

RESERVE STUDY REPORT

PREPARED FOR
Windstone Community Association II
Sugar Grove, Illinois

CLIENT CONTACT
Windstone Community Association II
720 Cornwall Circle
Sugar Grove, Illinois 60544
Attn: Vivian Porretto



REPORT VERSION ONE

WEC PROJECT #: 13C-426
DATE OF REPORT: April 22, 2014



PREPARED BY:

Matthew Hass, RS
Associate Engineer

REVIEWED BY:

Grant Ostreko, RS
Associate Engineer

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RESERVE ANALYSIS EXHIBITS

- Exhibit 1 – Element Summary
- Exhibit 2A – Element Replacement Schedule (Inflation Rate = 3.0%) (6 pages)
- Exhibit 3A – Recommended Funding Plan (Inflation Rate = 3.0%)
- Exhibit 2B – Element Replacement Schedule (Inflation Rate = 5.0%) (6 pages)
- Exhibit 3B – Recommended Funding Plan (Inflation Rate = 5.0%)
- Exhibit 4 – Fund Balance Comparison

1.0 EXECUTIVE SUMMARY

Waldman Engineering Consultants, Inc. (WEC) was contracted to perform a Reserve Study for Windstone Community Association II located in Sugar Grove, Illinois in accordance with our proposal dated July 22, 2013 and revised October 29, 2013.

Original construction of the property began in 1986 and consists of 306 Single Family Homes. Common elements of the property consist of two entrance monuments, two tennis courts, and a centrally located recreational storm detention pond/lake.

To fulfill the terms of the proposal, the engineering staff of WEC prepared this reserve study with a 2-part assessment and analysis process.

Part 1 - Field Assessment

The engineering staff of WEC conducted a detailed visual inspection of the association's common elements on January 30, and April 4, 2014. The visual inspection consisted of obtaining a general condition of the elements as well as determining the quantity and specifications of the elements. The elements that have been included in the Reserve Study are considered common to the property as provided by the Association and/or its Property Manager and include the following:

- Asphalt Pavement
- Entrance Monuments
- Landscaping & Irrigation
- Tennis Courts
- Tennis Court Fencing
- Retention Pond
- Spillway
- Piers

Where deemed appropriate, a representative sampling of repetitive or similar systems, components, equipment, units, areas, buildings, etc., was performed during the detailed visual inspection. A representative sampling inspection is deemed appropriate when similar observations, deficiencies, and recommendations are duplicated several times over.

We found the property to be well maintained overall. Isolated deficiencies were observed and are described in each respective element section and photographic section of this report. It is recommended that the following deficiencies receive near term attention in order to prevent future problems:

- It was reported that there have been significant problems with sediment and debris entering, and being deposited into the pond/lake from the northwest inflow pipe. It is recommended that the condition be further evaluated by the municipal civil engineer, and corrective action taken as necessary in effort to prevent future problems and incurred costs.
- A broken electrical wiring conduit (i.e. protective pipe), was observed at the south entrance monument. The exposed wires could be a hazard. The piping should be repaired by a qualified electrician.
- Isolated mortar joints at the entrance monuments were cracked and deteriorated, especially along the capstones. The cracks will allow moisture to penetrate and lead to further masonry deterioration. It is recommended that the entrance monuments be repaired by a qualified mason in order to prevent further deterioration.

Part 2 - Reserve Analysis

A repair or replacement expense was determined for each of the elements above that met the three part test as outlined below:

1. The element replacement expense is significant enough to impact the financial results of the study.
2. The element has a limited useful life.
3. The element must have a determinant remaining useful life.

The replacement cost estimates are calculated using a combination of bids from local contractors for similar work, actual data that may be provided from property representatives, as well as the latest version (updated quarterly) of the R.S. Means cost estimating database configured for the region that the property is located in. The replacement expenses were then scheduled over the next 30 years according to each element's anticipated remaining useful life. Repair/replacement projects were spread over a number of years for elements that a one year replacement project was not considered practical due to cost or scope of work. In order to accurately determine the level of reserve contributions necessary to meet all anticipated expenses, the present day expenses had to be inflated to account for future increases in construction costs. The average construction cost inflation rate over the past 20 years is currently 3.94% and is determined using the average of the RS Means Historical Cost Indexes for the Chicagoland area over the last 20 years. Therefore, for the purpose of this report, WEC has given two recommended funding plans using inflation rates of 3.0% and 5.0%. Given the present day expense, the future expense is calculated using the "future value of a single amount formula" as follows:

$$F = P (1 + IR)^n$$

where

F = future expense

P = present day expense

IR = inflation rate expressed as a decimal

n = number of years until future expense occurs

The recommended funding plan was produced for the purpose of determining the amount of money the association would need to set aside in the reserve account each year in order to meet the anticipated expenses over the next 30 years. The reserve account starting balance for the fiscal year January 1, 2014-December 31, 2014 was given to WEC by the property representative and is shown in the table below along with the current annual reserve fund contribution and reserve account interest rate.

Summary of Financial Information	
Projected Starting Reserve Fund Balance (As of 1/1/2014)	\$81,680
Current Annual Reserve Fund Contribution	\$27,500
Reserve Fund Interest Rate	0.15%

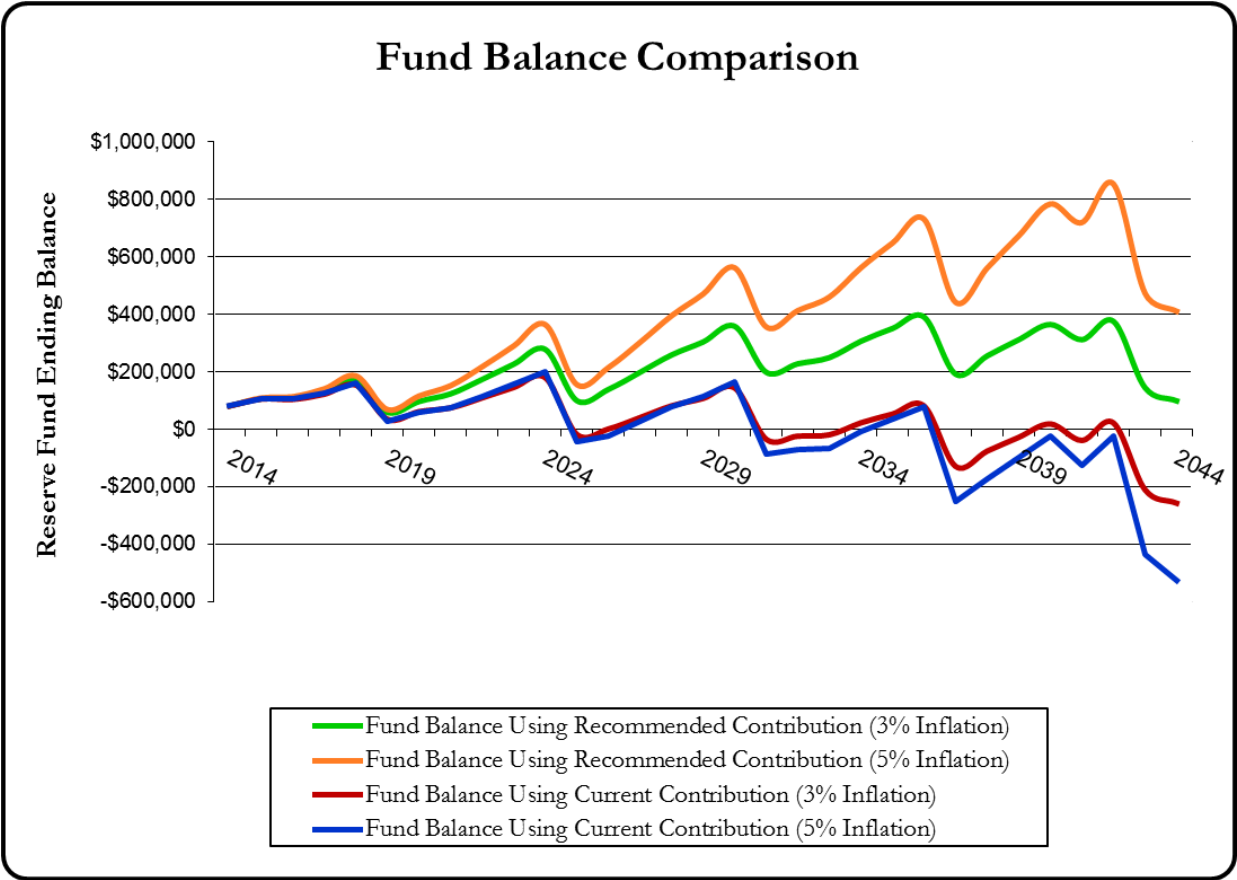
Based on the reserve analysis, it was concluded that (due to the recent history of significant dredging costs), notable increases in reserve funding are recommended in effort to reduce the potential need for a loan or special assessment in the future. The actual need for a loan or special assessment in the future will be dependent on the rate of lake siltation, which is dependent on weather conditions, and cannot be predicted with a high level of certainty. Lake dredging is by far the single most impacting

element in the reserve study. Please refer to Exhibits 3A and 3B for the recommended funding plans based on inflation rates of 3.0% and 5.0%. It is estimated that a funding plan falling between these two rates should be adequate to properly fund the anticipated future capital expenditures. The following tables summarize the recommended annual reserve fund contributions over the next 30 years.

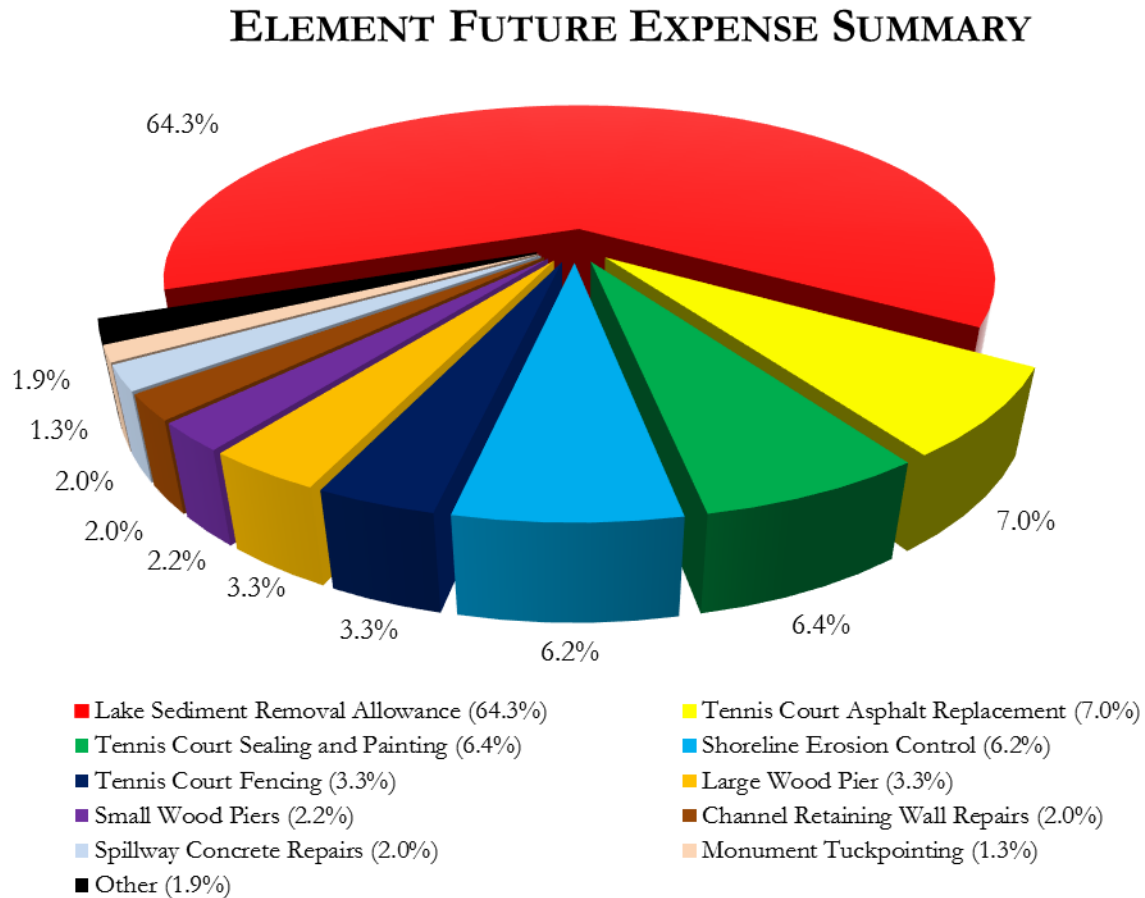
Recommended Funding Plan Summary (Inflation Rate = 3.0%)					
Year	Reserve Fund Contribution	Year	Reserve Fund Contribution	Year	Reserve Fund Contribution
2015	\$29,700	2025	\$56,736	2035	\$63,274
2016	\$32,076	2026	\$57,871	2036	\$63,274
2017	\$34,642	2027	\$59,028	2037	\$63,274
2018	\$37,413	2028	\$60,209	2038	\$63,274
2019	\$40,407	2029	\$61,413	2039	\$63,274
2020	\$43,639	2030	\$62,027	2040	\$63,274
2021	\$47,130	2031	\$62,648	2041	\$63,274
2022	\$49,958	2032	\$63,274	2042	\$63,274
2023	\$52,456	2033	\$63,274	2043	\$63,274
2024	\$54,554	2034	\$63,274	2044	\$63,274

Recommended Funding Plan Summary (Inflation Rate = 5.0%)					
Year	Reserve Fund Contribution	Year	Reserve Fund Contribution	Year	Reserve Fund Contribution
2015	\$30,525	2025	\$76,950	2035	\$103,386
2016	\$33,883	2026	\$79,259	2036	\$105,453
2017	\$37,610	2027	\$82,429	2037	\$107,563
2018	\$41,747	2028	\$85,727	2038	\$109,714
2019	\$46,339	2029	\$89,156	2039	\$111,908
2020	\$51,436	2030	\$91,830	2040	\$114,146
2021	\$57,094	2031	\$94,585	2041	\$116,429
2022	\$62,233	2032	\$97,423	2042	\$118,758
2023	\$67,212	2033	\$99,371	2043	\$121,133
2024	\$71,916	2034	\$101,359	2044	\$123,556

The status of the current funding plan as it relates to the recommended funding plan is illustrated below and in **Exhibit 4**, assuming that the current budgeted amount is increased for inflation annually.



The following chart illustrates the ratio of expenses that will be incurred over the 30-year study period for each of the elements that represent a majority of the future repair or replacement expenses.



The annual contributions made to the reserve fund are a means to compensate for the difference between the ongoing deterioration of a property and its finances. Since elements deteriorate at varying rates and the finances of the property are typically changing on an annual basis, the need to maintain balance between the two is an ongoing process. Therefore, to maintain this balance, periodic updates to the Reserve Study are recommended approximately every three years. Annual updates may be warranted depending on the age of the property and the amount of repair or replacement activity.

2.0 INTRODUCTION

Waldman Engineering Consultants, Inc. (WEC) was contracted to perform a Reserve Study for Windstone Community Association II located in Sugar Grove, Illinois in accordance with our proposal dated July 22, 2013 and revised October 29, 2013. The purpose of the reserve study is to determine a reasonable level of annual reserve fund contributions required to meet the anticipated future expenditures for the elements on the property that will likely require major repairs or replacements over the next 30-year period.

Applicable state law (The Illinois Condominium Act or the Illinois Common Interest Community Association Act) has not specifically defined “Reasonable Reserves”, nor has it prescribed any specific formulas for use in determining the amount of these reserves. This reserve study will aid the decision of determining what a reasonable reserve level should be.

3.0 RESERVE STUDY GOALS

The goals of the Reserve Study are as follows:

- Quantify as well as provide a condition assessment of each major element the association has responsibility for maintaining.
- Determine the typical useful life and remaining useful life of the elements.
- Estimate replacement costs for each element and prepare a schedule of element replacements based on historical performance data and present condition.
- Evaluate the annual reserve fund contributions required to ensure that reserve funds are available when needed to repair or replace the elements without the need to levy a special assessment.

4.0 LEVEL OF SERVICE

This report is based on the following level of service:

Level 2 – Update Reserve Study with Site Visit: An update reserve study includes a component inventory that is developed from a previous Reserve Study element list, condition assessment based on visual observations, life and valuation estimates, fund status, and funding plan. It is noted the sole difference between Level 1 and Level 2 is wholesale element quantification is not performed for a Level 2 study.

5.0 ASSUMPTIONS

Several general assumptions have been made for the completion of this study, which are as follows:

1. The elements will be replaced with like kind unless otherwise noted or directed by a representative of the property to use alternate materials.
2. All new installations will comply with current city, state and local building code requirements.
3. The building structures have a remaining useful life greater than 30 years.
4. A maintenance program will be implemented to ensure that all building components, systems, and equipment are maintained and operated at or near optimum capacities.
5. Since cash flow takes place at frequent and varying time intervals within an interest period, a simplified method of assuming that all cash flow occurs at the midpoint of the interest period is used in the reserve analysis.
6. The financial analysis in this study employs the cash flow method for developing the recommended reserve funding plan. This method generates a reserve funding plan to offset the anticipated annual expenditures which vary with time. In addition, the funding plan was generated using the baseline funding method. By definition, the baseline funding method maintains a reserve fund balance above zero for each year of the study.
7. The study is limited to the elements of the property that likely require major repair or replacement during the study period and that have a significant impact on the reserve contributions. Elements that require minor repairs or replacements and are relatively insignificant in cost when compared to the property in its totality are assumed to be funded from the operating and maintenance budget.
8. The following recurring and/or minimal cost expenses are considered to be maintenance items; therefore, adequate funding for such expenses should be allocated in the operating and maintenance budget, but not limited to the following:
 - Applying protective coatings to the wood piers
 - Expenses associated with typical maintenance of the common area landscaping and tree replacement including Ash trees.
 - Expenses associated with maintaining the water quality of the retention pond.
 - Minor landscaping repairs to the retention pond shoreline.
 - Replacement of the landscape lighting and electrical repairs.
 - Replacement of the tennis court netting, trash containers, and benches.
 - Replacement of private property signs.
 - Irrigation system repairs.
9. Elements such as electrical, water supply, and storm water drainage systems located throughout the property are considered to have an extensive lifetime that make it very difficult to predict or establish major repair or replacement expenses. These elements can function indefinitely with ongoing maintenance and repairs which are considered minor when compared to wholesale replacement expenses; therefore, we assume that future minor ongoing maintenance and repair expenses incurred will be funded from the operating and maintenance budget. This assumption is based on the premise that a reserve study is to include elements that have a definable remaining useful life; therefore, incorporating replacement expenses for elements that do not have a predictable useful life into the study can significantly impact the accuracy and validity of the results.

10. This study is reliant on the element quantities documented in the reserve study previously prepared by Waldman Engineering Consultants dated November 4, 2009. Select quantities were verified at the time of the field inspection and updated as required. Minor changes in the reserve study capital expense element list were made as a result of conversations with the property manager and/or board member(s).
11. There may be Ash trees present on the property. The Emerald Ash Borer in Illinois has created great concern with regard to the effects of this invasive and destructive beetle. It is recommended that a professional horticulturist be consulted regarding investigating for the presence of the beetle and formulation or reference to any plan of action should it be discovered on the property. Accurately predicting the quantity of trees that may be affected, the cost for treatment and/or removal, and replacement is beyond the scope of this report. Funding for this work should be discussed with a qualified landscaper and/or arborist and figured into the annual landscaping operating and maintenance budget and is not included in this report.
12. Wildlife management costs for control of animals such as geese, beavers, muskrats, etc., cannot be predicted and are considered operating expenses.

6.0 DISCLOSURES

Waldman Engineering Consultants has no other affiliation with Windstone Community Association II other than the preparation of this Reserve Study Report. This study was written by and reviewed by engineers that carries a Reserve Specialist designation endorsed by Community Associations Institute (CAI).

This study and report is based on observations of the visible and apparent conditions of a reasonable representative sampling of the property's elements at the time of inspection. Although due diligence was performed during the inspection phase, Waldman Engineering Consultants makes no representations regarding latent or concealed defects that may exist. The inspection did not constitute any invasive investigations and was not intended to determine whether applicable building components, systems, or equipment are adequate or in compliance with any specific or commonly accepted design requirement, building code, or specification. Such tasks as material testing, engineering analysis, destructive testing, or performance testing of building systems, components, or equipment are not considered as part of the scope of work, nor are they considered by the reserve study industry standard.

Judgments in this study are based on estimates of the age and typical useful life of the various elements included in this study. The predictions of useful life and remaining useful life are based on industry and/or statistical comparisons, along with sound engineering judgment. It is necessary to recognize that the actual conditions can alter the useful life of any element. The methods of installation, deferral of maintenance, or other unforeseen conditions make it virtually impossible to predict precisely when each element will require major repair or replacement. The results of this study should not be construed as a guarantee or warranty, either expressed or implied, as to the performance of products, materials, or workmanship.

If the property representative has not disclosed any known issues or problems with materials, components, or systems, it is noted that the validity of this study may be impacted. Where applicable, comments regarding the general condition of the property and any significant deficiencies as observed at the time of inspection have been documented. The information provided by a property representative regarding the financial, physical, or historical data is deemed reliable. The reserve study is intended to be a reflection of the information provided and is not for the purpose of performing an audit, quality analysis, forensic analysis, or background check of historical records.

Pricing used for the repair or replacement costs indicated in this report are derived from the R.S. Means publications in conjunction with other reliable resources such as individual material and equipment suppliers, and contractors. The material and labor pricing provided are estimates and have been augmented, as necessary, to account for specific site conditions (i.e. material handling, scaffolding, etc.). The estimated repair and replacement expenses, unless otherwise noted, do not include allowances for architectural, engineering, or permitting fees.

By review of the property representative, the elements listed in the Exhibit 1 of this report have been identified as the elements for which the property has long-term responsibility for repair and replacement. The property representative assumes full responsibility for determining that the list of elements is complete. Waldman Engineering Consultants has not reviewed any documents or declarations as part of this Reserve Study and assumes no responsibility for the completeness of the inventory.

This report is intended solely for the use of the Windstone Community Association II in connection with funding for major repairs and replacements, and may not be used by any other party for any purpose.

7.0 RESERVE ANALYSIS

Upon completion of the field assessment, WEC determined whether the elements qualify to be considered a major capital expense for future funding in the Reserve Study based on the following three part test:

1. The element replacement expense is significant enough to impact the financial results of the study.
2. The element has a limited useful life.
3. The element must have a determinant remaining useful life.

Once replacement expenses were determined for all major elements, an element replacement schedule was prepared for a 30 year term. The replacement schedule is based on the element historical performance data, current condition, age, and estimated life expectancy. The National Reserve Study Standard published by CAI dictates that a minimum of a 20 year replacement schedule be used in a Reserve Study. WEC has selected a 30-year reserve term to capture replacement expenses associated with elements that can achieve a long service life.

In order to accurately determine the level of reserve contributions necessary to meet all anticipated expenses, the present day expenses had to be inflated to account for future increases in construction costs. The construction cost inflation rate is currently 3.94% and is determined using the average of the RS Means Historical Cost Indexes for Chicagoland over the last 20 years. For the purpose of this report, WEC has given two recommended funding plans using an inflation rate of 3% and 5%. Given the present day expense, the future expense is calculated using the “future value of a single amount formula” as follows:

$$F = P (1 + IR)^n$$

where

F = future expense

P = present day expense

IR = inflation rate expressed as a decimal

n = number of years until future expense occurs

A recommended funding plan was then developed using a baseline funding method, which maintains a yearly reserve fund ending balance above zero. The results of the funding plan outline the amount of money required to be deposited into the reserve fund each year in order to meet the projected element replacement/repair expenses without the need of levying a special assessment.

This study delivers two economic scenarios using reserve fund interest rates and construction cost inflation rates. It is emphasized that the recommended reserve funding plans presented in **Exhibits 3A and 3B** are each only one of many possible schedules that can be employed to meet the future reserve requirements.

The reserve analysis exhibits included with this report include the following:

Exhibit 1	<i>Element Summary</i> – Includes element quantities, units, estimated present day costs, observed conditions, typical useful life, and estimated remaining useful life
Exhibits 2A & 2B	<i>Element Replacement Schedules</i> – Includes replacement expenses and scheduling inflated at the indicated rates (3% and 5%)
Exhibits 3A & 3B	<i>Recommended Funding Plans</i> – Presents yearly breakdown of recommended contributions, anticipated expenses, interest accruals, and ending balances based on the two inflation schedules (3% and 5%)
Exhibit 4	<i>Fund Balance Comparison</i> – Chart comparing the difference between the Recommended Funding Plans Year End Balance to Current Funding Plan Year End Balance

8.0 FIELD INSPECTION

The contract to perform a Reserve Study for Windstone Community Association II required an on-site, visual inspection of the property and a report on the general condition of the elements. The definitions below summarize the method used to determine the condition of each element included in this study.

Condition Definitions

Poor – a major deficiency of a component in which the function or operation is affected, is at or beyond its typical useful life, or whose remaining useful life should not be relied upon as a result of the information gathered regarding actual or effective age or evidence of abuse, excessive wear and tear, exposure to the elements, lack of proper maintenance, etc. This definition specifically excludes deficiencies that may be remedied with routine maintenance, miscellaneous minor repairs, normal operating maintenance, etc., however it may include components that are governed by aesthetics as opposed to performance.

Marginal – no major component deficiencies observed or evidence that would suggest that a major deficiency may exist. The component remains functional and operational, as it exists, however there is evidence that it is nearing its typical useful life.

Satisfactory – no major component deficiencies observed, or evidence that the component is nearing its typical useful life, however it is apparent that the component has not been recently replaced or repaired to its original condition.

Good – no major component deficiencies observed and it is apparent that the component has been recently replaced or repaired to its original condition.

Varies – the general condition of an element cannot be generally defined by one of the above mentioned definitions.

During the course of our inspection, several general observations were made regarding the construction and maintenance of the property. In general, a diligent effort was made to distribute the repair and replacement expenses over a number of years to create a more uniform expense report. The following discussions relate to the general features of the elements.

ASPHALT PAVEMENT

Element Description

The west entrance tennis court has a service drive constructed of asphalt pavement. The asphalt was in overall satisfactory condition; however, it is showing signs of aging in the form of cracking and minor deterioration.

With time, asphalt pavement deteriorates as a result of ultraviolet rays breaking down the asphalt binder, surface wear, and an accumulation of cracking that occurs due to freeze/thaw cycles and vehicle loading. Other factors that contribute to pavement deterioration are settlement (as a result inadequate compaction of the sub base) and poor drainage. Water that ponds on the surface accelerates the deterioration process by causing breakdown of the asphalt, sub-base and oils. Cracks that develop then allow moisture to penetrate the pavement down to the granular base course and typically cause the substrate to lose strength which leads to accelerated deterioration due to freeze/thaw cycles.

Based on the observed conditions, known history, and expected useful life, funding has been allocated for wholesale replacement of the tennis court service drive over the reserve term. Please refer to the table below for a summary of the element quantities, present day cost, and remaining useful life as well as to Exhibits 2A (3% inflation rate) and 2B (5% inflation rate) for the estimated expenses and scheduling.

Periodic seal coating and crack filling is important preventative maintenance that can be done to extend the life of the pavement. Cracks that are greater than 1/8" in width should be routed out, cleaned, and filled with a rubberized hot tar crack sealant to prevent water from penetrating the pavement. Seal coating minimizes oils from evaporating, reduces the degradation that occurs from ultraviolet light, and prevents water from penetrating the pavement. Seal coating, crack sealing, and select patching are considered to be maintenance expenses; therefore, adequate funding should be allocated to the operating and maintenance budget for such expenses.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- o See photograph section of this report for observed deficiencies.

Element Name	Quantity	Units	Present Day Expense	Typical Useful Life	Remaining Useful Life	General Condition
Asphalt Service Drive	700	Square Feet	\$2,500	15-20	5	Satisfactory

ENTRANCE MONUMENTS

Element Description

Located at the entrances to the property are two identical entrance monuments. The entrance monuments are constructed with concrete foundations, stone masonry, and concrete lettering panels. The entrance monuments were observed to be in satisfactory condition overall; however, is due for tuckpointing repairs and maintenance. The lettering was faded, mortar joints were deteriorated, and the monuments were stained with dirt and organic growth. Tuckpointing the entrance monuments is often considered necessary to prevent costly and extensive damage such as deterioration of mortar joints, cracking and spalling of brick, etc., that is caused by moisture penetration.

Based on the observed conditions, known history, and expected useful life, funding has been allocated for periodic partial tuckpointing repairs of the entrance monuments every five years over the reserve term starting in year 2015. Please refer to the table below for a summary of the element quantities, present day cost, and remaining useful life as well as to Exhibits 2A (3% inflation rate) and 2B (5% inflation rate) for the estimated expenses and scheduling. Re-painting the lettering, cleaning, and lighting replacement should be budgeted for, and performed as part of ongoing routine maintenance.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- A broken electrical wiring conduit (i.e. protective pipe) was observed at the south entrance monument. The exposed wires could be a hazard. The piping should be repaired by a qualified electrician.
- The entrance monuments are stained with dirt and organic growth. Organic growth holds moisture which can accelerate deterioration. In effort to restore the appearance of the entrance monuments, cleaning is recommended as part of ongoing routine maintenance.
- The entrance monument lettering was faded and flaking off. Re-painting by a qualified professional as part of ongoing maintenance is recommended.
- Isolated mortar joints at the entrance monuments were cracked and deteriorated, especially along the capstones. There is also a broken capstone on the north monument. The cracks will allow moisture to penetrate and lead to further masonry deterioration. It is recommended that the entrance monuments be repaired by a qualified mason to prevent further deterioration.
- See photograph section of this report for observed deficiencies.

Element Name	Quantity	Units	Present Day Expense	Typical Useful Life	Remaining Useful Life	General Condition
Monument Tuckpointing	1,100	Square Feet	\$10,000	20-25	Ongoing	Varies

LANDSCAPING & IRRIGATION

Element Description

The property contains mature trees and an assortment of shrubs. The landscaping appeared to be well maintained and in overall satisfactory condition. An irrigation system is present at the west entrance monuments and center island.

It is very difficult to predict the expenses associated with the replacement of plant material. The day-to day care of the plants will have a significant impact on how each will endure throughout this study period. Life limiting factors include cultural problems, insects, diseases, physical damage, and trauma. Most deciduous and evergreen shrubs located throughout the property, will require replacement over the 30-year period of this study as a result of overgrowth, death, damage, etc. The trees located throughout the property are assumed to have a life beyond this study period.

Ash trees may be located on the property. The discovery of the Emerald Ash Borer in Illinois has created concern considering the effects of this invasive and destructive beetle. If detected, replacement trees will likely be of a different species suitable for Northern Illinois. It is recommended that a professional horticulturist be consulted regarding investigating for the presence of the beetle and formulation or reference to any plan of action should it be discovered on the property. Accurately predicting the quantity of trees that may be affected and associated costs is beyond the scope of this report therefore, funding for this work should be discussed with a qualified landscaper and/or arborist and figured into the annual landscaping operating and maintenance budget and is not included in this report.

As costs with regard to landscaping are dependent on the expectations of the association, no costs have been included in the study at this time. It is recommended that landscaping and irrigation costs be allocated in the annual operating and maintenance budget.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- At the time of observation, plant life had not recovered from the winter; however, it appeared that the northwest low lying grassy area adjacent to the large pier was in marginal to poor condition. It is understood that this area was re-seeded after the recent dredging project. We recommend consulting with a professional landscaper with regard to options as part of ongoing routine maintenance.
- See photograph section of this report for observed deficiencies.

RETENTION POND/LAKE

Element Description

Centrally located within the community is a storm water retention pond (i.e. lake). Water flows into the pond/lake mainly from the northwest and out at the south east spillway. The shoreline is constructed of a combination of native plants and turf grass. Toe erosion was observed at areas of turf grass shoreline. It is understood that there have been issues with heavy siltation/sediment entering the pond/lake from the northwest inlet(s) and significant costs have been incurred as a result.

The retention pond/lake is a system designed to handle the runoff from storm water both in terms of temporary storage and removal from the property as well as treating the water to remove harmful pollutants prior to the water entering a natural waterway or municipal system. Over time, the sediment in the water accumulates at the pond/lake basin which reduces the capacity of the pond/lake and its ability to properly treat the water and also decreases the pond/lake's health. Erosion of the shorelines can greatly contribute to the sediment buildup. Rehabilitation of pond/lake shorelines is often necessary and may require grading of the banks, and the installation of erosion control geotextile blankets, installation of rock rip rap, and/or installation of natural plantings. Dredging due to sediment buildup and rehabilitation of the shoreline is anticipated over the reserve term.

Although not in place at the time of observation, it is understood that a bubbler aeration system is used in the pond/lake. Replacement of the pump and system(s) will be necessary over time due to normal wear and tear.

Ponds/lakes can be complex ecosystems that are affected by many variables such as water depth, runoff, shoreline conditions, wind, weather, etc. One cannot accurately predict the future evolution of these bodies of water, their rate of siltation, and amount of potential future costs with a one day observation, once every several years. Therefore, this study is not intended to be an extensive evaluation of current pond/lake and shoreline conditions, and prediction of future pond/lake and shoreline evolution.

Based on the observed conditions, reported history, and expected useful life, funding has been allocated for sediment removal (i.e. dredging) every six years, periodic partial shoreline rehabilitation every five years, and periodic bubbler replacement every nine years over the reserve term. Please refer to the table below for a summary of the element quantities, present day cost, and remaining useful life as well as to Exhibits 2A (3% inflation rate) and 2B (5% inflation rate) for the estimated expenses and scheduling. Determining the rate of, and amount of sediment siltation is beyond the scope of this reserve study. We recommend the pond/lake be evaluated and maintained on a regular basis by a qualified contractor that specializes in pond/lake maintenance. Funding for this element of the reserve study should be adjusted as necessary based on a pond/lake maintenance specialist's recommendations.

Additional expenses associated with the retention pond/lake that are not included in the study are those to maintain water quality. Over time, nutrients such as nitrogen and phosphorus enter the water body through water runoff. These nutrients can come from surrounding soils, well water, fertilizers, or animal excretions. Excessive nutrients can lead to dense plant growth, buildup of organic matter, low oxygen levels, and changes in fish population. The expenses to maintain the water quality are considered to be maintenance expenses and therefore adequate funding should be allocated to the operating and maintenance budget for such expenses.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- It was reported that there have been significant problems with sediment and debris entering, and being deposited into the pond/lake from the northwest inflow pipe. It is recommended that the condition be

further evaluated by the municipal civil engineer and corrective action taken as necessary in effort to prevent future problems and incurred costs.

- Toe erosion was observed at areas of turf grass shoreline.
- See photograph section of this report for observed deficiencies.

Element Name	Quantity	Units	Present Day Expense	Typical Useful Life	Remaining Useful Life	General Condition
Shoreline Erosion Control	2,880	Linear Feet	\$125,000	Indefinite	2-30+	Varies
Lake Sediment Removal Allowance	1	Each	\$125,000	5-10	5	Satisfactory
Lake Aerators/Bubbler System	1	System	\$3,000	8-10	3	Satisfactory

SPILLWAY & CHANNEL/STREAM

Element Description

A reinforced concrete spillway is located at the southeast portion of the lake. The spillway water runs through six channels in the spillway concrete, down a buffered channel/stream, and under a roadway bridge at Queens Gate Circle. The spillway overflow channels have metal plate covers. The buffered channel/stream has rock masonry retaining walls at the upper end, and pre-cast concrete retaining walls at the mid and lower ends to prevent shoreline erosion. The channel/stream flow is buffered with rock and vegetation.

The spillway and stream appeared to have been well maintained and in satisfactory condition; however, small cracks were observed in the spillway concrete. It is recommended that the small cracks be sealed to limit damage that may occur due to moisture and freeze/thaw cycles. Over time, concrete structures may experience larger cracking and spalling that require repairs. Therefore, funding has been allocated for periodic concrete repairs at the concrete spillway. These repairs typically include removal of any loose or cracked concrete, cleaning of the area, and steel reinforced concrete patches. Based on the observed conditions, funding has been allocated for concrete spillway repairs. Additionally, tuckpointing of the stone retaining walls is anticipated over the reserve term.

Based on the observed conditions, and expected useful life, funding has been allocated for periodic spillway concrete repairs, and periodic channel retaining wall repairs. Please refer to the table below for a summary of the element quantities, present day cost, and remaining useful life as well as to Exhibits 2A (3% inflation rate) and 2B (5% inflation rate) for the estimated expenses and scheduling. Repairs to the channel/stream buffering vegetation cannot be predicted and should be performed as part of ongoing routine maintenance and is considered an operating expense.

Expenses associated with the retention pond/lake that are not included in the study are those to maintain water quality. Over time, nutrients such as nitrogen and phosphorus enter the water body through water runoff. These nutrients can come from surrounding soils, well water, fertilizers, or animal excretions. Excessive nutrients can lead to dense plant growth, buildup of organic matter, low oxygen levels, and changes in fish population. The expenses to maintain the water quality are considered to be maintenance expenses and therefore adequate funding should be allocated to the operating and maintenance budget for such expenses.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- Minor cracking was observed in the spillway concrete. It is recommended that the cracks be sealed to limit damage that may occur due to moisture penetration and freeze/thaw cycles.
- The steel plates covering the spillway channels exhibited rusting. It is recommended that the steel plates be properly prepared and painted with a rust inhibiting paint to prevent premature deterioration and prolong their expected useful life.
- See photograph section of this report for observed deficiencies.

Element Name	Quantity	Units	Present Day Expense	Typical Useful Life	Remaining Useful Life	General Condition
Spillway Concrete Repairs	20	Square Feet	\$3,000	30-40+	1	Varies
Channel Retaining Wall Repairs	800	Square Feet	\$18,000	20-25	Ongoing	Satisfactory

PIERS

Element Description

Seven small wood piers are located at various locations around the lake and one larger wood pier is located on the North West portion of the lake. The piers appeared weathered, worn, generally in marginal condition, and near the end of their expected useful lives.

Replacement of the piers will be necessary over time as exposure to the natural elements will deteriorate the wood over time. This study assumes the piers will be replaced with “like-kind”; however, replacement with more durable weather resistant materials such as aluminum should be considered at the time of replacement. More durable materials should be expected to cost more as an original investment, but should pay for themselves in reduced maintenance and increased lifespan.

Based on the observed conditions, and expected useful life, funding has been allocated for wholesale replacement of the wood piers over the reserve term. Please refer to the table below for a summary of the element quantities, present day cost, and remaining useful life as well as to Exhibits 2A (3% inflation rate) and 2B (5% inflation rate) for the estimated expenses and scheduling.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- The piers appeared weathered, worn, generally in marginal condition, and near the end of their expected useful lives. Replacement costs have been estimated for reserve funding purposes; however, it is recommended that contractor bids be obtained in the near future to best plan for this upcoming capital expense.
- See photograph section of this report for observed deficiencies.

Element Name	Quantity	Units	Present Day Expense	Typical Useful Life	Remaining Useful Life	General Condition
Large Wood Pier	1	Each	\$12,000	15-20	2	Marginal
Small Wood Piers	8	Each	\$8,000	15-20	2	Marginal

TENNIS COURTS

Element Description

Located within the property are two tennis courts. The tennis courts and fencing appeared to be in good condition. It is understood that the tennis court fences were recently replaced, along with resurfacing and painting the asphalt courts. There was no standing water at the time of observation and drainage appeared to be adequate.

The single most significant cause of asphalt pavement failure is poor drainage. Water that ponds on the surface accelerates the deterioration process by causing breakdown of the asphalt, sub-base and oils, thus contributing to a reduction in the flexibility of the pavement and causing the development of cracks. In addition, subsurface water that is not adequately drained will cause the substrate to loose strength and will no longer be capable of supporting the loads imparted on the pavement. Periodic sealing of the surface (approximately every 5 years) is the most important preventative maintenance that can be done to extend the life of the pavement.

Based on the observed conditions and expected useful life, funding has been allocated for fence replacement, resurfacing, and sealing and painting over the reserve term. Please refer to the table below for a summary of the element quantities, present day cost, and remaining useful life as well as to Exhibits 2A (3% inflation rate) and 2B (5% inflation rate) for the estimated expenses and scheduling.

Deficiencies Noted (sampling only, not intended to be a comprehensive list of every defect)

- The benches and wood stairs (north tennis court), appeared to be near the end of their expected useful lives. Replacement cost is below the reserve funding minimum threshold and should be budgeted for as an operating expense. It is recommended that replacement of the wood stairs with concrete be considered to reduce ongoing replacement and maintenance costs.
- Cracking was observed at the fence post footing where they meet the asphalt. Crack filling is recommended to prevent moisture infiltration and subsequent damage.
- See photograph section of this report for observed deficiencies.

Element Name	Quantity	Units	Present Day Expense	Typical Useful Life	Remaining Useful Life	General Condition
Tennis Court Sealing and Painting	2	Each	\$8,000	3-5	3	Good
Tennis Court Asphalt Replacement	2	Each	\$32,000	10-15	11	Good
Tennis Court Fencing	400	Linear Feet	\$16,000	15-25	19	Good

9.0 RESERVE STUDY UPDATES

The annual contributions made to the reserve fund are a means to compensate for the difference between the ongoing deterioration of a property and its finances. Since elements deteriorate at varying rates and the finances are typically changing on an annual basis, the need to maintain balance between the two is an ongoing process. In order to maintain this balance, it may be appropriate to have the reserve study updated.

When considering an update to a study, the following questions should be considered:

- Has there been a significant departure (i.e. 2% to 3%) from the anticipated rates for interest, inflation, and construction cost increases previously assumed?
- Have any major elements been added or replaced since the previous study?
- Have any elements sustained premature deterioration due to unseasonable weather or lack of maintenance since the previous study?
- Have any repairs or replacements been accelerated or deferred from the estimated schedule previously generated?

If the answer is “yes” to one or more of the above questions, then an update to the reserves study should be strongly considered.

Generally, a property that is relatively new in age and is not undergoing any major repairs or replacements should have the reserve study updated approximately every 3 years to maintain the validity of the estimates. However, if the property is older and is experiencing major repairs or replacements, then the study should be updated on an annual basis.

An update to a previous reserve study can typically be performed for a percentage of the original cost of the study. The re-evaluation can include a field walk down of the property, or simply an update to the tables.



Tennis court service drive asphalt.



Tennis court service drive asphalt.



South entrance monument. Note: staining.



North entrance monument. Note: staining.



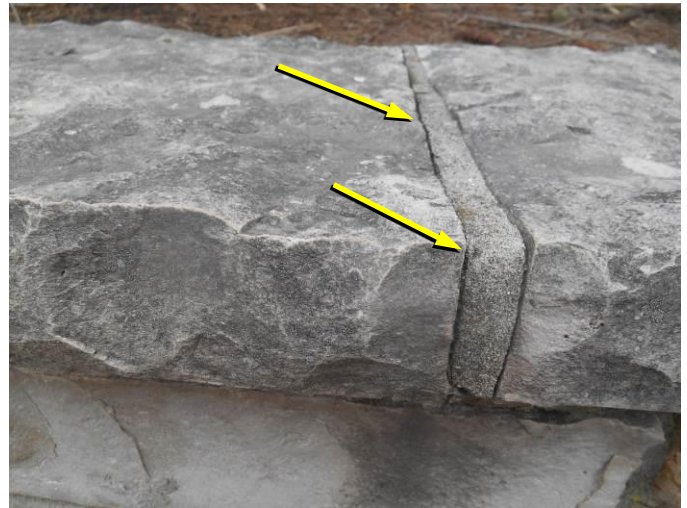
It is recommended that the organic growth at the entrance monuments be cleaned.



Deteriorated mortar and cracks allow moisture to penetrate leading to further deterioration. The entrance monuments require tuckpointing.



Deteriorated mortar and cracks allow moisture to penetrate leading to further deterioration. The entrance monuments require tuckpointing.



Deteriorated mortar and cracks allow moisture to penetrate leading to further deterioration. The entrance monuments require tuckpointing.



Broken capstone on the north entrance monument.



Faded and peeling lettering.



Southwest shoreline natural plantings.



Southwest shoreline natural plantings.



South east shoreline toe erosion.



Spillway.



Spillway channels and buffers.



The steel plates covering the spillway channels exhibited rusting. It is recommended that the steel plates be properly prepared and painted with a rust inhibiting paint to prevent premature deterioration and prolong their expected useful life.



Minor cracking was observed in the spillway concrete. It is recommended that the cracks be sealed to limit damage that may occur due to moisture penetration and freeze/thaw cycles.



Overview of spillway channel/stream.



Overview of lower portion of spillway channel/stream with buffers and concrete retaining walls.



Overview of upper portion of spillway channel/stream with stone masonry retaining walls.



Large wood pier.



Large wood pier.



Large wood pier deterioration.



Large wood pier deterioration.



Small pier.



Small pier.



Small pier.



Small pier.



South tennis court.



North tennis court.



Tennis court asphalt overlay.



Minor cracking at north tennis court.

EXHIBIT 1

Element Summary

Windstone Community Association II

WEC Project No: 13C-426

Version # : 1.0

[illegible]

EXHIBIT 2A

Element Replacement Schedule (Inflation Rate = 3.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2A

Element Replacement Schedule (Inflation Rate = 3.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2A

Element Replacement Schedule (Inflation Rate = 3.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2A

Element Replacement Schedule (Inflation Rate = 3.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2A

Element Replacement Schedule (Inflation Rate = 3.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2A

Element Replacement Schedule (Inflation Rate = 3.0%)

Windstone Community Association I

WEC Project No: 13C-420

Version #: 1.0

[illegible]

EXHIBIT 3A

Recommended Funding Plan

Interest Rate - 0.15% Inflation Rate - 3.00%

Windstone Community Association II

WEC Project No: 13C-426

Version # : 1.0

STUDY YEAR	CALENDAR YEAR	RECOMMENDED CONTRIBUTION	PERCENTAGE OF INCREASE	PROJECTED EXPENSES	INTEREST RECEIVED	RESERVE FUND ENDING BALANCE
0	2014					\$81,680
1	2015	\$29,700	8.00%	\$4,635	\$141	\$106,886
2	2016	\$32,076	8.00%	\$30,501	\$162	\$108,623
3	2017	\$34,642	8.00%	\$12,020	\$180	\$131,425
4	2018	\$37,413	8.00%		\$225	\$169,064
5	2019	\$40,407	8.00%	\$150,937	\$171	\$58,703
6	2020	\$43,639	8.00%	\$5,373	\$117	\$97,086
7	2021	\$47,130	8.00%	\$20,600	\$166	\$123,781
8	2022	\$49,958	6.00%		\$223	\$173,962
9	2023	\$52,456	5.00%		\$300	\$226,718
10	2024	\$54,554	4.00%	\$3,629	\$378	\$278,022
11	2025	\$56,736	4.00%	\$235,320	\$283	\$99,722
12	2026	\$57,871	2.00%	\$18,535	\$179	\$139,237
13	2027	\$59,028	2.00%		\$253	\$198,519
14	2028	\$60,209	2.00%		\$343	\$259,071
15	2029	\$61,413	2.00%	\$16,670	\$422	\$304,236
16	2030	\$62,027	1.00%	\$8,024	\$497	\$358,736
17	2031	\$62,648	1.00%	\$223,134	\$418	\$198,667
18	2032	\$63,274	1.00%	\$34,049	\$320	\$228,212
19	2033	\$63,274		\$42,084	\$358	\$249,761
20	2034	\$63,274		\$6,502	\$417	\$306,950
21	2035	\$63,274		\$19,533	\$493	\$351,184
22	2036	\$63,274		\$23,951	\$556	\$391,063
23	2037	\$63,274		\$262,487	\$437	\$192,287
24	2038	\$63,274			\$336	\$255,897
25	2039	\$63,274		\$7,538	\$426	\$312,059
26	2040	\$63,274		\$10,783	\$507	\$365,058
27	2041	\$63,274		\$116,618	\$508	\$312,222
28	2042	\$63,274			\$516	\$376,012
29	2043	\$63,274		\$294,571	\$391	\$145,106
30	2044	\$63,274		\$109,470	\$183	\$99,093
	Totals	\$1,664,471		\$1,656,963	\$9,906	

EXHIBIT 2B

Element Replacement Schedule (Inflation Rate = 5.0%)

Windstone Community Association II

WEC Project No: 13C-420

Version #: 1.0

[illegible]

EXHIBIT 2B

Element Replacement Schedule (Inflation Rate = 5.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2B

Element Replacement Schedule (Inflation Rate = 5.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2B

Element Replacement Schedule (Inflation Rate = 5.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2B

Element Replacement Schedule (Inflation Rate = 5.0%)

Windstone Community Association II

WEC Project No: 13C-426

Version #: 1.0

[illegible]

EXHIBIT 2B

Element Replacement Schedule (Inflation Rate = 5.0%)

Windstone Community Association Inc

WEC Project No: 13C-420

Version #: 1.0

[illegible]

EXHIBIT 3B

Recommended Funding Plan

Interest Rate - 2.00% Inflation Rate - 5.00%

Windstone Community Association II

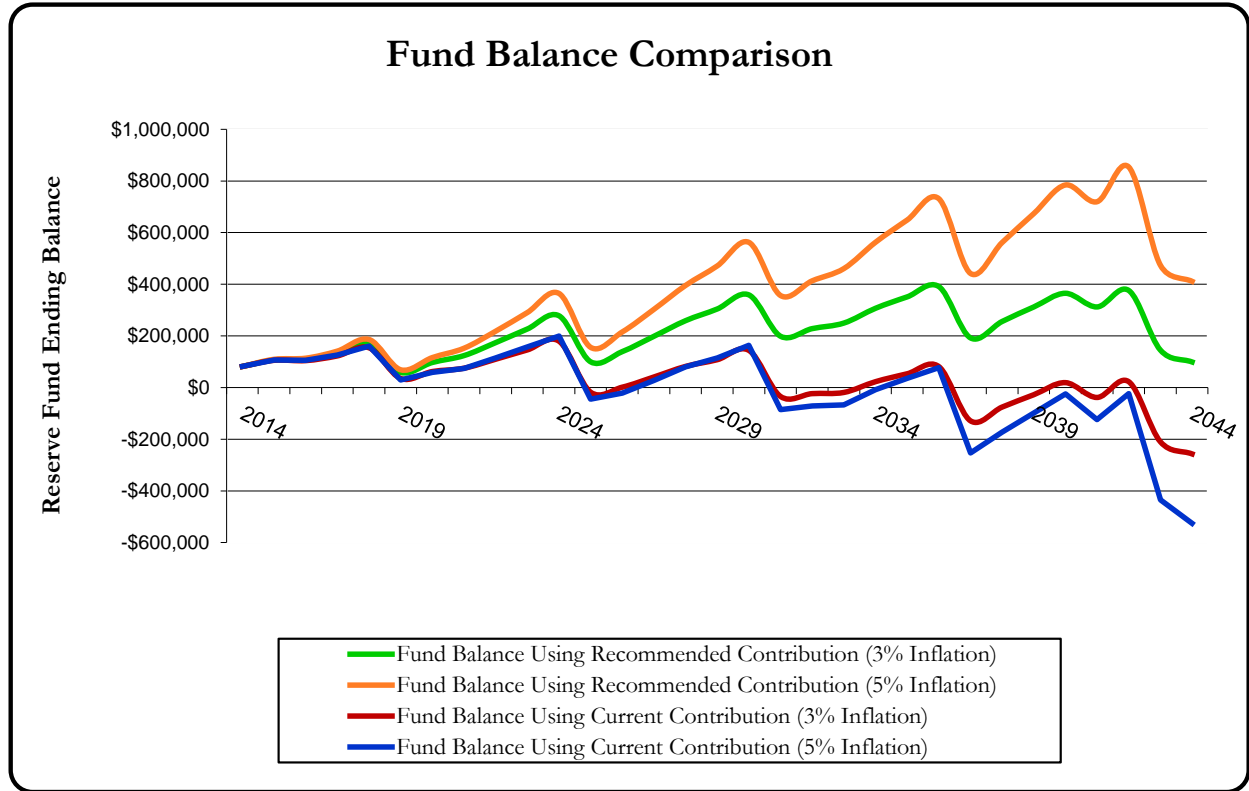
WEC Project No: 13C-426

Version # : 1.0

STUDY YEAR	CALENDAR YEAR	RECOMMENDED CONTRIBUTION	PERCENTAGE OF INCREASE	PROJECTED EXPENSES	INTEREST RECEIVED	RESERVE FUND ENDING BALANCE
0	2014					\$81,680
1	2015	\$30,525	11.00%	\$4,725	\$1,892	\$109,372
2	2016	\$33,883	11.00%	\$31,697	\$2,209	\$113,767
3	2017	\$37,610	11.00%	\$12,734	\$2,524	\$141,167
4	2018	\$41,747	11.00%		\$3,241	\$186,155
5	2019	\$46,339	11.00%	\$166,172	\$2,525	\$68,847
6	2020	\$51,436	11.00%	\$6,030	\$1,831	\$116,084
7	2021	\$57,094	11.00%	\$23,569	\$2,657	\$152,266
8	2022	\$62,233	9.00%		\$3,668	\$218,166
9	2023	\$67,212	8.00%		\$5,035	\$290,413
10	2024	\$71,916	7.00%	\$4,398	\$6,483	\$364,415
11	2025	\$76,950	7.00%	\$290,758	\$5,150	\$155,758
12	2026	\$79,259	3.00%	\$23,346	\$3,674	\$215,345
13	2027	\$82,429	4.00%		\$5,131	\$302,906
14	2028	\$85,727	4.00%		\$6,915	\$395,548
15	2029	\$89,156	4.00%	\$22,245	\$8,580	\$471,039
16	2030	\$91,830	3.00%	\$10,914	\$10,230	\$562,185
17	2031	\$94,585	3.00%	\$309,422	\$9,095	\$356,443
18	2032	\$97,423	3.00%	\$48,132	\$7,622	\$413,355
19	2033	\$99,371	2.00%	\$60,647	\$8,654	\$460,734
20	2034	\$101,359	2.00%	\$9,552	\$10,133	\$562,673
21	2035	\$103,386	2.00%	\$29,253	\$11,995	\$648,801
22	2036	\$105,453	2.00%	\$36,566	\$13,665	\$731,354
23	2037	\$107,563	2.00%	\$408,513	\$11,618	\$442,021
24	2038	\$109,714	2.00%		\$9,938	\$561,673
25	2039	\$111,908	2.00%	\$12,191	\$12,231	\$673,620
26	2040	\$114,146	2.00%	\$17,778	\$14,436	\$784,424
27	2041	\$116,429	2.00%	\$196,006	\$14,893	\$719,740
28	2042	\$118,758	2.00%		\$15,582	\$854,080
29	2043	\$121,133	2.00%	\$514,517	\$13,148	\$473,844
30	2044	\$123,556	2.00%	\$194,920	\$8,763	\$411,243
	Totals	\$2,530,130		\$2,434,085	\$233,518	

EXHIBIT 4

Fund Balance Comparison
Windstone Community Association II
WEC Project No: 13C-426
Version # : 1.0



Note: Fund balance using current contribution is calculated using annual funding increases equal to the inflation rates of 3% and 5%.

Printed by WEC on Apr 22, 2014