

Lake Thunderbird Association

May 29, 2025 • Putnam, IL

RESERVE STUDY



Lake Thunderbird Association
Putnam, Illinois

Dear Board of Directors of Lake Thunderbird Association:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of Lake Thunderbird Association in Putnam, Illinois and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, May 29, 2025.

This *Reserve Study* exceeds the Association of Professional Reserve Analysts (APRA) standards fulfilling the requirements of a “Level II Reserve Study Update.”

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. We recommend the Board budget for an Update to this Reserve Study in two- to three-years. We look forward to continuing to help Lake Thunderbird Association plan for a successful future.

As part of our long-term thinking and everyday commitment to our clients, we are available to answer any questions you may have regarding this study.

Respectfully submitted on August 12, 2025 by

Reserve Advisors, LLC

Visual Inspection and Report by: Timothy J. Matthiesen, RS¹

Review by: Alan M. Ebert, RS, PRA², Director of Quality Assurance



¹ RS (Reserve Specialist) is the reserve provider professional designation of the Community Associations Institute (CAI) representing America's more than 300,000 condominium, cooperative and homeowners associations.

² PRA (Professional Reserve Analyst) is the professional designation of the Association of Professional Reserve Analysts. Learn more about APRA at <http://www.apra-usa.com>.



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1. RESERVE STUDY EXECUTIVE SUMMARY

Client: Lake Thunderbird Association (Lake Thunderbird)

Location: Putnam, Illinois

Reference: 090368

Property Basics: Lake Thunderbird Association is a planned unit development which is responsible for the common elements shared by 1,980 units. The community was built in 1968.

Reserve Components Identified: 88 Reserve Components.

Inspection Date: May 29, 2025. We conducted previous inspections in 2009, 2012 and 2014.

Funding Goal: The Funding Goal of this Reserve Study is to maintain reserves above an adequate, not excessive threshold during one or more years of significant expenditures. Our recommended Funding Plan recognizes the following threshold funding years:

- 2027 due to significant capital repairs and replacements at the pool and marina areas
- 2030 due to asphalt repaving at the beach amenity area and chip seal applications at the private street pavement
- 2031 due to dredging and spillway repairs
- 2035 due to completion of the phased domestic water service line replacements
- 2055 due to complete replacement of the dam spillway structure

Methodology: We use the Cash Flow Method to compute the Reserve Funding Plan. This method offsets future variable Reserve Expenditures with existing and future stable levels of reserve funding. Our application of this method also considers:

- Current and future local costs of replacement
- 3.0% average current annual rate of return on invested reserves
- 3.3% future Inflation Rate for estimating Future Replacement Costs

Sources for Local Costs of Replacement: Our proprietary database, historical costs and published sources, i.e., R.S. Means, Incorporated.

Unaudited Cash Status of Reserve Fund:

- \$973,141 as of June 30, 2025
- The Association did not budget Reserve Contributions in 2025. (The Association budgeted \$263,341 directly from the operating budget for capital projects in 2025. However, no net increase to the reserve fund is to be accumulated after completion of these projects.)

Project Prioritization: We note anticipated Reserve Expenditures for the next 30 years in the **Reserve Expenditures** tables and include a **Five-Year Outlook** table following the **Reserve Funding Plan** in Section 3. We recommend the Association prioritize the following projects in the next five years based on the conditions identified:

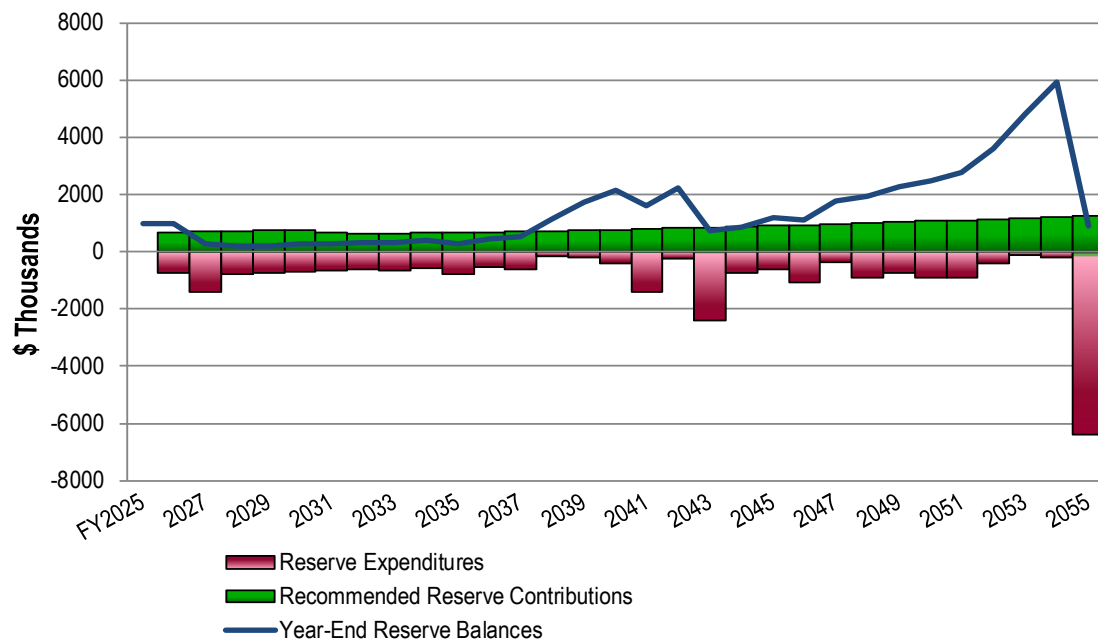
- Begin phased replacement of the domestic water main lines throughout the community
- Replacement of the playground equipment at the clubhouse amenity area
- Replacement of the sport court at the clubhouse amenity area
- Replacement of the campground electrical system components
- Replacement of docks and bulkheads at the marina areas as necessary
- Replacement of the pool liner and capital repairs including coating application at the surrounding pool deck
- Repaving of the asphalt pavement at the amenity areas and repairs to the private streets

Recommended Reserve Funding: We recommend the following in order to achieve a stable and equitable Cash Flow Methodology Funding Plan:

- Increase Reserve Contributions to \$680,000 in 2026
- Inflationary increases from 2027 through 2030
- Decrease to \$665,000 by 2031
- Decrease to \$615,000 by 2032
- Inflationary increases thereafter through 2055, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$680,000 represents an average monthly increase of \$28.62 per owner and about a forty-three percent (43.4%) adjustment in the 2025 Total Budget of \$1,567,372. (As previously stated, the Association budgeted \$263,341 in 2025 towards capital projects, these funds can be reallocated towards reserve contributions to reduce the monthly increase per owner to \$17.54, based on 1,980 owners.)

**Lake Thunderbird
Recommended Reserve Funding Table and Graph**

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2026	680,000	967,523	2036	678,000	450,896	2046	938,200	1,106,352
2027	702,400	278,076	2037	700,400	533,132	2047	969,200	1,767,276
2028	725,600	214,358	2038	723,500	1,129,981	2048	1,001,200	1,928,283
2029	749,500	208,728	2039	747,400	1,735,775	2049	1,034,200	2,274,361
2030	774,200	283,734	2040	772,100	2,161,542	2050	1,068,300	2,489,173
2031	665,000	291,165	2041	797,600	1,605,464	2051	1,103,600	2,758,114
2032	615,000	299,652	2042	823,900	2,231,969	2052	1,140,000	3,589,131
2033	635,300	305,101	2043	851,100	717,422	2053	1,177,600	4,790,060
2034	656,300	384,034	2044	879,200	862,740	2054	1,216,500	5,946,889
2035	678,000	297,620	2045	908,200	1,195,376	2055	1,256,600	909,991





2. RESERVE STUDY REPORT

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of

Lake Thunderbird Association

Putnam, Illinois

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, May 29, 2025. We conducted previous inspections in 2009, 2012 and 2014.

We present our findings and recommendations in the following report sections and spreadsheets:

- **Identification of Property** – Segregates all property into several areas of responsibility for repair or replacement
- **Reserve Expenditures** – Identifies reserve components and related quantities, useful lives, remaining useful lives and future reserve expenditures during the next 30 years
- **Reserve Funding Plan** – Presents the recommended Reserve Contributions and year-end Reserve Balances for the next 30 years
- **Five-Year Outlook** – Identifies reserve components and anticipated reserve expenditures during the first five years
- **Reserve Component Detail** – Describes the reserve components, includes photographic documentation of the condition of various property elements, describes our recommendations for repairs or replacement, and includes detailed solutions and procedures for replacements for the benefit of current and future board members
- **Methodology** – Lists the national standards, methods and procedures used to develop the Reserve Study
- **Definitions** – Contains definitions of terms used in the Reserve Study, consistent with national standards
- **Professional Service Conditions** – Describes Assumptions and Professional Service Conditions
- **Credentials and Resources**

IDENTIFICATION OF PROPERTY



Our investigation includes Reserve Components or property elements as set forth in your Declaration or which were identified as part of your request for proposed services. The Expenditure tables in Section 3 list the elements contained in this study. Our analysis begins by segregating the property elements into several areas of responsibility for repair and replacement.

Our process of identification helps assure that future boards and the management team understand whether reserves, the operating budget or Owners fund certain replacements and assists in preparation of the annual budget. We derive these segregated classes of property from our review of the information provided by the Association and through conversations with Management. These classes of property include:

- Reserve Components
- Long-Lived Property Elements
- Operating Budget Funded Repairs and Replacements
- Property Maintained by Owners
- Property Maintained by Others

We advise the Board conduct an annual review of these classes of property to confirm its policy concerning the manner of funding, i.e., from reserves or the operating budget. Reserve Components are defined by CAI as property elements with:

- Lake Thunderbird responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

The following tables depict the items excluded from the Reserve Expenditure plan:

Excluded Components

for
Lake Thunderbird
Association
Putnam, Illinois

Operating Budget Components

Repairs normally funded through the Operating Budget and Expenditures less than \$10,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)

The operating budget provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds.

- Air Conditioning Units, Through-Wall
- Asphalt Pavement, Amenity Parking Areas, Crack Repair and Patch
- Balconies, Stain/Seal Applications, Interim Deck Board Replacements and Minor Repairs
- Beach Sand Replenishment
- Boat Racks
- Bollards
- Bridges, Interim Deck Board Replacements, Paint Finishes and Repairs
- Buoys and Ropes, Swim Area
- Clubhouse Interior, Interim Paint Finish Applications and Interim Furnishing/Décor Replacement
- Concrete Flatwork, Amenity Areas
- Dam Valve, Bi-Annual Inspections and Flushing
- Dam, Annual Inspections and Minor Repairs
- Detention Basins
- Disc Golf Course
- Diving Board (Replacement in like-kind is unlikely due to insurance restrictions)
- Docks, Interim Deck Board Replacements and Piling Repairs/Adjustments
- Electrical Systems (Excluding Campground and Clubhouse)
- Emergency Correspondence Systems
- Free-Standing Rest Room Building, Clubhouse Amenity Area
- Fuel Tanks
- Gate, Campground
- Gravel Roads
- Landscape
- Light Poles and Fixtures
- Maintenance Equipment, Hand-Held Devices/Equipment
- Maintenance Equipment, Pontoon Boat, Interim Motor Replacements
- Maintenance Equipment, Vehicle/Equipment Attachments, Plows, Etc.
- Maintenance Shop, Building Heating and Water Heating Systems
- Maintenance Shop, Interior
- Nature Trails
- Paint Finishes, Touch Up
- Pavilion, Metal Frame, Pool Deck
- Pavilions, Roof Replacements, Paint Finish Applications and Minor Repairs
- Pipes, Interior Building, Domestic Water and Sanitary Waste, Common Buildings

Excluded Components

for
Lake Thunderbird
Association
Putnam, Illinois

Operating Budget Components (Continued)	
• Playgrounds, Interim Safety Surface Replenishment and Border Repairs	
• Portable Toilets	
• Recreational Courts, Campground	
• Retaining Wall, Beach Area	
• Roadside Swales and Culverts, Private Street Areas	
• Salt Shed	
• Signage, Informational	
• Site Furniture	
• Sport Courts, Basketball Goal and Tennis Standards	
• Trash Enclosures	
• Utility Vehicle, Toyota Rav4	
• Volleyball Courts	
• Walls, Siding, Plywood, Snack Shack, Paint Finishes	
• Water Heaters (Excluding Clubhouse)	
• Water Slide (Replacement in like-kind is unlikely due to insurance restrictions)	
• Wheel Stops, Parking Areas	

Long-Lived Components		
These elements may not have predictable Remaining Useful Lives or their replacement may occur beyond the scope of this study. The operating budget should fund infrequent repairs. Funding untimely or unexpected replacements from reserves will necessitate increases to Reserve Contributions. Periodic updates of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan.	Useful Life	Estimated Cost
• Foundations, Common Buildings	Indeterminate	N/A
• Structural Frames, Common Buildings	Indeterminate	N/A
• Walls, Fiber Cement Siding, Clubhouse, Replacement (replaced in 2023)	to 45	\$119,875

Owners Responsibility Components
Certain items have been designated as the responsibility of the Owners to repair or replace at their cost, including items billed back.
• Homes and Lots

Excluded Components
for
**Lake Thunderbird
Association**
Putnam, Illinois

Others Responsibility Components	
Certain items have been designated as the responsibility of Others to repair or replace.	
• Street Systems (Asphalt and Gravel), Located in Putnam County ¹	
¹ Putnam County	

3. RESERVE EXPENDITURES and FUNDING PLAN

The tables following this introduction present:

Reserve Expenditures

- Line item numbers
- Total quantities
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of event (i.e., replacement, application, etc.)
- Life analysis showing
 - useful life
 - remaining useful life
- 2025 local cost of replacement
 - Per unit
 - Per phase
 - Replacement of total quantity
- Percentage of future expenditures anticipated during the next 30 years
- Schedule of estimated future costs for each reserve component including inflation

Reserve Funding Plan

- Reserves at the beginning of each year
- Total recommended reserve contributions
- Estimated interest earned from invested reserves
- Anticipated expenditures by year
- Anticipated reserves at year end

Five-Year Outlook

- Line item numbers
- Reserve component inventory of only the expenditures anticipated to occur within the first five years
- Schedule of estimated future costs for each reserve component anticipated to occur within the first five years

The purpose of a Reserve Study is to provide an opinion of reasonable annual Reserve Contributions. Prediction of exact timing and costs of minor Reserve Expenditures typically will not significantly affect the 30-year cash flow analysis. Adjustments to the times and/or costs of expenditures may not always result in an adjustment in the recommended Reserve Contributions.

Financial statements prepared by your association, by you or others might rely in part on information contained in this section. For your convenience, we have provided an electronic data file containing the tables of ***Reserve Expenditures*** and ***Reserve Funding Plan***.

RESERVE EXPENDITURES

Lake Thunderbird
Association
Putnam, Illinois

Explanatory Notes:

- 1) 3.3% is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2025 is Fiscal Year beginning January 1, 2025 and ending December 31, 2025.
- 3) 2056+ indicates a component which is considered long-lived

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2025	1 2026	2 2027	3 2028	4 2029	5 2030	6 2031	7 2032	8 2033	9 2034	10 2035	11 2036	12 2037	13 2038	14 2039	15 2040	
						Useful	Remaining	Unit (2025)	Per Phase (2025)	Total (2025)																		
Exterior Building Elements																												
1.040	1,250	1,250	Square Feet	Balconies, Composite, Clubhouse, East Elevation	2048	20 to 25	23	55.00	68,750	68,750	0.5%																	
1.041	400	400	Square Feet	Balconies, Wood, Clubhouse, South Elevation	2036	20 to 25	11	75.00	30,000	30,000	0.2%														42,877			
1.042	500	500	Square Feet	Balconies, Wood, Snack Shack	2040	20 to 25	15	48.00	24,000	24,000	0.1%																39,059	
1.280	11	11	Squares	Roofs, Asphalt Shingles, Camp Showers (Incl. Gutters/Downspouts)	2027	20 to 25	2	1,050.00	11,550	11,550	0.1%		12,325															
1.281	43	43	Squares	Roofs, Asphalt Shingles, Clubhouse (Incl. Gutters/Downspouts)	2044	20 to 25	19	1,150.00	49,450	49,450	0.3%																	
1.282	11	11	Squares	Roofs, Asphalt Shingles, Snack Shack	2036	20 to 25	11	925.00	10,175	10,175	0.1%														14,542			
1.840	6,850	6,850	Square Feet	Walls, Siding, Fiber Cement, Clubhouse, Paint Finishes	2036	8 to 10	11	3.00	20,550	20,550	0.4%														29,371			
1.845	6,850	6,850	Square Feet	Walls, Siding, Fiber Cement, Clubhouse, Replacement	2065	to 45	40	17.50	119,875	119,875	0.0%																	
1.855	450	450	Square Feet	Walls, Siding, Plywood, Snack Shack (Incl. Windows)	2036	to 40	11	33.50	15,075	15,075	0.1%														21,546			
1.860	1,450	1,450	Square Feet	Walls, Siding, Vinyl, Campground Shower (Incl. Windows/Doors)	2027	to 35	2	21.75	31,538	31,538	0.1%		33,653															
1.980	250	250	Square Feet	Windows and Doors, Clubhouse, Lower Level	2055	to 35	30	90.00	22,500	22,500	0.2%																	
1.981	1,200	1,200	Square Feet	Windows and Doors, Clubhouse, Upper Level	2036	to 35	11	90.00	108,000	108,000	0.6%														154,357			
Interior Building Elements																												
2.500	1	1	Allowance	Interior Renovations, Campground Shower Rooms	2027	to 25	2	47,500.00	47,500	47,500	0.5%		50,687															
2.510	1	1	Allowance	Interior Renovations, Clubhouse, Lower Level (Common Area)	2028	10 to 15	3	10,000.00	10,000	10,000	0.2%				11,023										15,251			
2.511	1	1	Allowance	Interior Renovations, Clubhouse, Lower Level (Office)	2042	to 20	17	15,000.00	15,000	15,000	0.1%																	
2.512	1	1	Allowance	Interior Renovations, Clubhouse, Lower Level (Rest Rooms)	2050	to 25	25	65,000.00	65,000	65,000	0.5%																	
2.520	1	1	Allowance	Interior Renovations, Clubhouse, Upper Level (Common Area)	2028	to 20	3	110,000.00	110,000	110,000	1.3%				121,253													
2.521	1	1	Allowance	Interior Renovations, Clubhouse, Upper Level (Kitchen)	2028	to 20	3	52,000.00	52,000	52,000	0.6%				57,320													
2.522	1	1	Allowance	Interior Renovations, Clubhouse, Upper Level (Rest Rooms)	2028	to 20	3	10,000.00	10,000	10,000	0.1%				11,023													
2.530	1	1	Allowance	Interior Renovations, Snack Shack (Kitchen)	2045	to 20	20	15,000.00	15,000	15,000	0.1%																	
2.531	1	1	Allowance	Interior Renovations, Snack Shack (Rest Rooms)	2029	to 20	4	22,500.00	22,500	22,500	0.3%				25,620													
Building Services Elements																												
3.070	3	3	Each	Air Handling Units, Split Systems, 4- to 5-Tons, Clubhouse	2039	15 to 20	14	15,000.00	45,000	45,000	0.3%															70,895		
3.300	1	1	Allowance	Electrical Systems, Campground, Panels, Power Pedestals and Wiring	2027	to 50	2	350,000.00	350,000	350,000	1.4%		373,481															
3.305	49	49	Each	Electrical Systems, Campground, Power Pedestals, Subsequent	2052	to 25	27	2,750.00	134,750	134,750	1.2%																	
3.310	1	1	Allowance	Electrical Systems, Clubhouse, Main Panels	2038	to 70	13	38,000.00	38,000	38,000	0.2%														57,955			
3.820	1	1	Allowance	Security Systems, Access Control Elements, Proposed	2026	to 15	1	22,000.00	22,000	22,000	0.2%		22,726															
3.821	1	1	Allowance	Security Systems, Surveillance Elements	2034	to 10	9	13,000.00	13,000	13,000	0.3%									17,412								
3.880	4	4	Each	Septic Systems, Common Buildings, Renovation	2037	to 30	12	50,000.00	200,000	200,000	1.1%													295,280				
3.940	2	2	Each	Water Heaters, 40-MBH, Clubhouse	2036	10 to 15	11	2,750.00	5,500	5,500	0.1%													7,861				
Property Site Elements																												
4.040	3,350	3,350	Square Yards	Asphalt Pavement, Parking Areas, Mill and Overlay, Beach	2030	15 to 20	5	20.00	67,000	67,000	0.3%						78,809											
4.041	8,100	8,100	Square Yards	Asphalt Pavement, Parking Areas, Mill and Overlay, Clubhouse	2029	15 to 20	4	20.00	162,000	162,000	0.7%					184,466												
4.045	3,350	3,350	Square Yards	Asphalt Pavement, Parking Areas, Total Replacement, Beach	2050	15 to 20	25	39.00	130,650	130,650	1.1%																	
4.046	8,100	8,100	Square Yards	Asphalt Pavement, Parking Areas, Total Replacement, Clubhouse	2049	15 to 20	24	39.00	315,900	315,900	2.5%																	

RESERVE EXPENDITURES

Lake Thunderbird Association Putnam, Illinois				Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	16 2041	17 2042	18 2043	19 2044	20 2045	21 2046	22 2047	23 2048	24 2049	25 2050	26 2051	27 2052	28 2053	29 2054	30 2055		
Line Item	Total Quantity	Per Phase Quantity	Units		Reserve Component Inventory	Useful	Remaining	Unit (2025)	Per Phase (2025)																	Total (2025)	
Exterior Building Elements																											
1.040	1,250	1,250	Square Feet	Balconies, Composite, Clubhouse, East Elevation	2048	20 to 25	23	55.00	68,750	68,750	0.5%								145,071								
1.041	400	400	Square Feet	Balconies, Wood, Clubhouse, South Elevation	2036	20 to 25	11	75.00	30,000	30,000	0.2%																
1.042	500	500	Square Feet	Balconies, Wood, Snack Shack	2040	20 to 25	15	48.00	24,000	24,000	0.1%																
1.280	11	11	Squares	Roofs, Asphalt Shingles, Camp Showers (Incl. Gutters/Downspouts)	2027	20 to 25	2	1,050.00	11,550	11,550	0.1%								24,372								
1.281	43	43	Squares	Roofs, Asphalt Shingles, Clubhouse (Incl. Gutters/Downspouts)	2044	20 to 25	19	1,150.00	49,450	49,450	0.3%				91,637												
1.282	11	11	Squares	Roofs, Asphalt Shingles, Snack Shack	2036	20 to 25	11	925.00	10,175	10,175	0.1%																
1.840	6,850	6,850	Square Feet	Walls, Siding, Fiber Cement, Clubhouse, Paint Finishes	2036	8 to 10	11	3.00	20,550	20,550	0.4%				39,339									52,689			
1.845	6,850	6,850	Square Feet	Walls, Siding, Fiber Cement, Clubhouse, Replacement	2065	to 45	40	17.50	119,875	119,875	0.0%																
1.855	450	450	Square Feet	Walls, Siding, Plywood, Snack Shack (Incl. Windows)	2036	to 40	11	33.50	15,075	15,075	0.1%																
1.860	1,450	1,450	Square Feet	Walls, Siding, Vinyl, Campground Shower (Incl. Windows/Doors)	2027	to 35	2	21.75	31,538	31,538	0.1%																
1.980	250	250	Square Feet	Windows and Doors, Clubhouse, Lower Level	2055	to 35	30	90.00	22,500	22,500	0.2%														59,593		
1.981	1,200	1,200	Square Feet	Windows and Doors, Clubhouse, Upper Level	2036	to 35	11	90.00	108,000	108,000	0.6%																
Interior Building Elements																											
2.500	1	1	Allowance	Interior Renovations, Campground Shower Rooms	2027	to 25	2	47,500.00	47,500	47,500	0.5%				90,929												
2.510	1	1	Allowance	Interior Renovations, Clubhouse, Lower Level (Common Area)	2028	10 to 15	3	10,000.00	10,000	10,000	0.2%							21,101									
2.511	1	1	Allowance	Interior Renovations, Clubhouse, Lower Level (Office)	2042	to 20	17	15,000.00	15,000	15,000	0.1%		26,049														
2.512	1	1	Allowance	Interior Renovations, Clubhouse, Lower Level (Rest Rooms)	2050	to 25	25	65,000.00	65,000	65,000	0.5%								146,360								
2.520	1	1	Allowance	Interior Renovations, Clubhouse, Upper Level (Common Area)	2028	to 20	3	110,000.00	110,000	110,000	1.3%								232,113								
2.521	1	1	Allowance	Interior Renovations, Clubhouse, Upper Level (Kitchen)	2028	to 20	3	52,000.00	52,000	52,000	0.6%								109,726								
2.522	1	1	Allowance	Interior Renovations, Clubhouse, Upper Level (Rest Rooms)	2028	to 20	3	10,000.00	10,000	10,000	0.1%								21,101								
2.530	1	1	Allowance	Interior Renovations, Snack Shack (Kitchen)	2045	to 20	20	15,000.00	15,000	15,000	0.1%				28,714												
2.531	1	1	Allowance	Interior Renovations, Snack Shack (Rest Rooms)	2029	to 20	4	22,500.00	22,500	22,500	0.3%								49,044								
Building Services Elements																											
3.070	3	3	Each	Air Handling Units, Split Systems, 4- to 5-Tons, Clubhouse	2039	15 to 20	14	15,000.00	45,000	45,000	0.3%																
3.300	1	1	Allowance	Electrical Systems, Campground, Panels, Power Pedestals and Wiring	2027	to 50	2	350,000.00	350,000	350,000	1.4%																
3.305	49	49	Each	Electrical Systems, Campground, Power Pedestals, Subsequent	2052	to 25	27	2,750.00	134,750	134,750	1.2%									323,771							
3.310	1	1	Allowance	Electrical Systems, Clubhouse, Main Panels	2038	to 70	13	38,000.00	38,000	38,000	0.2%																
3.820	1	1	Allowance	Security Systems, Access Control Elements, Proposed	2026	to 15	1	22,000.00	22,000	22,000	0.2%	36,985															
3.821	1	1	Allowance	Security Systems, Surveillance Elements	2034	to 10	9	13,000.00	13,000	13,000	0.3%				24,091									33,331			
3.880	4	4	Each	Septic Systems, Common Buildings, Renovation	2037	to 30	12	50,000.00	200,000	200,000	1.1%																
3.940	2	2	Each	Water Heaters, 40-MBH, Clubhouse	2036	10 to 15	11	2,750.00	5,500	5,500	0.1%								11,989								
Property Site Elements																											
4.040	3,350	3,350	Square Yards	Asphalt Pavement, Parking Areas, Mill and Overlay, Beach	2030	15 to 20	5	20.00	67,000	67,000	0.3%																
4.041	8,100	8,100	Square Yards	Asphalt Pavement, Parking Areas, Mill and Overlay, Clubhouse	2029	15 to 20	4	20.00	162,000	162,000	0.7%																
4.045	3,350	3,350	Square Yards	Asphalt Pavement, Parking Areas, Total Replacement, Beach	2050	15 to 20	25	39.00	130,650	130,650	1.1%									294,183							
4.046	8,100	8,100	Square Yards	Asphalt Pavement, Parking Areas, Total Replacement, Clubhouse	2049	15 to 20	24	39.00	315,900	315,900	2.5%								688,585								

RESERVE EXPENDITURES

Lake Thunderbird
Association
Putnam, Illinois

Explanatory Notes:

- 1) 3.3% is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2025 is Fiscal Year beginning January 1, 2025 and ending December 31, 2025.
- 3) 2056+ indicates a component which is considered long-lived

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2025	1 2026	2 2027	3 2028	4 2029	5 2030	6 2031	7 2032	8 2033	9 2034	10 2035	11 2036	12 2037	13 2038	14 2039	15 2040
						Useful	Remaining	Unit (2025)	Per Phase (2025)	Total (2025)																	
4.050	21,100	21,100	Square Yards	Asphalt Pavement, Private Streets, Chip Seal Applications and Repairs	2030	5 to 7	5	4.50	94,950	94,950	2.4%						111,685							140,184			
4.140	2,100	2,100	Square Feet	Concrete Sidewalks, Clubhouse Front Elevation	2029	to 65	4	15.00	31,500	31,500	0.1%					35,868											
4.660	1	1	Allowance	Playground Equipment, Beach	2030	15 to 20	5	25,000.00	25,000	25,000	0.3%						29,406										
4.661	1	1	Allowance	Playground Equipment, Campground	2029	15 to 20	4	20,000.00	20,000	20,000	0.2%					22,774											
4.662	1	1	Allowance	Playground Equipment, Clubhouse	2026	15 to 20	1	85,000.00	85,000	85,000	0.9%		87,805														
4.690	9	9	Each	Putting Greens, Renovation	2026	8 to 12	1	3,000.00	27,000	27,000	0.4%		27,891											38,589			
4.810	1	1	Allowance	Signage, Entrance and Amenity Areas	2033	15 to 20	8	40,000.00	40,000	40,000	0.6%								51,864								
4.830	1,600	1,600	Square Yards	Sport Courts, Color Coat	2031	4 to 6	6	10.00	16,000	16,000	0.4%						19,441						22,868				
4.840	475	475	Linear Feet	Sport Courts, Fence	2026	to 25	1	52.00	24,700	24,700	0.3%		25,515														
4.860	1,600	1,600	Square Yards	Sport Court, Surface Replacement	2026	to 25	1	53.50	85,600	85,600	1.1%		88,425														
Lake and Dam Elements																											
5.000	1	1	Each	Bridges, Beach Dock Area	2037	to 25	12	36,000.00	36,000	36,000	0.2%													53,150			
5.001	1	1	Each	Bridges, Campground Creek	2034	to 25	9	12,000.00	12,000	12,000	0.1%								16,073								
5.002	1	1	Each	Bridges, Dam Spillway (Incl. Staircase From Picnic Area to Dam)	2031	to 25	6	28,000.00	28,000	28,000	0.4%							34,022									
5.100	300	300	Square Feet	Boat Launch Ramps, North	2026	to 30	1	25.00	7,500	7,500	0.0%		7,748														
5.101	1,500	1,500	Square Feet	Boat Launch Ramps, South	2045	to 30	20	20.00	30,000	30,000	0.2%																
5.200	280	140	Linear Feet	Bulkheads, Beach Dock Area, Phased	2027	to 50	2 to 18	615.00	86,100	172,200	0.9%			91,876													
5.201	620	207	Linear Feet	Bulkheads, Clubhouse Dock Area, Partial	2027	to 50	2 to 30+	615.00	127,102	381,300	1.3%			135,629													
5.202	150	150	Linear Feet	Bulkheads, South Boat Launch Dock Area	2043	to 50	18	615.00	92,250	92,250	0.6%																
5.300	1,300	650	Square Feet	Docks, Beach, Phased (Incl. Floating Swim Platforms)	2027	to 25	2 to 18	58.00	37,700	75,400	0.4%			40,229													
5.301	2,100	700	Square Feet	Docks, Clubhouse, Phased	2027	to 25	2 to 18	58.00	40,600	121,800	1.0%			43,324									56,173				
5.302	300	300	Square Feet	Docks, North Boat Launch	2027	to 25	2	65.00	19,500	19,500	0.2%			20,808													
5.303	1,800	1,800	Square Feet	Docks, South Boat Launch (Incl. Pavilion)	2043	to 25	18	70.00	126,000	126,000	0.8%																
5.400	110	110	Acres	Lake, Dredging, Interim	2027	to 4	2	650.00	71,500	71,500	3.2%			76,297			86,878					98,926			112,645		
5.401	110	110	Acres	Lake, Dredging, Large-Scale	2043	to 25	18	7,000.00	770,000	770,000	5.1%																
5.402	1	1	Allowance	Lake, Dredging, Sediment Ponds	2035	10 to 15	10	100,000.00	100,000	100,000	1.3%											138,358					
5.410	1,300	1,300	Linear Feet	Lake, Rip-Rap Augmentation, Common Shoreline Areas	2028	to 4	3	25.00	32,500	32,500	1.4%				35,825			40,793				46,450				52,892	
5.500	2	2	Each	Pavilions, Beach Amenity Area	2042	to 35	17	40,000.00	80,000	80,000	0.5%																
5.501	1	1	Each	Pavilions, Campground	2044	to 35	19	100,000.00	100,000	100,000	0.7%																
5.502	2	2	Each	Pavilions, Clubhouse Amenity Area	2048	to 35	23	57,000.00	114,000	114,000	0.9%																
5.503	1	1	Each	Pavilions, Dam Picnic Area	2046	to 35	21	35,000.00	35,000	35,000	0.3%																
5.600	30,000	30,000	Square Feet	Spillway, Inspections and Repairs (Incl. Weirs at Lake Inlets)	2028	6 to 10	3	3.25	97,500	97,500	1.6%				107,475								143,949				
5.605	30,000	30,000	Square Feet	Spillway, Total Replacement (Incl. Dam Repairs, Fences, Valves)	2055	to 70	30	65.00	1,950,000	1,950,000	19.1%																
Pool Elements																											
6.200	7,220	7,220	Square Feet	Concrete Deck, Coating, Partial Replacements and Repairs	2027	10 to 15	2	6.50	46,930	46,930	0.6%			50,078													
6.400	350	350	Linear Feet	Fence, Chain Link	2041	to 25	16	40.00	14,000	14,000	0.1%																
6.500	2	1	Allowance	Furniture, Phased	2027	10 to 15	2 to 9	15,000.00	15,000	30,000	0.5%			16,006					20,091								
6.600	1	1	Allowance	Mechanical Equipment	2027	to 15	2	12,000.00	12,000	12,000	0.2%			12,805													

RESERVE EXPENDITURES

Lake Thunderbird Association Putnam, Illinois				Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	16 2041	17 2042	18 2043	19 2044	20 2045	21 2046	22 2047	23 2048	24 2049	25 2050	26 2051	27 2052	28 2053	29 2054	30 2055		
Line Item	Total Quantity	Per Phase Quantity	Units		Reserve Component Inventory	Useful	Remaining	Unit (2025)	Per Phase (2025)																	Total (2025)	
4.050	21,100	21,100	Square Yards	Asphalt Pavement, Private Streets, Chip Seal Applications and Repairs	2030	5 to 7	5	4.50	94,950	94,950	2.4%	175,955														220,853	
4.140	2,100	2,100	Square Feet	Concrete Sidewalks, Clubhouse Front Elevation	2029	to 65	4	15.00	31,500	31,500	0.1%																
4.660	1	1	Allowance	Playground Equipment, Beach	2030	15 to 20	5	25,000.00	25,000	25,000	0.3%	47,857															
4.661	1	1	Allowance	Playground Equipment, Campground	2029	15 to 20	4	20,000.00	20,000	20,000	0.2%	37,063															
4.662	1	1	Allowance	Playground Equipment, Clubhouse	2026	15 to 20	1	85,000.00	85,000	85,000	0.9%	168,084															
4.690	9	9	Each	Putting Greens, Renovation	2026	8 to 12	1	3,000.00	27,000	27,000	0.4%	53,391															
4.810	1	1	Allowance	Signage, Entrance and Amenity Areas	2033	15 to 20	8	40,000.00	40,000	40,000	0.6%	99,282															
4.830	1,600	1,600	Square Yards	Sport Courts, Color Coat	2031	4 to 6	6	10.00	16,000	16,000	0.4%	26,898	31,639														
4.840	475	475	Linear Feet	Sport Courts, Fence	2026	to 25	1	52.00	24,700	24,700	0.3%	57,452															
4.860	1,600	1,600	Square Yards	Sport Court, Surface Replacement	2026	to 25	1	53.50	85,600	85,600	1.1%	199,105															
Lake and Dam Elements																											
5.000	1	1	Each	Bridges, Beach Dock Area	2037	to 25	12	36,000.00	36,000	36,000	0.2%																
5.001	1	1	Each	Bridges, Campground Creek	2034	to 25	9	12,000.00	12,000	12,000	0.1%																
5.002	1	1	Each	Bridges, Dam Spillway (Incl. Staircase From Picnic Area to Dam)	2031	to 25	6	28,000.00	28,000	28,000	0.4%	74,160															
5.100	300	300	Square Feet	Boat Launch Ramps, North	2026	to 30	1	25.00	7,500	7,500	0.0%																
5.101	1,500	1,500	Square Feet	Boat Launch Ramps, South	2045	to 30	20	20.00	30,000	30,000	0.2%	57,429															
5.200	280	140	Linear Feet	Bulkheads, Beach Dock Area, Phased	2027	to 50	2 to 18	615.00	86,100	172,200	0.9%	154,457															
5.201	620	207	Linear Feet	Bulkheads, Clubhouse Dock Area, Partial	2027	to 50	2 to 30+	615.00	127,102	381,300	1.3%	228,012															
5.202	150	150	Linear Feet	Bulkheads, South Boat Launch Dock Area	2043	to 50	18	615.00	92,250	92,250	0.6%	165,490															
5.300	1,300	650	Square Feet	Docks, Beach, Phased (Incl. Floating Swim Platforms)	2027	to 25	2 to 18	58.00	37,700	75,400	0.4%	67,631															
5.301	2,100	700	Square Feet	Docks, Clubhouse, Phased	2027	to 25	2 to 18	58.00	40,600	121,800	1.0%	72,834														94,435	
5.302	300	300	Square Feet	Docks, North Boat Launch	2027	to 25	2	65.00	19,500	19,500	0.2%	45,357															
5.303	1,800	1,800	Square Feet	Docks, South Boat Launch (Incl. Pavilion)	2043	to 25	18	70.00	126,000	126,000	0.8%	226,035															
5.400	110	110	Acres	Lake, Dredging, Interim	2027	to 4	2	650.00	71,500	71,500	3.2%	146,054														166,308	189,372
5.401	110	110	Acres	Lake, Dredging, Large-Scale	2043	to 25	18	7,000.00	770,000	770,000	5.1%	1,381,327															
5.402	1	1	Allowance	Lake, Dredging, Sediment Ponds	2035	10 to 15	10	100,000.00	100,000	100,000	1.3%	204,271															
5.410	1,300	1,300	Linear Feet	Lake, Rip-Rap Augmentation, Common Shoreline Areas	2028	to 4	3	25.00	32,500	32,500	1.4%	60,227														68,579	78,089
5.500	2	2	Each	Pavilions, Beach Amenity Area	2042	to 35	17	40,000.00	80,000	80,000	0.5%	138,930															
5.501	1	1	Each	Pavilions, Campground	2044	to 35	19	100,000.00	100,000	100,000	0.7%	185,313															
5.502	2	2	Each	Pavilions, Clubhouse Amenity Area	2048	to 35	23	57,000.00	114,000	114,000	0.9%	240,554															
5.503	1	1	Each	Pavilions, Dam Picnic Area	2046	to 35	21	35,000.00	35,000	35,000	0.3%	69,211															
5.600	30,000	30,000	Square Feet	Spillway, Inspections and Repairs (Incl. Weirs at Lake Inlets)	2028	6 to 10	3	3.25	97,500	97,500	1.6%	192,802															
5.605	30,000	30,000	Square Feet	Spillway, Total Replacement (Incl. Dam Repairs, Fences, Valves)	2055	to 70	30	65.00	1,950,000	1,950,000	19.1%	5,164,690															
Pool Elements																											
6.200	7,220	7,220	Square Feet	Concrete Deck, Coating, Partial Replacements and Repairs	2027	10 to 15	2	6.50	46,930	46,930	0.6%	124,297															
6.400	350	350	Linear Feet	Fence, Chain Link	2041	to 25	16	40.00	14,000	14,000	0.1%	23,536															
6.500	2	1	Allowance	Furniture, Phased	2027	10 to 15	2 to 9	15,000.00	15,000	30,000	0.5%	25,217	31,652														39,728
6.600	1	1	Allowance	Mechanical Equipment	2027	to 15	2	12,000.00	12,000	12,000	0.2%	20,174	31,783														

RESERVE EXPENDITURES

Lake Thunderbird
Association
Putnam, Illinois

Explanatory Notes:

- 1) 3.3% is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2025 is Fiscal Year beginning January 1, 2025 and ending December 31, 2025.
- 3) 2056+ indicates a component which is considered long-lived

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2025	1 2026	2 2027	3 2028	4 2029	5 2030	6 2031	7 2032	8 2033	9 2034	10 2035	11 2036	12 2037	13 2038	14 2039	15 2040				
						Useful	Remaining	Unit (2025)	Per Phase (2025)	Total (2025)																					
6.800	2,560	2,560	Square Feet	Pool Finish, Liner	2027	10 to 15	2	30.00	76,800	76,800	1.1%		81,952																		
6.900	2,560	2,560	Square Feet	Structure and Deck, Total Replacement	2041	to 65	16	275.00	704,000	704,000	4.4%																				
Water System Elements																															
8.000	1	1	Each	Generator, 80-KW, Pump House (Incl. Transfer Switch)	2044	to 25	19	70,600.00	70,600	70,600	0.5%																				
8.100	59,400	1,485	Linear Feet	Pipes, Domestic Water, Laterals, Partial	2040	to 85+	15 to 30+	110.00	163,350	6,534,000	5.1%		265,842																		
8.101	31,600	3,160	Linear Feet	Pipes, Domestic Water, Main Lines, Phased	2026	to 70	1 to 10	110.00	347,600	3,476,000	15.4%	359,071	370,920	383,161	395,805	408,866	422,359	436,297	450,695	465,568	480,931										
8.200	1	1	Allowance	Pump House, Exterior Renovations	2044	to 25	19	28,000.00	28,000	28,000	0.2%																				
8.300	1	1	Allowance	Water Tower, Inspections, Paint Finishes and Repairs	2026	to 5	1	55,000.00	55,000	55,000	2.0%	56,815						66,829						78,608							
8.400	1	1	Allowance	Well, Casing	2033	to 50	8	30,000.00	30,000	30,000	0.1%							38,898													
8.401	1	1	Allowance	Well, Control and Monitoring Systems	2040	to 15	15	28,000.00	28,000	28,000	0.4%		45,568																		
8.402	1	1	Each	Well, Pump, 50-HP	2033	to 25	8	75,000.00	75,000	75,000	0.4%							97,244													
Marina Elements																															
9.000	1	1	Each	Backhoe, John Deere 310D (1996)	2029	to 30	4	70,000.00	70,000	70,000	0.3%							79,708													
9.100	1	1	Each	Boat, Pontoon	2030	to 30	5	15,000.00	15,000	15,000	0.1%							17,644													
9.200	3	3	Each	Maintenance Shop, Doors, Overhead	2031	to 15	6	10,000.00	30,000	30,000	0.4%							36,452													
9.201	14,000	14,000	Square Feet	Maintenance Shop, Roofs and Siding, Metal	2046	to 45	21	10.00	140,000	140,000	1.0%																				
9.300	2	2	Each	Mowers, Zero-Turn (2012)	2029	15 to 20	4	7,500.00	15,000	15,000	0.2%							17,080													
9.400	1	1	Each	Tractors, John Deere 4320 (2007)	2032	to 25	7	45,000.00	45,000	45,000	0.2%							56,483													
9.401	1	1	Each	Tractors, John Deere 4520 (2011)	2036	to 25	11	55,000.00	55,000	55,000	0.3%												78,608								
9.500	1	1	Each	Skidsteer, Bobcat T320	2032	to 25	7	65,000.00	65,000	65,000	0.3%							81,586													
9.600	3	1	Each	Utility Vehicle, Chevrolet 2500, Phased	2026	10 to 15	1 to 9	51,000.00	51,000	153,000	2.6%	52,683						59,989						68,308	77,781						
9.601	1	1	Each	Utility Vehicle, Ford F450	2028	10 to 15	3	63,000.00	63,000	63,000	0.7%							69,445													
Anticipated Expenditures, By Year (\$27,026,142 over 30 years)												0	728,678	1,410,072	796,524	761,321	706,400	665,981	615,158	638,700	587,451	774,388	535,677	632,563	150,987	183,540	403,361				

RESERVE EXPENDITURES

Lake Thunderbird Association Putnam, Illinois				Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	16 2041	17 2042	18 2043	19 2044	20 2045	21 2046	22 2047	23 2048	24 2049	25 2050	26 2051	27 2052	28 2053	29 2054	30 2055	
Line Item	Total Quantity	Per Phase Quantity	Units		Reserve Component Inventory	Useful	Remaining	Unit (2025)	Per Phase (2025)																	Total (2025)
6.800	2,560	2,560	Square Feet	Pool Finish, Liner	2027	10 to 15	2	30.00	76,800	76,800	1.1%															203,409
6.900	2,560	2,560	Square Feet	Structure and Deck, Total Replacement	2041	to 65	16	275.00	704,000	704,000	4.4%	1,183,526														
Water System Elements																										
8.000	1	1	Each	Generator, 80-KW, Pump House (Incl. Transfer Switch)	2044	to 25	19	70,600.00	70,600	70,600	0.5%			130,831												
8.100	59,400	1,485	Linear Feet	Pipes, Domestic Water, Laterals, Partial	2040	to 85+	15 to 30+	110.00	163,350	6,534,000	5.1%				312,698					367,813						432,642
8.101	31,600	3,160	Linear Feet	Pipes, Domestic Water, Main Lines, Phased	2026	to 70	1 to 10	110.00	347,600	3,476,000	15.4%															
8.200	1	1	Allowance	Pump House, Exterior Renovations	2044	to 25	19	28,000.00	28,000	28,000	0.2%			51,888												
8.300	1	1	Allowance	Water Tower, Inspections, Paint Finishes and Repairs	2026	to 5	1	55,000.00	55,000	55,000	2.0%	92,463				108,760					127,930					
8.400	1	1	Allowance	Well, Casing	2033	to 50	8	30,000.00	30,000	30,000	0.1%															
8.401	1	1	Allowance	Well, Control and Monitoring Systems	2040	to 15	15	28,000.00	28,000	28,000	0.4%															74,160
8.402	1	1	Each	Well, Pump, 50-HP	2033	to 25	8	75,000.00	75,000	75,000	0.4%															
Marina Elements																										
9.000	1	1	Each	Backhoe, John Deere 310D (1996)	2029	to 30	4	70,000.00	70,000	70,000	0.3%															
9.100	1	1	Each	Boat, Pontoon	2030	to 30	5	15,000.00	15,000	15,000	0.1%															
9.200	3	3	Each	Maintenance Shop, Doors, Overhead	2031	to 15	6	10,000.00	30,000	30,000	0.4%					59,324										
9.201	14,000	14,000	Square Feet	Maintenance Shop, Roofs and Siding, Metal	2046	to 45	21	10.00	140,000	140,000	1.0%						276,844									
9.300	2	2	Each	Mowers, Zero-Turn (2012)	2029	15 to 20	4	7,500.00	15,000	15,000	0.2%				28,714											
9.400	1	1	Each	Tractors, John Deere 4320 (2007)	2032	to 25	7	45,000.00	45,000	45,000	0.2%															
9.401	1	1	Each	Tractors, John Deere 4520 (2011)	2036	to 25	11	55,000.00	55,000	55,000	0.3%															
9.500	1	1	Each	Skidsteer, Bobcat T320	2032	to 25	7	65,000.00	65,000	65,000	0.3%															
9.600	3	1	Each	Utility Vehicle, Chevrolet 2500, Phased	2026	10 to 15	1 to 9	51,000.00	51,000	153,000	2.6%		88,568			100,850				114,836				130,761		
9.601	1	1	Each	Utility Vehicle, Ford F450	2028	10 to 15	3	63,000.00	63,000	63,000	0.7%				113,018											
Anticipated Expenditures, By Year (\$27,026,142 over 30 years)											1,408,799	253,547	2,408,805	757,004	605,680	1,060,905	350,325	894,269	749,618	923,192	911,440	401,860	99,282	216,782	6,393,833	

RESERVE FUNDING PLAN

CASH FLOW ANALYSIS		Individual Reserve Budgets & Cash Flows for the Next 30 Years															
Lake Thunderbird Association																	
Putnam, Illinois		FY2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Reserves at Beginning of Year	(Note 1)	973,141	987,592	967,523	278,076	214,358	208,728	283,734	291,165	299,652	305,101	384,034	297,620	450,896	533,132	1,129,981	1,735,775
Total Recommended Reserve Contributions	(Note 2)	0	680,000	702,400	725,600	749,500	774,200	665,000	615,000	635,300	656,300	678,000	678,000	700,400	723,500	747,400	772,100
Estimated Interest Earned, During Year	(Note 3)	14,451	28,609	18,226	7,206	6,191	7,206	8,412	8,645	8,849	10,084	9,974	10,953	14,399	24,336	41,934	57,028
Anticipated Expenditures, By Year		0	(728,678)	(1,410,072)	(796,524)	(761,321)	(706,400)	(665,981)	(615,158)	(638,700)	(587,451)	(774,388)	(535,677)	(632,563)	(150,987)	(183,540)	(403,361)
Anticipated Reserves at Year End		<u>\$987,592</u>	<u>\$967,523</u>	<u>\$278,076</u>	<u>\$214,358</u>	<u>\$208,728</u>	<u>\$283,734</u>	<u>\$291,165</u>	<u>\$299,652</u>	<u>\$305,101</u>	<u>\$384,034</u>	<u>\$297,620</u>	<u>\$450,896</u>	<u>\$533,132</u>	<u>\$1,129,981</u>	<u>\$1,735,775</u>	<u>\$2,161,542</u>
				(NOTE 5)			(NOTE 5)	(NOTE 5)				(NOTE 5)					

(continued)	Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued														
	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055
Reserves at Beginning of Year	2,161,542	1,605,464	2,231,969	717,422	862,740	1,195,376	1,106,352	1,767,276	1,928,283	2,274,361	2,489,173	2,758,114	3,589,131	4,790,060	5,946,889
Total Recommended Reserve Contributions	797,600	823,900	851,100	879,200	908,200	938,200	969,200	1,001,200	1,034,200	1,068,300	1,103,600	1,140,000	1,177,600	1,216,500	1,256,600
Estimated Interest Earned, During Year	55,121	56,152	43,158	23,122	30,116	33,681	42,049	54,076	61,496	69,703	76,782	92,877	122,610	157,111	100,335
Anticipated Expenditures, By Year	(1,408,799)	(253,547)	(2,408,805)	(757,004)	(605,680)	(1,060,905)	(350,325)	(894,269)	(749,618)	(923,192)	(911,440)	(401,860)	(99,282)	(216,782)	(6,393,833)
Anticipated Reserves at Year End	<u>\$1,605,464</u>	<u>\$2,231,969</u>	<u>\$717,422</u>	<u>\$862,740</u>	<u>\$1,195,376</u>	<u>\$1,106,352</u>	<u>\$1,767,276</u>	<u>\$1,928,283</u>	<u>\$2,274,361</u>	<u>\$2,489,173</u>	<u>\$2,758,114</u>	<u>\$3,589,131</u>	<u>\$4,790,060</u>	<u>\$5,946,889</u>	<u>\$909,991</u>
															NOTES 4&5)

Explanatory Notes:

- 1) Year 2025 starting reserves are as of June 30, 2025; FY2025 starts January 1, 2025 and ends December 31, 2025.
- 2) Reserve Contributions for 2025 are the remaining budgeted 6 months; 2026 is the first year of recommended contributions.
- 3) 3.0% is the estimated annual rate of return on invested reserves; 2025 is a partial year of interest earned.
- 4) Accumulated year 2055 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Years (reserve balance at critical point).

FIVE-YEAR OUTLOOK**Lake Thunderbird
Association**
Putnam, Illinois

Line Item	Reserve Component Inventory	RUL = 0 FY2025	1 2026	2 2027	3 2028	4 2029	5 2030
<u>Exterior Building Elements</u>							
1.280	Roofs, Asphalt Shingles, Camp Showers (Incl. Gutters/Downspouts)			12,325			
1.860	Walls, Siding, Vinyl, Campground Shower (Incl. Windows/Doors)			33,653			
<u>Interior Building Elements</u>							
2.500	Interior Renovations, Campground Shower Rooms			50,687			
2.510	Interior Renovations, Clubhouse, Lower Level (Common Area)				11,023		
2.520	Interior Renovations, Clubhouse, Upper Level (Common Area)				121,253		
2.521	Interior Renovations, Clubhouse, Upper Level (Kitchen)				57,320		
2.522	Interior Renovations, Clubhouse, Upper Level (Rest Rooms)				11,023		
2.531	Interior Renovations, Snack Shack (Rest Rooms)					25,620	
<u>Building Services Elements</u>							
3.300	Electrical Systems, Campground, Panels, Power Pedestals and Wiring			373,481			
3.820	Security Systems, Access Control Elements, Proposed		22,726				
<u>Property Site Elements</u>							
4.040	Asphalt Pavement, Parking Areas, Mill and Overlay, Beach						78,809
4.041	Asphalt Pavement, Parking Areas, Mill and Overlay, Clubhouse					184,466	
4.050	Asphalt Pavement, Private Streets, Chip Seal Applications and Repairs						111,685
4.140	Concrete Sidewalks, Clubhouse Front Elevation					35,868	
4.660	Playground Equipment, Beach						29,406
4.661	Playground Equipment, Campground					22,774	
4.662	Playground Equipment, Clubhouse		87,805				
4.690	Putting Greens, Renovation		27,891				
4.840	Sport Courts, Fence		25,515				
4.860	Sport Court, Surface Replacement		88,425				
<u>Lake and Dam Elements</u>							
5.100	Boat Launch Ramps, North		7,748				
5.200	Bulkheads, Beach Dock Area, Phased			91,876			
5.201	Bulkheads, Clubhouse Dock Area, Partial			135,629			

FIVE-YEAR OUTLOOK**Lake Thunderbird
Association**
Putnam, Illinois

Line Item	Reserve Component Inventory	RUL = 0 FY2025	1 2026	2 2027	3 2028	4 2029	5 2030
5.300	Docks, Beach, Phased (Incl. Floating Swim Platforms)			40,229			
5.301	Docks, Clubhouse, Phased			43,324			
5.302	Docks, North Boat Launch			20,808			
5.400	Lake, Dredging, Interim			76,297			
5.410	Lake, Rip-Rap Augmentation, Common Shoreline Areas				35,825		
5.600	Spillway, Inspections and Repairs (Incl. Weirs at Lake Inlets)				107,475		
<u>Pool Elements</u>							
6.200	Concrete Deck, Coating, Partial Replacements and Repairs			50,078			
6.500	Furniture, Phased			16,006			
6.600	Mechanical Equipment			12,805			
6.800	Pool Finish, Liner			81,952			
<u>Water System Elements</u>							
8.101	Pipes, Domestic Water, Main Lines, Phased		359,071	370,920	383,161	395,805	408,866
8.300	Water Tower, Inspections, Paint Finishes and Repairs		56,815				
<u>Marina Elements</u>							
9.000	Backhoe, John Deere 310D (1996)					79,708	
9.100	Boat, Pontoon						17,644
9.300	Mowers, Zero-Turn (2012)					17,080	
9.600	Utility Vehicle, Chevrolet 2500, Phased		52,683				59,989
9.601	Utility Vehicle, Ford F450				69,445		
Anticipated Expenditures, By Year (\$4,402,995 over 5 years)		0	728,678	1,410,072	796,524	761,321	706,400

4. RESERVE COMPONENT DETAIL

The Reserve Component Detail of this *Reserve Study* includes enhanced solutions and procedures for select significant components. This section describes the Reserve Components, documents specific problems and condition assessments, and may include detailed solutions and procedures for necessary capital repairs and replacements for the benefit of current and future board members. We advise the Board use this information to help define the scope and procedures for repair or replacement when soliciting bids or proposals from contractors. *However, the Report in whole or part is not and should not be used as a design specification or design engineering service.*

Exterior Building Elements



Campground shower building



Campground shower building



Clubhouse, front elevation



Clubhouse, side elevation



Clubhouse, rear elevation



Clubhouse, side elevation



Snack Shack exterior



Snack Shack exterior

Balconies

Line Items: 1.040 through 1.042

Quantity: The Association maintains the following balcony areas:

- 1,250 square feet of composite decking with a wood frame at the side elevation of the clubhouse
- 400 square feet of wood decking with a wood frame at the rear elevation of the clubhouse
- 500 square feet of wood decking with a wood frame at the snack shack

History and Condition: The side elevation clubhouse balcony was recently replaced and is in good condition. The ages of the remaining balconies were not provided at the time of our site visit but likely do not exceed 10 years of age. These balconies are in good to fair overall condition. We base our recommended timing of replacement based on the observed conditions.

Useful Life: 20- to 25-years



Composite balcony at clubhouse



Profile view of composite balcony



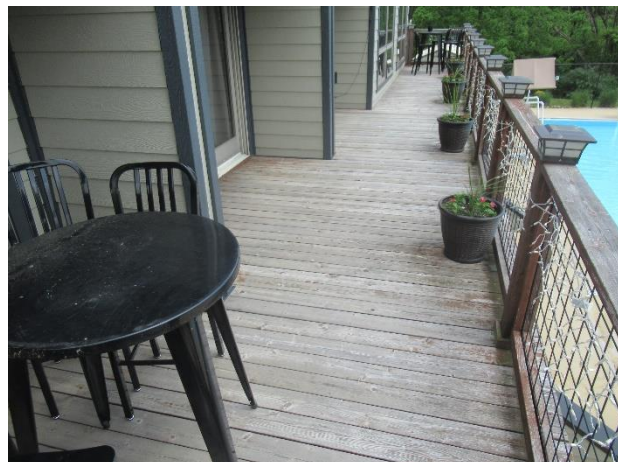
Deck boards in good condition



Mechanically attached aluminum railings



Wood frame structural components at composite balcony and stairs



Wood balcony at south elevation of clubhouse



Underside of deck boards and wood joists at clubhouse south balcony in good condition



Snack Shack wood frame balcony



Snack Shack balcony deck boards in good condition



Snack Shack balcony railings in good condition

Component Detail Notes: The composition of composite materials used in the construction of balconies typically includes a combination of wood waste material, plastic and recycled materials. These composite materials are low maintenance and do not split, cup or splinter. Composite materials do not require periodic stain or sealer applications. Composite balcony materials are not structural components and therefore require traditional framing members, such as wood or metal. In addition, some manufacturers require closer spacing of framing components to minimize sagging.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect to identify and correct any unsafe conditions
 - Secure loose fasteners and replace deteriorated fasteners
 - Check railing stability and fasteners
 - Clean as necessary

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association periodically apply sealer applications to the wood components and fund this ongoing activity through the operating budget.

Roofs, Asphalt Shingles

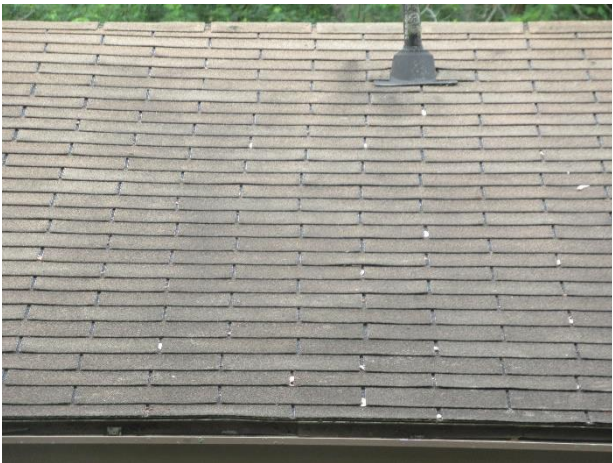
Line Items: 1.280 through 1.282

Quantity and History: The Association maintains the following areas of roofing at the common buildings (with their approximate ages):

- Approximately 11 *squares*¹ at the campground shower building (Approximately 22 years of age)
- Approximately 43 squares at the clubhouse (Approximately two years of age)
- Approximately 11 squares at the Snack Shack (Approximately 12 years of age)

Condition: The campground shower building roof is in fair to poor condition and the remaining roofs are in good condition. We are not informed of a history of water infiltration.

Useful Life: 20- to 25-years



Shingle lift, curl and stains visible throughout campground shower building roof



Laminate shingles in good condition at clubhouse roof

¹ We quantify the roof area in squares where one square is equal to 100 square feet of surface area.



Soffit and box vents at clubhouse roof



Minor wear and granule loss visible at Snack Shack roof

Component Detail Notes: Insulation and ventilation are two major components of a sloped roof system. Together, proper insulation and ventilation help to control attic moisture and maintain an energy efficient building. Both insulation and ventilation prevent moisture buildup which can cause wood rot, mold and mildew growth, warp sheathing, deteriorate shingles, and eventually damage building interiors. Sufficient insulation helps to minimize the quantity of moisture that enters the attic spaces and adequate ventilation helps to remove any moisture that enters the attic spaces. These two roof system components also help to reduce the amount of energy that is required to heat and cool a building. Proper attic insulation minimizes heat gain and heat loss between the residential living spaces and attic spaces. This reduces energy consumption year-round. Proper attic ventilation removes excessive heat from attic spaces that can radiate into residential living spaces and cause air conditioners to work harder. Properly installed attic insulation and ventilation work together to maximize the useful life of sloped roof systems.

In addition to moisture control and energy conservation, proper attic insulation and ventilation are essential components to prevent the formation of ice dams. Ice dams occur when warm air accumulates at the peak of an attic while the roof eaves remain cold. Warm air from the attic melts the snow at the ridge of the roof and the water runs down the slope of the roof. At the cold roof eaves, the water refreezes and forms a buildup of snow and ice. This buildup often traps water that can prematurely deteriorate asphalt shingles and ultimately seep under the shingles and cause water damage to the roof deck and building interiors. Proper insulation minimizes the amount of heat that enters attic spaces in the winter and adequate ventilation helps to remove any heat that enters the attic spaces. Together, these components prevent ice dams with a cold roof deck that melts snow and ice evenly.

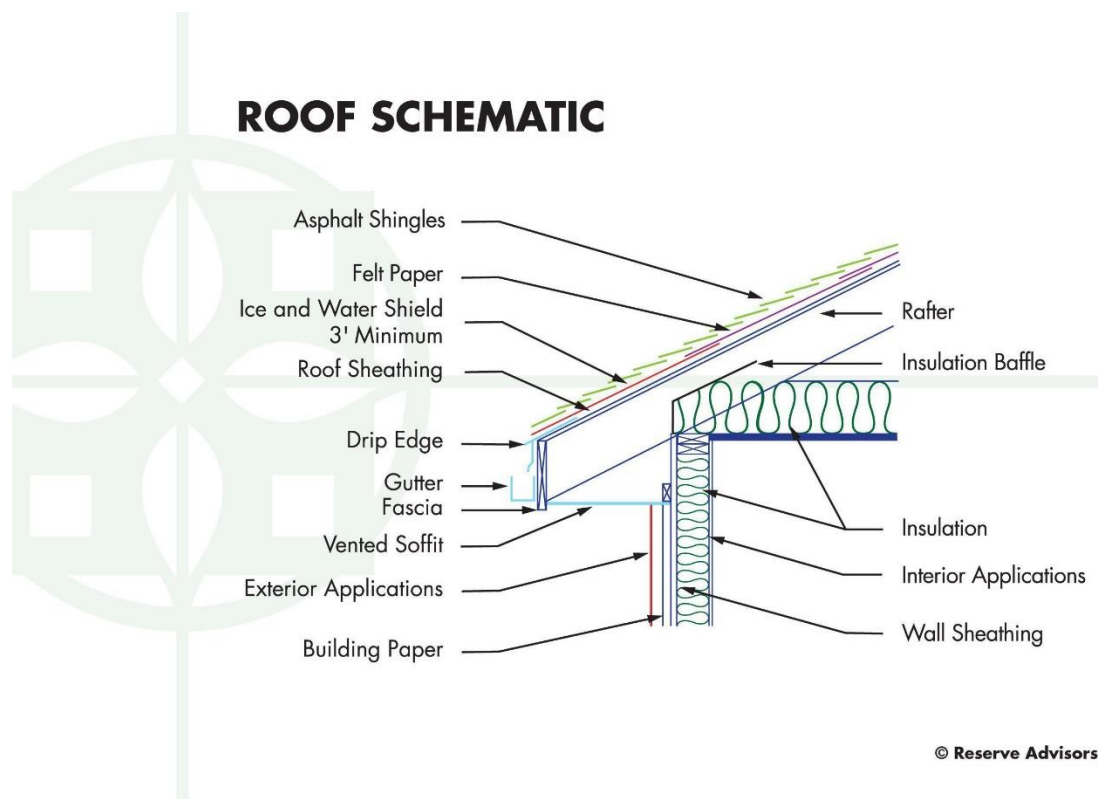
The vents should be clear of debris and not blocked from above by attic insulation. If the soffit vents are blocked from above, installation of polystyrene vent spaces or baffles between the roof joists at these locations can ensure proper ventilation.

Certain characteristics of condition govern the times of replacement. Replacement of an asphalt shingle roof becomes necessary when there are multiple or recurring leaks and when the shingles begin to cup, curl and lift. These conditions are indications that the

asphalt shingle roof is near the end of its useful life. Even if the shingles are largely watertight, the infiltration of water in one area can lead to permanent damage to the underlying roof sheathing. This type of deterioration requires replacement of saturated sections of sheathing and greatly increases the cost of roof replacement. Roof leaks may occur from interrelated roof system components, i.e., flashings. Therefore, the warranty period, if any, on the asphalt shingles, may exceed the useful life of the roof system.

Warranties are an indication of product quality and are not a product guarantee. Asphalt shingle product warranties vary from 20- to 50-years and beyond. However, the scope is usually limited to only the material cost of the shingles as caused by manufacturing defects. Warranties may cover defects such as thermal splitting, granule loss, cupping, and curling. Labor cost is rarely included in the remedy so if roof materials fail, the labor to tear off and install new shingles is extra. Other limitations of warranties are exclusions for “incidental and consequential” damages resulting from age, hurricanes, hail storms, ice dams, severe winds, tornadoes, earthquakes, etc. There are some warranties which offer no dollar limit for replacement at an additional cost (effectively an insurance policy) but again these warranties also have limits and may not cover all damages other than a product defect. We recommend a review of the manufacturers’ warranties as part of the evaluation of competing proposals to replace a roof system. This evaluation should identify the current costs of remedy if the roof were to fail in the near future. A comparison of the costs of remedy to the total replacement cost will assist in judging the merits of the warranties.

The following cross-sectional schematic illustrates a typical asphalt shingle roof system although it may not reflect the actual configuration at Lake Thunderbird:



Contractors use one of two methods for replacement of sloped roofs, either an overlayment or a tear-off. Overlayment is the application of new shingles over an existing roof. However, there are many disadvantages to overlayment including hidden defects of the underlying roof system, absorption of more heat resulting in accelerated deterioration of the new and old shingles, and an uneven visual appearance. Therefore, we recommend only the tear-off method of replacement. The tear-off method of replacement includes removal of the existing shingles, flashings if required and underlayments.

Preventative Maintenance Notes: We recommend the Association maintain a service and inspection contract with a qualified professional and record all documentation of repairs conducted. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Record any areas of water infiltration, flashing deterioration, damage or loose shingles
 - Inspect for ice dams and implement repairs as needed if issues are reoccurring
 - Trim tree branches that are near or in contact with roof
- As-needed:
 - Ensure proper ventilation and verify vents are clear of debris and not blocked from attic insulation

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for replacement of the campground shower building roof and the clubhouse roof includes the gutters and downspouts.

Walls, Siding, Fiber Cement

Line Items: 1.840 and 1.845

Quantity: Approximately 6,850 square feet of lap profile fiber cement siding comprises portions of the clubhouse exterior walls. This quantity includes the soffit, fascia and trim.

History: Approximately two years of age

Condition: Good overall

Useful Life: With the benefit of periodic maintenance, applications of this type of material can have a useful life of up to 45 years. This useful life is based on a high-grade pre-finish applied in the factory. This useful life is also dependent upon paint applications and partial replacements up to every 8- to 10-years.



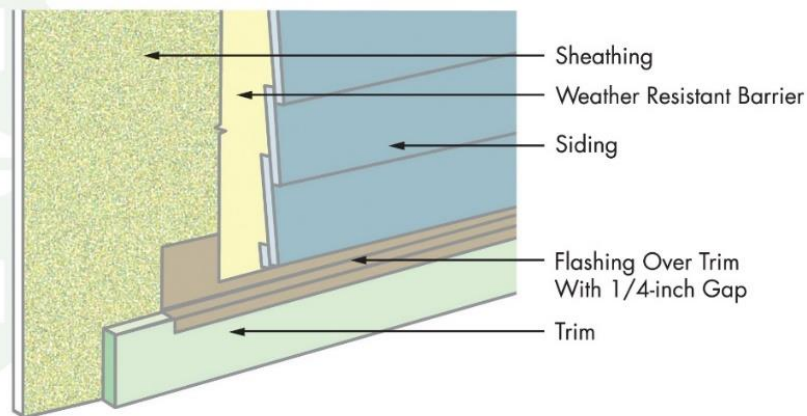
Fiber cement siding with a lap profile



Siding and finish in good condition

Component Detail Notes: The following diagram details a typical fiber cement siding system at the interface with other building components although it may not reflect the actual configuration at Lake Thunderbird:

FIBER CEMENT SIDING DETAIL



© Reserve Advisors

Fiber cement siding is made from a combination of cement, sand and cellulose fiber. Manufacturing of the siding utilizes a steam curing process to increase strength and dimensional stability. The siding is also manufactured in layers forming a sheet of desired thickness. A wood grain imprint is typically applied to the exposed surface. Fiber cement siding offers many advantages over other types of siding. These advantages include:

- Capable of withstanding salt spray and ultraviolet rays
- Dimensional stability (will not buckle or warp as easily as other materials)
- Paint applications last longer compared to wood siding
- Resistant to insects, birds and fire

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair damage, loose boards and finish stains
 - Periodic pressure cleaning at areas with organic growth
 - Touch-up paint finish applications as needed and sealing of butt joints and field cut end joints

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We anticipate the following during each paint application cycle:

- Paint finish application
- Replacement of up to one percent (1%), of the siding and trim (The exact amount of material in need of replacement will depend on the actual future conditions and desired appearance. We recommend replacement wherever cracks, delamination and deterioration impair the ability of the material to prevent water infiltration.)
- Replacement of up to fifty percent (50%) of the sealants at the window and door perimeters

Walls, Siding, Plywood

Line Item: 1.855

Quantity: Approximately 450 square feet of the exterior walls at the Snack Shack

History: Age exceeds 30 years

Condition: The siding and paint finish application is in good condition. We recommend the Association continue to fund for routine paint finish applications and repairs using funds from the operating budget to maximize the overall useful life of the siding.

Useful Life: Up to 40 years. However, failure to conduct paint applications and repairs in a timely manner (every four- to six-years) will reduce the remaining useful life of the siding. As previously stated, we recommend the operating budget fund for ongoing paint finishes and minor repairs. We recommend the Association consider fiber cement siding as a replacement material. This type of siding requires less frequent paint applications than plywood siding and has a longer useful life.



Plywood siding and windows

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair damage, loose siding and finish stains
 - Ensure at least one inch clearance between siding and roof and ground surfaces (Plywood absorbs storm water at panel edge surfaces)
 - Touch-up paint finishes as necessary to ensure a uniform finish in between complete finish applications

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for replacement of the siding includes replacement of the service windows at the north elevation of the Snack Shack.

Walls, Siding, Vinyl

Line Item: 1.860

Quantity: Approximately 1,450 square feet of vinyl siding with a clapboard profile comprises the exterior walls of the campground shower building. This quantity includes the aluminum soffit and fascia.

History: Age exceeds 30 years

Condition: Fair overall

Useful Life: Up to 35 years



Vinyl siding with a clapboard profile at campground shower building



J-channel and operable window at campground shower building

Component Detail Notes: The following diagram details the use of building wrap in a vinyl siding system:



The Association should install new vinyl siding as recommended by the *Vinyl Institute, Inc.* The vinyl siding should be installed over a continuous weather resistant barrier and properly integrated flashing around all penetrations. Fasteners used should include aluminum, galvanized steel or other corrosion-resistant fasteners. Siding panels should

overlap by approximately one inch. Joints should be staggered so that no two courses are aligned vertically, unless separated by at least three courses. The siding should not be caulked where the siding meets trim accessories, such as J-channel, or at overlap joints. J-channel should be installed a minimum of ½ inch off of roof lines.

The lack of water-vapor permeable building paper underneath the siding can result in premature loosening of the siding fasteners from water damage to the substrate sheathing. Therefore, the Association should anticipate a decreased useful life due to the lack of water proofing beneath the siding.

Properly installed vinyl siding utilizes a vinyl J-channel which encompasses windows, doors and inside corners. The J-channel masks the thermal expansion and contraction of vinyl siding at these locations. Sealant would typically fail at this location due to the excessive movement of the vinyl siding. However, the siding utilizes sealants rather than J-channels. The Association should fund replacement of these sealants through the operating budget. Future replacement of the vinyl siding should include the use of J-channels.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair loose siding, warping or damage from wind driven objects or lawn care equipment
 - Periodically clean siding as necessary at areas of organic growth. A non-abrasive household cleaner or manufacturer specified vinyl siding cleaner will remove more intense stains. We do not recommend pressure cleaning at vinyl siding due to the siding's brittle nature.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for replacement of the siding includes the windows and doors at the shower building exterior.

Windows and Doors, Clubhouse

Line Items: 1.980 and 1.981

Quantity: Approximately 1,450 square feet at the clubhouse (1,200 square feet at the upper level and 250 square feet at the lower level)

History: The lower level windows were recently replaced and the age of the upper level windows varies. Management informs us of isolated partial replacements in recent years.

Condition: The lower level windows are in good condition and the upper level windows are in good to fair condition.

Useful Life: Up to 35 years



Exterior view of upper level clubhouse window



Clubhouse windows with dual pane glass



Door and adjacent windows



Aluminum frame in good condition



Operable window at upper level

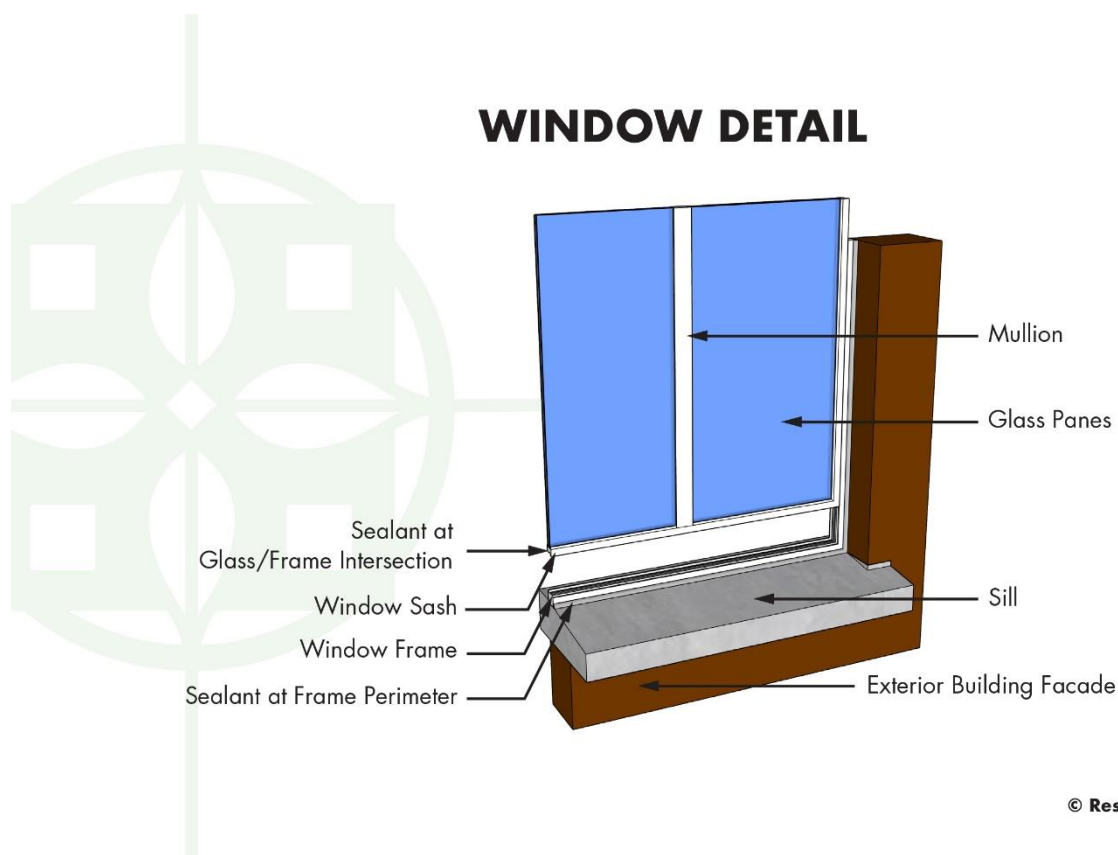


Lower level clubhouse window

Component Detail Notes: Properly designed window and door assemblies anticipate the penetration of some storm water beyond the gaskets. This infiltrated storm water collects in an internal drainage system and drains, or exits, the frames through weep holes. These weep holes can become clogged with dirt or if a sealant is applied, resulting in trapped storm water. However, as window frames, gaskets and sealants deteriorate, leaks into the interior can result. The windows and doors will eventually need replacement or major capital repairs to prevent water infiltration and damage from wind driven rain.

The thermal efficiencies of the window and door assemblies are affected by their design and construction components. These components include glazings, thickness of air space between glazings, low-conductivity gas, tinted coatings, low-e coatings and thermal barriers. The Association should thoroughly investigate these component options at the time of replacement. Some manufacturers may include these components as part of the standard product and other manufacturers may consider these components as options for an additional cost. Lake Thunderbird should review the specifications provided by the manufacturers to understand the thermal design and construction components of the proposed assemblies.

The following schematic depicts the typical components of a window system although it may not reflect the actual configuration at Lake Thunderbird:



Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:

- Inspect and repair loose weather stripping and/or lock damage
- Inspect for broken glass and damaged screens
- Record instances of water infiltration, trapped moisture or leaks

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Interior Building Elements

Interior Renovations, Campground Shower Rooms

Line Item: 2.500

Quantity: The campground shower room components include:

- Concrete floors
- Wood wall coverings
- Paint finishes on the walls and ceilings
- Plumbing fixtures
- Metal partitions and railings

History: Approximately 27 years of age

Condition: Fair overall



Shower room partitions



Shower room sinks

Useful Life: Complete renovation every 25 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend interim renovations and paint finishes are funded through the operating budget.

Interior Renovations, Clubhouse, Lower Level

Line Items: 2.510 through 2.512

Quantity: The clubhouse lower level components include:

- Carpet floor coverings
- Paint finishes on the walls
- Acoustical ceiling tile, grid and lighting
- Furnishings
- Office with laminate floor coverings, equipment and furnishings
- Rest rooms with tile floor coverings and plumbing fixtures

History and Condition: The office was recently renovated and renovation of the rest rooms was ongoing at the time of our site visit. The ages and conditions of the common area components varies. Following completion of the near-term rest room renovation, we assume good overall condition.



Clubhouse lower level common area



Office finishes and equipment



Recently renovated rest room



Rest room shower area

Useful Life: Renovation of the common area every 10- to 15-years, renovation of the office every 20 years and renovation of the rest rooms every 25 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend interim renovations and paint finishes are funded through the operating budget.

Interior Renovations, Clubhouse, Upper Level

Line Items: 2.520 through 2.522

Quantity: The clubhouse upper level components include:

- Tile floor coverings (entry foyer)
- Laminate floor coverings (common area, kitchen and rest rooms)
- Paint finishes on the walls and ceilings
- Furnishings
- Kitchen area with cabinets, countertops and appliances (including exhaust hood and fire suppression system elements)
- Rest rooms plumbing fixtures

History: The age of these components varies

Condition: Fair overall

Useful Life: Complete renovation to these areas every 20 years



Clubhouse entry foyer



Ceramic tile floor coverings at entry foyer



Upper level common area



Upper level common area



Clubhouse kitchen components



Clubhouse kitchen components



Clubhouse kitchen components



Clubhouse upper level rest room

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend interim renovations and paint finishes are funded through the operating budget.

Interior Renovations, Snack Shack

Line Items: 2.530 and 2.531

Quantity: The Snack Shack interior components include:

- Concrete floors
- Paint finishes on the walls and ceilings
- Plumbing fixtures
- Metal partitions and railings
- Kitchen area with cabinets, countertops and appliances

History: Renovation of the kitchen area was ongoing with our site visit and the age of the rest room components were not provided

Condition: Following completion of the kitchen renovations, we assume good overall condition. The rest room components are in fair overall condition.



Snack Shack rest room fixtures and partitions

Useful Life: Complete renovation every 20 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend interim renovations and paint finishes are funded through the operating budget.

Building Services Elements

Air Handling and Condensing Units, Split Systems

Line Item: 3.070

Quantity: Three split systems serve the clubhouse building

History: Approximately two- to six-years of age

Condition: Reported satisfactory without operational deficiencies



Exterior condensing units at clubhouse



Interior forced air furnaces at clubhouse

Useful Life: 15- to 20-years

Component Detail Notes: A split system air conditioner consists of an outside condensing unit, an interior evaporator coil, refrigerant lines and an interior air handling unit. The condensing units have cooling capacities that range from four- to five-tons.

Preventative Maintenance Notes: The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
 - Lubricate motors and bearings
 - Change or clean air filters as needed
 - Inspect condenser base and piping insulation
 - Inspect base pan, coil, cabinet and clear obstructions as necessary
- Annually:
 - Clean coils and drain pans, clean fan assembly, check refrigerant charge, inspect fan drive system and controls
 - Inspect and clean accessible ductwork as needed
 - Clean debris from inside cabinet, inspect condenser compressor and associated tubing for damage

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. The condensing unit may require replacement prior to replacement of the related interior forced air unit. For purposes of this Reserve Study, we assume coordination of replacement of the interior forced air unit, evaporator coil, refrigerant lines and exterior condensing unit.

Electrical Systems

Line Items: 3.300 through 3.310

History: We are informed the clubhouse electrical system is primarily original to construction, however, some of the panels appear newer. The power pedestals at the campground are approximately 25 years of age and the age of the campground electrical components (panels and wiring) were not provided at the time of our site visit.

Condition: Management informs us the electrical system components at the campground require near-term replacement and the main panels at the clubhouse require near-term replacement.



Campground power pedestal



Clubhouse electrical panels

Useful Life: Building electrical systems have a useful life of up to and sometimes beyond 70 years. Outdoor electrical systems used in campgrounds have a lower useful life of up to 50 years and we recommend interim replacement of the power pedestals every 25 years.

Component Detail Notes: The main panels include electric switchboards used to control, energize or turn off electricity in total or for individual circuits. These panels have a useful life of up to and sometimes beyond 70 years.

Preventative Maintenance Notes: We recommend the Association obtain and adhere to the manufacturer's recommended maintenance plan. We also recommend the Association maintain a maintenance contract with a qualified professional. The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect system for signs of electrical overheating, deterioration, and/or panel corrosion
 - Clean and vacuum exterior and interior switchboards
- Five-Year Cycles:

- Check power meters, lamps, indicators, and transformers for deficiencies
- Inspect wiring, relays, power supply units, and timers
- Verify surge protection is intact
- As-needed:
 - Test outlets and ground-fault circuit interrupters (GFCI's) for faulty components
 - Examine the insulation at switchgears for signs of deterioration or cracking
 - Ensure all conductors are clean and dry with no moisture build-up
 - Check and inspect for loose wire connections
 - Clean and clear dust and debris away from system components
 - Check for flickering or dimming light fixtures as these could indicate a short in the wiring, arcing, or an over-extension of the electrical system
 - Conduct thermal image scanning if system experiences numerous or consistent outages
 - Keep an accurate record of all repairs to the electrical system

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association budget to replace the main switchgear, distribution and circuit protection panels. Updates of this Reserve Study will consider possible changes in the scope and times of component replacements based on the conditions, including the need for replacement of the wires.

We recommend the Association conduct thermoscans of the distribution panels and circuit protection panels, and inspections of the transformers for any indications of arcing, burning or overheating on a regular basis, funded through the operating budget. Verification of the integrity of all connection points minimizes the potential for arcing and fires.

Security Systems

Line Items: 3.820 and 3.821

History:

- Access system: To be added in the near-term
- Surveillance system: Approximately one year of age

Condition: Reported satisfactory without operational deficiencies



Surveillance system monitor

Useful Life: Up to 15 years for the access system and up to 10 years for the surveillance system

Preventative Maintenance Notes: We recommend the Association obtain and adhere to the manufacturer's recommended maintenance plan. The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Weekly:
 - Clean card readers and other frequently used equipment of dust and other materials that may prevent proper operation
- Monthly:
 - Check access points for proper operation
 - Check cameras for proper focus, fields of view are unobstructed and camera and lenses are clean and dust-free
 - Check recording equipment for proper operation
 - Verify monitors are free from distortion with correct brightness and contrast
- Annually:
 - Check exposed wiring and cables for wear, proper connections and signal transmission
 - Check power connections, and if applicable, functionality of battery power supply systems

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for the access control system includes card access points at all clubhouse doors and the pool entrance in addition to cards for each of the homes.

Septic Systems

Line Item: 3.880

History: The ages of the common septic system components at the four common buildings (campground showers, clubhouse, maintenance shop and Snack Shack) were not provided at the time of our site visit

Condition: Reported satisfactory

Useful Life: Wastewater pipes have indeterminately long useful lives. Therefore, we do not anticipate complete replacement during the next 30 years. Due to eventual soil saturation and the inability of the soil to treat the wastewater, the tanks and drain field components have a useful life of up to 30 years. However, this useful life can vary depending on maintenance, use of the system, the type of soil and maintenance or removal of surrounding vegetation over the drain fields.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect the septic tanks and pump as necessary
 - Monitor use of water. High water use may overload the septic system and decrease the system's efficiency.
 - Ensure proper disposal of elements in the septic system
 - Clean and replace filter as needed
 - Ensure storm water conveying systems direct storm water away from the drainage field to prevent saturation. Once the soil of the drain field is saturated, the septic system will no longer function and the result is saturated turf with standing wastewater.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our estimate of future cost considers only that amount necessary to duplicate the same functionality of the existing drain field. Local codes or ordinances at the actual time of replacement may require a betterment as compared to the existing system. A betterment could result in a higher but at this time unknown greater cost of replacement. We recommend the Association contract with the appropriate entity for the design, estimated cost and implementation of a new drain field at the time of replacement.

Water Heaters

Line Item: 3.940

Quantity: Two gas-fired heaters

History: Approximately two years of age

Condition: Reported satisfactory without operational deficiencies



Clubhouse water heaters

Useful Life: 10- to 15-years

Component Detail Notes: The heaters have an input capacity of 40-MBH (thousand British Thermal Units per hour) to generate domestic hot water.

Preventative Maintenance Notes: The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Monthly:
 - Inspect for leaking water around boilers
 - Check temperature readings
 - Check water and pressure levels
 - Verify vent is unobstructed
 - Conduct boiler blowdown to minimize corrosion and remove suspended solids in system
 - Clean pilot and burner assemblies
 - Check all gaskets for tight sealing
- Annually:
 - Conduct full inspection of burners and flues
 - Clean and inspect tubes to reduce scaling
 - Inspect any pressure relief valves
 - Inspect electrical terminals and controls

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Property Site Elements

Asphalt Pavement

Line Items: 4.040 through 4.050

Quantity: Approximately 3,350 square yards at the beach parking area, approximately 8,100 square yards at the clubhouse driveways and parking areas and approximately 21,100 square yards of private streets in the Bureau County section of the community

History: The age of the asphalt and history of maintenance was not provided at the time of our site visit

Condition: The parking area pavement is in fair condition with cracks and previous repairs visible throughout. The private street pavement is in good to fair condition with deterioration primarily visible at the edges and near intersections.

Useful Life: We recommend repaving of the parking areas every 15- to 20-years with the benefit of crack repair and patch events performed periodically using funds from the operating budget. The private streets are constructed using a tar and chip technique. Therefore, we recommend chip seal applications and repairs to the private streets every five- to seven-years.



Pavement cracks visible throughout clubhouse parking area



Large pavement patch at clubhouse parking area



Edge cracks at clubhouse parking area driveway



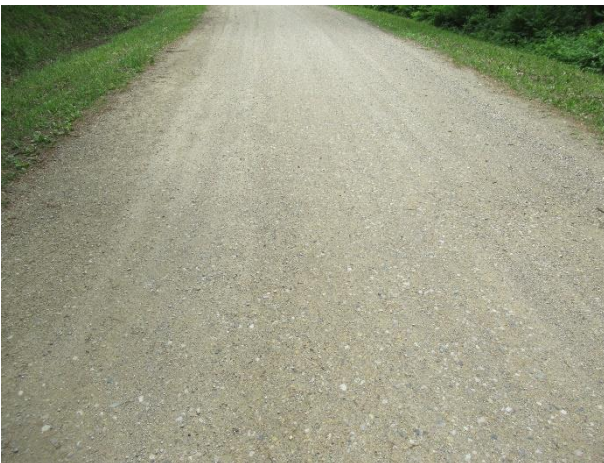
Beach parking area overview



Pavement deterioration at beach parking area



Pavement patch at beach parking area



Private street pavement



Private street edge raveling at intersection with driveway



Transverse crack and settlement at private street



Isolated instance of significant settlement at private street pavement



Street edge deterioration



Street edge deterioration

Component Detail Notes: The manner of parking area repaving is either a mill and overlay or total replacement. A mill and overlay is a method of repaving where cracked, worn and failed pavement is mechanically removed or milled until sound pavement is found. A new layer of asphalt is overlaid atop the remaining base course of pavement. Total replacement includes the removal of all existing asphalt down to the base course of aggregate and native soil followed by the application of two or more new lifts of asphalt. We recommend mill and overlay on asphalt pavement that exhibits normal deterioration and wear. We recommend total replacement of asphalt pavement that exhibits severe deterioration, inadequate drainage, pavement that has been overlaid multiple times in the past or where the configuration makes overlayment not possible. Based on the apparent visual condition and configuration of the asphalt pavement, we recommend the mill and overlay method for initial repaving and the total replacement method for subsequent repaving at Lake Thunderbird.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect for settlement, large cracks and trip hazards, and ensure proper drainage
 - Repair areas which could cause vehicular damage such as potholes
- As needed:
 - Perform crack repairs and patching

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Concrete Sidewalks

Line Item: 4.140

Quantity: Approximately 2,100 square feet at the front elevation of the clubhouse

Condition: Fair overall; Management informs us of the likelihood of near-term replacement to comply with ADA standards. Therefore, we include an allocation for replacement in conjunction with repaving of the parking area. Following completion of this project, we recommend concrete replacements to be funded through the operating budget due to limited quantities and costs.



Clubhouse front elevation sidewalk adjacent to parking area



Clubhouse sidewalk repairs

Useful Life: Up to 65 years

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Playground Equipment

Line Items: 4.660 through 4.662

Quantity: Playground equipment includes the following elements:

- Playsets and swing sets
- Safety surfaces with borders
-

History: The ages of the playground equipment were not provided at the time of our site visit

Condition: Fair overall



Campground east playground



Campground west playground



Clubhouse playground overview



Clubhouse playground playset



Playset finish deterioration



Playset platform deterioration



Swing deterioration



Beach playground area

Useful Life: 15- to 20-years

Component Detail Notes: Safety is the major purpose for maintaining playground equipment. We recommend an annual inspection of the playground equipment to identify and repair as normal maintenance loose connections and fasteners or damaged elements. We suggest the Association learn more about the specific requirements of playground equipment at PlaygroundSafety.org. We recommend the use of a specialist for the design or replacement of the playground equipment environment.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair loose connections and fasteners or damaged elements
 - Inspect for safety hazards and adequate coverage of ground surface cover

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We include an allowance in the unit cost as applicable for replacement of the safety surfaces and borders.

Putting Greens

Line Item: 4.690

Quantity: The amenity area contains a nine-hole putting green course

History: The age of this amenity was not provided at the time of our site visit

Condition: Fair overall



Putting green carpet deterioration



Profile view of concrete slab

Useful Life: The useful life of the concrete is indefinite with repairs performed every 8- to 12-years. These repairs should include replacement of the carpet and partial replacement of up to ten percent (10%) of the concrete and paver borders.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Signage

Line Item: 4.810

History: The age of the signs were not provided at the time of our site visit

Condition: Good to fair overall

Useful Life: 15- to 20-years



Entrance sign



Amenity area sign

Component Detail Notes: The community signs contribute to the overall aesthetic appearance of the property to owners and potential buyers. Replacement of community signs is often predicated upon the desire to "update" the perceived identity of the community rather than for utilitarian concerns. Therefore, the specific time for replacement of the signs is discretionary.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair damage, vandalism and loose components
 - Touch-up paint finish applications if applicable

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Sport Courts, Color Coat and Surface Replacement

Line Items: 4.830 and 4.860

Quantity: 1,600 square yards of asphalt comprising two tennis courts and one basketball court

History: The ages of the courts and history of maintenance was not provided at the time of our site visit

Condition: Poor overall with cracks and settlement visible throughout the courts

Useful Life: Up to 25 years for replacement of the surface with the benefit of color coat applications and repairs every four- to six-years



Tennis court overview



Basketball court overview



Significant color coat deterioration



Excessive asphalt deterioration



Large cracks found throughout tennis court



Large cracks found throughout tennis court

Preventative Maintenance Notes: Prior to the application of the color coat, the Association should require the contractor to rout and fill all cracks with hot emulsion. This deters water infiltration and further deterioration of the asphalt playing surface. We note

the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair large cracks, trip hazards and possibly safety hazards
 - Verify gate and fencing is secure
 - Verify lighting is working properly if applicable
 - Inspect and repair standards and windscreens as needed

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Sport Courts, Fence

Line Item: 4.840

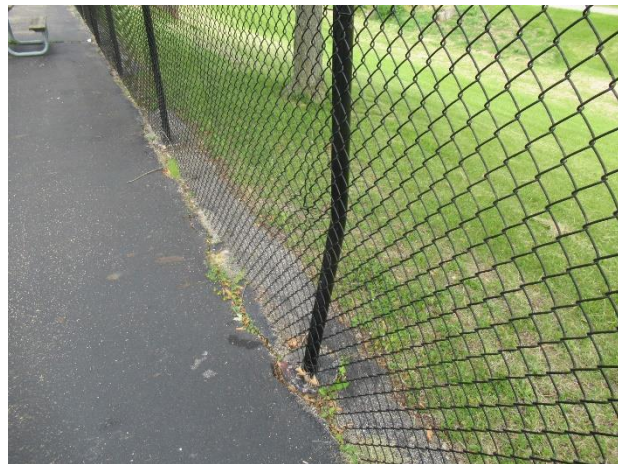
Quantity: 475 linear feet surrounding the tennis court

History: The age of the tennis court components were not provided at the time of our site visit

Condition: Poor overall



Chain link fence surrounding tennis courts



Tennis court fence deflection

Useful Life: Up to 25 years. We recommend replacement in conjunction with the asphalt surface due to the interrelated nature of these events.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Lake and Dam Elements

Bridges

Line Items: 5.000 through 5.002

Quantity: Three metal frame bridges with wood deck boards at the common areas

History: The ages of the bridges were not provided at the time of our site visit

Condition: Good overall with the exception of the dam bridge over the spillway which exhibits finish deterioration and weathered deck boards



Metal frame bridge at beach dock area



Metal frame bridge at campground



Dam bridge over the spillway



Wood frame stairs between picnic area and dam

Useful Life: Up to 25 years. The Association should replace the deck boards and repair/paint the structures as necessary using funds from the operating budget.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for the dam location includes the wood frame staircase connecting the dam and parking area/picnic area.

Boat Launch Ramps

Line Items: 5.100 and 5.101

Quantity: 300 square feet of concrete at the north location and 1,500 square feet of concrete at the south location

History: The south concrete is approximately 10 years of age and the age of the north concrete was not provided at the time of our site visit

Condition: The south concrete is in good overall condition and the north concrete is in poor overall condition



North boat launch ramp



South boat launch ramp

Useful Life: Up to 30 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Bulkheads

Line Items: 5.200 through 5.202

Quantity: 280 linear feet at the beach dock area, 620 linear feet at the clubhouse dock area and 150 linear feet at the south boat launch dock area

History and Condition: Ages and conditions vary significantly



Section of beach bulkhead in good condition



Deflection and deterioration at beach bulkhead



Section of beach bulkhead comprised of wood timbers



Deflection and deterioration visible throughout wood timber bulkhead area (replace with steel)



Deflection at clubhouse dock area bulkhead



Section of clubhouse dock area bulkhead in good overall condition



Steel bulkhead at south boat launch



Topside view of south boat launch bulkhead

Useful Life: Bulkheads of this type have useful lives of up to 50 years. Due to the varied ages and conditions observed, we include a phased, ongoing approach to replacement.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost reflects replacement with steel pilings.

Docks

Line Items: 5.300 through 5.303

Quantity: The Association maintains the following approximate square footages of floating docks:

- 1,300 square feet at the beach (this quantity includes the floating swim platforms)
- 2,100 square feet at the clubhouse
- 300 square feet at the north boat launch
- 1,800 square feet at the south boat launch

History: We are informed of recent partial replacements at the beach and clubhouse. The south boat launch docks are approximately four years of age. The remaining docks vary in age.

Condition: Good to fair overall

Useful Life: Up to 25 years. Due to the varied ages and conditions observed, we include a phased, ongoing approach to replacement.

Component Detail Notes: These floating docks utilize encapsulated polystyrene billets (floatation devices) and composite/wood decks. Metal pilings with sleeves stabilize the docks. The docks automatically adjust to fluctuations in water levels.



Wood beach docks



Composite beach docks



Isolated damage and repair at beach dock



Recently replaced clubhouse dock in good condition



Wood deck board weathering at older section of clubhouse docks



North boat launch floating wood docks with polystyrene billets



South boat launch docks in good condition



South boat launch dock pavilion



Composite deck boards in good condition



Composite deck boards in good condition

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Lake, Dredging and Rip-Rap Augmentation

Line Items: 5.400 through 5.410

Quantity: The lake comprises 110 acres of surface area and portions of the common shorelines (including the dam) include 1,300 linear feet of stone rip-rap. Three sedimentation ponds filter sediment before storm water from surrounding streams is discharged into the lake. We include repairs to the weirs and main dam spillway on a separate line item.

History: We are informed of small-scale dredging at the lake in 2023 and large-scale dredging at the lake in 2017 in addition to rip-rap augmentation as needed. We are also informed of recent dredging at the sedimentation ponds.

Condition: Good overall



Lake overview



Dam overview



Rip-rap erosion at front face of the dam



Rip-rap at dam picnic area

Useful Life: We recommend the Association continue with historical practices of performing small-scale dredging projects every four years and large scale dredging projects every 25 years. We include funds to augment the rip-rap every four years. The sediment ponds require dredging on a more frequent interval (10- to 15-years).

Component Detail Notes: The gradual build-up of natural debris, including tree leaves, branches and silt, may eventually change the topography of areas of the lake. Silt typically accumulates at inlets, outlets and areas of shoreline erosion. Sediment removal of lakes becomes necessary if this accumulation alters the quality of lake water or the functionality of the ponds as storm water management structures. Sediment removal is the optimal but also the most capital intensive method of pond management. Excavation equipment used for sediment removal includes clamshells, draglines and suction pipe lines.

Sediment removal can also include shoreline regrading. Regrading includes removal of collapsed and eroded soil, and redefining the shoreline.

The steep shoreline embankments are likely to exacerbate soil movement and erosion. The use and maintenance of stone rip rap along the lake shoreline will help maintain an attractive appearance and prevent soil erosion.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and remediate shoreline erosion and areas of sediment accumulation
 - Clear and remove debris and vegetation overgrowth at pond edges, and inlet and outlet structures
 - Inspect for algae blooms and remedy as needed through a chemical treatment program or aeration

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We base our cost for sediment removal on information provided by the Association. Our cost for rip-rap augmentation includes a complete inspection of the common shorelines and replacement of up to ten percent (10%).

A visual inspection of a body of water cannot reveal the amount of accumulated silt. This is especially true on larger bodies of water. It is therefore inaccurate to assume an entire body of water will require sediment removal. It is more cost effective to spot remove in areas of intense silt accumulation as noted through bathymetric surveys. The amount or depth of silt is determined through prodding into the silt until a relatively solid base is found or through bathymetric surveys. A bathymetric survey establishes a base of data about the depth of the body of water over many locations against which the data of future surveys is compared. These invasive procedures are beyond the scope of a Reserve Study and require multiple visits to the site. We recommend Lake Thunderbird contract with a local engineer for periodic bathymetric surveys. Future updates of the Reserve Study can incorporate future anticipated expenditures based on the results of the bathymetric surveys.

Unit costs per cubic yard to remove can vary significantly based on the type of equipment used, quantity of removed material and disposal of removed material. Sediment removal costs must also include mobilization, or getting the equipment to and from the site. Also, the portion of the overall cost to remove associated with mobilization varies based on the volume removed. Costs for sediment disposal also vary depending on the site. Compact sites will require hauling and in some cases disposal fees.

Pavilions

Line Items: 5.500 through 5.503

Quantity: Six each

History: Ages vary

Condition: Good overall. Management informs us of near-term roof replacements at select locations to be funded through the operating budget in the near-term. We recommend the Association continue to fund for roof replacements, stain/paint applications, minor repairs and replacement of site furniture using funds from the operating budget as necessary to ensure longevity of the structures.



Beach amenity area upper pavilion



Beach amenity area lower pavilion



Campground pavilion



Clubhouse amenity area lower pavilion



Clubhouse amenity area lower pavilion



Pavilion at dam picnic area

Useful Life: Up to 35 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Spillway

Line Items: 5.600 and 5.605

Quantity: 30,000 square feet of concrete floors and wall structure

History: Original

Condition: Good overall



Spillway, fences and bridge



Concrete spillway structure



Spillway entrance from lake



Deterioration and previous repairs visible at spillway walls



Deterioration at base concrete isolated to control joint areas



Spillway base concrete in good condition



Spillway wall cracks



Top side of the dam



Back side of the dam



Creek downstream of the dam



Weir at lake inlet



Back side of weir at lake inlet

Useful Life: Up to 70 years with inspections and repairs performed every 6- to 10-years. The inspections and repairs should also include the weirs, culverts and other devices located at lake inflow areas.

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost for replacement includes all concrete, repairs to the dam as necessary, replacement of the chain link fences, replacement of the main dam valves and design/permitting costs as necessary.

Pool Elements

Concrete Deck

Line Item: 6.200

Quantity: 7,220 square feet

History: The concrete is original and age of the coating was not provided at the time of our site visit

Condition: Fair to poor overall with cracks and repairs visible throughout the deck

Useful Life: The useful life of a concrete pool deck is up to 60 years or more with timely repairs. We recommend the Association conduct inspections, partial replacements and repairs to the deck every 10- to 15-years in conjunction with coating replacements.



Pool and deck overview



Concrete cracks at deck



Cracks and settlement



Isolated trip hazard at control joint



Recurrence of crack at repaired area



Coating deterioration

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
 - Inspect and repair large cracks, trip hazards, and possible safety hazards
 - Inspect and repair pool coping for cracks, settlement, heaves or sealant deterioration
 - Repair concrete spalling and conduct coating repairs in areas with delamination
 - Schedule periodic pressure cleanings as needed

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend the Association budget for the following per event:

- Selective cut out and partial replacements of up to twenty percent (20%) of concrete
- Crack repairs as needed
- Mortar joint repairs
- Caulk replacement
- Coating replacement

Fence, Chain Link

Line Item: 6.400

Quantity: 350 linear feet surrounding the pool deck

History: Less than 10 years of age

Condition: Good overall



Chain link fence surrounding pool



Chain link fencing in good condition

Useful Life: Up to 25 years

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Annually:
 - Inspect and repair loose sections, and damage
 - Repair leaning sections and clear vegetation from fence areas which could cause damage

Priority/Criticality: Not recommended to defer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Furniture

Line Item: 6.500

Quantity: The pool furniture includes the following:

- Chairs
- Lounges
- Tables
- Ladders and life safety equipment

History: Varied ages

Condition: Good overall

Useful Life: 10- to 15-years



Pool furniture and pavilion (the pavilion structure and roof has an indefinite life span)

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Due to the varied ages and usages of the furniture, we include a phased replacement of up to fifty percent (50%) per event. We recommend interim re-strapping, refinishing, cushion replacements, reupholstering and other repairs to the furniture as normal maintenance to maximize its useful life.

Mechanical Equipment

Line Item: 6.600

Quantity: The mechanical equipment includes the following:

- Automatic chlorinator and controls
- Electrical panel
- Interconnected pipe, fittings and valves
- Pump, filters, and heater

History: Varied ages

Condition: Reported satisfactory

Useful Life: Up to 15 years. Failure of the pool mechanical equipment as a single event is unlikely. However, for brevity and to ensure the proper accumulation of reserve funds over the useful life of the equipment, we depict aggregate replacement events. We consider interim replacement of motors and minor repairs as normal maintenance.

Preventative Maintenance Notes: We recommend the Association maintain a maintenance contract with a qualified professional and follow the manufacturer's specific recommended maintenance and local, state and/or federal inspection guidelines.



Pool heater



Pool pump



Pool filters



Pool equipment electrical panel

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the *Reserve Expenditures* table in Section 3.

Pool Finish, Liner

Line Item: 6.800

Quantity: 2,560 square feet of based on the horizontal surface area

History: The Association overlaid a liner atop the concrete structure approximately 10 years ago

Condition: Good to fair overall with loose liner visible at the pool corners

Useful Life: 10- to 15-years



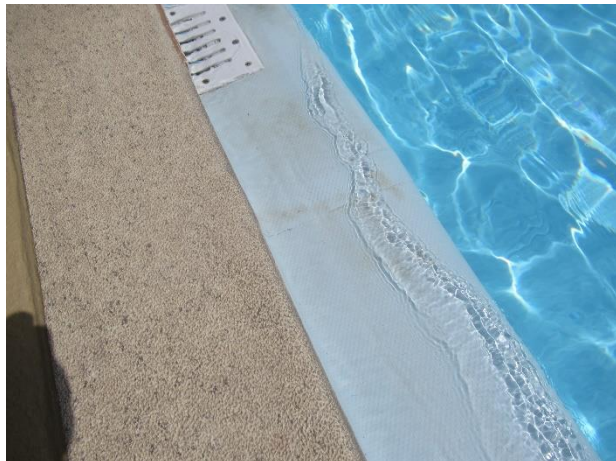
Concrete pool structure with liner



Liner and drain at coping area



Pool structure with liner



Loose liner

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Semi-annually:
 - Inspect and patch areas of significant delamination, coping damage and structure cracks
 - Inspect main drain connection and anti-entrapment covers, pressure test circulation piping and valves
 - Test handrails and safety features for proper operation

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the ***Reserve Expenditures*** table in Section 3. Removal and replacement of the liner provides the opportunity to inspect the pool structure and to allow for partial repairs of the underlying concrete surfaces as needed. To maintain the integrity of the pool structure, we recommend the Association budget for the following:

- Removal and replacement of the liner

- Partial replacements of the scuppers and coping as needed
- Replacement of joint sealants as needed
- Concrete structure repairs as needed

Structure and Deck

Line Item: 6.900

Quantity: 2,560 square feet of horizontal surface area

History: Original

Conditions: Visually appears in good condition. The concrete floors and walls have a liner. This finish makes it difficult to thoroughly inspect the concrete structure during a noninvasive visual inspection.

Useful Life: Up to 65 years

Component Detail Notes: The need to replace a pool structure depends on the condition of the concrete structure, the condition of the embedded or concealed water circulation piping, possible long term uneven settlement of the structure, and the increasing cost of repair and maintenance. Deterioration of any one of these component systems could result in complete replacement of the pool. For example, deferral of a deteriorated piping system could result in settlement and cracks in the pool structure. This mode of failure is more common as the system ages and deterioration of the piping system goes undetected. For reserve budgeting purposes, we recommend Lake Thunderbird plan to replace the following components:

- Concrete deck
- Pool structure
- Subsurface piping

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Water System Elements

Generator

Line Item: 8.000

Quantity: One 80-kW (kilowatt) generator

History: Approximately six years of age

Condition: Reported satisfactory without operational deficiencies



Generator



Transfer switch

Useful Life: Up to 25 years

Preventative Maintenance Notes: As a reference, the Association may consult the following document: *NFPA 110, Standard for Emergency and Standby Power Systems*. The required preventative maintenance may vary in frequency and scope based on the unit's age, operational condition, or changes in technology. We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- Weekly:
 - Check fuel and oil levels
 - Inspect cooling and exhaust systems
 - Check battery, electrical components and transfer switches
 - Run generator without load and look for unusual conditions such as leaks
- Monthly:
 - Exercise generator under load test for minimum of 30 minutes
 - Check oil levels before running and after 10 minutes of run time
- Annually:
 - Complete full inspection and necessary repairs
 - Change fuel and air filters
 - Change oil and replace oil filter
 - Change spark or glow plugs
 - Flush cooling system

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our estimate of cost includes replacement of the transfer switch. We recognize that the transfer switch may require replacement prior to the replacement of the generator. For purposes of this Reserve Study, we assume coordination of replacement with the generator.

Pipes, Domestic Water

Line Items: 8.100 and 8.101

Quantity: The domestic water distribution system throughout the community contains approximately 31,600 linear feet of main lines and approximately 59,400 linear feet of lateral lines. We are informed the main lines are comprised of cementous pipe and are primarily original and in fair to poor condition. Near-term replacement is likely and vendors have provided verbal estimates of approximately \$3,000,000 to replace the pipes. These reported costs are in line with historical costs we have observed at similar communities. Although the exact age is unknown, the lateral lines were likely replaced with PVC pipes following the original construction of the system and these pipes are reported to be in good overall condition.

Useful Life: The main lines have useful lives of up to 70 years and the lateral lines have useful lives of up to and likely beyond 85 years

Component Detail Notes: The exact amounts and locations of the pipes were not ascertained due to the nature of the underground construction and the non-invasive nature of the inspection.

Preventative Maintenance Notes: We note the following select recommended preventative maintenance activities to maximize the remaining useful life:

- As-needed:
 - Video inspect waste pipes for breaks and damaged piping
 - Monitor for water leaks through pressure losses and present odors
 - Partially replace damaged section of pipes

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. At this time we do not anticipate replacement of continuous lengths of the laterals. Rather we recommend the Association budget for repairs to isolated occurrences of breached pipes. Although it is likely that the times of replacement and extent of repair costs may vary from the budgetary allowance, Lake Thunderbird could budget sufficient reserves for these utility repairs and have the opportunity to adjust its future reserves up or down to meet any changes to these budgetary estimates. Updates of this Reserve Study would incorporate changes to budgetary costs through a continued historical analysis of the rate of deterioration and actual repairs to budget sufficient reserves.

Pump House

Line Item: 8.200

Quantity: Approximately 1,000 square feet of fiber cement siding, six squares of asphalt shingle roof and three doors

History: The exterior components are approximately six years of age

Condition: Good overall



Pump house overview

Useful Life: We include funds to renovate the exterior every 25 years. These renovations should include replacement of the components listed above. We recommend the Association budget for paint finishes and repairs using funds from the operating budget.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Water Tower

Line Item: 8.300

History: Paint finishes are approximately five years of age

Condition: Fair overall

Useful Life: The useful life of this component is indefinite with the benefit of ongoing paint finishes and repairs performed every five years



Water tower



Close-up view of water storage tank

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We base our cost on information provided by the Association.

Well

Line Items: 8.400 through 8.402

Quantity: One well with a 50-HP pump

History: The age of the well casing was not provided at the time of our site visit. The pump is approximately 20 years of age and the controls were recently replaced.

Condition: Reported satisfactory



Well pump



Well controls



Well head

Useful Life: Up to 50 years for the well casing, up to 25 years for the pump and up to 15 years for the controls

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We base our cost of the controls on historical information provided by Management.

Maintenance Elements

Backhoe

Line Item: 9.000

History: Approximately 29 years of age



Backhoe

Condition: Reported satisfactory

Useful Life: Up to 30 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Boat, Pontoon

Line Item: 9.100

History: Age not provided at the time of our site visit

Condition: Reported satisfactory



Pontoon boat

Useful Life: Up to 30 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Maintenance Shop

Line Items: 9.200 and 9.201

Quantity: Approximately 14,000 square feet of metal roofing and siding with three overhead garage doors with automatic operators

History: The roofing and siding is approximately 20- to 25-years of age and the age of the doors and operators were not provided at the time of our site visit

Condition: Good overall



Maintenance shop



Siding in good condition



Roof in good condition



Overhead doors and operators

Useful Life: The siding has a useful life of up to 45 years and the doors/operators have a useful life of up to 15 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Mowers, Zero-Turn

Line Item: 9.300

Quantity: Two each

History: Approximately 13 years of age

Condition: Reported satisfactory



Zero-turn mowers

Useful Life: 15- to 20-years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Tractors

Line Items: 9.400 and 9.401

Quantity: Two each

History: Approximately 14- to 18-years of age



Tractor

Condition: Reported satisfactory

Useful Life: Up to 25 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Skidsteer

Line Item: 9.500

History: The age was not available at the time of our site visit

Condition: Reported satisfactory



Skidsteer

Useful Life: Up to 25 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3.

Utility Vehicles

Line Items: 9.600 and 9.601

Quantity: Three Chevrolet 2500 utility trucks and one Ford F-450 utility truck

History: Varied ages

Condition: Management informs us of the necessity of one near-term replacement



Chevrolet utility truck



Ford utility truck

Useful Life: Up to 15 years

Priority/Criticality: Defer only upon opinion of independent professional or engineer

Expenditure Detail Notes: Expenditure timing and costs are depicted in the ***Reserve Expenditures*** table in Section 3.

Reserve Study Update

An ongoing review by the Board and an Update of this Reserve Study are necessary to ensure an equitable funding plan since a Reserve Study is a snapshot in time. Many variables change after the study is conducted that may result in significant overfunding or underfunding the reserve account. Variables that may affect the Reserve Funding Plan include, but are not limited to:

- Deferred or accelerated capital projects based on Board discretion
- Changes in the interest rates on reserve investments
- Changes in the *local* construction inflation rate
- Additions and deletions to the Reserve Component Inventory
- The presence or absence of maintenance programs
- Unusually mild or extreme weather conditions
- Technological advancements

Periodic updates incorporate these variable changes since the last Reserve Study or Update. We recommend the Board budget for an Update to this Reserve Study every three years. Budgeting for an Update demonstrates the Board's objective to continue fulfilling its fiduciary responsibility to maintain the commonly owned property and to fund reserves appropriately.

5.METHODOLOGY

Reserves for replacement are the amounts of money required for future expenditures to repair or replace Reserve Components that wear out before the entire facility or project wears out. Reserving funds for future repair or replacement of the Reserve Components is also one of the most reliable ways of protecting the value of the property's infrastructure and marketability.

Lake Thunderbird can fund capital repairs and replacements in any combination of the following:

1. Increases in the operating budget during years when the shortages occur
2. Loans using borrowed capital for major replacement projects
3. Level monthly reserve assessments annually adjusted upward for inflation to increase reserves to fund the expected major future expenditures
4. Special assessments

We do not advocate special assessments or loans unless near term circumstances dictate otherwise. Although loans provide a gradual method of funding a replacement, the costs are higher than if the Association were to accumulate reserves ahead of the actual replacement. Interest earnings on reserves also accumulate in this process of saving or reserving for future replacements, thereby defraying the amount of gradual reserve collections. We advocate the third method of *Level Monthly Reserve Assessments* with relatively minor annual adjustments. The method ensures that Owners pay their "fair share" of the weathering and aging of the commonly owned property each year. Level reserve assessments preserve the property and enhance the resale value of the homes.

This Reserve Study is in compliance with and exceeds the National standards¹ set forth by the Association of Professional Reserve Analysts (APRA) fulfilling the requirements of a "Level II Reserve Study Update." These standards require a Reserve Component to have a "predictable remaining Useful Life." Estimating Remaining Useful Lives and Reserve Expenditures beyond 30 years is often indeterminate. Long-Lived Property Elements are necessarily excluded from this analysis. We considered the following factors in our analysis:

- The Cash Flow Method to compute, project and illustrate the 30-year Reserve Funding Plan
- Local² costs of material, equipment and labor
- Current and future costs of replacement for the Reserve Components
- Costs of demolition as part of the cost of replacement
- Local economic conditions and a historical perspective to arrive at our estimate of long-term future inflation for construction costs in Putnam, Illinois at an annual inflation rate³. Isolated or regional markets of greater

¹ Identified in the APRA "Standards - Terms and Definitions" and the CAI "Terms and Definitions".

² See Credentials for additional information on our use of published sources of cost data.

³ Derived from Marshall & Swift, historical costs and the Bureau of Labor Statistics.

construction (development) activity may experience slightly greater rates of inflation for both construction materials and labor.

- The past and current maintenance practices of Lake Thunderbird and their effects on remaining useful lives
- Financial information provided by the Association pertaining to the cash status of the reserve fund and budgeted reserve contribution
- The anticipated effects of appreciation of the reserves over time in accord with a return or yield on investment of your cash equivalent assets. (We did not consider the costs, if any, of Federal and State Taxes on income derived from interest and/or dividend income).
- The Funding Plan excludes necessary operating budget expenditures. It is our understanding that future operating budgets will provide for the ongoing normal maintenance of Reserve Components.

Updates to this Reserve Study will continue to monitor historical facts and trends concerning the external market conditions.



6. CREDENTIALS

HISTORY AND DEPTH OF SERVICE

Founded in 1991, Reserve Advisors is the leading provider of reserve studies, insurance appraisals, developer turnover transition studies, expert witness services, and other engineering consulting services. Clients include community associations, resort properties, hotels, clubs, non-profit organizations, apartment building owners, religious and educational institutions, and office/commercial building owners in 48 states, Canada and throughout the world.

The **architectural engineering consulting firm** was formed to take a leadership role in helping fiduciaries, boards, and property managers manage their property like a business with a long-range master plan known as a Reserve Study.

Reserve Advisors employs the **largest staff of Reserve Specialists** with bachelor's degrees in engineering dedicated to Reserve Study services. Our founders are also founders of Community Associations Institute's (CAI) Reserve Committee that developed national standards for reserve study providers. One of our founders is a Past President of the Association of Professional Reserve Analysts (APRA). Our vast experience with a variety of building types and ages, on-site examination and historical analyses are keys to determining accurate remaining useful life estimates of building components.

No Conflict of Interest - As consulting specialists, our **independent opinion** eliminates any real or perceived conflict of interest because we do not conduct or manage capital projects.

TOTAL STAFF INVOLVEMENT

Several staff members participate in each assignment. The responsible advisor involves the staff through a Team Review, exclusive to Reserve Advisors, and by utilizing the experience of other staff members, each of whom has served hundreds of clients. We conduct Team Reviews, an internal quality assurance review of each assignment, including: the inspection; building component costing; lifing; and technical report phases of the assignment. Due to our extensive experience with building components, we do not have a need to utilize subcontractors.

OUR GOAL

To help our clients fulfill their fiduciary responsibilities to maintain property in good condition.

VAST EXPERIENCE WITH A VARIETY OF BUILDINGS

Reserve Advisors has conducted reserve studies for a multitude of different communities and building types. We've analyzed thousands of buildings, from as small as a 3,500-square foot day care center to a 2,600,000-square foot 98-story highrise. We also routinely inspect buildings with various types of mechanical systems such as simple electric heat, to complex systems with air handlers, chillers, boilers, elevators, and life safety and security systems.

We're familiar with all types of building exteriors as well. Our well-versed staff regularly identifies optimal repair and replacement solutions for such building exterior surfaces such as adobe, brick, stone, concrete, stucco, EIFS, wood products, stained glass and aluminum siding, and window wall systems.

OLD TO NEW

Reserve Advisors' experience includes ornate and vintage buildings as well as modern structures. Our specialists are no strangers to older buildings. We're accustomed to addressing the unique challenges posed by buildings that date to the 1800's. We recognize and consider the methods of construction employed into our analysis. We recommend appropriate replacement programs that apply cost effective technologies while maintaining a building's character and appeal.

TIMOTHY J. MATTHIESEN, RS
Responsible Advisor



CURRENT CLIENT SERVICES

Timothy J. Matthiesen, a Civil Engineer, is an Advisor for Reserve Advisors, which is dedicated to serving community associations, religious organizations, educational facilities, and public and private entities throughout the United States. Mr. Matthiesen is responsible for the inspection and analysis of the property's current condition, recommending engineering solutions to prolong the lives of building components, forecasting capital expenditures for the repair and/or replacement of the property components, and technical report preparation on assignments. He is responsible for conducting Life Cycle Cost Analysis and Capital Replacement Forecast Services on townhomes, homeowners associations and planned unit developments.

The following is a partial list of clients served by Mr. Matthiesen demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.

Eliot House – 28-story high rise located in Carl Sandburg Village in Chicago. This condominium offers its residents unrivaled views of the Gold Coast from its expansive rooftop deck.

Lake Monticello - 3,500 acre development in Central Virginia with 4,500+ single family homes, 18 hole golf course, 62 miles of private streets, 400 acres of private lakes and extensive maintenance and security facilities.

Museum Tower - Residential tower comprised of a curtain wall system that rises 50 stories over downtown Dallas.

Talamore of Huntley - Homeowners association of over 1,100 homes in the Chicagoland area. The community includes a 10,000 square foot amenity center and waterpark development.

The Walnuts - Three high rises comprised of masonry built in 1929 near the plaza in Kansas City surrounded by private grounds with traditional English gardens.

Condominium Residences at Seven Bridges – Modern, high-rise development west of Chicago with an elevated, terrace style pool deck above an indoor parking garage

The Village Community Association - 208 acre, gated residential community near Cleveland with walking trails, lakes, a private clubhouse and almost 30 acres of green turf.

Four Seasons Resorts Colorado - State of the art 45-story high rise hotel and condominium in downtown Denver and ski lodge destination resort in Vail.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, Mr. Matthiesen was working with a consulting firm to assess school facility capabilities in southeastern Wisconsin. He was responsible for the inspection and condition assessment of school facilities which included conducting on-site meetings with school personnel, completing technical inspections and creating a database of photographs and building condition information.

Mr. Matthiesen also worked for the county parks department near his hometown as a Civil Engineer. He was responsible for the design of park facilities including roadways and parking lots, picnic shelters and recreational trails along with the inspection of current facilities including historic structures maintained by the County.

EDUCATION

Marquette University - B.S. Civil Engineering

PROFESSIONAL AFFILIATIONS

Reserve Specialist (RS) - Community Associations Institute

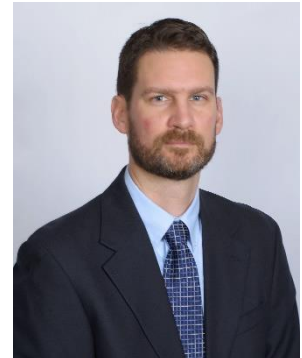


ALAN M. EBERT, P.E., PRA, RS
Director of Quality Assurance

CURRENT CLIENT SERVICES

Alan M. Ebert, a Professional Engineer, is the Director of Quality Assurance for Reserve Advisors. Mr. Ebert is responsible for the management, review and quality assurance of reserve studies. In this role, he assumes the responsibility of stringent report review analysis to assure report accuracy and the best solution for Reserve Advisors' clients.

Mr. Ebert has been involved with thousands of Reserve Study assignments. The following is a partial list of clients served by Alan Ebert demonstrating his breadth of experiential knowledge of community associations in construction and related buildings systems.



Brownsville Winter Haven Located in Brownsville, Texas, this unique homeowners association contains 525 units. The Association maintains three pools and pool houses, a community and management office, landscape and maintenance equipment, and nine irrigation canals with associated infrastructure.

Rosemont Condominiums This unique condominium is located in Alexandria, Virginia and dates to the 1940's. The two mid-rise buildings utilize decorative stone and brick masonry. The development features common interior spaces, multi-level wood balconies and common asphalt parking areas.

Stillwater Homeowners Association Located in Naperville, Illinois, Stillwater Homeowners Association maintains four tennis courts, an Olympic sized pool and an upscale ballroom with commercial-grade kitchen. The community also maintains three storm water retention ponds and a detention basin.

Birchfield Community Services Association This extensive Association comprises seven separate parcels which include 505 townhome and single family homes. This Community Services Association is located in Mt. Laurel, New Jersey. Three lakes, a pool, a clubhouse and management office, wood carports, aluminum siding, and asphalt shingle roofs are a few of the elements maintained by the Association.

Oakridge Manor Condominium Association Located in Londonderry, New Hampshire, this Association includes 104 units at 13 buildings. In addition to extensive roads and parking areas, the Association maintains a large septic system and significant concrete retaining walls.

Memorial Lofts Homeowners Association This upscale high rise is located in Houston, Texas. The 20 luxury units include large balconies and decorative interior hallways. The 10-story building utilizes a painted stucco facade and TPO roof, while an on-grade garage serves residents and guests.

PRIOR RELEVANT EXPERIENCE

Mr. Ebert earned his Bachelor of Science degree in Geological Engineering from the University of Wisconsin-Madison. His relevant course work includes foundations, retaining walls, and slope stability. Before joining Reserve Advisors, Mr. Ebert was an oilfield engineer and tested and evaluated hundreds of oil and gas wells throughout North America.

EDUCATION

University of Wisconsin-Madison - B.S. Geological Engineering

PROFESSIONAL AFFILIATIONS/DESIGNATIONS

Professional Engineering License – Wisconsin, North Carolina, Illinois, Colorado

Reserve Specialist (RS) - Community Associations Institute

Professional Reserve Analyst (PRA) - Association of Professional Reserve Analysts



RESOURCES

Reserve Advisors utilizes numerous resources of national and local data to conduct its Professional Services. A concise list of several of these resources follows:

Association of Construction Inspectors, (ACI) the largest professional organization for those involved in construction inspection and construction project management. ACI is also the leading association providing standards, guidelines, regulations, education, training, and professional recognition in a field that has quickly become important procedure for both residential and commercial construction, found on the web at www.iami.org.

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., (ASHRAE) the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., devoted to the arts and sciences of heating, ventilation, air conditioning and refrigeration; recognized as the foremost, authoritative, timely and responsive source of technical and educational information, standards and guidelines, found on the web at www.ashrae.org. Reserve Advisors actively participates in its local chapter and holds individual memberships.

Community Associations Institute, (CAI) America's leading advocate for responsible communities noted as the only national organization dedicated to fostering vibrant, responsive, competent community associations. Their mission is to assist community associations in promoting harmony, community, and responsible leadership.

Marshall & Swift / Boeckh, (MS/B) the worldwide provider of building cost data, co-sourcing solutions, and estimating technology for the property and casualty insurance industry found on the web at www.marshallswift.com.

R.S. Means CostWorks, North America's leading supplier of construction cost information. As a member of the Construction Market Data Group, Means provides accurate and up-to-date cost information that helps owners, developers, architects, engineers, contractors and others to carefully and precisely project and control the cost of both new building construction and renovation projects found on the web at www.rsmeans.com.

Reserve Advisors' library of numerous periodicals relating to reserve studies, condition analyses, chapter community associations, and historical costs from thousands of capital repair and replacement projects, and product literature from manufacturers of building products and building systems.

7. DEFINITIONS

Definitions are derived from the standards set forth by the Community Associations Institute (CAI) representing America's 305,000 condominium and homeowners associations and cooperatives, and the Association of Professional Reserve Analysts, setting the standards of care for reserve study practitioners.

Cash Flow Method - A method of calculating Reserve Contributions where contributions to the reserve fund are designed to offset the variable annual expenditures from the reserve fund. Different Reserve Funding Plans are tested against the anticipated schedule of reserve expenses until the desired funding goal is achieved.

Component Method - A method of developing a Reserve Funding Plan with the total contribution is based on the sum of the contributions for individual components.

Current Cost of Replacement - That amount required today derived from the quantity of a *Reserve Component* and its unit cost to replace or repair a Reserve Component using the most current technology and construction materials, duplicating the productive utility of the existing property at current *local* market prices for *materials*, *labor* and manufactured equipment, contractors' overhead, profit and fees, but without provisions for building permits, overtime, bonuses for labor or premiums for material and equipment. We include removal and disposal costs where applicable.

Fully Funded Balance - The Reserve balance that is in direct proportion to the fraction of life "used up" of the current Repair or Replacement cost similar to Total Accrued Depreciation.

Funding Goal (Threshold) - The stated purpose of this Reserve Study is to determine the adequate, not excessive, minimal threshold reserve balances.

Future Cost of Replacement - *Reserve Expenditure* derived from the inflated current cost of replacement or current cost of replacement as defined above, with consideration given to the effects of inflation on local market rates for materials, labor and equipment.

Long-Lived Property Component - Property component of Lake Thunderbird responsibility not likely to require capital repair or replacement during the next 30 years with an unpredictable remaining Useful Life beyond the next 30 years.

Percent Funded - The ratio, at a particular point of time (typically the beginning of the Fiscal Year), of the actual (or projected) Reserve Balance to the Fully Funded Balance, expressed as a percentage.

Remaining Useful Life - The estimated remaining functional or useful time in years of a *Reserve Component* based on its age, condition and maintenance.

Reserve Component - Property elements with: 1) Lake Thunderbird responsibility; 2) limited Useful Life expectancies; 3) predictable Remaining Useful Life expectancies; and 4) a replacement cost above a minimum threshold.

Reserve Component Inventory - Line Items in *Reserve Expenditures* that identify a *Reserve Component*.

Reserve Contribution - An amount of money set aside or *Reserve Assessment* contributed to a *Reserve Fund* for future *Reserve Expenditures* to repair or replace *Reserve Components*.

Reserve Expenditure - Future Cost of Replacement of a Reserve Component.

Reserve Fund Status - The accumulated amount of reserves in dollars at a given point in time, i.e., at year end.

Reserve Funding Plan - The portion of the Reserve Study identifying the *Cash Flow Analysis* and containing the recommended Reserve Contributions and projected annual expenditures, interest earned and reserve balances.

Reserve Study - A budget planning tool that identifies the current status of the reserve fund and a stable and equitable Funding Plan to offset the anticipated future major common area expenditures.

Useful Life - The anticipated total time in years that a *Reserve Component* is expected to serve its intended function in its present application or installation.



8. PROFESSIONAL SERVICE CONDITIONS

Our Services - Reserve Advisors, LLC ("RA") performs its services as an independent contractor in accordance with our professional practice standards and its compensation is not contingent upon our conclusions. The purpose of our reserve study is to provide a budget planning tool that identifies the current status of the reserve fund, and an opinion recommending an annual funding plan, to create reserves for anticipated future replacement expenditures of the subject property. The purpose of our energy benchmarking services is to track, collect and summarize the subject property's energy consumption over time for your use in comparison with other buildings of similar size and establishing a performance baseline for your planning of long-term energy efficiency goals.

Our inspection and analysis of the subject property is limited to visual observations, is noninvasive and is not meant to nor does it include investigation into statutory, regulatory or code compliance. RA inspects sloped roofs from the ground and inspects flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. Our energy benchmarking services with respect to the subject property is limited to collecting energy and utility data and summarizing such data in the form of an Energy Star Portfolio Manager Report or any other similar report, and hereby expressly excludes any recommendations with respect to the results of such energy benchmarking services or the accuracy of the energy information obtained from utility companies and other third-party sources with respect to the subject property. The reserve report and any energy benchmarking report (i.e., any Energy Star Portfolio Manager Report) (including any subsequent revisions thereto pursuant to the terms hereof, collectively, the "Report") are based upon a "snapshot in time" at the moment of inspection. RA may note visible physical defects in the Report. The inspection is made by employees generally familiar with real estate and building construction. Except to the extent readily apparent to RA, RA cannot and shall not opine on the structural integrity of or other physical defects in the property under any circumstances. Without limitation to the foregoing, RA cannot and shall not opine on, nor is RA responsible for, the property's conformity to specific governmental code requirements for fire, building, earthquake, occupancy or otherwise.

RA is not responsible for conditions that have changed between the time of inspection and the issuance of the Report. RA does not provide invasive testing on any mechanical systems that provide energy to the property, nor can RA opine on any system components that are not easily accessible during the inspection. RA does not investigate, nor assume any responsibility for any existence or impact of any hazardous materials, such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials or structural defects that are latent or hidden defects which may or may not be present on or within the property. RA does not make any soil analysis or geological study as part of its services, nor does RA investigate vapor, water, oil, gas, coal, or other subsurface mineral and use rights or such hidden conditions, and RA assumes no responsibility for any such conditions. The Report contains opinions of estimated replacement costs or deferred maintenance expenses and remaining useful lives, which are neither a guarantee of the actual costs or expenses of replacement or deferred maintenance nor a guarantee of remaining useful lives of any property element.

RA assumes, without independent verification, the accuracy of all data provided to it. Except to the extent resulting from RA's willful misconduct in connection with the performance of its obligations under this agreement, you agree to indemnify, defend, and hold RA and its affiliates, officers, managers, employees, agents, successors and assigns (each, an "RA Party") harmless from and against (and promptly reimburse each RA Party for) any and all losses, claims, actions, demands, judgments, orders, damages, expenses or liabilities, including, without limitation, reasonable attorneys' fees, asserted against or to which any RA Party may become subject in connection with this engagement, including, without limitation, as a result of any false, misleading or incomplete information which RA relied upon that was supplied by you or others under your direction, or which may result from any improper use or reliance on the Report by you or third parties under your control or direction or to whom you provided the Report. NOTWITHSTANDING ANY OTHER PROVISION HEREIN TO THE CONTRARY, THE AGGREGATE LIABILITY (IF ANY) OF RA WITH RESPECT TO THIS AGREEMENT AND RA'S OBLIGATIONS HEREUNDER IS LIMITED TO THE AMOUNT OF THE FEES ACTUALLY RECEIVED BY RA FROM YOU FOR THE SERVICES AND REPORT PERFORMED BY RA UNDER THIS AGREEMENT, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE. YOUR REMEDIES SET FORTH HEREIN ARE EXCLUSIVE AND ARE YOUR SOLE REMEDIES FOR ANY FAILURE OF RA TO COMPLY WITH ITS OBLIGATIONS HEREUNDER OR OTHERWISE. RA SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, ANY LOST PROFITS AND LOST SAVINGS, LOSS OF USE OR INTERRUPTION OF BUSINESS, HOWEVER CAUSED, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), BREACH OF WARRANTY, STRICT LIABILITY OR OTHERWISE, EVEN IF RA HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT WILL RA BE LIABLE FOR THE COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES. RA DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED OR OF ANY NATURE, WITH REGARD TO THE SERVICES AND THE REPORT, INCLUDING, WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Report - RA will complete the services in accordance with the Proposal. The Report represents a valid opinion of RA's findings and recommendations with respect to the reserve study and is deemed complete. RA will consider any additional information made available to RA within 6 months of issuing the Report and issue a revised Report based on such additional information if a timely request for a revised Report is made by you. RA retains the right to withhold a revised Report if payment for services was not tendered in a timely manner. All information received by RA and all files, work papers or documents developed by RA during the course of the engagement shall remain the property of



RA and may be used for whatever purpose it sees fit. RA reserves the right to, and you acknowledge and agree that RA may, use any data provided by you in connection with the services, or gathered as a result of providing such services, including in connection with creating and issuing any Report, in a de-identified and aggregated form for RA's business purposes.

Your Obligations - You agree to provide us access to the subject property for an inspection. You agree to provide RA all available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete the Report. Additionally, you agree to provide historical replacement schedules, utility bills and historical energy usage files that RA requests and deems necessary to complete the energy benchmarking services, and you agree to provide any utility release(s) reasonably requested by RA permitting RA to obtain any such data and/or information from any utility representative or other third party. You agree to pay actual attorneys' fees and any other costs incurred to collect on any unpaid balance for RA's services.

Use of Our Report and Your Name - Use of the Report is limited to only the purpose stated herein. You acknowledge that RA is the exclusive owner of all intellectual property rights in and relating to the Report. You hereby acknowledge that any use or reliance by you on the Report for any unauthorized purpose is at your own risk and that you will be liable for the consequences of any unauthorized use or distribution of the Report. Use or possession of the Report by any unauthorized third party is prohibited. The Report in whole or in part ***is not and cannot be used as a design specification for design engineering purposes or as an appraisal.*** You may show the Report in its entirety to the following third parties: members of your organization (including your directors, officers, tenants and prospective purchasers), your accountants, attorneys, financial institutions and property managers who need to review the information contained herein, and any other third party who has a right to inspect the Report under applicable law including, but not limited to, any government entity or agency, or any utility companies. Without the written consent of RA, you shall not disclose the Report to any other third party. By engaging our services, you agree that the Report contains intellectual property developed (and owned solely) by RA and agree that you will not reproduce or distribute the Report ***to any party that conducts reserve studies without the written consent of RA.***

RA will include (and you hereby agree that RA may include) your name in our client lists. RA reserves the right to use (and you hereby agree that RA may use) property information to obtain estimates of replacement costs, useful life of property elements or otherwise as RA, in its sole discretion, deems appropriate.

Payment Terms, Due Dates and Interest Charges - If reserve study and energy benchmarking services are performed by RA, then the retainer payment is due upon execution of this agreement and prior to the inspection by RA, and any balance is due net 30 days from the Report shipment date. If only energy benchmarking services are performed by RA, then the retainer payment is due upon execution of this agreement and any balance is due net 30 days from the Report shipment date. In any case, any balance remaining 30 days after delivery of the Report shall accrue an interest charge of 1.5% per month. Unless this agreement is earlier terminated by RA in the event you breach or otherwise fail to comply with your obligations under this agreement, RA's obligations under this agreement shall commence on the date you execute and deliver this agreement and terminate on the date that is 6 months from the date of delivery of the Report by RA. Notwithstanding anything herein to the contrary, each provision that by its context and nature should survive the expiration or early termination of this agreement shall so survive, including, without limitation, any provisions with respect to payment, intellectual property rights, limitations of liability and governing law. We reserve the right to limit or decline refunds in our sole discretion. Refunds vary based on the applicable facts and circumstances.

Miscellaneous – Neither party shall be liable for any failures or delays in performance due to fire, flood, strike or other labor difficulty, act of God, act of any governmental authority, riot, embargo, fuel or energy shortage, pandemic, wrecks or delays in transportation, or due to any other cause beyond such party's reasonable control; provided, however, that you shall not be relieved from your obligations to make any payment(s) to RA as and when due hereunder. In the event of a delay in performance due to any such cause, the time for completion or date of delivery will be extended by a period of time reasonably necessary to overcome the effect of such delay. You may not assign or otherwise transfer this agreement, in whole or in part, without the prior written consent of RA. RA may freely assign or otherwise transfer this agreement, in whole or in part, without your prior consent. This agreement shall be governed by the laws of the State of Wisconsin without regard to any principles of conflicts of law that would apply the laws of another jurisdiction. Any dispute with respect to this agreement shall be exclusively venued in Milwaukee County Circuit Court or in the United States District Court for the Eastern District of Wisconsin. Each party hereto agrees and hereby waives the right to a trial by jury in any action, proceeding or claim brought by or on behalf of the parties hereto with respect to any matter related to this agreement.