will be in accordance with EJCDC No. 1910-1 (1996 Edition)

CLIENT Initial _____

TAI Initial _____



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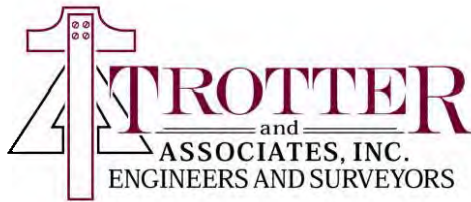


EXHIBIT B
SCHEDULE OF HOURLY RATES AND REIMBURSABLE EXPENSES

2017 Schedule of Hourly Rates		2017 Reimbursable Expenses		
Classification	Billing Rate	Item	Unit	Unit Price
Principal	\$224.00	Engineering Copies 1- 249 Sq. Ft.	Sq. Ft.	\$0.29
Senior Project Manager	\$214.00	Engineering Copies 250-999 Sq. Ft.	Sq. Ft.	\$0.27
Project Manager	\$189.00	Engineering Copies 1000-3999 Sq. Ft.	Sq. Ft.	\$0.25
Professional Land Surveyor	\$179.00	Engineering Copies 3999 Sq. Ft. & Up	Sq. Ft.	\$0.23
Project Coordinator	\$179.00	Mylar Engineering Copies up to 24" by 36"	Each	\$8.00
Senior Project Engineer	\$179.00	Color Presentation Grade Large Format Print	Sq. Ft.	\$5.15
Engineer Level IV	\$166.00	Comb Binding > 120 Sheets	Each	\$4.75
Engineer Level III	\$149.00	Comb Binding < 120 Sheets	Each	\$3.50
Engineer Level II	\$130.00	Binding Strips (Engineering Plans)	Each	\$1.00
Engineer Level I	\$110.00	5 Mil Laminating	Each	\$1.25
Engineering Intern	\$51.00	Copy 11" x 17" - Color	Each	\$0.50
Senior Technician	\$155.00	Copy 11" x 17" - Black and White	Each	\$0.25
Technician Level IV	\$134.00	Copy 8.5" x 11" - Color	Each	\$0.25
Technician Level III	\$122.00	Copy 8.5" x 11" - Black and White	Each	\$0.12
Technician Level II	\$109.00	Recorded Documents	Each	\$25.00
Technician Level I	\$96.00	Plat Research	Time and Material	
Clerical Level II	\$75.00	Per Diem	Each Day	\$30.00
Clerical Level I	\$63.00	Field / Survey Truck	Each Day	\$45.00
Survey Crew Chief	\$151.00	Postage and Freight	Cost	
Survey Technician Level II	\$80.00	Mileage	Per Mile	Federal Rate
Survey Technician Level I	\$65.00			
Prevailing Wage Survey Foreman**	\$181.00			
Prevailing Wage Survey Worker**	\$176.00			
Sub Consultants	Cost Plus 5%			

***Rates will be escalated for Overtime & Holiday Pay to adjust for Premium Time based on the current Illinois Department of Labor Rules*

Note: On January 1st of each year, the fees and hourly rates may be escalated by an amount not to exceed five (5) percent.

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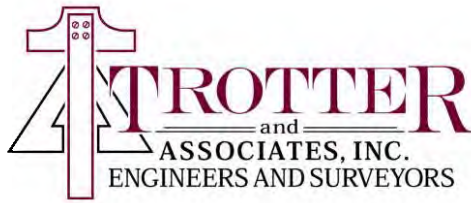


EXHIBIT C SUPPLEMENTAL CONDITIONS

Engineer hereby agrees to incorporate and accept the following provisions to be included in the aforementioned Agreement at no additional compensation:

- A. The Engineer agrees to take affirmative steps to assure that disadvantaged business enterprises are utilized when possible as sources of supplies, equipment, construction and services in accordance with the Clean Water Loan Program rules as required by the award conditions of USEPA's Assistance Agreement with the IEPA. The Engineer acknowledges that the fair share percentages are 5% for MBE's and 12% for WBE's.
- B. The Engineer shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The Engineer shall carry out applicable requirements of 40 CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract which may result in the termination of this contract or other legally available remedies.
- C. Audit and access to records clause:
 - 1. Books, records, documents and other evidence directly pertinent to performance of PWSLP loan work under this agreement shall be maintained consistent with generally accepted accounting standards in accordance with the American Institute of Certified Public Accountants Professional Standards. The Agency or any of its authorized representatives shall have access to the books, records, documents and other evidence for the purpose of inspection, audit and copying. Facilities shall be provided for access and inspection.
 - 2. Audits conducted pursuant to this provision shall be in accordance with generally accepted auditing standards.
 - 3. All information and reports resulting from access to records pursuant to the above section C.1 shall be disclosed to the Agency. The auditing agency shall afford the engineer an opportunity for an audit exit conference and an opportunity to comment on the pertinent portions of the draft audit report. The final audit report shall include the written comments, if any, or the audited parties.
 - 4. Records under the above section C.1 shall be maintained and made available during performance of project services under this agreement and for 3 years after the final loan closing. In addition, those records that relate to any dispute pursuant to Section 365.650 (Disputes) of Illinois Administrative Code, Title 35, litigation, the settlement of claims arising out of project performance, costs or items to which an audit exception has been taken shall be maintained and made available for 3 years after the resolution of the appeal, litigation, claim or exception.
- D. Covenant Against Contingent Fees:

The Engineer warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bonafide employees. For breach or violation of this warranty, the Owner shall have the right to annul this agreement without liability or in its discretion to deduct from the contract price or consideration or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

E. Certification Regarding Debarment, Suspension and Other Responsibility Matters

The Engineer certifies to the best of its knowledge and belief that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or agency;
2. Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
3. Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

The Engineer understands that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

CLIENT Initial _____

TAI Initial _____



**EXHIBIT D
CONTRACT ADDENDUM**

Project Name: Village of Algonquin WWTF Phase 6B Improvements

Project No.:

Addendum No.:

This is an addendum attached to, made part of and incorporated by reference into the Agreement between CLIENT and ENGINEER for modification of scope and compensation for the PROJECT. All other terms and conditions of the original Agreement between CLIENT and ENGINEER are unchanged by this Contract Addendum and shall remain in full force and effect and shall govern the obligations of both CLIENT and ENGINEER, including obligations created by this Contract Addendum.

The contract modifications are described below:

- 1.
- 2.
- 3.

CONTRACT SUMMARY

Original Contract Amount \$ _____

Changes Prior to This Change \$ _____

Amount of This Change \$ _____

Revised Contract Amount: \$ _____

For purposes of expediency, ENGINEER and CLIENT agree that an executed electronic version of this Contract Addendum shall suffice. The original of this Contract Addendum shall be returned to ENGINEER after execution.

CLIENT:

ENGINEER:

VILLAGE OF ALGONQUIN, IL

TROTTER AND ASSOCIATES, INC.

SIGNED:

TITLE

TITLE

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CLIENT Initial _____

TAI Initial _____

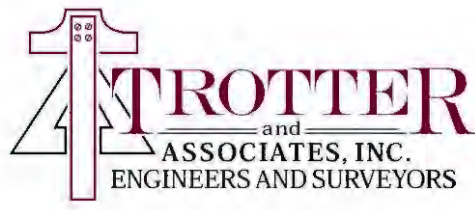


EXHIBIT E
FACILITY PLAN COST ESTIMATE

BIOLOGICAL PROCESS - NEW SIDE				
SUMMARY				
GENERAL CONDITIONS				\$ 97,000
NEW SIDE BIOLOGICAL PROCESS				\$ 532,000
CHEMICAL BUILDING IMPROVEMENTS				\$ 5,000
CONSTRUCTION SUB-TOTAL				\$ 634,000
CONTINGENCY @ 20%				\$ 126,800
2014 FPU ESTIMATED CONSTRUCTION COST				\$ 760,800
PRICE ESCALATION TO 2018 (3% ANNUAL)				\$ 860,000
ENGINEERING @ 15%				\$ 106,600
PROJECT TOTAL				\$ 966,600
Description	Quantity	Unit	Unit Price	Total
GENERAL CONDITIONS				
Dumpsters	1	Each	\$ 400	\$400
Supervision	1	Mo.	\$ 16,000	\$16,000
Bonds & Insurance	1	Lump Sum	\$ 11,000	\$11,000
Overhead & Profit	1	Lump Sum	\$ 69,600	\$69,600
TOTAL GENERAL CONDITIONS				\$97,000
NEW SIDE BIOLOGICAL PROCESS				
ORP Probes	6	Each	\$8,000.00	\$48,000
DO & Temperature Probes	6	Each	\$8,000.00	\$48,000
Nitrate Monitoring	4	Each	\$20,000.00	\$80,000
Phosphorus Monitoring	1	Each	\$30,000.00	\$30,000
Instrumentation Installation and Electrical	1	Lump Sum	\$206,000.00	\$206,000
Diffuser Membrane Replacement	1	Lump Sum	\$120,000.00	\$120,000.00
TOTAL NEW SIDE BIOLOGICAL PROCESS				\$532,000
CHEMICAL BUILDING IMPROVEMENTS				
Replace Metal Hardware	1	Lump Sum	\$2,000.00	\$2,000
Update Methanol Tanks	1	Lump Sum	\$3,000.00	\$3,000
TOTAL CHEMICAL BUILDING IMPROVEMENTS				\$5,000

DIGESTION REHABILITATION				
SUMMARY				
GENERAL CONDITIONS				\$ 715,900
ANAEROBIC DIGESTION REHABILITATION				\$ 2,172,000
AEROBIC DIGESTION UPGRADES				\$ 1,273,700
SPLITTER STRUCTURE IMPROVEMENTS				\$ 144,400
GRAVITY BELT THICKENER REPLACEMENT				\$ 567,450
CONSTRUCTION SUB-TOTAL				\$ 4,873,500
CONTINGENCY @ 20%				\$ 974,700
ESTIMATED CONSTRUCTION COST				\$ 5,848,200
PRICE ESCALATION TO 2018 (3% ANNUAL)				\$ 6,550,000
ENGINEERING @ 15%				\$ 877,300
PROJECT TOTAL				\$ 7,427,300

Description	Quantity	Unit	Unit Price	Total
GENERAL CONDITIONS				
Dumpsters	4	Each	\$ 400	\$ 1,600
Supervision	12	Mo.	\$ 16,000	\$ 192,000
Bonds & Insurance	1	Lump Sum	\$ 87,100	\$ 87,100
Overhead & Profit	1	Lump Sum	\$ 435,200	\$ 435,200
TOTAL GENERAL CONDITIONS				\$ 715,900
ANAEROBIC DIGESTION REHABILITATION				
Demo Existing Cover	4	Each	\$ 40,000	\$ 160,000
Cover Replacement - Digester 901 (50-ft dia.)	1	Each	\$ 320,000	\$ 320,000
Cover Installation	1	Each	\$ 250,000	\$ 250,000
Mechanical Mixer	1	Each	\$ 150,000	\$ 150,000
Process Piping				
6" Sludge Drawoff Piping	40	Lin. Ft.	\$ 200	\$ 8,000
6" Feed Pipe	100	Lin.Ft.	\$ 200	\$ 20,000
6" Feed Valves	6	Each	\$ 2,000	\$ 12,000
6" Gas Piping	100	Lin.Ft.	\$ 200	\$ 20,000
6" Gas Valves	4	Each	\$ 2,000	\$ 8,000
Fitting	1	Lump Sum	\$ 20,000	\$ 20,000
Cover Replacement - Digester 902 (40-ft dia.)	1	Each	\$ 200,000	\$ 200,000
Cover Installation	1	Each	\$ 160,000	\$ 160,000
Process Piping				
6" Sludge Drawoff Piping	40	Lin. Ft.	\$ 200	\$ 8,000
6" Feed Pipe	100	Lin.Ft.	\$ 200	\$ 20,000
6" Feed Valves	6	Each	\$ 2,000	\$ 12,000
6" Gas Piping	100	Lin.Ft.	\$ 200	\$ 20,000
6" Gas Valves	4	Each	\$ 2,000	\$ 8,000
Fitting	1	Lump Sum	\$ 20,000	\$ 20,000
Cover Replacement - Floating Cover Digester 903	1	Each	\$115,000.00	\$ 115,000
Cover Installation	1	Lump Sum	\$100,000.00	\$ 100,000
Mechanical Mixer	1	Each	\$ 150,000	\$ 150,000
Process Piping				
6" Sludge Drawoff Piping	40	Lin. Ft.	\$ 200	\$ 8,000
6" Feed Pipe	100	Lin.Ft.	\$ 200	\$ 20,000
6" Feed Valves	6	Each	\$ 2,000	\$ 12,000
6" Gas Piping	100	Lin.Ft.	\$ 200	\$ 20,000
6" Gas Valves	4	Each	\$ 2,000	\$ 8,000
Fitting	1	Lump Sum	\$ 20,000	\$ 20,000
Cover Replacement - Floating Cover Digester 904	1	Each	\$115,000.00	\$ 115,000
Cover Installation	1	Lump Sum	\$100,000.00	\$ 100,000
Process Piping				
6" Sludge Drawoff Piping	40	Lin. Ft.	\$ 200	\$ 8,000
6" Feed Pipe	100	Lin.Ft.	\$ 200	\$ 20,000
6" Feed Valves	6	Each	\$ 2,000	\$ 12,000
6" Gas Piping	100	Lin.Ft.	\$ 200	\$ 20,000
6" Gas Valves	4	Each	\$ 2,000	\$ 8,000
Fitting	1	Lump Sum	\$ 20,000	\$ 20,000
TOTAL ANAEROBIC DIGESTION REHABILITATION				\$ 2,172,000

Description	Quantity	Unit	Unit Price	Total
AEROBIC DIGESTION UPGRADES				
Pump Out and Clean Aeration Basins 801, 802 A&B	1	Lump Sum	\$20,000.00	\$20,000.00
Demolish Existing Aeration System	1	Lump Sum	\$10,000.00	\$10,000.00
Concrete Repairs	1	Lump Sum	\$10,000.00	\$10,000.00
Replace Existing Slide Gates	4	Each	\$15,000.00	\$60,000.00
Digester Covers	3010	Square Feet	\$70.00	\$210,700.00
Access Hatches	4	Each	\$6,000.00	\$24,000.00
6" Sludge Line	130	Lin. Ft.	\$260.00	\$33,800.00
6" Fittings	16	Each	\$1,000.00	\$16,000.00
6" Plug Valve	6	Each	\$1,600.00	\$9,600.00
6" Telescoping Valve	2	Each	\$4,000.00	\$8,000.00
Coarse Bubble Aeration Equipment	1	Lump Sum	\$135,000.00	\$135,000.00
Coarse Bubble Aeration Installation	1	Lump Sum	\$75,000.00	\$75,000.00
PD Blowers	2	Each	\$125,000.00	\$250,000.00
Blower Install	2	Each	\$60,000.00	\$120,000.00
12" S.S. Air Header	160	Lin. Ft.	\$360.00	\$57,600.00
Air Flow Meter	2	Each	\$12,000.00	\$24,000.00
D.O. Probe	5	Each	\$10,000.00	\$50,000.00
Automation	1	Lump Sum	\$30,000.00	\$30,000.00
Nitrate Monitoring	1	Each	\$20,000.00	\$20,000.00
pH Monitoring	1	Each	\$10,000.00	\$10,000.00
Electrical	1	Lump Sum	\$100,000.00	\$100,000.00
TOTAL AEROBIC DIGESTION UPGRADES				\$1,273,700.00
SPLITTER STRUCTURE IMPROVEMENTS				
Concrete	60	Cu. Yds.	\$1,000.00	\$60,000.00
Gates	2	Each	\$15,000.00	\$30,000.00
Temporary Piping	1	Lump Sum	\$10,000.00	\$10,000.00
24" Pipe	80	Lin. Ft.	\$480.00	\$38,400.00
Hatch	1	Each	\$6,000.00	\$6,000.00
TOTAL SPLITTER STRUCTURE IMPROVEMENTS				\$144,400.00
GRAVITY BELT THICKENER REPLACEMENT				
Demolition	1	L.S.	\$ 50,000	\$ 50,000
Gravity Belt Thickener	1	Each	\$ 250,000	\$ 250,000
Gravity Belt Thickener Installation	1	Each	\$ 100,000	\$ 100,000
GBT Feed Pump	1	Each	\$ 30,000	\$ 30,000
GBT Feed Pump Installation	1	Each	\$ 10,000	\$ 10,000
TWAS Sludge Pump	1	Each	\$ 25,000	\$ 25,000
TWAS Sludge Pump Installation	1	Each	\$ 15,000	\$ 15,000
6" DIP	50	Lin. Ft.	\$ 400	\$ 20,000
6" Spools and Fittings	50	Each	\$ 400	\$ 20,000
6" Plug Valves	6	Each	\$ 2,000	\$ 12,000
GBT Polymer Unit	1	Each	\$ 25,000	\$ 25,000
Polymer Feed Piping	100	Lin. Ft.	\$ 100	\$ 10,000
Ball Valves	3	Each	\$ 150	\$ 450
TOTAL GRAVITY BELT THICKENER REPLACEMENT			\$	\$ 567,450

ROOF REPLACEMENT				
SUMMARY				
GENERAL CONDITIONS				\$ -
ROOF REPLACEMENT				\$ 1,771,000
CONSTRUCTION SUB-TOTAL				\$ 1,771,000
CONTINGENCY @ 20%				\$ 354,200
ESTIMATED CONSTRUCTION COST				\$ 2,125,200
ENGINEERING @ 15%				\$ 297,600
PROJECT TOTAL				\$ 2,422,800
Description	Quantity	Unit	Unit Price	Total
GENERAL CONDITIONS				
Dumpsters	0	Each	\$ 400	\$ -
Supervision	0	Mo.	\$ 16,000	\$ -
Bonds & Insurance	0	Lump Sum	\$ 35,500	\$ -
Overhead & Profit	0	Lump Sum	\$ 177,100	\$ -
TOTAL GENERAL CONDITIONS				\$ -
ROOF REPLACEMENT				
Roof Replacement*	1	Lump Sum	\$1,000,000.00	\$1,771,000.00
TOTAL ROOF REPLACEMENT				\$ 1,771,000
*2016 ESTIMATE, NOT ESCALATION APPLIED				

UV SYSTEM				
SUMMARY				
GENERAL CONDITIONS				\$ 290,800
UV SYSTEM				\$ 800,000
CONSTRUCTION SUB-TOTAL				\$ 1,090,800
CONTINGENCY @ 20%				\$ 218,160
ESTIMATED CONSTRUCTION COST				\$ 1,308,960
PRICE ESCALATION TO 2018 (3% ANNUAL)				\$ 1,470,000
ENGINEERING @ 15%				\$ 183,300
PROJECT TOTAL				\$ 1,653,300
Description	Quantity	Unit	Unit Price	Total
GENERAL CONDITIONS				
Dumpsters	1	Each	\$ 400	\$ 400
Supervision	6	Mo.	\$ 16,000	\$ 96,000
Bonds & Insurance	1	Lump Sum	\$ 18,000	\$ 18,000
Overhead & Profit	1	Lump Sum	\$ 176,400	\$ 176,400
TOTAL GENERAL CONDITIONS				\$ 290,800
UV SYSTEM				
Trojan UV3000 Plus	1	Lump Sum	\$ 520,000	\$ 520,000
UV System Installation and Controls	1	Lump Sum	\$ 280,000	\$ 280,000
TOTAL UV SYSTEM				\$ 800,000

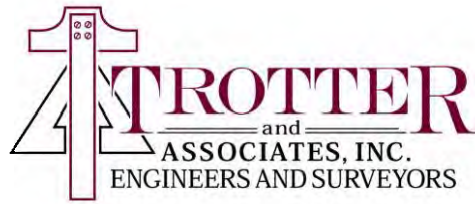
ELECTRICAL IMPROVEMENTS				
SUMMARY				
GENERAL CONDITIONS			\$	100,600
ELECTRICAL IMPROVEMENTS			\$	535,000
CONSTRUCTION SUB-TOTAL			\$	635,600
CONTINGENCY @ 20%			\$	127,200
ESTIMATED CONSTRUCTION COST			\$	762,800
PRICE ESCALATION TO 2018 (3% ANNUAL)			\$	860,000
ENGINEERING @ 15%			\$	106,800
PROJECT TOTAL			\$	966,800
Description	Quantity	Unit	Unit Price	Total
GENERAL CONDITIONS				
Dumpsters	1	Each	\$ 400	\$ 400
Supervision	2	Mo.	\$ 16,000	\$ 32,000
Bonds & Insurance	1	Lump Sum	\$ 11,400	\$ 11,400
Overhead & Profit	1	Lump Sum	\$ 56,800	\$ 56,800
TOTAL GENERAL CONDITIONS				\$ 100,600
ELECTRICAL IMPROVEMENTS				
Standby generator	1	Each	\$400,000.00	\$400,000.00
Generator Installation	1	Each	\$75,000.00	\$75,000.00
Outdoor modifications (as needed)	1	Lump Sum	\$20,000.00	\$20,000.00
Motor operated throttling valves	1	Lump Sum	\$20,000.00	\$20,000.00
Valve Installation	1	Lump Sum	\$20,000.00	\$20,000.00
TOTAL ELECTRICAL IMPROVEMENTS				\$ 535,000

PRIMARY CLARIFIERS				
SUMMARY				
GENERAL CONDITIONS			\$	36,500
PRIMARY CLARIFIERS			\$	150,000
CONSTRUCTION SUB-TOTAL			\$	186,500
CONTINGENCY @ 20%			\$	37,300
ESTIMATED CONSTRUCTION COST			\$	223,800
PRICE ESCALATION TO 2018 (3% ANNUAL)			\$	260,000
ENGINEERING @ 15%			\$	33,600
PROJECT TOTAL			\$	293,600
Description	Quantity	Unit	Unit Price	Total
GENERAL CONDITIONS				
Dumpsters	1	Each	\$ 400	\$ 400
Supervision	1	Mo.	\$ 16,000	\$ 16,000
Bonds & Insurance	1	Lump Sum	\$ 3,400	\$ 3,400
Overhead & Profit	1	Lump Sum	\$ 16,700	\$ 16,700
				\$ 36,500
PRIMARY CLARIFIERS				
Equipment Replacement	1	Lump Sum	\$ 75,000	\$ 150,000
				\$ 150,000

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**EXHIBIT F
SHEET LIST**

Sheet No.	Sheet Title
CV-1	Cover Sheet
G0-1	Index and Legend
G0-2	Standard Abbreviations
G0-3	Project Key Plan
G0-4	General Notes
G0-5	Process Flow Diagram
G0-6	Hydraulic Profile
D0-1	Site Demolition Plan
C0-1	Site Grading, Soil Erosion Control and Landscaping Plan
C0-2	Soil and Erosion Control Details
C0-3	Landscaping Details
A0-1	Architectural General Notes
A0-2	Schedules and Details
A0-3	Miscellaneous Metal Details
A0-4	Building Roof Plan
A0-5	Building Roof Plan
A0-6	Building Roof Section and Details
A0-7	Building Roof Section and Details
S0-1	Structural Notes and Details
S0-2	Structural Standard Details
M0-1	Mechanical Notes and Details
M0-2	Mechanical Symbol Legend
P0-1	Site Piping Plan
I0-1	Instrumentation and Control Legend and Abbreviations
I0-2	Control System Overview
E0-1	Electrical Symbol Legend
E0-2	Electrical Standard Details
E0-3	Electrical Site Plan - North
E0-4	One Line Diagram
E0-5	Control Diagrams
D4-1	Biological Process Demolition 1st Stage Plan
D4-2	Biological Process Demolition 2nd Stage Plan
P4-1	Biological Process 1st Stage Plan
P4-2	Biological Process 2nd Stage Plan
P4-3	Biological Process - Process Sections
I4-1	Biological Process - Process and Instrumentation Diagram
I4-2	Biological Process - Process and Instrumentation Diagram
I4-3	Biological Process - Process and Instrumentation Diagram
I4-4	Biological Process - Process and Instrumentation Diagram
E4-1	Biological Process Blower Building Power Plans - Generator
E4-2	Biological Process Blower Building One Line Diagram
E4-3	Biological Process 1st Stage Power Plan
E4-4	Biological Process 2nd Stage Power Plan
E4-5	Biological Process Electrical Schedules and Details
D6-1	U.V. Disinfection System Demolition Plan
D6-2	U.V. Disinfection System Demolition Sections
S6-1	U.V. Disinfection System Sections and Details
P6-1	U.V. Disinfection System Plan
P6-2	U.V. Disinfection System Sections
P6-3	U.V. Disinfection System Details
I6-1	U.V. Disinfection System P&ID
E6-1	U.V. Disinfection System Electrical Plan
E6-2	U.V. Disinfection System Electrical Section and Details

D8-1	Existing Aeration Demolition Plan
D8-2	Existing Aeration Demolition Sections
P8-1	Aerobic Digester Partial Plan
P8-2	Aerobic Digester Partial Plan
P8-3	Aeration/ Digestion Process Sections
P8-4	Aeration/ Digestion Process Sections
P8-5	Aerobic Digester Process Section and Details
I8-1	Aerobic Digesters Process and Instrumentation Diagram
E8-1	Aerobic Digestion Electrical Plan
E8-2	Aerobic Digestion Electrical One Line Diagram
E8-3	Aerobic Digestion Electrical Schedules and Details
D9-1	Sludge Handling Building Demolition Plan
D9-2	S.H.B. Gravity Belt Thickener Demolition Plan & Sections
D9-3	Anaerobic Digester Rehabilitation Digester 901 & 902 Demolition Plan
D9-4	Anaerobic Digester Rehabilitation Digester 901 & 902 Demolition Section
D9-5	Anaerobic Digester Rehabilitation Digester 903 & 904 Demolition Plan
D9-6	Anaerobic Digester Rehabilitation Digester 903 & 904 Demolition Section
S9-1	Gravity Belt Thickener Structural Plan, Section and Details
S9-2	Anaerobic Digester Corbel Details
P9-1	Sludge Handling Building Plan
P9-2	S.H.B. Gravity Belt Thickener Process Plan & Sections
P9-3	Anaerobic Digester Rehabilitation Gas System Modifications
P9-4	Anaerobic Digester Rehabilitation Gas System Modifications
P9-5	Anaerobic Digester Rehabilitation Digester 901 & 902 Process Plan
P9-6	Anaerobic Digester Rehabilitation Digester 901 & 902 Process Section
P9-7	Anaerobic Digester Rehabilitation Digester 903 & 904 Process Plan
P9-8	Anaerobic Digester Rehabilitation Digester 903 & 904 Process Section
I9-1	Sludge Handling Process and Instrumentation Diagram
I9-2	Digester Gas Systems Process and Instrumentation Diagram
E9-1	Sludge Handling Building Electrical Plan
E9-2	Sludge Handling Building Gravity Belt Thickener Electrical Plan
E9-3	Sludge Handling Building Partial One-Line Diagram



VILLAGE OF ALGONQUIN
PUBLIC WORKS DEPARTMENT

– M E M O R A N D U M –

DATE: November 8, 2017

TO: Tim Schloneger, Village Manager

FROM: Michele Zimmerman, Assistant Public Works Director

SUBJECT: *McHenry County Natural Hazard Mitigation Plan Update*

Please find attached a resolution adopting the updated 2016 McHenry County Natural Hazards Mitigation Plan. Hazard mitigation is the effort to reduce loss of life and property by lessening the impact of disasters. It is most effective when implemented under a comprehensive, long-term mitigation plan. State, tribal, and local governments engage in hazard mitigation planning to identify risks and vulnerabilities associated with natural disasters, and develop long-term strategies for protecting people and property from future hazard events. Mitigation plans are key to breaking the cycle of disaster damage, reconstruction, and repeated damage.

Developing hazard mitigation plans enables state, tribal, and local governments to:

- Increase education and awareness around threats, hazards, and vulnerabilities;
- Build partnerships for risk reduction involving government, organizations, businesses, and the public;
- Identify long-term, broadly-supported strategies for risk reduction;
- Align risk reduction with other state, tribal, or community objectives;
- Identify implementation approaches that focus resources on the greatest risks and vulnerabilities, and;
- Communicate priorities to potential sources of funding.

The Disaster Mitigation Act of 2000, along with FEMA requires that all municipalities adopt a FEMA-approved mitigation plan as a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects. The Village of Algonquin fulfills this obligation by participation in, and adoption of the attached resolution, of the countywide plan.

I have attached the executive summary for the 2016 McHenry County Natural Hazards Mitigation Plan for your review. The full document can also be viewed at <https://www.co.mchenry.il.us/county-government/departments-a-i/emergency-management/hazard-mitigation-planning>.

Upon adopting the plan, the Village is to implement the parts of the Mitigation Plan that apply to us *as resources (staff time and funding) become available*. Available means through Algonquin's existing budget or through a mitigation grant from FEMA. If resources are not available, then implementation of an action item is not expected.

If there are parts of the Mitigation Plan that cannot be implemented (either because we choose not to or because we don't have the resources), then there is *no penalty or loss of FEMA eligibility*. As long as Algonquin stays in good standing with the National Flood Insurance Program, we will always have FEMA funds available to us.

It is the Public Works Departments recommendation that the Committee of the Whole authorize action by the Board of Trustees to pass a resolution adopting the 2016 McHenry County Natural Hazards Mitigation Plan. Please feel free to contact me with further questions on this issue.

EXECUTIVE SUMMARY

Overview

The 2016 *McHenry County Natural Hazards Mitigation Plan* (Plan) identifies activities that can be undertaken by both the public and the private sectors to reduce safety hazards, health hazards, and property damage caused by natural hazards. The Plan focuses on the identified major natural hazards facing McHenry County: floods, severe summer storms (including hail, lightning, and wind), winter storms, tornadoes, extreme cold and heat events, and drought. The most recent natural disasters in McHenry County, Illinois, receiving federal disaster declarations were winter storms in 2008 and 2013 and severe storms (flooding, straight-line winds) in 2013. These disasters impacted people, property owners and businesses in the County.



The development and adoption of a natural hazard mitigation plan allow communities to be eligible for Federal Emergency Management Agency (FEMA) hazard mitigation grant program funds. This Plan fulfills the federal mitigation planning requirements for FEMA's Pre-Disaster Mitigation Program, Hazard Mitigation Grant Program and Flood Mitigation Assistance Program, and is eligible for credit under the FEMA National Flood Insurance Program's Community Rating System. Hazard mitigation grant funds are made available by the FEMA through the Illinois Emergency Management Agency (IEMA).

This Plan, which was first developed in 2010, was prepared through the McHenry County Natural Hazards Mitigation Committee, which was created by a resolution of the McHenry County Board on November 18, 2008. The Mitigation Committee's members include representatives of County offices, interested municipalities, townships, and agencies.

McHenry County and the natural hazards that can impact the County have been assessed in Chapters 1 and 2. Goals and guidelines established by the Mitigation Committee are the focus of Chapter 3. Six mitigation strategies are the subjects of Chapters 4 through 9:

- Preventive
- Resource protection
- Property protection
- Emergency services
- Structural projects
- Public information

These mitigation strategies were examined to identify current mitigation efforts being implemented throughout the County, to identify additional efforts that can be undertaken, and to make recommendations for future actions. Thus, the aforementioned chapters also address community

capabilities. Chapter 10 presents the Action Plan for implementation of this Plan. The Action Plan contains specific action items taken from the Plan's numerous recommendations. The Action Plan also includes items for plan maintenance.

Introduction

McHenry County is located 35 miles northwest of downtown Chicago in northeastern Illinois. The County Seat is Woodstock, Illinois. Political jurisdictions include 17 townships and 30 municipalities. McHenry County has a land area of approximately 611 square miles which makes it the 34th largest county in Illinois. In 2010, McHenry County had a population of 308,760, the sixth most populated county in Illinois. McHenry County has had the highest growth rate of the Chicago metropolitan area counties in northeastern Illinois, or 3.4 percent a year. By 2030, the County population is expected to increase by nearly 73 percent. The 2010 Census estimated that there are approximately 116,040 housing units in McHenry County, an increase of 23,132 (20 percent; approximately 2,300 new units per year) from 2000. The 2014 housing unit estimates show continued, but slower, growth at 117,051 housing units (about 200 units per year). The labor force is about 168,000 people.

Over 60 percent of the County is currently in agricultural land use. Though residential, commercial and other development areas are expected to grow, much of the agricultural land conversion is expected to go towards environmentally sensitive areas and open space. As McHenry County grows, more and more people will be vulnerable to natural hazards. Both the consideration of the expected change in land use, as described in the McHenry County 2030 Comprehensive Plan, and population growth were considered throughout the development of this Plan.

The Hazard Mitigation Committee followed a 10-step planning process, based on guidance and requirements of the FEMA. The Mitigation Committee met three times from October 2015 to March 2016 to update this Plan. The Mitigation Committee reviewed the hazards and their effects on people and property, considered a variety of ways to reduce and prevent damage, and recommended the most appropriate and feasible measures for implementation. Existing plans and programs were reviewed during the planning process. It should be underscored that this Plan does not replace other planning efforts, such as community comprehensive plans, the McHenry County Comprehensive Stormwater Management Plan, or the McHenry County Water Resources Action Plan. This Mitigation Plan complements those efforts.

Figure 0-1 Ten Steps



The public was invited to participate through several concurrent means, including the Mitigation Committee meetings, contact with Mitigation Committee members and their organizations, the McHenry County website, and a public survey. A public meeting was held on March 3, 2016 at the McHenry County Mental Health Board facility.

Natural Hazard Risk Assessment

The Mitigation Committee reviewed all potential natural hazards that could impact McHenry County, and evaluated them based on what causes them, their likelihood of occurring, and their impact on people, property, critical facilities, the local economy, and climate change considerations. The information was based on available technical studies and reports by the participating agencies and communities on their past experiences. Table 0-1 below shows the natural hazards that are the focus of this Plan and provides a summary of the hazards' potential impact on McHenry County's health and safety, total assets, and economy from the risk assessment.

Table 0-1 Summary of Impact on Natural Hazards

Hazard	Value of Vulnerable Property	Appr. Total Historical Damage	Appr. Average Damage per Event	Impact on Health and Safety	Impact on Buildings	Impact on Critical Facilities	Economic Impact
Flood	\$210 million	\$5.2M (1978-2015)	\$150K	High	High	Moderate	Moderate
Severe T-Storm (Wind)	\$7.4 billion	\$740K (1955-2015)	\$4K	Moderate	High	Moderate	High
Severe T-Storm (Lightning)	\$7.4 billion	\$990K (1996-2015)	\$49.5K	Moderate	Moderate	Moderate	Moderate
Severe T-Storm (Hail)	\$7.4 billion	\$161K (2006-2015)	\$1K	Moderate	Moderate	Moderate	Low
Severe Winter Storm & Extreme Cold	\$7.4 billion	\$4.1M (1960-2012)	\$83K	Moderate	Moderate	Moderate	Low
Tornado	\$7.4 billion	\$273M (1958-2015)	\$11.9M	High	High	Moderate	Moderate
Extreme Heat	---	---	---	High	Moderate	Low	Moderate
Drought	---	---	---	Low	Low	Low	Moderate
Earthquake	---	---	---	---	---	---	---
Dam Failure	---	---	---	---	---	---	---

Hazard Mitigation Goals and Guidelines

The Mitigation Committee established the following hazard mitigation goals for the planning process:

- Goal 1. Protect the lives, health, and safety of the people of McHenry County from the impact and effects of natural hazards.
- Goal 2. Protect public services, utilities and critical facilities from potential damage from natural hazard events.
- Goal 3. Protect historic, cultural, and natural resources from the effects of natural hazards.
- Goal 4. Ensure that new developments do not create new exposures to damage from natural hazards.
- Goal 5. Mitigate to protect against economic and transportation losses due to natural hazards.
- Goal 6. Identify specific projects to protect lives and mitigate damage where cost-effective and affordable.

The Mitigation Committee established the following guidelines for accomplishing the mitigation goals:

- Guideline 1. Focus natural hazards mitigation efforts on floods, severe summer and winter storms, tornadoes, extreme cold and heat events, and drought.
- Guideline 2. Make people aware of the hazards they face and focus mitigation efforts on measures that allow property owners and service providers to help themselves.
- Guideline 3. Seek state and federal support for mitigation efforts.
- Guideline 4. Use available local funds, when necessary, to protect the public services, critical facilities, lives, health, and safety from natural hazards.
- Guideline 5. Examine equitable approaches for the local cost of mitigation, such as user fees.
- Guideline 6. Create and foster public-private partnerships to accomplish mitigation activities.
- Guideline 7. Strive to improve and expand business, transportation and education opportunities in McHenry County in conjunction with planned mitigation efforts.

Hazard Mitigation Strategies

During the 2010 development of this plan, the Mitigation Committee put substantial effort into reviewing each strategy to understand the needs of the county. This previous work was then refreshed during the 2016 update of this Plan.

The Mitigation Committee reviewed current preventive mitigation measures being implemented by the County and municipalities. Preventive measures include activities such as building codes and



the enforcement of the McHenry County Stormwater Management Ordinance. Preventive measures protect new construction, property and natural resources from hazards and see that future development does not increase potential losses. McHenry County is very strong in preventive measures.

Property protection mitigation measures are used to modify buildings or property subject to existing damage. Most measures are implemented by the property owners, so appropriate government activities include public information, technical assistance and financial support. During the 2010 update of this plan, the Mitigation Committee agreed that special attention should be given to floodplain areas and designated repetitively flooded areas. Emphasis has also been placed on critical facilities; understanding their vulnerability to hazards. GIS data improvements during the 2016 update of this plan helped identify potential vulnerabilities.

The Mitigation Committee concluded that structural mitigation projects, such as the detention basins constructed through the McHenry County stormwater program, are important, but that comprehensive watershed planning is needed. The Mitigation Committee also recommended each community establish a formal and regular program of drainage system maintenance. These were recommended as actions to consider during the 2010 and 2016 updates of this plan.

The Mitigation Committee called for a better understanding of flood and other hazards to improve emergency management – preparedness, response and recovery. The Mitigation Committee recommended additional stream gaging for flood warning, and critical facility protection for all hazards.

During the 2010 update of this Plan, the Mitigation Committee identified numerous subject areas that would benefit from a coordinated public information program, including safety during hazard events, property protection, understanding floods, and protecting our watersheds and water quality. The Mitigation Committee recommended that a common set of public information materials be developed for use throughout McHenry County communities. While some efforts have been undertaken, this was a trend for suggested actions during the 2016 update (such as the public survey).

Mitigation Action Plan

All mitigation activity recommendations from Chapters 4 through 9 were reviewed and the Mitigation Committee created an “Action Plan” that specifies recommended activities and initiatives to be implemented over the next five years. The Action Plan is included in Chapter 10 of this *Natural Hazards Mitigation Plan*. It is understood that implementation of the action items included in the Action Plan for each community are contingent on the availability of resources (staff and funding). The Action Plan identifies who is responsible for implementing the action items, and when they are to be done. For the 2016 update of this Plan, communities were encouraged to define actions specific to their jurisdictions (as a need existed). In addition, the 23 action items developed for the 2010 Plan were reviewed and updated for each jurisdiction for the 2016 Plan.

Plan Adoption



This Plan serves to recommend mitigation measures for McHenry County. Adoption of this Plan by the McHenry County Board and the participating communities initiates the implementation of these recommendations. Adoption is also a requirement for recognition of the Plan by mitigation funding programs.

The adoption of the 2017 *McHenry County Natural Hazards Mitigation Plan* will be done by resolution of the County Board, the city councils, and boards of trustees of each participating municipality, township and agency. The County's resolution will include the continuation of the Mitigation Committee. The municipal resolutions will adopt each action item that is pertinent to the community (see Chapter 10) and assigns a person responsible for it. With adoption, the County and each municipality, township or agency are individually eligible to apply for FEMA mitigation grant funding. Resolutions can be found in Appendix A.

Summary

This Plan was developed and updated by the McHenry County Natural Hazards Mitigation Committee as a multi-jurisdictional plan to meet federal mitigation planning requirements. The Plan examines natural hazards facing McHenry County, establishes mitigation goals, evaluates existing mitigation activities throughout the County, and recommends additional mitigation steps that are appropriate to protect people, property and other assets of McHenry County. The 2016 update of this Plan will be adopted by resolution by the County and each participating municipality, township and agency, as appropriate to each jurisdiction. This Plan will be implemented and maintained through both countywide and individual initiatives, as funding and resources become available. The Mitigation Committee will continue to meet annually and the public will be invited to participate and provide comments. This Plan will be updated again in five years, as required by FEMA.

RESOLUTION 2017-R-
VILLAGE OF ALGONQUIN ADOPTION OF
THE McHENRY COUNTY NATURAL HAZARD MITIGATION PLAN

WHEREAS, McHenry County is subject to flooding, severe summer and winter storms, tornadoes, drought, and other natural hazards that can damage property, close businesses, disrupt traffic, and present a public health and safety hazard; and

WHEREAS, the McHenry County Hazard Mitigation Planning Committee has prepared a recommended the *McHenry County Natural Hazard Mitigation Plan* that reviews the County's options to protect people and reduce damage from hazards; and

WHEREAS, the *McHenry County Natural Hazard Mitigation Plan* was developed as a multi-jurisdictional plan has been submitted and approved by Illinois Emergency Management Agency (IEMA) and the Federal Emergency Management Agency (FEMA); and

WHEREAS, the recommended *McHenry County Natural Hazard Mitigation Plan* has been widely circulated for review by residents and federal, state, and regional agencies and has been supported by those reviewers; and

WHEREAS the preparation and adoption of a community mitigation plan is a requirement of FEMA in order for McHenry County to be eligible for federal mitigation funds under Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165), and under 44 CFR (Code of Federal Regulations) Part 201.

NOW, THEREFORE BE IT RESOLVED, that the *McHenry County Natural Hazards Mitigation Plan, August 2017*, is hereby adopted as an official plan of the Village of Algonquin, and;

BE IF FURTHER RESOLVED, that the Streets Supervisor and/or Public Works Director appointed as the Village of Algonquin representative on the McHenry County Hazard Mitigation Planning Committee and he/she will keep the Village of Algonquin apprised of the mitigation action items undertaken by or reported to the McHenry County Hazard Mitigation Planning Committee, and

BE IT FURTHER RESOLVED, that the *McHenry County Natural Hazards Mitigation Plan* identifies a series of action items. The following action items are hereby assigned to the Village of Algonquin departments as shown below, or to the McHenry County Hazard Mitigation Planning Committee or department of the McHenry County government. The designated Village department shall be responsible for the implementation of the action item within the Village as staff resources and funding permit:

Action Item 1: Plan Adoption – Village of Algonquin Board.

Action Item 2: Continuation of Mitigation Committee - McHenry County Board.

Action Item 3: Plan Monitoring and Maintenance - McHenry County Hazard Mitigation Planning Committee.

Action Item 4: Watershed Studies - McHenry County Planning and Development Department.

Action Item 5: Expand Stream Gaging Network - McHenry County Planning and Development Department.

Action Item 6: Stream Maintenance Programs – Public Works.

Action Item 7: Prohibited Waterway Dumping Ordinances – Community Development.

Action Item 8: Mitigation of Public Infrastructure – Public Works.

Action Item 9: Continued NFIP Compliance – Community Development.

Action Item 10: Repetitive Loss Areas Study - McHenry County Planning and Development Department with cooperation of the Village of Algonquin.

Action Item 11: Identification of Floodplain Structures - McHenry County Planning and Development and GIS Division.

Action Item 12: Investigation of Critical Facilities - McHenry County Emergency Management Agency and GIS Division.

Action Item 13: Critical Facilities Design with Natural Hazards Protection – Public Works.

Action Item 14: Mitigation of Floodplain Properties - Property Protection Projects - Community Development.

Action Item 15: Safe Rooms – No Action.

Action Item 16: Community Rating System Participation –Community Development.

Action Item 17: Urban Forestry - Participation in Tree City USA – Public Works.

Action Item 18: Participation in Storm Ready – Public Works.

Action Item 19: Strengthen Building Codes and Code Enforcement Training – Community Development.

Action Item 20: Seek Mitigation Grant Funding for Additional Mitigation Planning and Cost Beneficial Projects – Community Development & Public Works.

Action Item 21: Implementation of the Water Resources Protection Action Plan – McHenry County Water Resources Department.

Action Item 22: Development of a Public Information Strategy - McHenry County Hazard Mitigation Planning Committee.

Action Item 23: Property Protection References – Community Development.

Action Item 24: Warning System for Dunham Township – No Action.

Action Item 25: Power Outages for the Community of Algonquin – Village Admin & Public Works.

Action Item 26: Replace Main Drain Tiles in Hebron Township - No Action.

Action Item 27: Tornado Siren at Public Works Facility in the Village of Richmond – No Action.

Action Item 28: Review of Storm Sewers/Drainage System Maintenance for the Village of Richmond – No Action.

Action Item 29: Outreach Projects (Seminars, Pamphlets, etc.) in the Village of Richmond Addressing All Hazards – No Action.

Action Item 30: Develop a Reliable Means for Citizens in Crystal Lake to Receive Official Information from the City – No Action.

Action Item 31: Remote/Regional Salt Storage for McHenry County – No Action.

Action Item 32: Include the McHenry County Natural Hazards Mitigation Plan into Other Plans; - No Action, And;

BE IT FURTHER RESOLVED, that the Village of Algonquin Clerk is hereby requested to distribute a certified copy of this Resolution to the McHenry County Emergency Management Agency Director and IEMA.

ADOPTED this the ____ day of _____, 2017

Village Clerk, Gerald S. Kautz

APPROVED this the ____ day of _____, 2017

Village President, John Schmitt