



April 13, 2023

Mandi Mueller, Community Manager
SMITH MANAGEMENT GROUP
1630 Des Peres Rd
St. Louis, MO, 63131

Via Email: *MMueller@smithmgmt.com*
Property: **Appletree Condominiums**
1139 Appleseed Ln, Olivette, 63132

Service: **FULL RESERVE STUDY**

Project No.: 202212-10

Attachment: Draft Report

Dear Ms. Mueller and Members of the Board,

Criterium-Hardy Engineers has completed an Full Reserve Study for the Appletree Condominium Association. Enclosed is our report for your review.

This Reserve Study has been performed in general accordance with Community Association Institute (CAI) National Reserve Study Standards.

Our report should be reviewed in its entirety, including its Appendices which contain the financial analysis, captioned photographs, and reference documents.

Criterium-Hardy Engineers appreciates this opportunity to assist Smith Management Group, in support of the Appletree Condominiums Condominium Association's facility and financial planning.

Thank you.

Criterium-Hardy Engineers

Ross Hardy

Appletree Condominium Association Reserve Study

Prepared for:

**Board of Directors
Appletree Condominiums
Olivette, MO**

Prepared By:



700 Spirit of St Louis Blvd, Ste A
Chesterfield, MO 63005
314-878-0806



Site Inspection performed January 10, 2023
Submitted April 13, 2023



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1.0 INTRODUCTION

Following authorization by the Appletree Condominiums's Board of Directors, Criterium-Hardy Engineers has conducted a Full Reserve Study of your 80 unit residential community located at 1139 Appleseed Ln in Olivette, MO. Our work is consistent with our proposal dated 4/21/2022.

This report must be reviewed in its entirety to understand our findings and their limitations. The Appendices are an integral part of this report and must be included in any review. Please refer to Appendix D for definitions of common terms of reference used herein.

We have conducted the study in general accordance with the National Reserve Study Standards published by the Community Association Institute (CAI). Please refer to Appendix D which contains a copy of the CAI standard.

This study was conducted by licensed Professional Engineers and other qualified staff working under the responsible charge of a CAI-certified Reserve Specialist. Please refer to Appendix E for the qualifications of the project team.

Ross Hardy of Criterium-Hardy Engineers performed this study. This report is principally based on our visual site inspection on January 10, 2023.

Ross Hardy, RS prepared this report and the attached financial analysis. Kyle Hardy, PE^(MO) of Criterium-Hardy Engineers reviewed their findings.

Criterium-Hardy Engineers presents this confidential report for the Board's review and use.

In reviewing the engineering assumptions, cost estimates and projected fund values herein, please understand that their accuracy diminishes as time passes. Long range facility maintenance projections are intended only to indicate the likely pattern of reserve expenditures and to guide financial planning.

Criterium-Hardy Engineers agrees with CAI's recommendation that reserve studies should be updated regularly to allow periodic adjustment of facility plans and funding strategies.

2.0 EXECUTIVE SUMMARY

In summary, as a result of our on-site inspections and other investigations, we find the common components of the property to be in fair general condition and moderately-maintained.

We have identified an inventory of Association-responsible common components which are likely to require periodic repair or replacement or other recurrent reserve investment.

We have formed an opinion of the remaining useful life of each component. We have estimated the current cost of required reserve expenditures for their repair or replacement. We have projected annual reserve budgets over a 20-year planning period.

In summary, the 20-year total of projected reserve expenditures, (current dollar cost estimates inflated at 3.50 % annually), is \$2,052,282.

The Board has provided us with information on the Association's Reserve Fund and the current funding plan. Our initial financial analysis was based on the data supplied.

Our projections indicate that the current reserve fund contributions will not be adequate.

	Current Funding Plan	Funding Plan 1 - Dollar Increases	Funding Plan 2 - Percentage Increases
ASSOCIATION			
Starting Balance	\$16,961	\$16,961	\$16,961
Contributions	\$2,020,264	\$2,260,000	\$2,246,828
Additional Capital	\$0	\$0	\$0
Interest / Returns	\$19,945	\$66,121	\$70,761
Expenditures	\$2,052,282	\$2,052,282	\$2,052,282
Ending Balance	\$4,888	\$290,800	\$282,268
OWNER			
Avg Contributions (/unit/year)	\$1,263	\$1,412	\$1,404
Avg Contributions (/unit/month)	\$105	\$118	\$117

3.0 PURPOSE & SCOPE

3.1. OBJECTIVES

The purpose of this reserve study is to determine a reserve needs plan for the Association, to evaluate the current rate of contribution to the reserve fund, and, if required, to suggest alternate funding strategies.

This report is intended to be used as a tool by the Association's Board for considering and managing its future financial obligations, for determining appropriate reserve fund allocations, and for informing the individual Owners of the Association's required reserve expenditures and the resulting financial plan.

For purposes of financial planning, Association-responsible expenses are typically divided into two categories:

- Operation and maintenance (O&M) of commonly-held elements of real property and other assets. These O&M expenses usually include taxes, insurance, property management costs and other service
- Reserve expenditures for major periodic repairs or replacement of commonly-held elements.

Long-term reserve expenditures, the funding plan and ensuring adequate Reserve Fund balances are the focus of this Reserve Study.

History demonstrates that, as time progresses, property conditions and management strategies will change. As a result, planned scopes of work may be altered or deferred. Actual cost in the marketplace will vary from estimates. Actual rates of inflation and returns on investment will vary from projections.

For these reasons, we concur with the Community Association Institute guidelines and recommend that this reserve study be updated every three to five years.

3.2. LEVEL OF SERVICE

The Community Association Institute (CAI) identifies four levels of service for Reserve Studies:

1. Full Reserve Study
2. Reserve Study Update, With Site Visit/On-Site Review
3. Reserve Study Update, No-Site-Visit/Off Site Review
4. Preliminary Reserve Study, Community Not Yet Constructed

All may be appropriate for a community, depending on the condition of the facility and the phase of their planning cycle. The CAI National Reserve Study Standard in *Appendix D* contains more detail on these levels of service and the scope of study of each of them.

Our current study is a Level I - Reserve Study with On-Site Analysis.

Criterium's actual scope of service is enhanced and exceeds the CAI standard in the Amount principal ways:

- Our investigation and evaluation of the property is performed by experienced professional engineers
- After preparing and submitting our initial analysis, we engage in collaborative review process with the Board, toward developing a financial plan more responsive to the needs of the Appletree Condominiums.

3.3. SOURCES OF INFORMATION

The following people were interviewed during our study:

- Mandi Mueller, Community Manager

The following unit interiors were inspected and/or their Owners were interviewed

- N/A

The following documents were provided to us and reviewed:

- Your Property Representative's explanation of the Association's maintenance responsibilities, and the Board's current facility plans.
- Provided Association information, including the current Reserve Fund balance and rate of contribution.

DRAFT

4.0 PHYSICAL ANALYSIS

4.1 PROPERTY DESCRIPTION

Appletree Condominiums is a residential community that consists of 80 residential units located within six (6) two-story condominium buildings. The community was developed in 1971. Access to the community is granted via the intersection of Appleseed Ln and Olive Blvd in Olivette, Missouri.

The land surrounding the community generally slopes from south to north. Building roofs drain to the ground via downspouts and extended/buried piping. Stormwater on the site drains via surface flow, armored swales, catch basins, or buried piping offsite or toward municipal systems. The asphalt streets and parking areas are privately maintained by the Association.

The building exterior surfaces are comprised of relatively low-maintenance materials. Pitched roofing on the condominium buildings is surfaced with Mansard style asphalt shingles with TPO membrane surfacing on the top of the buildings. Front and side facades are surfaced with brick veneer while the rear elevations are surfaced with vinyl lap siding. Limited trim components are aluminum or vinyl.

4.2 COMMON COMPONENTS

ASSET N°	NAME	NEXT REPL	EST LIFE	ADJ LIFE	REM USEFUL LIFE	UNIT COST	QTY	CURRENT COST
1	Resurface pool	1/1/2027	15y 0m	15y 0m	3y 0m	\$18.00	2800	\$50,400
2	Replace pool cover	1/1/2028	8y 0m	8y 0m	4y 0m	\$4.50	1550	\$6,975
3	Replace pool furniture	1/1/2031	7y 0m	7y 0m	7y 0m	\$3,500.00	1 Allow	\$3,500
4	Refurbish Club Room	1/1/2028	30y 0m	30y 0m	4y 0m	\$15,000.00	1 Allow	\$15,000
5	Replace shingles on Mansord roofs and carports	1/1/2025	20y 0m	20y 0m	1y 0m	\$315.00	310	\$97,650
6	Replace TPO roof membranes	1/1/2034	20y 0m	20y 0m	10y 0m	\$950.00	465	\$441,750
7	Replace vinyl siding - phase I	1/1/2037	40y 0m	40y 0m	13y 0m	\$6.00	6500	\$39,000
8	Replace vinyl siding - phase II	1/1/2039	40y 0m	40y 0m	15y 0m	\$6.00	6500	\$39,000
9	Allocations for future foundation/structural repairs	1/1/2032	8y 0m	8y 0m	8y 0m	\$15,000.00	1 Allow	\$15,000
10	Tuckpointing brick veneer	1/1/2029	5y 0m	5y 0m	5y 0m	\$14.00	255	\$3,570
11	Replace exterior light fixtures	1/1/2028	25y 0m	25y 0m	4y 0m	\$165.00	36 Ea	\$5,940
12	Replace entry doors	1/1/2039	30y 0m	30y 0m	15y 0m	\$850.00	18 Ea	\$15,300
13	Replace common stairwell windows	1/1/2036	30y 0m	30y 0m	12y 0m	\$550.00	18 Ea	\$9,900

ASSET N°	NAME	NEXT REPL	EST LIFE	ADJ LIFE	REM USEFUL LIFE	UNIT COST	QTY	CURRENT COST
14	Paint common stairwells	1/1/2024	12y 0m	12y 0m	0y 0m	\$750.00	18 Ea	\$13,500
15	Replace carpets in stairwells	1/1/2024	12y 0m	12y 0m	0y 0m	\$5.00	7200	\$36,000
16	Replace mailbox inserts	1/1/2030	40y 0m	40y 0m	6y 0m	\$400.00	18 Ea	\$7,200
17	Replace pool pumps and filters	1/1/2027	12y 0m	12y 0m	3y 0m	\$4,500.00	1 Ea	\$4,500
18	Allocation for common plumbing and electric repairs	1/1/2043	20y 0m	20y 0m	19y 0m	\$20,000.00	1	\$20,000
19	Allocation for buried sanitary and supply piping repairs	1/1/2043	20y 0m	20y 0m	19y 0m	\$20,000.00	1	\$20,000
20	Install new security cameras	1/1/2024	12y 0m	12y 0m	0y 0m	\$12,000.00	1	\$12,000
21	Full depth repairs of sections of streets and parking areas	1/1/2027	5y 0m	5y 0m	3y 0m	\$65.00	352.5	\$22,912
22	Crack seal, seal coat, and stripe asphalt streets	1/1/2027	5y 0m	5y 0m	3y 0m	\$2.00	7050	\$14,100
23	Mill and overlay asphalt roads - phase I	1/1/2027	20y 0m	20y 0m	3y 0m	\$18.00	1125	\$20,250
24	Mill and overlay asphalt roads - phase II	1/1/2037	20y 0m	20y 0m	13y 0m	\$18.00	3275	\$58,950
25	Mill and overlay asphalt roads - phase III	1/1/2042	20y 0m	20y 0m	18y 0m	\$18.00	2650	\$47,700
26	Sectional repairs to concrete surfaces	1/1/2024	5y 0m	5y 0m	0y 0m	\$135.00	43.75	\$5,906
27	Allocation for major retaining wall repairs/ replacement	1/1/2036	12y 0m	12y 0m	12y 0m	\$20,000.00	1 Allow	\$20,000
28	Replace metal fencing above retaining walls and around pool	1/1/2032	30y 0m	30y 0m	8y 0m	\$58.00	700	\$40,600
29	Replace/refurbish entrance monument	1/1/2040	30y 0m	30y 0m	16y 0m	\$15,000.00	1 Allow	\$15,000
30	Common area drainage improvements	1/1/2026	5y 0m	5y 0m	2y 0m	\$15,000.00	1 Allow	\$15,000
								\$1,839,090

Please refer to Appendix A for the Common Component Inventory.

Association-responsible common components include:

- Asphalt streets and parking areas
- All parts of the site storm water drainage systems
- Entrance monuments and signage
- General landscaping and grounds-keeping including retaining walls and fencing
- Concrete flatwork including sidewalks, walkways, porches, dumpster pads, and the pool deck
- Building exterior envelope – roofing, gutters, and exterior surfaces
- Interior corridors and stairwells
- Mailbox inserts
- Common interior and exterior lighting

- Entry doors to the condominium buildings
- Building foundations
- Buried water and sewer lateral piping
- An outdoor pool and associated mechanical systems

Individual Unit Owners are responsible for maintenance & repairs of their own:

- Interior fit-out, finishes and equipment
- Internal mechanical, electrical, and plumbing systems
- Unit windows and doors
- Decks and balconies

4.3 CONDITION ASSESSMENT

The following key observations were made about the current condition of the more significant and costly common elements of the property:

4.3.1 Amenities

Pool: The Association is responsible for maintaining an outdoor pool located at the northeast corner of the property. The pool has tile coping with Pebble Tec surfaces. It was unknown when the pool was last resurfaced. The pool was drained at the time of our visit and we observed limited cracking and general deterioration of the pool surfaces. Typically at the time of resurfacing, pools should be drained, minor cracks repaired, and surfaces recoated. We have budgeted funds for full resurfacing and repairs of the pool on a 15-year cycle beginning in 2026.

Pool Cover: The pool was uncovered at the time of our visit for minor plumbing repairs and pool deck replacement. We did not observe the pool cover. It is our understanding that the pool cover is a custom reinforced vinyl pool cover. We have allocated funding to replace the pool cover on an 8-year cycle beginning in 2028.

Pool Furniture: The pool furniture was in storage at the time of our visit and includes plastic chairs, tables, and loungers. The pool furniture appeared to be in generally good condition. We have allocated funding to replace the pool furniture as needed on a 7-year cycle beginning in 2031.

Club Room: A common community club room includes tables, chairs, and a restroom. Floors are carpeted and walls and ceiling are painted drywall. The clubroom was observed to be in generally fair condition, yet dated. We have allocated funding to refurbish/update the clubroom every 30-years beginning in 2028.

4.3.2 Building Interiors

The association is responsible for maintaining the interior residential common areas in the buildings, which include 18 entrance vestibules, stairwells, and landings. There are limited commercial tenant spaces in the basement and first floor of the building that are not maintained by the Homeowners Association.

Paint: The interior corridor walls and ceilings are painted or wallpapered drywall. Stairs and landings are carpeted. The interior walls and ceilings were in fair to poor condition with nicks, staining, and peeling wallpaper observed. It was reported at the time of our visit that the Association is planning to remove all wallpaper and paint the interior surfaces of the common corridors in the near-term. We have allocated funding to paint the interior corridors on a 12-year cycle beginning in 2024.

Carpets: The interior stairwells and landings are carpeted. The carpeting was observed be in generally fair to locally

poor condition. We have allocated funding to replace the interior carpets on a 12-year cycle beginning in 2024.

Mailbox Inserts: The entry vestibules include metal mailbox inserts. The mailbox inserts were observed to be in fair condition and are likely original. We have allocated funding to replace the mailbox inserts on a 40-year cycle beginning in 2030.

4.3.3 Building Structure and Exterior

All buildings are wood frame construction over concrete garage configuration. Exterior surfaces are maintained by the Association with the exception of unit windows and doors. Exterior surfaces are primarily comprised of brick veneer and vinyl siding.

Roofs and Gutters: The pitched Mansard style roof surfaces over the condominium buildings are covered in asphaltic fiberglass shingles with thermoplastic polyolefin (TPO) on top of the buildings. The 7 carports are surfaced in asphaltic fiberglass shingles as well. The Mansard roofs and carport roofs throughout the community appear to be reaching the end of their useful lives. We noted multiple missing or damaged shingles on the buildings. Staining, shingle curling, and granular loss was observed throughout. It was unknown when the asphalt roofs on the condominium buildings and car ports were last replaced. We have allocated funding to replace the Mansard roofs on the condominium buildings and the asphalt shingles on the carports on a 20-year cycle beginning in 2025.

The top of the condominium buildings are surfaced with TPO membrane. It was reported that the roofs were last replaced approximately 10 years ago. We noted limited wrinkling and evidence of standing water on the membrane surfaces. No reports of water intrusion were reported at the time of our visit. This type of roofing has an expected useful life of approximately 20 years. We strongly recommend that any re-roofing project closely follow procedures outlined by the National Roofing Contractors Association's Roofing and Waterproofing Manual. A re-roofing sequence should include removal of the existing roofing material, replacement of any inadequate roof sheathing, replacement of any damaged flashing, and replacement of drip edge components. Based on the current age and condition of the roofs, we have allocated funding for replacement of the roof membranes and gutters on a 20-year cycle, beginning in 2034.

It is likely that minor repairs and/or patching to vent boots, flashing, gutters, and individual shingles will be periodically required. We have assumed these minor repairs would be funded from an annual maintenance budget.

Vinyl Siding: The rear elevations of the condominium buildings are clad in vinyl siding. It was reported that the vinyl siding on the buildings was last replaced in 1997 and was observed to be in generally good condition. Assuming repairs are completed in the interim, this type of siding has an expected useful life of approximately 40 years. We have allocated funding to replace the vinyl siding on the condominium buildings in two phases beginning in 2037.

Structural/Foundation: The foundations are cast concrete with garages under the buildings. No history of foundation or structural repairs was reported at the time of our visit. Based upon our observations and the age of the buildings, it is likely that future foundation/structural repairs may be required. These repairs may include foundation stabilization with helical piers, stabilizing foundation walls, repairing structural framing components, repairing/replacing columns/girders, and other foundation/structural repairs. We have allocated contingency funding for future foundation repairs as needed on an 8-year cycle beginning in 2032.

Tuckpointing: The exterior brick veneer on the buildings was observed to be in generally good condition. No history of significant tuckpointing repairs was reported. Mortar joints and brick integrity on the condominium buildings appeared to be in generally good condition, with limited areas of deterioration and previous repairs observed. Based upon the age of the buildings, it is likely that cracking and deterioration of the mortar joints will continue occur over time and will require tuckpointing repairs. Tuckpointing is the process of raking and cutting out defective mortar and replacing it with new mortar. Tuckpoint repairs are recommended to retard moisture penetration. We have allocated funding to repair approximately 2% of the brick surfaces throughout the community every 5-years

beginning in 2029.

Exterior Light Fixtures: Wall mounted exterior light fixtures are located at the main entrances to the condominium buildings. The light fixtures were observed to be in fair condition and likely reaching the end of their useful lives. Exterior light fixtures of this age typically have a useful life of 25 years. In order to maintain aesthetic uniformity, we have allocated funding to replace all of the building entrance fixtures on a 25-year cycle beginning in 2028.

Windows & Doors: Each of the building entrances includes painted entry doors leading into the entrance vestibules and interior stairwells. The doors generally appeared to be in good condition. We anticipate the entry doors can have a useful life of up to 30 years with proper maintenance. We have allocated funding to replace the main entrance doors on a 30-year cycle beginning in 2039.

There are hollow wood doors providing interior access to the garages, as well as painted metal auxiliary entrance/exit doors at the rear of the buildings. We have assumed the interior and auxiliary doors will be replaced as needed as part of an annual operating budget.

There are double-hung common area windows in each common interior stairwell. The windows were generally observed to be in good to fair condition. We have allocated funds to replace the windows on a 30-year cycle beginning in 2036.

Decks and Balconies: Limited balconies are installed at the exterior of the condominium buildings. It was reported that maintenance, repairs, and replacement of the decks and balconies are the responsibility of the individual unit owners.

Painting: The exterior painted surfaces on the carports generally appeared to be in fair condition. We noted areas of flaking paint as well as dry rot and general deterioration in portions of wood structures. It is unknown when the carports were last painted. We have assumed the carports will be painted as needed as part of an annual operating budget. Painting cycles should include adequate surface preparation followed by 2 coats of a high-quality exterior grade paint/stain. Occasional touch-up painting may be required prior to the next paint cycle and should be funded through an annual operating budget as well.

4.3.4 Mechanical, Electrical and Plumbing Systems

Pool Pumps and Filters: The property includes a centrally located in-ground pool. The pool is serviced by a 1 and 2 HP pump and two sand filters. It appeared that the pool mechanical equipment was functioning adequately, and no issues were reported. The age of the pool mechanical systems is unknown. These pump and filtration systems have an expected useful life of 10-15 years and are typically replaced as they fail. We have allocated funds to replace the pumps and filters on a 12-year cycle, beginning in 2025.

Plumbing and Electric: The Association is responsible for maintaining the common area plumbing and electrical systems. There were no reports of recent common plumbing or electrical repairs at the time of our visit. While these systems generally have an expected useful life beyond the term of this study, we have allocated funds as a contingency to repair the plumbing and electrical systems as needed at the end of this study.

Buried Piping: The Association is responsible for buried potable water supply piping and sanitary and storm sewer piping between the condominium buildings and the municipal maintained systems. We have provided an allocation of contingency funds for concealed and buried plumbing piping repairs at the end of this study. Note that the Association may consider video borescope inspections of the sanitary sewer piping to determine condition of the piping. Root treatment and hydrojetting may be viable options for repairing/cleaning out buried sanitary sewer piping.

Security Cameras: The common grounds include 16 cameras that were reported to not be in service. It was also reported that the Association is in the process of obtaining proposals to install a new camera system. Security

systems of this nature typically have a useful life of 10-12 years. We have allocated funding to replace/modernize the security cameras on a 12-year cycle beginning immediately in 2024.

Interior Fixtures: Common corridors and stairwells include ceiling mounted light fixtures that were observed to be in fair condition and aged. Due to the limited number of interior fixtures, we have assumed that future replacement of the interior light fixtures will occur as needed and be funded as part of an annual operating budget.

4.3.5 Site Improvements

Asphalt Streets and Parking Areas: The asphalt streets and parking areas throughout the community are privately maintained by the Association. The asphalt surfaces are generally in good condition, with the exception of under the carports. In some areas, we noted limited areas of localized fatigue cracking, which will need eventual repair. Localized areas of poor asphalt are evidenced by significant fatigue cracking, rutting, and potholes. Areas of fatigue cracking, upheaval and pot holes will require full depth reclamation to repair. This would include saw cutting and removing sections of paving, repairing base course/sub-grade as needed and installing new 2" to 4" thick asphalt paving. We have allocated funds for full depth repairs of approximately 5% of the asphalt surfaces on a 5-year cycle beginning in 2027.

Typically, we recommend the application of an oil resistant sealant to all asphalt paved surfaces on an approximately 5-year cycle. At this same time, all cracks should be properly filled, patched, and sealed. We have allocated funds for crack repair, seal coating and re-stripping the pavement on a 5-year cycle, beginning in 2027 in conjunction with the scheduled sectional repairs.

It was reported that the asphalt streets were last resurfaced in phases beginning in 2017 with the western streets, followed by the southern and eastern streets in 2022. It was unknown when the asphalt below the carports was last resurfaced. Residential asphalt pavements generally have a lifespan of 20-25 years assuming normal maintenance and traffic. We have allocated funds to resurface all of the asphalt paved areas in the community in three phases beginning with the surfaces below the carports in 2027. Phases 2 and 3 are scheduled for resurfacing based upon historical resurfacing in 2017 and 2022. Resurfacing would include repairing areas of fatigue cracking, upheaval, and other subsurface failures, followed by milling of areas of the paving to maintain adequate drainage profiles and transitions to sidewalks/driveways. Final repairs will require surface preparations and installing a new layer of asphalt paving approximately 1.5 to 2" thick over all areas of paving.

Concrete Flatwork: The Association is responsible for maintaining the concrete flatwork throughout the community, which includes walkways, sidewalks, entrance stoops, and dumpster pads. It was reported that the concrete patios at the rear of individual units is the responsibility of said homeowner. The concrete surfaces throughout were observed to be in generally fair condition, with localized repairs likely required in the near term. Moderate cracking, surface deterioration, settling, and upheaval was observed throughout the concrete surfaces. We have allocated funding for concrete repairs for approximately 5% of the concrete flatwork on 5-year cycle beginning in 2024.

It should be noted that the Association was currently in the process of replacing the concrete pool deck at the time of our visit. We anticipate replacement of the pool deck will fall outside the scope of this study. Minor repairs to the future pool deck should be funded as part of an annual operating budget.

Retaining Walls: Concrete masonry block retaining walls are installed at elevation changes throughout the community. A new block retaining wall has been installed north of Woodbridge Crossing Dr at a reported cost of \$60K. The concrete block walls were observed to be in generally good condition and can have an indeterminately long useful lives with the benefit of inspection and capital repairs every 8 to 10 years. We noted limited separation and deterioration in portions of the block retaining walls, particularly along the north elevation of Building 1159. We recommend the Association plan for a complete inspection and partial replacement of concrete blocks every 12 years. We have allocated funds for major repairs to approximately 5% of the block retaining walls on an 8-year cycle, beginning in 2036.

Fencing: The Association is responsible for maintaining approximately 700 linear feet of aluminum fencing installed above portions of the block retaining walls and at the entrance to the outdoor pool. The fencing was observed to be in generally good condition. We noted that portions of the fencing along the western perimeter of the property was slightly. Fencing of this nature can have a useful life expectancy of 25-30 years with ongoing maintenance. We have allocated funding to replace the metal fencing and railings throughout the community on a 30-year cycle beginning in 2032.

It should be noted that the pool is currently enclosed with metal entrance fencing and wood fencing along the perimeter. It was reported that the Association is planning to replace the wood fencing around the perimeter of the pool in 2023 with a vinyl fence. We do not anticipate the need to replace the new vinyl fencing within the scope of this study.

Entrance Monuments: Brick columns with cast concrete caps support an aluminum identifier sign at the entrance to the community. The brick columns and sign were observed to be in generally good condition. It is likely that the entrance monuments will require repairs or refurbishment every 25 to 30 years. Refurbishment may include repairing/replacing the entrance monuments, landscape lighting, and irrigation systems. We have allocated funds to renovate the entrance monuments on a 30-year cycle, beginning in 2040.

Drainage: Storm water on the site drains via surface flow or via landscaped and armored swales toward catch basins and curb inlets in the paved and landscaped areas offsite or to local municipal systems

The drainage systems generally appeared to be in good condition. Downspouts discharge to grade or extend to buried piping that discharges stormwater away from the building foundations. Armored swales are installed in areas of heavy stormwater flow. The drainage swales and piping will tend to accumulate sediment that settles out during storm events and will need to be periodically removed and/or re-graded. We noted limited soil erosion, particularly around landscaped drainage basins.

We recommend maintaining adequate soil stabilizing ground cover to reduce erosion concerns. Repairs will likely include retrenching of swales to improve flow, adding or augmenting rip rap or vegetation to stabilize exposed or steep areas, repairing erosion concerns, extending gutter downspouts to underground systems, installing french drains or other types of minor drainage systems. In addition, over time, small landscape drainage systems will likely need to be installed in flat areas of the community to address drainage concerns. We have allocated funds for ongoing repairs the drainage systems as needed on a 5-year cycle beginning in 2026.

4.4 LIFE & VALUATION

4.4.1 *Opinions of Useful Life*

Simply stated, for components which require periodic reserve expenditures for their repairs or replacement, the frequency of work equals the typical, industry accepted expected useful life (EUL) for the type of feature,

And, theoretically, the remaining useful life (RUL) of a component before the next reserve expenditure for its repair or replacement is equal to the difference between its EUL and its age:

$$\text{RUL} = \text{EUL} - \text{Age}$$

However, the condition and rate of deterioration of the association's assets rarely conform to such simple analysis. And, often, a property's history and available documentation does not provide any record of a particular component's actual age.

In our experience, the effective age and actual RUL of an installed item vary greatly from its actual age and calculated RUL. These variances depend on the quality of its original materials and workmanship, level of service, climatic exposure, and ongoing maintenance. As part of Criterium's work on this reserve study, we have determined our opinion of the effective age, EUL and RUL of each common component based on our evaluation of its existing condition and considering those factors.

When it seems appropriate, we will spread some budgets over multiple years. However, it is beyond the scope of this reserve study to prioritize the need for work between a number of buildings or installed locations or to closely specify or breakdown phased work packages.

In summary, we have based our opinion of the remaining useful life and expected frequency and schedule of repair for each common component on some or all of the following:

- Actual or assumed age
- Observed existing condition
- Association's or Property Manager's maintenance history and plan
- Our experience with actual performance of such components under similar service and exposure
- Our experience managing the repairs and replacements of such components

We use the following documentation to guide our considerations:

- Fannie Mae - Expected Useful Life Tables National Association of Home Builders - Life Expectancy of Components
- Marshall & Swift Valuation Service Expected Life Expectancies

4.4.2 Cost Estimating

In developing our estimate of reserve expenditure for most common components, we have estimated a quantity of each item and also a unit cost for its repair or replacement. In some cases, it is more appropriate to estimate a lump sum cost for a required work package or 'lot'.

Unless directed to take a different approach, we assume that contract labor will perform the work and apply appropriate installer's mark-ups on supplied material and equipment. When required, our estimated costs include demolition and disposal of existing materials, and protection of other portions of the property.

When appropriate for large reserve projects, we will also include soft costs for design and project management,

and typical general contractor's cost for general conditions, supervision, overhead and profit.

We have based our opinion of unit and lump sum costs on some or all of the following:

- Records of previous maintenance expenses
- Previously solicited Vendor quotations or Contractor proposals
- Provided reserve budgets developed by others
- Our project files on repairs and replacements at other properties

We use the following publications to guide our considerations:

- On-Line R S Means - Construction Cost Data
- Marshall & Swift Valuation Service - Facility Cost Index

Annual aggregated reserve expenditure budgets have been calculated for all years during the study period by inflating the annual tallies of current dollar cost estimates, and compounding for inflation at 3.50 % per year.

Of course, it is impossible to accurately predict inflation fluctuation. Three percent is close to the average annual values of both consumer and construction cost increases since the US Bureau of Labor Statistics started publishing data approximately 85 years ago.

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5.0 FINANCIAL ANALYSIS

Please refer to Appendix A which contains tables illustrating the findings following below.

5.1 RESERVE EXPENDITURE PROJECTION

Based on our investigations and estimates described in Section 4 of this report, we have identified likely reserve expenditures throughout the study period.

For detailed information on projected reserve expenditures, please refer to the Appendix A tables titled “Common Component Inventory & Reserve Expenditure Planning” and “Annual Reserve Expenditures 20-Year Budget Projection.”

Please note that we have assumed that the cost of minor repair & replacement work valued at less than \$2,000 will be covered by normal Operations & Maintenance budgets.

Our projections also include a suggested minimum annual balance threshold for your funding, which is referred to as the Threshold Level. This is equal to two times the average annual expenditures over the 20-year study period.

We have not included any reserve budget allowances for repair of casualty damage by vehicle impact, severe storm action, etc. It is assumed that such expenses would be defrayed by proceeds of insurance claims.

5.2 CURRENT FUNDING

5.2.1 Board-Provided Information

At the time we were retained to provide this study, provided us with initial information on the Trust's Reserve Fund and its funding plan.

Our initial financial analysis was based on the information supplied.

Fiscal Year Starting Date:	Jan 1, 2024
For Designated Year:	2024
Starting Fund Balance:	\$16,961
On Date:	Jan 1, 2024
Current Rate of Contribution:	\$67,844
Planned Increases:	3.86 %
Planned Special Assessments:	\$0
Projected Average Return on Investment:	1.50 %
Projected Rate of Annual Inflation:	3.50 %

Financial data, records of past expenses, and cost estimates provided by others have been taken in good faith and at face value. No audit or other verification has been performed.

5.2.2 Current Funding Plan Projection

Our initial analysis was a projection of the Association's current rate of contribution forward over 20 years with no increases. For detailed data, please refer to the Appendix A tables and graphs titled "Reserve Fund - 20-Year Cash flow Projection - Current Funding Plan"

Given the reported \$16,961 starting balance of the Reserve Fund on Jan 1, 2024, the current ongoing rate of contribution of \$67,844, and an anticipated average rate of return on investment of 1.50 % per year, our financial analysis indicates that the Association's current funding will not prove sufficient to meet future needs.

The current funding rate is not projected to maintain a positive balance through the end of this study. The projected year-end balance at the end of the 20-year planning period in 2043 will be approximately \$4,888.

5.3 ALTERNATIVE FUNDING PLANS

For your association, we suggest an initial threshold equal to two times the average annual reserve expenditure in current dollars. This equals \$19,399 contributions in Year One. This current value is then adjusted for inflation over the study period leading to a future dollar threshold value of approximately \$25,522 in Year 20.

The alternate funding plans we have developed should maintain positive reserve balances throughout the study which will not fall far below this suggested range of minimum threshold values.

We have prepared 2 alternate funding plan(s) for the Board's consideration:

- **Dollar Funding Plan:** Beginning in Jan 1, 2024, annual contributions to the Reserve Fund should be \$85,000. Beginning in 2025, annual contributions should increase \$5,000 each year for the next 7 years (2032).
- **Percentage Funding Plan:** Beginning in Jan 1, 2024, annual contributions to the Reserve Fund should be \$95,000. Going forward, annual contributions should increase 3% annually for the next 7 years (2032).

We look forward to working with the Board to develop a satisfactory plan for their adoption.

5.4. FUNDING METHODOLOGIES (Background Information)

The Community Association Institute (CAI) recognizes several reserve funding methodologies, all of which may be used to satisfy these principles:

- Sufficient Funds When Required
- Stable Contribution Rate over the Years
- Evenly Distributed Contributions over the Years
- Fiscally Responsible

For the planning needs of your association, we have recommended a cash-flow projection approach. The projection considers anticipated annual expenditures and contributions to compute approximate year-end reserve fund balances throughout the study period. This methodology is consistent with standards suggested by CAI.

There are other methods of determining appropriate reserve funding levels. If you are interested, these are set forth in CAI's National Reserve Study Standard attached in Appendix D.

6.0 LIMITATIONS

STANDARDS AND LIMITATIONS

Criterium-Hardy Engineers shall perform duties to at least the professional standards consistent with a licensed, Professional Engineer, but does not guarantee or warrant that all adverse conditions concerning the property can be or will be discovered and included in the report. The photographs are an integral part of this report and must be included in any review.

This study is limited to the visual observations made during our inspection. We did not undertake any excavation, conduct any destructive or invasive testing, remove surface materials or finishes, or displace furnishings or equipment. The observations described in this study are valid on the dates of the investigation. Accordingly, we cannot comment on the condition of systems that we could not see, such as buried structures and utilities, nor are we responsible for conditions that could not be seen or were not within the scope of our services at the time of inspection.

We did not perform any computations or other engineering analysis as part of this study, nor did we conduct a comprehensive code compliance investigation.

This information in this study is not to be considered a warranty of condition, quality, compliance or cost. No warranty is implied.

Financial data, records of past expenses, and cost estimates provided by others have been taken in good faith and at face value. No audit or other verification has been performed.

Reserve budgets are opinions of likely expense based on reasonable cost estimates. We have not obtained competitive quotations or estimates from contractors. Actual costs can vary significantly, based on the specific scope of work developed, availability of materials and qualified contractors, and many other variables. We cannot be responsible for variances.

Criterium-Hardy Engineers does not offer financial counseling services. Although reasonable rates of inflation and return on investment must be assumed to calculate projected balances, no one can accurately predict actual economic performance. Although reserve fund management and investment may be discussed during the course of the study, we do not purport to hold any special qualifications in this area.

We recommend that the Board also seek other professional guidance before finalizing their current reserve fund planning activity. Depending on issues which may arise, an appropriate team of consultants to aid decision-making might include their property manager, accountant, financial counselor and attorney.

Criterium-Hardy Engineers prepared this confidential report for the review and use of the Board of the Association. We do not intend any other individual or party to rely upon this study without our express written consent. If another individual or party relies on this study, they shall indemnify, defend and hold Criterium-Hardy Engineers, its subsidiaries, affiliates, officers, directors, members, shareholders, partners, agents, employees and such other parties in interest specified by Criterium-Hardy Engineers harmless for any damages, losses, or expenses they may incur as a result of its use. Any use or reliance of the report by an individual or party other than shall constitute acceptance of these terms and conditions.

7.0 CONCLUSION

Criterium-Hardy Engineers appreciates this opportunity to assist in support of the Appletree Condominiums facility and financial planning. We are pleased to present this report for the Board's consideration and use.

To the best of our ability, we have attempted to work in the best interest of the Appletree Condominiums and to aid the Board toward fulfillment of their fiduciary responsibilities and obligations to the individual Unit Owners who comprise the association's membership.

In our professional opinion, and within the limitations disclosed elsewhere herein, all information contained herein is reliable and appropriate to guide the Board's deliberations and decision-making.

All of Criterium's work for this study has been carried out in strict accordance with the CAI Code of Ethics. We consider our report confidential and will not share its content with anyone but the Board without its knowledge and release.

We are unaware of any other involvement or business relationship between Criterium-Hardy Engineers and the Developer, or individual Unit Owners, or members of the Board, or any other entities which constitute any conflict of interest.

If you have any further questions or would like to direct additional, follow-on services, please contact Ross Hardy at 3145177030.

Criterium-Hardy Engineers appreciates this opportunity to assist the Board in support of the association's facility and financial planning. Thank you.

Thank you.

Respectfully submitted,

Criterium-Hardy Engineers



Ross A. Hardy, CAI RS
Project Manager
Inspection and Reporting



Kyle D. Hardy, PE(MO), CAI RS
President
Reviewing

APPENDICES

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APPENDIX A

FINANCIAL EXHIBITS

Reserve Study for Client:
Board of Directors

Property Manager:
Mandi Mueller

Association Information, Agreed Planning Assumptions and Current Reserve Funding Data

Association Information:

Number of units	80
Fiscal year starts	January 1, 2024
Fiscal year is designated as	2024

Construction History:

Initial building construction or first Unit occupancy	1971
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Study Information & Planning Assumptions:

Study period, duration in years	20
Study period starts	January 1, 2024
Rate of return on investment % (ROI) applied to reserve fund balances	1.50 %
Annual inflation rate (%) applied to future expenditure annual budgets	3.50 %

Current Funding Levels:

Estimated starting reserve fund balance	\$16,961
Current monthly reserve contribution	\$5,654
Current overall annual reserve contribution	\$67,844
Monthly average reserve contribution per unit	\$71

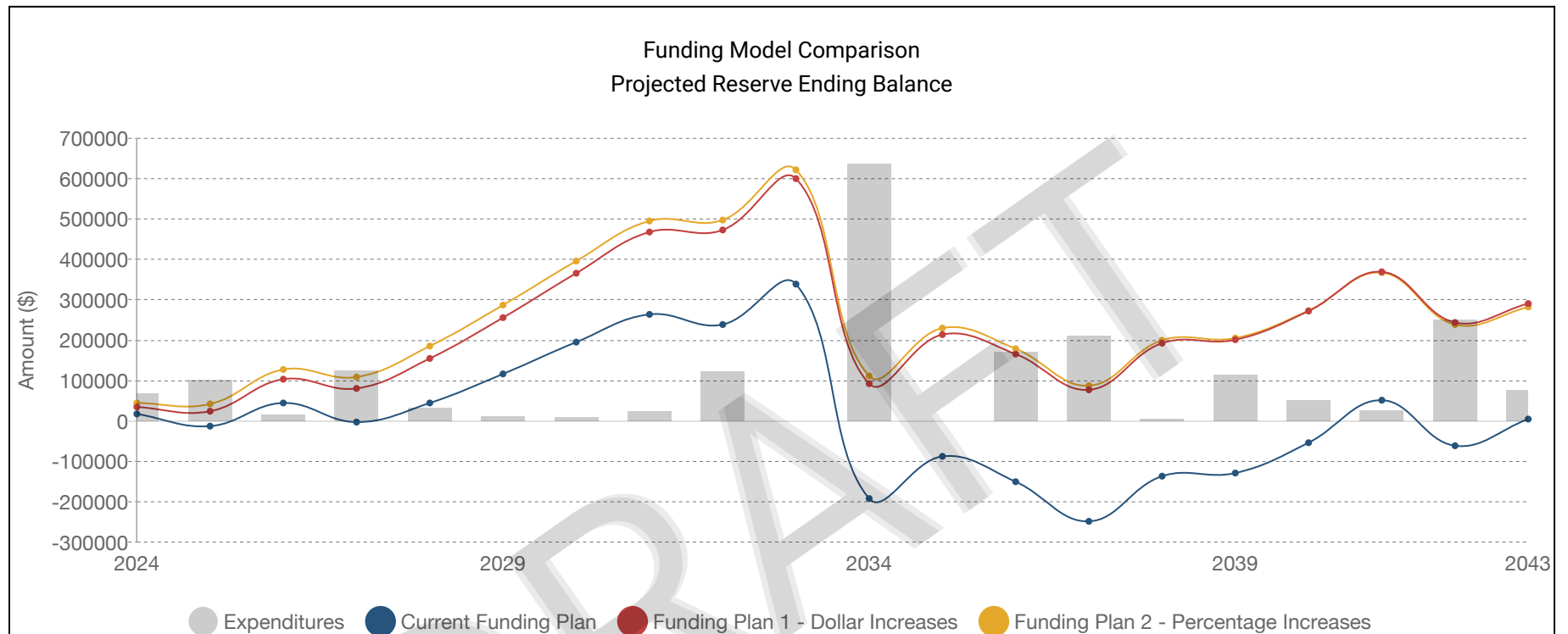
Annual average reserve contribution per unit

\$848

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20-Year Cash-Flow Projections - Summary Graph

Year No.	Fiscal Year	Projected Capital Expenditures	Year-End Reserve Fund Balances		Year-End Reserve Fund Balances	
			Current Funding Plan	Funding Plan 1 - Dollar Increases	Funding Plan 2 - Percentage Increases	
1	2024	\$67,406	\$17,653	\$34,809	\$44,809	
2	2025	\$101,068	(\$12,592)	\$24,264	\$42,264	
3	2026	\$16,068	\$44,720	\$103,559	\$127,615	
4	2027	\$124,354	(\$2,648)	\$80,759	\$108,984	
5	2028	\$32,033	\$44,686	\$154,937	\$185,509	
6	2029	\$11,255	\$116,644	\$256,006	\$287,167	
7	2030	\$8,851	\$195,388	\$365,995	\$396,059	
8	2031	\$23,537	\$264,059	\$467,948	\$495,301	
9	2032	\$121,956	\$238,914	\$473,011	\$497,613	
10	2033	\$0	\$339,060	\$600,107	\$621,915	
11	2034	\$636,499	(\$191,927)	\$92,609	\$111,582	
12	2035	\$0	(\$87,484)	\$213,998	\$230,094	
13	2036	\$171,315	(\$150,179)	\$165,893	\$179,068	
14	2037	\$211,077	(\$248,291)	\$77,304	\$87,515	
15	2038	\$5,665	(\$136,473)	\$192,798	\$200,001	
16	2039	\$114,386	(\$128,675)	\$201,304	\$205,453	
17	2040	\$52,020	(\$53,624)	\$272,304	\$273,353	
18	2041	\$26,920	\$51,609	\$369,469	\$367,371	
19	2042	\$250,971	(\$61,149)	\$244,039	\$238,748	
20	2043	\$76,900	\$4,888	\$290,800	\$282,268	



The chart above compares the projected annual reserve fund ending balances for the two funding plans.

Cash-Flow Projection at the Current Funding Plan Funding Level

Inflation: 3.50 % | Investment: 1.50 % | Calc: Inflation-Adjusted

YEAR	STARTING BALANCE	CONTRIBUTIONS	PERCENT CHANGE	INTEREST	SPECIAL ASSMNT	ADDITIONAL CAPITAL	EXPENDITURE FUTURE COST	ENDING BALANCE
2024	\$16,961	\$67,844	0.00 %	\$254	\$0	\$0	\$67,406	\$17,653
2025	\$17,653	\$70,558	4.00 %	\$265	\$0	\$0	\$101,068	(\$12,592)
2026	(\$12,592)	\$73,380	4.00 %	\$0	\$0	\$0	\$16,068	\$44,720
2027	\$44,720	\$76,315	4.00 %	\$671	\$0	\$0	\$124,354	(\$2,648)
2028	(\$2,648)	\$79,368	4.00 %	\$0	\$0	\$0	\$32,033	\$44,686
2029	\$44,686	\$82,543	4.00 %	\$670	\$0	\$0	\$11,255	\$116,644
2030	\$116,644	\$85,844	4.00 %	\$1,750	\$0	\$0	\$8,851	\$195,388
2031	\$195,388	\$89,278	4.00 %	\$2,931	\$0	\$0	\$23,537	\$264,059
2032	\$264,059	\$92,849	4.00 %	\$3,961	\$0	\$0	\$121,956	\$238,914
2033	\$238,914	\$96,563	4.00 %	\$3,584	\$0	\$0	\$0	\$339,060
2034	\$339,060	\$100,426	4.00 %	\$5,086	\$0	\$0	\$636,499	(\$191,927)
2035	(\$191,927)	\$104,443	4.00 %	\$0	\$0	\$0	\$0	(\$87,484)
2036	(\$87,484)	\$108,620	4.00 %	\$0	\$0	\$0	\$171,315	(\$150,179)
2037	(\$150,179)	\$112,965	4.00 %	\$0	\$0	\$0	\$211,077	(\$248,291)
2038	(\$248,291)	\$117,484	4.00 %	\$0	\$0	\$0	\$5,665	(\$136,473)
2039	(\$136,473)	\$122,183	4.00 %	\$0	\$0	\$0	\$114,386	(\$128,675)
2040	(\$128,675)	\$127,071	4.00 %	\$0	\$0	\$0	\$52,020	(\$53,624)

YEAR	STARTING BALANCE	CONTRIBUTIONS	PERCENT CHANGE	INTEREST	SPECIAL ASSMNT	ADDITIONAL CAPITAL	EXPENDITURE FUTURE COST	ENDING BALANCE
2041	(\$53,624)	\$132,153	4.00 %	\$0	\$0	\$0	\$26,920	\$51,609
2042	\$51,609	\$137,439	4.00 %	\$774	\$0	\$0	\$250,971	(\$61,149)
2043	(\$61,149)	\$142,937	4.00 %	\$0	\$0	\$0	\$76,900	\$4,888

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Alternative Funding 1 - Funding Plan 1 - Dollar Increases

Inflation: 3.50 % | Investment: 1.50 % | Calc: Inflation-Adjusted

YEAR	STARTING BALANCE	CONTRIBUTIONS	PERCENT CHANGE	INTEREST	SPECIAL ASSMNT	ADDITIONAL CAPITAL	EXPENDITURE FUTURE COST	ENDING BALANCE
2024	\$16,961	\$85,000	25.29 %	\$254	\$0	\$0	\$67,406	\$34,809
2025	\$34,809	\$90,000	5.88 %	\$522	\$0	\$0	\$101,068	\$24,264
2026	\$24,264	\$95,000	5.56 %	\$364	\$0	\$0	\$16,068	\$103,559
2027	\$103,559	\$100,000	5.26 %	\$1,553	\$0	\$0	\$124,354	\$80,759
2028	\$80,759	\$105,000	5.00 %	\$1,211	\$0	\$0	\$32,033	\$154,937
2029	\$154,937	\$110,000	4.76 %	\$2,324	\$0	\$0	\$11,255	\$256,006
2030	\$256,006	\$115,000	4.55 %	\$3,840	\$0	\$0	\$8,851	\$365,995
2031	\$365,995	\$120,000	4.35 %	\$5,490	\$0	\$0	\$23,537	\$467,948
2032	\$467,948	\$120,000	0.00 %	\$7,019	\$0	\$0	\$121,956	\$473,011
2033	\$473,011	\$120,000	0.00 %	\$7,095	\$0	\$0	\$0	\$600,107
2034	\$600,107	\$120,000	0.00 %	\$9,002	\$0	\$0	\$636,499	\$92,609
2035	\$92,609	\$120,000	0.00 %	\$1,389	\$0	\$0	\$0	\$213,998
2036	\$213,998	\$120,000	0.00 %	\$3,210	\$0	\$0	\$171,315	\$165,893
2037	\$165,893	\$120,000	0.00 %	\$2,488	\$0	\$0	\$211,077	\$77,304
2038	\$77,304	\$120,000	0.00 %	\$1,160	\$0	\$0	\$5,665	\$192,798
2039	\$192,798	\$120,000	0.00 %	\$2,892	\$0	\$0	\$114,386	\$201,304
2040	\$201,304	\$120,000	0.00 %	\$3,020	\$0	\$0	\$52,020	\$272,304

YEAR	STARTING BALANCE	CONTRIBUTIONS	PERCENT CHANGE	INTEREST	SPECIAL ASSMNT	ADDITIONAL CAPITAL	EXPENDITURE FUTURE COST	ENDING BALANCE
2041	\$272,304	\$120,000	0.00 %	\$4,085	\$0	\$0	\$26,920	\$369,469
2042	\$369,469	\$120,000	0.00 %	\$5,542	\$0	\$0	\$250,971	\$244,039
2043	\$244,039	\$120,000	0.00 %	\$3,661	\$0	\$0	\$76,900	\$290,800

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Alternative Funding 2 - Funding Plan 2 - Percentage Increases

Inflation: 3.50 % | Investment: 1.50 % | Calc: Inflation-Adjusted

YEAR	STARTING BALANCE	CONTRIBUTIONS	PERCENT CHANGE	INTEREST	SPECIAL ASSMNT	ADDITIONAL CAPITAL	EXPENDITURE FUTURE COST	ENDING BALANCE
2024	\$16,961	\$95,000	40.03 %	\$254	\$0	\$0	\$67,406	\$44,809
2025	\$44,809	\$97,850	3.00 %	\$672	\$0	\$0	\$101,068	\$42,264
2026	\$42,264	\$100,786	3.00 %	\$634	\$0	\$0	\$16,068	\$127,615
2027	\$127,615	\$103,809	3.00 %	\$1,914	\$0	\$0	\$124,354	\$108,984
2028	\$108,984	\$106,923	3.00 %	\$1,635	\$0	\$0	\$32,033	\$185,509
2029	\$185,509	\$110,131	3.00 %	\$2,783	\$0	\$0	\$11,255	\$287,167
2030	\$287,167	\$113,435	3.00 %	\$4,308	\$0	\$0	\$8,851	\$396,059
2031	\$396,059	\$116,838	3.00 %	\$5,941	\$0	\$0	\$23,537	\$495,301
2032	\$495,301	\$116,838	0.00 %	\$7,430	\$0	\$0	\$121,956	\$497,613
2033	\$497,613	\$116,838	0.00 %	\$7,464	\$0	\$0	\$0	\$621,915
2034	\$621,915	\$116,838	0.00 %	\$9,329	\$0	\$0	\$636,499	\$111,582
2035	\$111,582	\$116,838	0.00 %	\$1,674	\$0	\$0	\$0	\$230,094
2036	\$230,094	\$116,838	0.00 %	\$3,451	\$0	\$0	\$171,315	\$179,068
2037	\$179,068	\$116,838	0.00 %	\$2,686	\$0	\$0	\$211,077	\$87,515
2038	\$87,515	\$116,838	0.00 %	\$1,313	\$0	\$0	\$5,665	\$200,001
2039	\$200,001	\$116,838	0.00 %	\$3,000	\$0	\$0	\$114,386	\$205,453
2040	\$205,453	\$116,838	0.00 %	\$3,082	\$0	\$0	\$52,020	\$273,353

YEAR	STARTING BALANCE	CONTRIBUTIONS	PERCENT CHANGE	INTEREST	SPECIAL ASSMNT	ADDITIONAL CAPITAL	EXPENDITURE FUTURE COST	ENDING BALANCE
2041	\$273,353	\$116,838	0.00 %	\$4,100	\$0	\$0	\$26,920	\$367,371
2042	\$367,371	\$116,838	0.00 %	\$5,511	\$0	\$0	\$250,971	\$238,748
2043	\$238,748	\$116,838	0.00 %	\$3,581	\$0	\$0	\$76,900	\$282,268

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Current Reserve Items and Expenditure Planning

Grouped by Category

LOCATION ASSET N°	NAME	NEXT REPL	EST LIFE	ADJ LIFE	REM USEFUL LIFE	UNIT COST	QTY	CURRENT COST
Amenities								
1	Resurface pool	1/1/2027	15y 0m	15y 0m	3y 0m	\$18.00	2800	\$50,400
2	Replace pool cover	1/1/2028	8y 0m	8y 0m	4y 0m	\$4.50	1550	\$6,975
3	Replace pool furniture	1/1/2031	7y 0m	7y 0m	7y 0m	\$3,500.00	1 Allow	\$3,500
4	Refurbish Club Room	1/1/2028	30y 0m	30y 0m	4y 0m	\$15,000.00	1 Allow	\$15,000
								\$75,875
Building Exterior								
5	Replace shingles on Mansord roofs and carports	1/1/2025	20y 0m	20y 0m	1y 0m	\$315.00	310	\$97,650
6	Replace TPO roof membranes	1/1/2034	20y 0m	20y 0m	10y 0m	\$950.00	465	\$441,750
7	Replace vinyl siding - phase I	1/1/2037	40y 0m	40y 0m	13y 0m	\$6.00	6500	\$39,000
8	Replace vinyl siding - phase II	1/1/2039	40y 0m	40y 0m	15y 0m	\$6.00	6500	\$39,000
9	Allocations for future foundation/structural repairs	1/1/2032	8y 0m	8y 0m	8y 0m	\$15,000.00	1 Allow	\$15,000
10	Tuckpointing brick veneer	1/1/2029	5y 0m	5y 0m	5y 0m	\$14.00	255	\$3,570
11	Replace exterior light fixtures	1/1/2028	25y 0m	25y 0m	4y 0m	\$165.00	36 Ea	\$5,940
12	Replace entry doors	1/1/2039	30y 0m	30y 0m	15y 0m	\$850.00	18 Ea	\$15,300
13	Replace common stairwell windows	1/1/2036	30y 0m	30y 0m	12y 0m	\$550.00	18 Ea	\$9,900

LOCATION ASSET N°	NAME	NEXT REPL	EST LIFE	ADJ LIFE	REM USEFUL LIFE	UNIT COST	QTY	CURRENT COST
								\$667,110
Building Interior								
14	Paint common stairwells	1/1/2024	12y 0m	12y 0m	0y 0m	\$750.00	18 Ea	\$13,500
15	Replace carpets in stairwells	1/1/2024	12y 0m	12y 0m	0y 0m	\$5.00	7200	\$36,000
16	Replace mailbox inserts	1/1/2030	40y 0m	40y 0m	6y 0m	\$400.00	18 Ea	\$7,200
								\$56,700
Mechanical								
17	Replace pool pumps and filters	1/1/2027	12y 0m	12y 0m	3y 0m	\$4,500.00	1 Ea	\$4,500
18	Allocation for common plumbing and electric repairs	1/1/2043	20y 0m	20y 0m	19y 0m	\$20,000.00	1	\$20,000
19	Allocationg for buried sanitary and supply piping repairs	1/1/2043	20y 0m	20y 0m	19y 0m	\$20,000.00	1	\$20,000
20	Install new security cameras	1/1/2024	12y 0m	12y 0m	0y 0m	\$12,000.00	1	\$12,000
								\$56,500
Site								
21	Full depth repairs of sections of streets and parking areas	1/1/2027	5y 0m	5y 0m	3y 0m	\$65.00	352.5	\$22,912
22	Crack seal, seal coat, and stripe asphalt streets	1/1/2027	5y 0m	5y 0m	3y 0m	\$2.00	7050	\$14,100
23	Mill and overlay asphalt roads - phase I	1/1/2027	20y 0m	20y 0m	3y 0m	\$18.00	1125	\$20,250
24	Mill and overlay asphalt roads - phase II	1/1/2037	20y 0m	20y 0m	13y 0m	\$18.00	3275	\$58,950
25	Mill and overlay asphalt roads - phase III	1/1/2042	20y 0m	20y 0m	18y 0m	\$18.00	2650	\$47,700
26	Sectional repairs to concrete surfaces	1/1/2024	5y 0m	5y 0m	0y 0m	\$135.00	43.75	\$5,906

LOCATION ASSET Nº	NAME	NEXT REPL	EST LIFE	ADJ LIFE	REM USEFUL LIFE	UNIT COST	QTY	CURRENT COST
27	Allocation for major retaining wall repairs/replacement	1/1/2036	12y 0m	12y 0m	12y 0m	\$20,000.00	1 Allow	\$20,000
28	Replace metal fencing above retaining walls and around pool	1/1/2032	30y 0m	30y 0m	8y 0m	\$58.00	700	\$40,600
29	Replace/refurbish entrance monument	1/1/2040	30y 0m	30y 0m	16y 0m	\$15,000.00	1 Allow	\$15,000
30	Common area drainage improvements	1/1/2026	5y 0m	5y 0m	2y 0m	\$15,000.00	1 Allow	\$15,000
								\$260,418

Annual Reserve Expenditure Budget Projection

Annual Expenditure Table 2024 to 2033

LOCATION RESERVE ITEM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Amenities										
Refurbish Club Room					\$17,213					
Replace pool cover					\$8,004					
Replace pool furniture								\$4,453		
Resurface pool				\$55,880						
Total Amenities				\$55,880	\$25,217			\$4,453		
Building Exterior										
Allocations for future foundation/ structural repairs									\$19,752	
Replace exterior light fixtures					\$6,816					
Replace shingles on Mansord roofs and carports		\$101,068								
Tuckpointing brick veneer						\$4,240				
Total Building Exterior		\$101,068			\$6,816	\$4,240			\$19,752	
Building Interior										
Paint common stairwells	\$13,500									
Replace carpets in stairwells	\$36,000									

LOCATION RESERVE ITEM	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Replace mailbox inserts							\$8,851			
Total Building Interior	\$49,500						\$8,851			
Mechanical										
Install new security cameras	\$12,000									
Replace pool pumps and filters				\$4,989						
Total Mechanical	\$12,000			\$4,989						
Site										
Common area drainage improvements			\$16,068					\$19,084		
Crack seal, seal coat, and stripe asphalt streets				\$15,630					\$18,570	
Full depth repairs of sections of streets and parking areas				\$25,404					\$30,172	
Mill and overlay asphalt roads - phase I				\$22,452						
Replace metal fencing above retaining walls and around pool									\$53,462	
Sectional repairs to concrete surfaces	\$5,906					\$7,015				
Total Site	\$5,906		\$16,068	\$63,485		\$7,015		\$19,084	\$102,204	
Total	\$67,406	\$101,068	\$16,068	\$124,354	\$32,033	\$11,255	\$8,851	\$23,537	\$121,956	

Annual Reserve Expenditure Budget Projection

Annual Expenditure Table 2034 to 2043

LOCATION RESERVE ITEM	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Amenities										
Replace pool cover			\$10,540							
Replace pool furniture					\$5,665					
Resurface pool									\$93,618	
Total Amenities			\$10,540		\$5,665				\$93,618	
Building Exterior										
Allocations for future foundation/ structural repairs							\$26,010			
Replace common stairwell windows			\$14,960							
Replace entry doors						\$25,633				
Replace TPO roof membranes	\$623,132									
Replace vinyl siding - phase I				\$60,996						
Replace vinyl siding - phase II						\$65,338				
Tuckpointing brick veneer	\$5,036					\$5,981				
Total Building Exterior	\$628,168		\$14,960	\$60,996		\$96,952	\$26,010			
Building Interior										
Paint common stairwells			\$20,399							

LOCATION RESERVE ITEM	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Replace carpets in stairwells			\$54,396							
Total Building Interior			\$74,795							
Mechanical										
Allocation for common plumbing and electric repairs										\$38,450
Allocation for buried sanitary and supply piping repairs										\$38,450
Install new security cameras			\$18,133							
Replace pool pumps and filters						\$7,539				
Total Mechanical			\$18,133			\$7,539				\$76,900
Site										
Allocation for major retaining wall repairs/replacement			\$30,221							
Common area drainage improvements			\$22,666					\$26,920		
Crack seal, seal coat, and stripe asphalt streets				\$22,052					\$26,191	
Full depth repairs of sections of streets and parking areas				\$35,834					\$42,560	
Mill and overlay asphalt roads - phase II				\$92,195						
Mill and overlay asphalt roads - phase III									\$88,603	

LOCATION RESERVE ITEM	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Replace/refurbish entrance monument							\$26,010			
Sectional repairs to concrete surfaces	\$8,331					\$9,895				
Total Site	\$8,331		\$52,887	\$150,081		\$9,895	\$26,010	\$26,920	\$157,353	
Total	\$636,499		\$171,315	\$211,077	\$5,665	\$114,386	\$52,020	\$26,920	\$250,971	\$76,900

Reserve Expenditure Budget Projection Summary

YEAR	FUTURE DOLLARS
2024	\$67,406
2025	\$101,068
2026	\$16,068
2027	\$124,354
2028	\$32,033
2029	\$11,255
2030	\$8,851
2031	\$23,537
2032	\$121,956
2033	\$0
2034	\$636,499
2035	\$0
2036	\$171,315
2037	\$211,077
2038	\$5,665
2039	\$114,386
2040	\$52,020
2041	\$26,920
2042	\$250,971
2043	\$76,900
Total Future Cost - With Inflation	\$2,052,282
Total Current Cost - No Inflation	\$1,939,929

APPENDIX B

GRAPHIC EXHIBITS

Balance Sheet Report

Appletree Condominium Association

As of April 30, 2023

	<u>Balance Apr 30, 2023</u>	<u>Balance Mar 31, 2023</u>	<u>Change</u>
<u>Assets</u>			
Operating Funds			
1000 - PPB OPER #2148	41,759.67	6,472.72	35,286.95
1650 - Due To/From Reserves	11,710.55	11,710.55	0.00
Total Operating Funds	53,470.22	18,183.27	35,286.95
Reserve Funds			
1325 - PPB RSV MM #2279	394,017.35	486,113.95	(92,096.60)
1651 - Due To/From Operating	(11,710.55)	(11,710.55)	0.00
Total Reserve Funds	382,306.80	474,403.40	(92,096.60)
Accounts Receivable			
1500 - Residential Assessments Receivable	(25,084.61)	4,158.24	(29,242.85)
Total Accounts Receivable	(25,084.61)	4,158.24	(29,242.85)
Other Current Assets			
1799 - Clearing Account	2,495.17	2,495.17	0.00
Total Other Current Assets	2,495.17	2,495.17	0.00
Total Assets	413,187.58	499,240.08	(86,052.50)
<u>Liabilities</u>			
Accounts Payable			
2010 - Delinquency Fee Payable	190.00	245.00	(55.00)
2015 - Returned Check Fee Payable	35.00	35.00	0.00
2061 - Insurance Claims Payable 1	31,718.76	31,718.76	0.00
Total Accounts Payable	31,943.76	31,998.76	(55.00)

Balance Sheet Report

Appletree Condominium Association

As of April 30, 2023

	<u>Balance Apr 30, 2023</u>	<u>Balance Mar 31, 2023</u>	<u>Change</u>
<u>Liabilities</u>			
Prepaid Assessments			
2550 - Prepaid Assessments	0.00	30,200.97	(30,200.97)
Total Prepaid Assessments	<u>0.00</u>	<u>30,200.97</u>	<u>(30,200.97)</u>
Total Liabilities	<u>31,943.76</u>	<u>62,199.73</u>	<u>(30,255.97)</u>
<u>Owners' Equity</u>			
Owners Equity - Prior Years			
3000 - Owners Equity - Prior Years	(20,280.55)	(20,280.55)	0.00
3005 - Equity Adjustments - Prior Periods	(54.14)	(54.14)	0.00
Total Owners Equity - Prior Years	<u>(20,334.69)</u>	<u>(20,334.69)</u>	<u>0.00</u>
Capital Reserves - Prior Years			
3102 - Repair & Replacement Reserve - Prior Yrs	438,833.00	438,833.00	0.00
3120 - Building Reserves - Prior Yrs	(29,340.59)	(29,340.59)	0.00
3228 - Pools & Spas Reserves - Prior Yrs	(6,632.57)	(6,632.57)	0.00
3272 - Capital Contributions - Prior Yrs	54,582.47	54,582.47	0.00
Total Capital Reserves - Prior Years	<u>457,442.31</u>	<u>457,442.31</u>	<u>0.00</u>
Capital Reserves - Current Year			
3280 - Rpr & Replacement Reserve - Current Yr	16,961.09	16,961.09	0.00
Total Capital Reserves - Current Year	<u>16,961.09</u>	<u>16,961.09</u>	<u>0.00</u>
Total Owners' Equity	<u>454,068.71</u>	<u>454,068.71</u>	<u>0.00</u>
 Net Income / (Loss)	 <u>(72,824.89)</u>	 <u>(17,028.36)</u>	 <u>(55,796.53)</u>
Total Liabilities and Equity	<u><u>413,187.58</u></u>	<u><u>499,240.08</u></u>	<u><u>(86,052.50)</u></u>

Spread Report

Appletree Condominium Association

2023 Approved Budget

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Assessment Income													
101170 - 4010 -- Condo/Townhome Assessment	22,286	22,287	22,286	22,286	22,287	22,286	22,286	22,287	22,286	22,286	22,287	22,286	267,436
101170 - 4025 -- Capital/Reserve Assts	5,654	5,653	5,654	5,654	5,653	5,654	5,654	5,653	5,654	5,654	5,653	5,654	67,844
Total Assessment Income	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	335,280
Total Income	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	27,940	335,280
Administrative													
101170 - 5000 -- General Administrative	208	209	208	208	209	208	208	209	208	208	209	208	2,500
Total Administrative	208	209	208	208	209	208	208	209	208	208	209	208	2,500
Communications													
101170 - 5210 -- Printing & Copying	13	12	13	12	13	12	13	12	13	12	13	12	150
101170 - 5215 -- Postage	2	2	2	2	2	3	2	2	2	2	2	2	25
Total Communications	15	14	15	14	15	15	15	14	15	14	15	14	175
Insurance													
101170 - 5460 -- Property Insurance Premiums	4,282	4,282	4,282	4,282	4,282	4,282	4,281	4,282	4,282	4,282	4,282	4,282	51,383
Total Insurance	4,282	4,282	4,282	4,282	4,282	4,282	4,281	4,282	4,282	4,282	4,282	4,282	51,383
Utilities													
101170 - 6000 -- Electric Service	650	650	650	650	650	650	650	650	650	650	650	650	7,800
101170 - 6025 -- Water Service	2,875	2,875	2,875	2,875	2,875	2,875	2,875	2,875	2,875	2,875	2,875	2,875	34,500
101170 - 6030 -- Sewer Service	3,308	3,309	3,308	3,308	3,309	3,308	3,308	3,309	3,308	3,308	3,309	3,308	39,700
101170 - 6035 -- Trash	638	638	638	638	638	638	637	638	638	638	638	638	7,655
101170 - 6055 -- Internet Service	86	87	86	86	86	87	86	86	86	87	86	86	1,035
Total Utilities	7,557	7,559	7,557	7,557	7,558	7,558	7,556	7,558	7,557	7,558	7,558	7,557	90,690
Landscaping													
101170 - 6100 -- Grounds & Landscaping - Contract	2,135	2,134	2,135	2,134	2,135	2,135	2,134	2,135	2,134	2,135	2,134	2,135	25,615
101170 - 6160 -- Tree Trim/Removal	333	334	333	333	334	333	333	334	333	333	334	333	4,000
101170 - 6199 -- Landscape Other	171	171	171	170	171	171	171	171	171	170	171	171	2,050
Total Landscaping	2,639	2,639	2,639	2,637	2,640	2,639	2,638	2,640	2,638	2,638	2,639	2,639	31,665
Contracted Services													
101170 - 6430 -- Janitorial Services	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	13,140
101170 - 6434 -- Pest Control	517	516	517	517	516	517	517	516	517	517	516	517	6,200
101170 - 6438 -- Pool/Clubhouse	392	391	392	392	391	392	392	391	392	392	391	392	4,700

Spread Report

Appletree Condominium Association

2023 Approved Budget

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Contracted Services													
101170 - 6442 -- Snow Removal Services	1,033	1,034	1,033	1,033	1,034	1,033	1,033	1,034	1,033	1,033	1,034	1,033	12,400
Total Contracted Services	3,037	3,036	3,037	3,037	3,036	3,037	3,037	3,036	3,037	3,037	3,036	3,037	36,440
Repair & Maintenance													
101170 - 6515 -- Building Repair & Maintenance	1,167	1,166	1,167	1,167	1,166	1,167	1,167	1,166	1,167	1,167	1,166	1,167	14,000
101170 - 6575 -- Carpet/Floor Cleaning & Repairs	225	225	225	225	225	225	225	225	225	225	225	225	2,700
101170 - 6695 -- Plumbing Supplies/Repair & Maintenance	683	684	683	683	684	683	683	684	683	683	684	683	8,200
101170 - 6710 -- Recreation Supplies/Repair & Maintenance	278	279	278	278	279	278	278	279	278	278	279	278	3,340
101170 - 6712 -- Sewer Clean Out	223	224	223	223	224	223	223	224	223	223	224	223	2,680
101170 - 6725 -- Roof/Vent/Gutter	105	106	105	106	105	106	105	105	106	105	106	105	1,265
101170 - 6752 -- Sidewalk/Driveway/Asphalt	129	129	130	129	129	129	129	129	130	129	129	129	1,550
101170 - 6795 -- Other Supplies/Repair & Maintenance	295	295	295	295	295	295	295	295	295	295	295	295	3,540
Total Repair & Maintenance	3,105	3,108	3,106	3,106	3,107	3,106	3,105	3,107	3,107	3,105	3,108	3,105	37,275
Professional Services													
101170 - 7000 -- Audit & Tax Services	40	39	40	39	40	40	39	40	39	40	39	40	475
101170 - 7025 -- Legal Services - Collections	16	17	16	16	16	17	16	16	16	17	16	16	195
101170 - 7030 -- Legal Services - General Counsel	182	183	182	182	183	182	182	183	182	182	183	182	2,188
101170 - 7040 -- Management Fees	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	14,400
Total Professional Services	1,438	1,439	1,438	1,437	1,439	1,439	1,437	1,439	1,437	1,439	1,438	1,438	17,258
Taxes													
101170 - 9000 -- Federal/State Taxes	4	4	5	4	4	4	4	4	5	4	4	4	50
Total Taxes	4	4	5	4	4	4	4	4	5	4	4	4	50
Other Expenses													
101170 - 9105 -- Reserve Contribution Expense	5,654	5,653	5,654	5,654	5,653	5,654	5,654	5,653	5,654	5,654	5,653	5,654	67,844
Total Other Expenses	5,654	5,653	5,654	5,654	5,653	5,654	5,654	5,653	5,654	5,654	5,653	5,654	67,844
Total Expense	27,939	27,943	27,941	27,936	27,943	27,942	27,935	27,942	27,940	27,939	27,942	27,938	335,280
Net Income / (Loss):	1	(3)	(1)	4	(3)	(2)	5	(2)	0	1	(2)	2	0

APPENDIX C

PHOTOGRAPHS

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Aerial view of the
Appletree
Condominium
Community

Photo Number
1



Description:

Entrance
monument

Photo Number
2

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Outdoor pool

Photo Number

3



Description:

Pool surfacing

Photo Number

4

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Pool plumbing
repairs

Photo Number

5



Description:

Club Room
entrance

Photo Number

6

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Interior of the
Club Room

Photo Number

7



Description:

Club Room
bathroom

Photo Number

8

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical front
elevation of the
condominium
buildings

Photo Number
9



Description:

Typical rear
elevation

Photo Number
10

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical side
elevation

Photo Number

11



Description:

Typical view of
the carports

Photo Number

12

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical balcony
maintained by unit
owners

Photo Number

13



Description:

View of the TPO
roofs from the rear
elevation

Photo Number

14

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

View of TPO
roofs

Photo Number

15



Description:

Evidence of
standing water

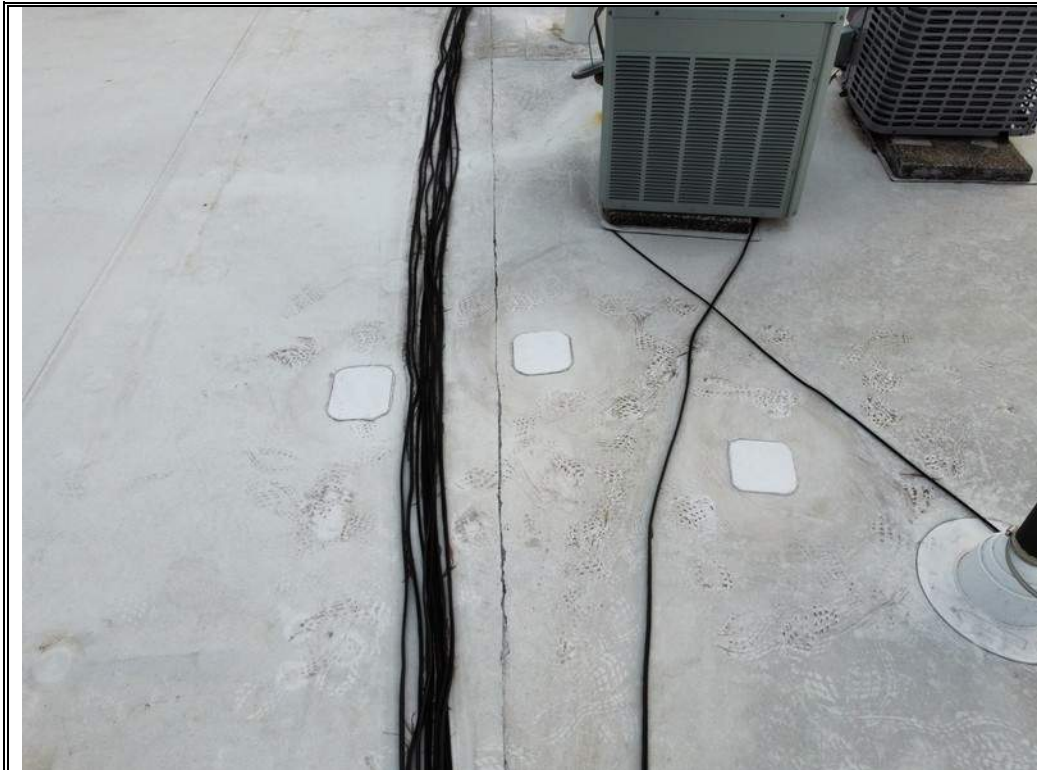
Photo Number

16

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Patching in the
TPO membrane

Photo Number
17



Description:

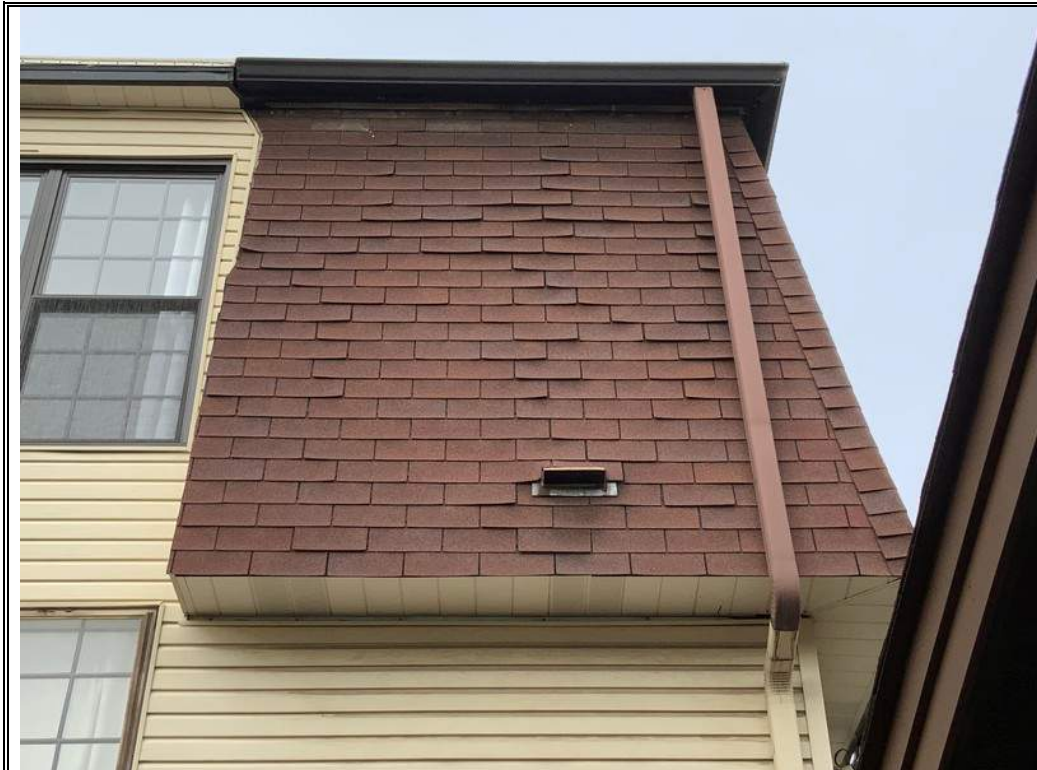
Damaged shingles

Photo Number
18

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Curled shingles

Photo Number

19



Description:

Curled shingles

Photo Number

20

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Damaged shingles

Photo Number

21



Description:

Vinyl siding that
has been replaced
due to damage

Photo Number

22

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical exterior
mounted light
fixture

Photo Number
23



Description:

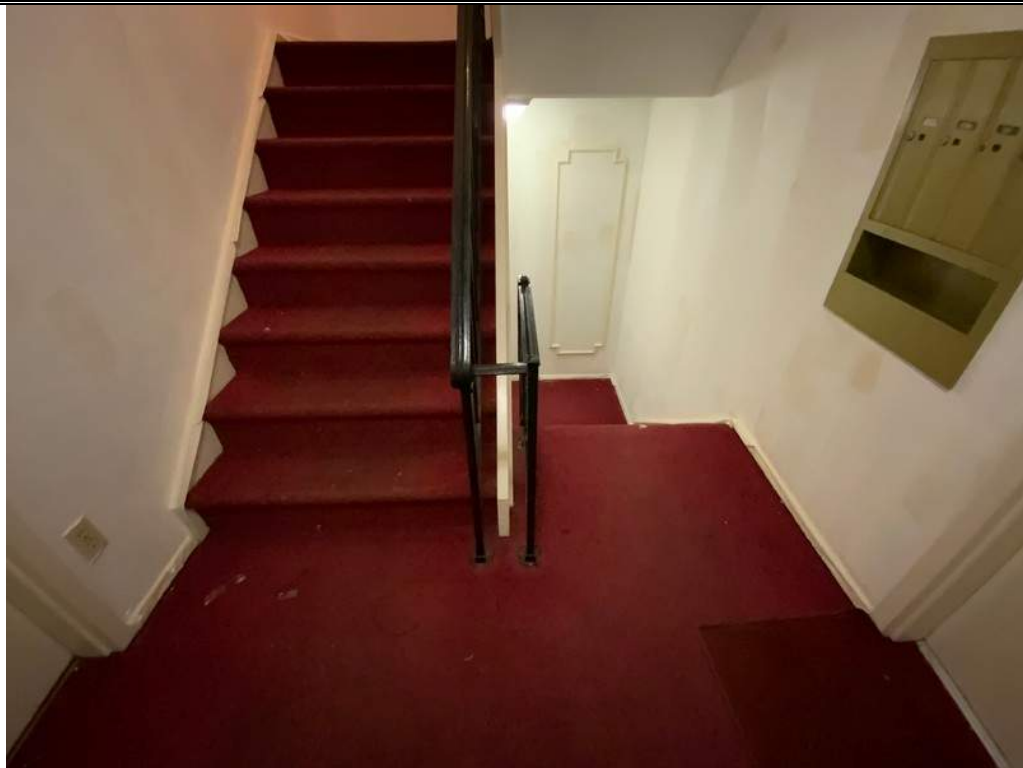
Typical entrance
door

Photo Number
24

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023

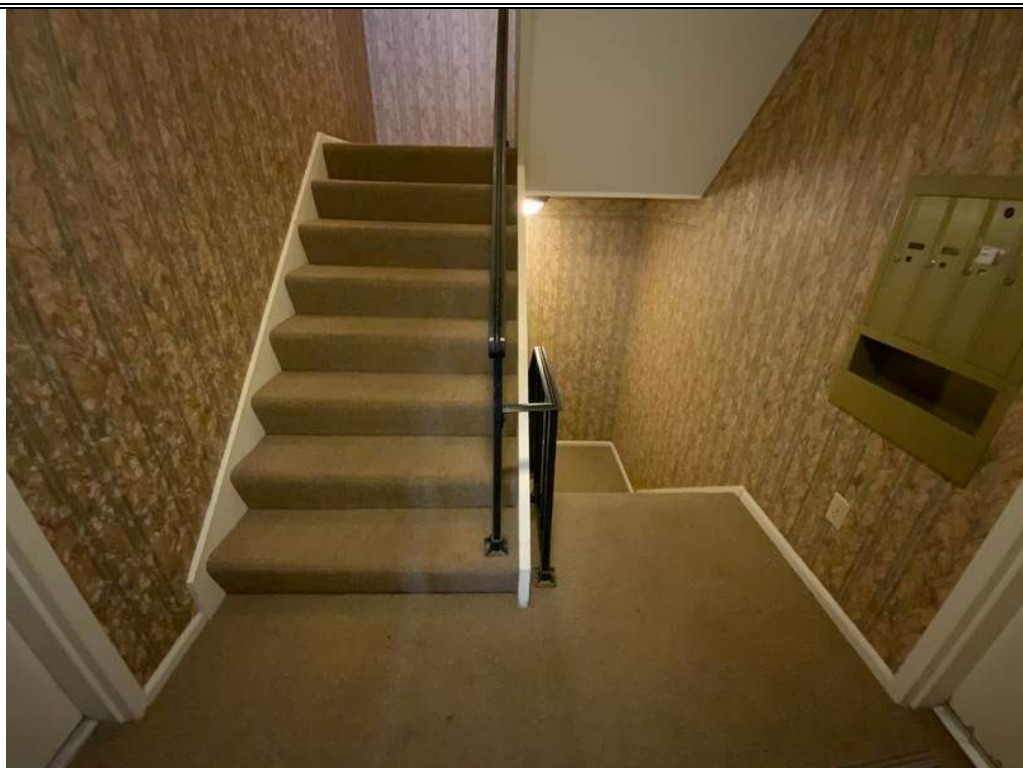


Description:

Typical interior
stairwell

Photo Number

25



Description:

Typical interior
stairwell

Photo Number

26

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical interior
stairwell

Photo Number

27



Description:

Typical stairwell
window

Photo Number

28

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Carpet staining

Photo Number
29



Description:

Typical mailbox
insert

Photo Number
30

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Pool pumps and
filters

Photo Number

31



Description:

Electric and gas
meters

Photo Number

32

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Security camera

Photo Number

33



Description:

Typical view of
the asphalt drives

Photo Number

34

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Partially sealed
parking space

Photo Number

35



Description:

Typical catch
basin in the asphalt
streets

Photo Number

36

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Transition from
resurfaced streets
and old asphalt
under the carports

Photo Number
37



Description:

View of the
typical asphalt
under the carports

Photo Number
38

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Sectional repair in
the asphalt parking
lot

Photo Number
39



Description:

Typical concrete
dumpster pad

Photo Number
40

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Sidewalk upheaval

Photo Number

41



Description:

Sealed crack from
concrete settling

Photo Number

42

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Previous sectional
repairs in the
concrete sidewalks

Photo Number
43



Description:

Settled and
cracked concrete
stairs

Photo Number
44

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023

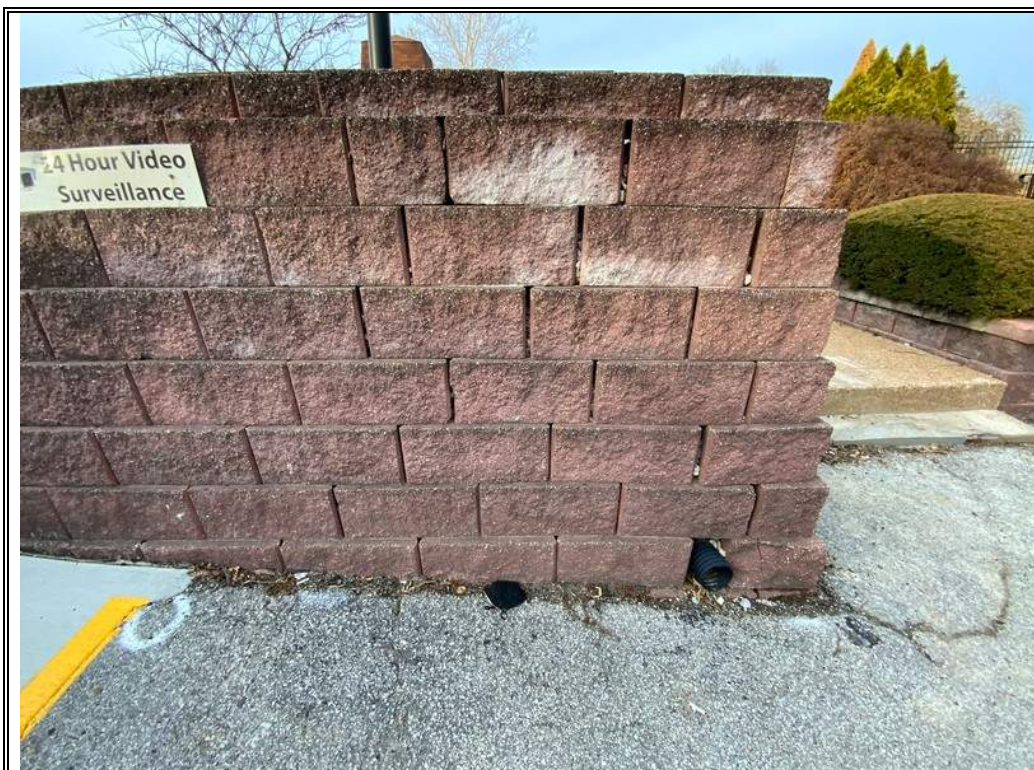


Description:

The pool deck is
being replaced

Photo Number

45



Description:

Separation
observed in the
block retaining
walls

Photo Number

46

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical
landscaped
retaining wall

Photo Number

47



Description:

Deteriorated
retaining wall
blocks

Photo Number

48

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Damaged retaining wall at the rear of the condominium buildings

Photo Number
49



Description:

Retaining wall along the western perimeter of the community

Photo Number
50

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Typical metal
fencing

Photo Number

51



Description:

Leaning fencing

Photo Number

52

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Wood fencing at
the outdoor pool

Photo Number
53



Description:

Buried downspout

Photo Number
54

Location:
Appletree Condominiums
Olivette, MO

Photo Taken by:
Ross Hardy, RS

Date:
January 10, 2023



Description:

Landscaped catch
basin

Photo Number

55



Description:

Catch basin in the
asphalt streets

Photo Number

56

Component Details

1 - Resurface pool

Basic Info

Type of Cost:	Amenities
Location:	Fair
Condition:	

Comments/Notes

unknown when last resurfaces; cracking observed in Pebble Tec surfacing

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	15yr
Remaining Useful Life:	3yr
Next Activity Date:	1/1/2027

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$18.00
Total Quantity:	2800
Total Current Cost:	\$50,400
Inflation Rate:	3.50 %
Total Expenditures:	\$149,498



2 - Replace pool cover

Basic Info

Type of Cost:	Amenities
Location:	Good
Condition:	

Comments/Notes

uncovered at time of visit

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	8yr
Remaining Useful Life:	4yr
Next Activity Date:	1/1/2028

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$4.50
Total Quantity:	1550
Total Current Cost:	\$6,975
Inflation Rate:	3.50 %
Total Expenditures:	\$18,544

3 - Replace pool furniture

Basic Info

Type of Cost:	Amenities
Location:	Good
Condition:	

Comments/Notes

in storage at time of visit



Useful Life

Last Activity Date:	N/A
Est. Useful Life:	7yr
Remaining Useful Life:	7yr
Next Activity Date:	1/1/2031

Financial Data

Estimate Date:	1/1/2024
Cost Per Allow:	\$3,500.00
Total Quantity:	1 Allow
Total Current Cost:	\$3,500
Inflation Rate:	3.50 %
Total Expenditures:	\$10,118

4 - Refurbish Club Room

Basic Info

Type of Cost:	Amenities
Location:	Fair
Condition:	

Comments/Notes

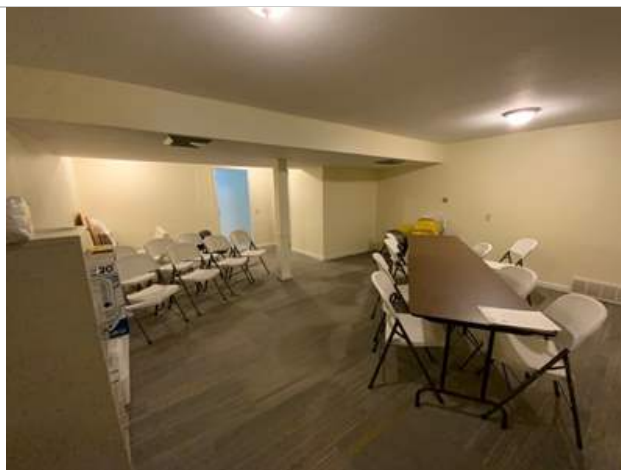
carpets, furnishings, paint, restroom

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	30yr
Remaining Useful Life:	4yr
Next Activity Date:	1/1/2028

Financial Data

Estimate Date:	1/1/2024
Cost Per Allow:	\$15,000.00
Total Quantity:	1 Allow
Total Current Cost:	\$15,000
Inflation Rate:	3.50 %
Total Expenditures:	\$17,213



5 - Replace shingles on Mansord roofs and carports

Basic Info

Type of Cost: Building Exterior
Location: Poor
Condition:

Comments/Notes

poor condition; reported 20+ years old

Useful Life

Last Activity Date: N/A
Est. Useful Life: 20yr
Remaining Useful Life: 1yr
Next Activity Date: 1/1/2025

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$315.00
Total Quantity: 310
Total Current Cost: \$97,650
Inflation Rate: 3.50 %
Total Expenditures: \$101,068



6 - Replace TPO roof membranes

Basic Info

Type of Cost: Building Exterior
Location: Good
Condition:

Comments/Notes

approximately 10 years old

Useful Life

Last Activity Date: N/A
Est. Useful Life: 20yr
Remaining Useful Life: 10yr
Next Activity Date: 1/1/2034

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$950.00
Total Quantity: 465
Total Current Cost: \$441,750
Inflation Rate: 3.50 %
Total Expenditures: \$623,132



7 - Replace vinyl siding - phase I

Basic Info

Type of Cost: Building Exterior
Location: Fair
Condition:

Comments/Notes

replaced in 1997

Useful Life

Last Activity Date: N/A
Est. Useful Life: 40yr
Remaining Useful Life: 13yr
Next Activity Date: 1/1/2037

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$6.00
Total Quantity: 6500
Total Current Cost: \$39,000
Inflation Rate: 3.50 %
Total Expenditures: \$60,996



8 - Replace vinyl siding - phase II

Basic Info

Type of Cost: Building Exterior
Location: Fair
Condition:

Comments/Notes

replaced in 1997

Useful Life

Last Activity Date: N/A
Est. Useful Life: 40yr
Remaining Useful Life: 15yr
Next Activity Date: 1/1/2039

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$6.00
Total Quantity: 6500
Total Current Cost: \$39,000
Inflation Rate: 3.50 %
Total Expenditures: \$65,338

9 - Allocations for future foundation/structural repairs

Basic Info

Type of Cost: Building Exterior
Location: Good
Condition:

Comments/Notes

no known issues

Useful Life

Last Activity Date: N/A
Est. Useful Life: 8yr
Remaining Useful Life: 8yr
Next Activity Date: 1/1/2032

Financial Data

Estimate Date: 1/1/2024
Cost Per Allow: \$15,000.00
Total Quantity: 1 Allow
Total Current Cost: \$15,000
Inflation Rate: 3.50 %
Total Expenditures: \$45,762

10 - Tuckpointing brick veneer

Basic Info

Type of Cost:	Building Exterior
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	5yr
Remaining Useful Life:	5yr
Next Activity Date:	1/1/2029

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$14.00
Total Quantity:	12750
Percent of Total to Maintain:	2%
Quantity to Maintain:	255
Total Current Cost:	\$3,570
Inflation Rate:	3.50 %
Total Expenditures:	\$15,257

11 - Replace exterior light fixtures

Basic Info

Type of Cost: Building Exterior
Location: Fair
Condition:

Comments/Notes

mounted light fixtures at building entrances



Useful Life

Last Activity Date: N/A
Est. Useful Life: 25yr
Remaining Useful Life: 4yr
Next Activity Date: 1/1/2028

Financial Data

Estimate Date: 1/1/2024
Cost Per Ea: \$165.00
Total Quantity: 36 Ea
Total Current Cost: \$5,940
Inflation Rate: 3.50 %
Total Expenditures: \$6,816

12 - Replace entry doors

Basic Info

Type of Cost: Building Exterior
Location: Good
Condition:

Comments/Notes

Painted

Useful Life

Last Activity Date: N/A
Est. Useful Life: 30yr
Remaining Useful Life: 15yr
Next Activity Date: 1/1/2039

Financial Data

Estimate Date: 1/1/2024
Cost Per Ea: \$850.00
Total Quantity: 18 Ea
Total Current Cost: \$15,300
Inflation Rate: 3.50 %
Total Expenditures: \$25,633



13 - Replace common stairwell windows

Basic Info

Type of Cost:	Building Exterior
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	30yr
Remaining Useful Life:	12yr
Next Activity Date:	1/1/2036

Financial Data

Estimate Date:	1/1/2024
Cost Per Ea:	\$550.00
Total Quantity:	18 Ea
Total Current Cost:	\$9,900
Inflation Rate:	3.50 %
Total Expenditures:	\$14,960



14 - Paint common stairwells

Basic Info

Type of Cost: Building Interior
Location: Poor
Condition:

Comments/Notes

18 stairwells

Useful Life

Last Activity Date: N/A
Est. Useful Life: 12yr
Remaining Useful Life: 0yr
Next Activity Date: 1/1/2024

Financial Data

Estimate Date: 1/1/2024
Cost Per Ea: \$750.00
Total Quantity: 18 Ea
Total Current Cost: \$13,500
Inflation Rate: 3.50 %
Total Expenditures: \$33,899



15 - Replace carpets in stairwells

Basic Info

Type of Cost: Building Interior
Location: Poor
Condition:

Comments/Notes

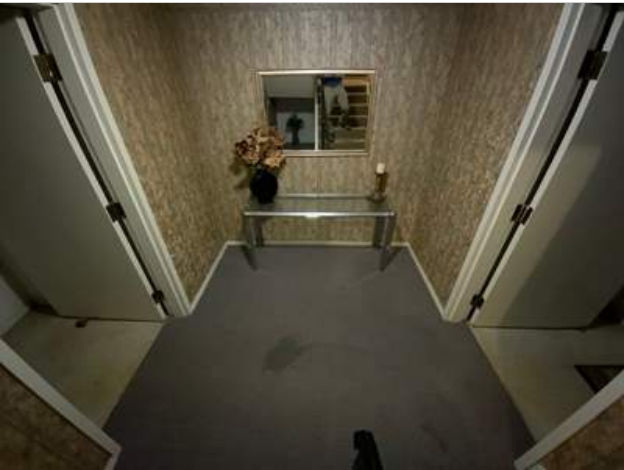
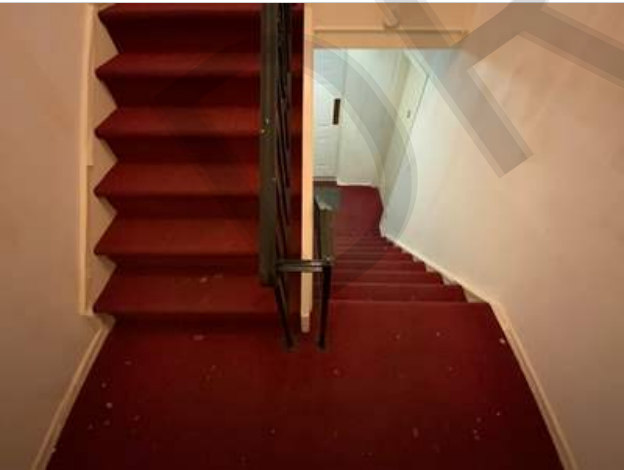
carpet stained and worn

Useful Life

Last Activity Date: N/A
Est. Useful Life: 12yr
Remaining Useful Life: 0yr
Next Activity Date: 1/1/2024

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$5.00
Total Quantity: 7200
Total Current Cost: \$36,000
Inflation Rate: 3.50 %
Total Expenditures: \$90,396



16 - Replace mailbox inserts

Basic Info

Type of Cost:	Building Interior
Location:	Fair
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	40yr
Remaining Useful Life:	6yr
Next Activity Date:	1/1/2030

Financial Data

Estimate Date:	1/1/2024
Cost Per Ea:	\$400.00
Total Quantity:	18 Ea
Total Current Cost:	\$7,200
Inflation Rate:	3.50 %
Total Expenditures:	\$8,851



17 - Replace pool pumps and filters

Basic Info

Type of Cost:	Mechanical
Location:	Fair
Condition:	

Comments/Notes

unknown when last replaced; two Triton II sand filters and one 3.0 HP Century pump



Useful Life

Last Activity Date:	N/A
Est. Useful Life:	12yr
Remaining Useful Life:	3yr
Next Activity Date:	1/1/2027

Financial Data

Estimate Date:	1/1/2024
Cost Per Ea:	\$4,500.00
Total Quantity:	1 Ea
Total Current Cost:	\$4,500
Inflation Rate:	3.50 %
Total Expenditures:	\$12,528

18 - Allocation for common plumbing and electric repairs

Basic Info

Type of Cost:	Mechanical
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	20yr
Remaining Useful Life:	19yr
Next Activity Date:	1/1/2043

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$20,000.00
Total Quantity:	1
Total Current Cost:	\$20,000
Inflation Rate:	3.50 %
Total Expenditures:	\$38,450

19 - Allocationg for buried sanitary and supply piping repairs

Basic Info

Type of Cost:	Mechanical
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	20yr
Remaining Useful Life:	19yr
Next Activity Date:	1/1/2043

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$20,000.00
Total Quantity:	1
Total Current Cost:	\$20,000
Inflation Rate:	3.50 %
Total Expenditures:	\$38,450

20 - Install new security cameras

Basic Info

Type of Cost:	Mechanical
Location:	Fair
Condition:	

Comments/Notes

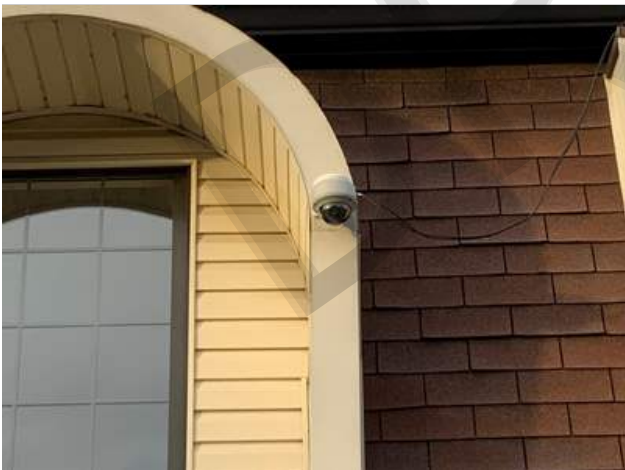
Association planning to replace 14 cameras

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	12yr
Remaining Useful Life:	0yr
Next Activity Date:	1/1/2024

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$12,000.00
Total Quantity:	1
Total Current Cost:	\$12,000
Inflation Rate:	3.50 %
Total Expenditures:	\$30,133



21 - Full depth repairs of sections of streets and parking areas

Basic Info

Type of Cost:	Repairs & Maintenance
Location:	Site
Condition:	Good

Comments/Notes

resurfaced in phases from 2017 - 2022; excluding under carports; 5% every 5 years

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	5yr
Remaining Useful Life:	3yr
Next Activity Date:	1/1/2027

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$65.00
Total Quantity:	7050
Percent of Total to Maintain:	5%
Quantity to Maintain:	352.5
Total Current Cost:	\$22,912
Inflation Rate:	3.50 %
Total Expenditures:	\$133,969



22 - Crack seal, seal coat, and stripe asphalt streets

Basic Info

Type of Cost:	Site
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	5yr
Remaining Useful Life:	3yr
Next Activity Date:	1/1/2027

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$2.00
Total Quantity:	7050
Total Current Cost:	\$14,100
Inflation Rate:	3.50 %
Total Expenditures:	\$82,443

23 - Mill and overlay asphalt roads - phase I

Basic Info

Type of Cost:	Site
Location:	Fair
Condition:	

Comments/Notes

carports

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	20yr
Remaining Useful Life:	3yr
Next Activity Date:	1/1/2027

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$18.00
Total Quantity:	1125
Total Current Cost:	\$20,250
Inflation Rate:	3.50 %
Total Expenditures:	\$22,452



24 - Mill and overlay asphalt roads - phase II

Basic Info

Type of Cost:	Site
Location:	Good
Condition:	

Comments/Notes

west and south lots (2017)

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	20yr
Remaining Useful Life:	13yr
Next Activity Date:	1/1/2037

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$18.00
Total Quantity:	3275
Total Current Cost:	\$58,950
Inflation Rate:	3.50 %
Total Expenditures:	\$92,195

25 - Mill and overlay asphalt roads - phase III

Basic Info

Type of Cost: Site
Location: Good
Condition:

Comments/Notes

east lot (2022)

Useful Life

Last Activity Date: N/A
Est. Useful Life: 20yr
Remaining Useful Life: 18yr
Next Activity Date: 1/1/2042

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$18.00
Total Quantity: 2650
Total Current Cost: \$47,700
Inflation Rate: 3.50 %
Total Expenditures: \$88,603

26 - Sectional repairs to concrete surfaces

Basic Info

Type of Cost: Site
Location: Fair
Condition:

Comments/Notes

dumpster pads, walkways, sidewalks; 5% every 5 years

Useful Life

Last Activity Date: N/A
Est. Useful Life: 5yr
Remaining Useful Life: 0yr
Next Activity Date: 1/1/2024

Financial Data

Estimate Date: 1/1/2024
Cost Per : \$135.00
Total Quantity: 875
Percent of Total to Maintain: 5%
Quantity to Maintain: 43.75
Total Current Cost: \$5,906
Inflation Rate: 3.50 %
Total Expenditures: \$31,147



27 - Allocation for major retaining wall repairs/replacement

Basic Info

Type of Cost:	Site
Location:	Good
Condition:	

Comments/Notes

block retaining walls at elevation changes

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	12yr
Remaining Useful Life:	12yr
Next Activity Date:	1/1/2036

Financial Data

Estimate Date:	1/1/2024
Cost Per Allow:	\$20,000.00
Total Quantity:	1 Allow
Total Current Cost:	\$20,000
Inflation Rate:	3.50 %
Total Expenditures:	\$30,221



28 - Replace metal fencing above retaining walls and around pool

Basic Info

Type of Cost:	Site
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	30yr
Remaining Useful Life:	8yr
Next Activity Date:	1/1/2032

Financial Data

Estimate Date:	1/1/2024
Cost Per :	\$58.00
Total Quantity:	700
Total Current Cost:	\$40,600
Inflation Rate:	3.50 %
Total Expenditures:	\$53,462



29 - Replace/refurbish entrance monument

Basic Info

Type of Cost:	Site
Location:	Fair
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	30yr
Remaining Useful Life:	16yr
Next Activity Date:	1/1/2040

Financial Data

Estimate Date:	1/1/2024
Cost Per Allow:	\$15,000.00
Total Quantity:	1 Allow
Total Current Cost:	\$15,000
Inflation Rate:	3.50 %
Total Expenditures:	\$26,010



30 - Common area drainage improvements

Basic Info

Type of Cost:	Site
Location:	Good
Condition:	

Useful Life

Last Activity Date:	N/A
Est. Useful Life:	5yr
Remaining Useful Life:	2yr
Next Activity Date:	1/1/2026

Financial Data

Estimate Date:	1/1/2024
Cost Per Allow:	\$15,000.00
Total Quantity:	1 Allow
Total Current Cost:	\$15,000
Inflation Rate:	3.50 %
Total Expenditures:	\$84,739



APPENDIX D

REFERENCE DOCUMENTS

Reserve Specialist® (RS®) Designation

NATIONAL RESERVE STUDY STANDARDS

General Information About Reserve Studies

One of the primary responsibilities of the board of directors of a community association is to protect, maintain, and enhance the assets of the association. To accomplish this objective, associations must develop multi-year plans to help them anticipate and responsibly prepare for the timely repair and replacement of common area components such as roofs, roads, mechanical equipment, and other portions of the community's common elements.

Originally published in 1998, the National Reserve Study Standards provide a consistent set of terminology, calculations, and expectations so reserve study providers and those they serve together can build a successful future for millions of community association homeowners across the country.

A reserve study is made up of two parts, the **physical analysis** and the **financial analysis**. The physical analysis includes the component inventory, condition assessment, and life and valuation estimates. The component inventory should be relatively stable from year to year, while the condition assessment and life and valuation estimate change from year to year.

The financial analysis is made up of an analysis of the client's current reserve fund status (measured in cash or as percent funded) and a recommendation for an appropriate reserve contribution rate (a funding plan).

Physical analysis

- Component inventory
- Condition assessment
- Life and valuation estimates

Financial analysis

- Fund Status
- Funding Plan

Levels of Service

The following three categories describe the various types of reserve studies, from exhaustive to minimal.

I. Full.

A reserve study in which the following five reserve study tasks are performed:

- Component inventory
- Condition assessment (based upon on-site visual observations)
- Life and valuation estimates
- Fund Status
- Funding Plan

II. Update, With Site Visit/On-Site Review.

A reserve study update in which the following five reserve study tasks are performed:

- Component inventory (verification only, not quantification)
- Condition assessment (based upon on-site visual observations)
- Life and valuation estimates
- Fund Status
- Funding Plan

III. Update, No-Site-Visit/Off Site Review.

A reserve study update with no on-site visual observations in which the following three reserve study tasks are performed:

- Life and valuation estimates
- Fund Status
- Funding Plan

IV. Preliminary, Community Not Yet Constructed.

A reserve study prepared before construction that is generally used for budget estimates. It is based on design documents such as the architectural and engineering plans. The following three tasks are performed to prepare this type of study.

- Component inventory
- Life and valuation estimates
- Funding Plan

Terms and Definitions

CAPITAL IMPROVEMENTS: Additions to the association's common elements that previously did not exist. While these components should be added to the reserve study for future replacement, the cost of construction should not be taken from the reserve fund. **CASH FLOW METHOD:** A method of developing a reserve funding plan 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: The individual line items in the reserve study developed or updated in the physical analysis. These elements form the building blocks for the reserve study. These components comprise the common elements of the community and typically are: 1. association responsibility, 2. with limited useful life expectancies, 3. predictable remaining useful life expectancies, and 4. above a minimum threshold cost. It should be noted that in certain jurisdictions there may be statutory requirements for including components or groups of components in the reserve study.

COMPONENT INVENTORY: The task of selecting and quantifying reserve components. This task can be accomplished through on-site visual observations, review of association design and organizational documents, review of association precedents, and discussion with appropriate representative(s) of the association.

COMPONENT METHOD: A method of developing a reserve funding plan where the total contribution is based on the sum of contributions for the individual components.

CONDITION ASSESSMENT: The task of evaluating the current condition of the component based on observed or reported characteristics.

EFFECTIVE AGE: The difference between useful life and remaining useful life. Not always equivalent to chronological age, since some components age irregularly. Used primarily in computations.

FINANCIAL ANALYSIS: The portion of a reserve study where the current status of the reserves (measured as cash or percent funded) and a recommended reserve contribution rate (funding plan) are derived, and the projected reserve income and expense over a period of time are presented. The financial analysis is one of the two parts of a reserve study.

FULLY FUNDED: 100 percent funded. When the actual (or projected) reserve balance is equal to the fully funded balance.

FULLY FUNDED BALANCE (FFB): An indicator against which the actual (or projected) reserve balance can be compared. The reserve balance that is in direct proportion to the fraction of life "used up" of the current repair or replacement cost. This number is calculated for each component, and then summed for an association total.

$$\text{FFB} = \text{Current Cost} \times \text{Effective Age/Useful Life}$$

Example: For a component with a \$10,000 current replacement cost, a 10-year useful life and effective age of 4 years the fully funded balance would be \$4,000.

FUND STATUS: The status of the reserve fund reported in terms of cash or percent funded.

FUNDING GOALS: Independent of methodology used, the following represent the basic categories of funding plan goals. They are presented in order of greatest risk to least risk. Risk includes, but is not limited to, cash problems, special assessments, and deferred maintenance.

Baseline Funding: Establishing a reserve funding goal of allowing the reserve cash balance to never be below zero during the cash flow projection. This is the funding goal with the greatest risk due to the

variabilities encountered in the timing of component replacements and repair and replacement costs.

Threshold Funding: Establishing a reserve funding goal of keeping the reserve balance above a specified dollar or percent funded amount. Depending on the threshold selected, this funding goal may be weaker or stronger than “Fully Funded” with respective higher risk or less risk of cash problems.

Full Funding: Setting a reserve funding goal to attain and maintain reserves at or near 100 percent funded. This is the most conservative funding goal.

It should be noted that in certain jurisdictions there may be statutory funding requirements that would dictate the minimum requirements for funding.

FUNDING PLAN: An association’s plan to provide income to a reserve fund to offset anticipated expenditures from that fund. The plan must be a minimum of twenty (20) years.

FUNDING PRINCIPLES: The reserve provider must provide a funding plan addressing these principles.

- Sufficient funds when required
- Stable contribution rate over the years
- Equitable contribution rate over the years
- Fiscally responsible

LIFE AND VALUATION ESTIMATES: The task of estimating useful life, remaining useful life, and current repair or replacement costs for the reserve components.

PERCENT FUNDED: The ratio, at a particular point in time related to the fiscal year end, of the actual (or projected) reserve balance to the fully funded balance, expressed as a percentage. While percent funded is an indicator of an association’s reserve fund size, it should be viewed in the context of how it is changing due to the association’s reserve funding plan in light of the association’s risk tolerance.

PHYSICAL ANALYSIS: The portion of the reserve study where the component inventory, condition assessment, and life and valuation estimate tasks are performed. This represents one of the two parts of the reserve study.

REMAINING USEFUL LIFE (RUL): Also referred to as “remaining life” (RL). The estimated time, in years, that a reserve component can be expected to serve its intended function. Projects expected to occur in the initial year have zero remaining useful life.

REPLACEMENT COST: The cost to replace, repair, or restore the component to its original functional condition during that particular year, including all related expenses (including but not limited to shipping, engineering and design, permits, installation, disposal, etc.).

RESERVE BALANCE: Actual or projected funds, as of a particular point in time that the association has identified, to defray the future repair or replacement cost of those major components that the association is obligated to maintain or replace. Also known as reserves, reserve accounts, cash reserves. Based on information provided and not audited.

RESERVE PROVIDER: An individual who prepares reserve studies. In many instances the reserve provider will possess a specialized designation such as the Reserve Specialist (RS) designation provided by Community Associations Institute (CAI). This designation indicates that the provider has shown the necessary skills to perform a reserve study that conforms to these standards.

RESERVE PROVIDER FIRM: A company that prepares reserve studies as one of its primary business activities.

RESERVE STUDY: A budget planning tool which identifies the components that the association is responsible to maintain or replace, the current status of the reserve fund, and a stable and equitable funding plan to offset the

anticipated future major common area expenditures. The reserve study consists of two parts: the physical analysis and the financial analysis.

RESPONSIBLE CHARGE: A Reserve Specialist (RS) in responsible charge of a reserve study shall render regular and effective supervision to those individuals performing services that directly and materially affect the quality and competence of services rendered by the Reserve Specialist. A Reserve Specialist shall maintain such records as are reasonably necessary to establish that the Reserve Specialist exercised regular and effective supervision of a reserve study of which he or she was in responsible charge. A Reserve Specialist engaged in any of the following acts or practices shall be deemed not to have rendered the regular and effective supervision required herein:

1. The regular and continuous absence from principal office premises from which professional services are rendered; except for performance of field work or presence in a field office maintained exclusively for a specific project;
2. The failure to personally inspect or review the work of subordinates where necessary and appropriate;
3. The rendering of a limited, cursory or perfunctory review of plans or projects in lieu of an appropriate detailed review; and
4. The failure to personally be available on a reasonable basis or with adequate advance notice for consultation and inspection where circumstances require personal availability.

SPECIAL ASSESSMENT: A temporary assessment levied on the members of an association in addition to regular assessments. Note that special assessments are often regulated by governing documents or local statutes.

USEFUL LIFE (UL): The estimated time, in years, that a reserve component can be expected to serve its intended function if properly constructed in its present application or installation.

DRAFT

Reserve Study Contents

The following is a list of the minimum contents to be included in the Reserve Study.

1. A summary of the association's number of units, physical description and reserve fund financial condition.
2. A projection of reserve starting balance, recommended reserve contributions, projected reserve expenses, and projected ending reserve fund balance for a minimum of 20 years.
3. A tabular listing of the component inventory, component quantity or identifying descriptions, useful life, remaining useful life and current replacement cost.
4. A description of methods and objectives utilized in computing the Fund Status and development of the Funding Plan.
5. Source(s) utilized to obtain component repair or replacement cost estimates.
6. A description of the level of service by which the Reserve Study was prepared.
7. Fiscal year for which the Reserve Study is prepared.

Disclosures

The following are the minimum disclosures to be included in the Reserve Study:

1. **General:** Description of the other involvement(s) with the association, which could result in actual or perceived conflicts of interest.
2. **Physical Analysis:** Description of how thorough the on-site observations were performed: representative samplings vs. all common areas, destructive testing or not, field measurements vs. drawing take-offs, etc.
3. **Financial Analysis:** Description of assumptions utilized for interest and inflation, tax and other outside factors.
4. **Personnel Credentials:** State or organizational licenses or credentials carried by the individual responsible for Reserve Study preparation or oversight.
5. **Update Reports:** Disclosure of how the current work is reliant on the validity of prior Reserve Studies.
6. **Completeness:** Material issues which, if not disclosed, would cause a distortion of the association's situation.
7. **Reliance on Client Data:** Information provided by the official representative of the association regarding financial, physical, quantity, or historical issues will be deemed reliable by the consultant and assembled for the association's use, not for the purpose of performing an audit, quality/forensic analysis, or background checks of historical records.
8. **Reserve Balance:** The actual or projected total presented in the Reserve Study is based upon information provided and was not audited.
9. **Component Quantities:** For update with site visit and update no site visit levels of service, the client is considered to have deemed previously developed component quantities as accurate and reliable.
10. **Reserve Projects:** Information provided about reserve projects will be considered reliable. Any on-site inspection should not be considered a project audit or quality inspection.

TERMS OF REFERENCE RESERVE STUDY	
Association	The unit owners' association. May be referred to with different terminology in legal covenants of incorporation.
Board	Elected officers of the Association with fiduciary responsibility for the community's common holdings. May be referred to with different terminology in legal covenants of incorporation.
Owner	Individual Unit owner, a Member or the Association
Property Manager	Professional organization through which the Board delegates responsibilities for operations and maintenance of the community.
Excellent	Component or system is in "as new" condition, requiring no rehabilitation and should perform in accordance with expected performance.
Good	Component or system is sound and performing its function, although it may show signs of normal wear and tear. Some minor rehabilitation work may be required.
Fair	Component or system falls into one or more of the following categories: a) Workmanship not in compliance with commonly accepted standards, b) Evidence of previous repairs not in compliance with commonly accepted practice, c) Component or system is obsolete, d) Component or system approaching end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.
Poor	Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. Present condition could contribute to or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.
Basis of Comparison	Ratings are determined by comparison to other buildings of similar age and construction type.
Left, Right, Front, Rear	Directions are taken from the viewpoint of an observer standing at the property frontage and facing it. Or, for a building within a campus setting, the viewpoint of an observer standing in front of the principal entrance and facing it.
Current Deficiency Immediate Expense	We will note any observed or reported physical condition which requires immediate action to correct an existing or potential safety hazard, an enforceable building code violation, or the poor or deteriorated condition of a critical element or system. Also, to address any conditions which, if left "as is", would likely result in the failure of a critical element or system. Such items will be noted in our report even if they do not require a reserve expenditure.
Short-Term Reserve Expenditures	Correction of physical deficiencies including deferred maintenance, which may not warrant immediate attention, but require repairs or replacements which should be undertaken on a priority basis, taking precedence over preventive maintenance work within a one-year time frame. Included are physical deficiencies resulting from improper design, faulty installation, and/or substandard quality of original systems or materials. Components or systems that have exceeded their expected useful life and require repair or replacement within a one-year time frame are also included. Observed minor issues which would typically be addressed as normal operations & maintenance work may not be noted in the report.
Long-term Reserve expenditures	Non-routine repairs, replacements or planned improvements that will require significant expenditure during the study period. Included are items that will reach the end of their estimated useful life or which, in the opinion of the engineer, will require such expense during that time. If saving for longer-term expenditures is desired, then allowances or contingencies for such items may also be included. Observed minor issues which would typically be addressed as normal operations & maintenance work may not be noted in the report.

<p>Expected Useful Life (EUL)</p>	<p>As components age, they wear and deteriorate at varying rates, depending on their service and exposure. Although it is an inexact science, various financial underwriters, data services and trade organizations publish guidance regarding the EULs of typical building materials and operating systems. For short-lived components, their EUL is used as the frequency between periodic repairs or replacements. Some systems' economic life may be shortened because improved equipment or materials has become available which is less costly to operate or maintain.</p>
<p>Remaining Useful Life (RUL)</p>	<p>The simple equation for determining remaining useful life before repair or replacement is: EUL – Age = RUL. However, based on our evaluation of a component and our professional judgment, we may assign a shorter or longer RUL to actual items being considered.</p>

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BUILDING SYSTEMS AND COMPONENTS COMMON ABBREVIATIONS AND ACRONYMS

ACM	Asbestos Containing Material	HW	Hot Water
ACT	Acoustic Ceiling Tile	HWH	Hot Water Heater (<i>domestic</i>)
ADA	Americans with Disabilities Act	IBC	International Building Code
AHU	Air Handling Unit	IRC	International Residential Code
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers	KVA	Kilovolt-Ampere
ASTM	American Society for Testing and Materials	LF	Lineal Foot
BOCA	Building Officials Code Administrators International	MSL	Mean Sea Level
BTU	British Thermal Unit	NEC	National Electric Code
BTUH	British Thermal Unit / Hour	NFPA	National Fire Protection Association
CFM	Cubic Foot / Minute	MBH	Thousand British Thermal Units / Hour
CI	Cast Iron (<i>pipng</i>)	MDP	Main Distribution Panel (<i>electric power</i>)
CIP	Cast In Place (<i>concrete</i>)	O&M	Operations & Maintenance
CMU	Concrete Masonry Unit (<i>block</i>)	OSB	Oriented Strand Board (<i>sheathing or decking</i>)
CPVC	Chlorinated Poly Vinyl Chloride (<i>pipng</i>)	PCA	Property Condition Assessment
CW	Cold Water	PCR	Property Condition Report
DI	Ductile Iron (<i>pipng</i>)	PE	Licensed Professional Engineer
EIFS	Exterior Insulating and Finishing System	PVC	Poly Vinyl Chloride (<i>pipng and siding</i>)
EPDM	Ethylene Propylene Diene Monomer	PTAC	Packaged Terminal Air Conditioning Unit
EUL	Expected Useful Life	ROM	Rough Order of Magnitude
FCU	Fan Coil Unit	RUL	Remaining Useful Life
FEMA	Federal Emergency Management Agency	RTU	Roof Top Unit
FFE	Furniture, Fixtures and Equipment	SF	Square Foot
FHA	Forced Hot Air	SOG	Slab on Grade (<i>concrete basement or ground floor</i>)
FHAA	Fair Housing Act and Amendments	SQ	100 Square Feet
FHW	Forced Hot Water	SY	Square Yard
FIRM	Flood Insurance Rate Map	UBC	Uniform Building Code
FOIA	Freedom of Information Act	UL	Underwriters Laboratories
GFI	Ground Fault Interruption (<i>circuit breaker</i>)	VAC	Volts Alternating Current
GWB	Gypsum Wall Board (<i>drywall or sheetrock</i>)	VAV	Variable Air Volume box

HID	High Intensity Discharge (<i>lamp, lighting fixture</i>)	VCT	Vinyl Composition Tile
HVAC	Heating Ventilation and Air Conditioning	VWC	Vinyl Wall Covering

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Reserve Study Contents

The following is a list of the minimum contents to be included in the Reserve Study.

1. A summary of the association's number of units, physical description and reserve fund financial condition.
2. A projection of reserve starting balance, recommended reserve contributions, projected reserve expenses, and projected ending reserve fund balance for a minimum of 20 years.
3. A tabular listing of the component inventory, component quantity or identifying descriptions, useful life, remaining useful life and current replacement cost.
4. A description of methods and objectives utilized in computing the Fund Status and development of the Funding Plan.
5. Source(s) utilized to obtain component repair or replacement cost estimates.
6. A description of the level of service by which the Reserve Study was prepared.
7. Fiscal year for which the Reserve Study is prepared.

Disclosures

The following are the minimum disclosures to be included in the Reserve Study:

1. **General:** Description of the other involvement(s) with the association, which could result in actual or perceived conflicts of interest.
2. **Physical Analysis:** Description of how thorough the on-site observations were performed: representative samplings vs, all common areas, destructive testing or not, field measurements drawing take-offs, etc.
3. **Financial Analysis:** Description of assumptions utilized for interest and inflation, tax and other outside factors.
4. **Personnel Credentials:** State or organizational licenses or credentials carried by the individual responsible for Reserve Study preparation or oversight.
5. **Update Reports:** Disclosure of how the current work is reliant on the validity of prior Reserve Studies.
6. **Completeness:** Material issues which, if not disclosed, would cause a distortion of the association's situation.
7. **Reliance on Client Data:** Information provided by the official representative of the association regarding financial, physical, quantity, or historical issues will be deemed reliable by the consultant and assembled for the association's use, not for the purpose of performing an audit, quality/forensic analysis, or background checks of historical records.
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APPENDIX E

APPENDIX E - PROJECT TEAM QUALIFICATIONS

KYLE D. HARDY, P.E., LEED AP, RS



Area of Expertise

Kyle Hardy is President of Criterium-Hardy Engineers, a real estate consulting engineering firm in St. Louis, Missouri. Mr. Hardy performs reserve studies, cost segregation studies, commercial due diligence including Property Condition Assessments (PCA) and Phase 1 Environmental Site Assessments (ESA), residential structural inspections, forensic engineering, design, and construction monitoring. His clients include owners, buyers, lending institutions, investors, insurance companies, community associations, construction contractors, and developers.

Qualifications

Mr. Hardy has over 20 years of facility experience in project management, engineering design, property condition assessments, construction administration, and technical report writing. He has performed thousands of commercial and residential inspections. Prior to joining Criterium-Hardy Engineers his experiences include:

- Technical review of commercial and residential facilities for owners, lenders, buyers, and investors to provide information required to make an informed decision concerning the physical condition of property and the cost associated with those conditions.
- Engineering assessments of site improvements, structural, pavements, building envelope, roof, mechanical, electrical, and plumbing systems.
- Mechanical design including sizing and selection of heating and air conditioning systems, laboratory, and ventilation exhaust systems, piping systems for hydronic heating and cooling systems, energy analysis, fire protection, and plumbing systems.
- Project management responsible for onsite activities including project meetings, field surveying, design, and construction administration activities.

Education and Affiliations

Registered Professional Engineer: Missouri (2006019662), Kansas (28210), Illinois (062-061394), Nebraska (E-19441), and Iowa (P27511)

Bachelor of Science, Mechanical Engineering, University of Missouri - Columbia

Master of Arts, Business Management, Webster University, Webster Groves, MO

CAI Reserve Specialist (RS) designation

LEED Accredited Professional

CSI Construction Documents Technologist (CDT) Certified 2010

American Society of Home Inspectors (ASHI) Certified Member



ROSS A. HARDY, RS



Area of Expertise

Ross Hardy is Vice President of Criterium-Hardy Engineers, a real estate consulting engineering firm in St. Louis, Missouri. Mr. Hardy is responsible for overall production management, business development, operations, marketing, financial controls, and strategic oversight. Mr. Hardy is also responsible for the management, inspection, and financial analysis of reserve studies. In addition to working with many community associations, Mr. Hardy has a strong background as an executive leader in corporate finance and has extensive building components, construction, and renovation experience. He frequently speaks at seminars and workshops on the benefits of future planning and budgeting for capital repairs and replacement of building components and other assets.

Qualifications

Mr. Hardy has over 15 years in corporate finance leadership roles before joining Criterium-Hardy Engineers in 2018 in his current role. Prior to joining Criterium-Hardy Engineers, Mr. Hardy was the Chief Financial Officer for Shop 'n Save Grocers in Olathe, Kansas and Hornbacher's Grocers in Fargo, ND. In that role, he directed and managed all financial aspects of two large publicly held companies, consisting of annual operating planning, forecasting, capital management, P&L management, variance analysis, and financial insights and recommendations.

Since joining Criterium-Hardy Engineers, Mr. Hardy has become an expert in:

- Capital Reserve and Transitions Studies for over 100 Homeowner Associations throughout the Midwest.
- Commercial and Residential Property Condition Assessments.
- Project management responsible for onsite activities including project meetings, field surveying, and construction administration activities.
- Cost Segregation Studies aiding in identifying and classifying commercial property assets in support of tax reporting purposes.

Education and Affiliations

Bachelor of Science, Business Administration, University of Missouri - Columbia

Master of Business Administration, Finance, University of Missouri – St. Louis

CAI Reserve Specialist (RS) designation

Executive Board Member with the Community Associations Institute (CAI) Heartland Chapter

CAI Educated Business Partner

