

THIS RESERVE STUDY WAS:

Submitted by Criterium-Hardy Engineers on: March 16, 2022

Inspected and prepared by: Ross Hardy, RS²

Professionally reviewed by: Kyle Hardy, PE¹, RS²



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¹ PE (Professional Engineer) license is the engineering profession's highest standard of competence, a symbol of achievement and assurance of quality

² RS (Reserve Specialist) is the professional designation of the Community Associations Institute (CAI) awarded to qualified reserve specialists who, through years of specialized experience, can help ensure that community associations prepare their reserve budget as accurately as possible.



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) and Illinois (062.061394)

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



APPENDIX A
COMMON SITE AND AMENITIES (CLASS A & B)

Itemized Worksheet

Capital Item To Be Replaced	Quantity	Unit cost	Reserve Requirement (*)	Frequency (yrs**)	Remaining Life (yrs)	Notes	
Site							
Sectional repairs to walking path	282	Square Yards	\$65.00	\$18,304.00	8	2	5% every 8 years
Overlay walking trail - phase I	2,816	Square Yards	\$32.00	\$90,112.00	20	5	fair to locally poor condition
Overlay walking trail - phase II	2,816	Square Yards	\$32.00	\$90,112.00	20	6	
Allocation for future walking trail overlay	5,069	Square Yards	\$32.00	\$162,201.60	20	19	90% funding for future overlay in 2043
Sectional repairs to Fletcher Ct. clubhouse parking lot, & north parking lot	101	Square Yards	\$78.00	\$7,858.50	5	2	fair condition
Crack fill & seal coat Fletcher Ct. clubhouse parking lot, & north parking lot	2,015	Square Yards	\$2.00	\$4,030.00	5	2	
Resurface Fletcher Ct. clubhouse parking lot, & north parking lot	2,015	Square Yards	\$18.00	\$36,270.00	20	7	
Sectional repairs to pool deck	30	Square Yards	\$165.00	\$4,950.00	8	4	10% every 8 years
Replace south walking trail bridge	1	Allowance	\$25,000.00	\$25,000.00	20	3	reaching end of useful life
Replace wood fence around pool	250	Linear Feet	\$34.00	\$8,500.00	20	5	needs regular paint/stain schedule
Common area drainage improvements	1	Allowance	\$15,000.00	\$15,000.00	5	3	reported drainage issues; none noted at the time of inspection
Allowance for tree removal and replacement	1	Allowance	\$20,000.00	\$20,000.00	5	1	ash trees
Building Exterior							
Replace roofs and gutters on clubhouse	24	Squares	\$335.00	\$8,040.00	20	5	
Building Interior							
Mechanical							
Replace pool water heater	1	Each	\$4,500.00	\$4,500.00	12	6	Raypak water heater
Replace pool pump and filter	1	Each	\$4,800.00	\$4,800.00	10	6	reported to have been replaced recently
Replace HVAC furnace and condenser for clubhouse	1	Allowance	\$5,800.00	\$5,800.00	20	1	last replaced in 2003
Amenities							
Paint pool	1,550	Square Feet	\$6.50	\$10,075.00	5	2	painted in 2019, but needs new paint
Replace pool cover	1,000	Square Feet	\$4.53	\$4,530.00	8	5	
Replace pool furniture	1	Allowance	\$3,500.00	\$3,500.00	8	4	partial replacement as needed; chairs, tables, loungers, umbrellas
Refurbish clubhouse	1	Allowance	\$45,000.00	\$45,000.00	30	12	paint, kitchen, furnishings, flooring, restrooms, doors, windows
Other							
Totals			\$568,583.10				
Total Over Term			\$798,361.60				
Total Over Term w/ Inflation			\$1,097,974.52				

* Costs are typically 10%±

** Reserve study is based on a 20 year projection of non-annual maintenance

Annual Expense By Year

Year:	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Year Number:	1	2	3	4	5	6	7	8	9	10
Site										
Sectional repairs to walking path	0	0	18,304	0	0	0	0	0	0	0
Overlay walking trail - phase I	0	0	0	0	0	90,112	0	0	0	0
Overlay walking trail - phase II	0	0	0	0	0	0	90,112	0	0	0
Allocation for future walking trail overlay	0	0	0	0	0	0	0	0	0	0
Sectional repairs to Fletcher Ct, clubhouse parking lot, & north parking lot	0	0	7,859	0	0	0	0	7,859	0	0
Crack fill & seal coat Fletcher Ct, clubhouse parking lot, & north parking lot	0	0	4,030	0	0	0	0	4,030	0	0
Resurface Fletcher Ct, clubhouse parking lot, & north parking lot	0	0	0	0	0	0	0	36,270	0	0
Sectional repairs to pool deck	0	0	0	0	4,950	0	0	0	0	0
Replace south walking trail bridge	0	0	0	25,000	0	0	0	0	0	0
Replace wood fence around pool	0	0	0	0	0	8,500	0	0	0	0
Common area drainage improvements	0	0	0	15,000	0	0	0	0	15,000	0
Allowance for tree removal and replacement	0	20,000	0	0	0	0	20,000	0	0	0
Building Exterior										
Replace roofs and gutters on clubhouse	0	0	0	0	0	8,040	0	0	0	0
Building Interior										
Mechanical										
Replace pool water heater	0	0	0	0	0	0	4,500	0	0	0
Replace pool pump and filter	0	0	0	0	0	0	4,800	0	0	0
Replace HVAC furnace and condenser for clubhouse	0	5,800	0	0	0	0	0	0	0	0
Amenities										
Paint pool	0	0	10,075	0	0	0	0	10,075	0	0
Replace pool cover	0	0	0	0	0	4,530	0	0	0	0
Replace pool furniture	0	0	0	0	3,500	0	0	0	0	0
Refurbish clubhouse	0	0	0	0	0	0	0	0	0	0
Other										
Total Costs	0	25,800	40,268	40,000	8,450	111,182	119,412	58,234	15,000	0
Total Costs Adjusted For 3% Inflation	0	26,574	42,720	43,709	9,511	128,890	142,584	71,620	19,002	0

Annual Expense By Year

Year:	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	TOTALS
Year Number:	11	12	13	14	15	16	17	18	19	20	
Site											
Sectional repairs to walking path	18,304	0	0	0	0	0	0	0	18,304	0	54,912
Overlay walking trail - phase I	0	0	0	0	0	0	0	0	0	0	90,112
Overlay walking trail - phase II	0	0	0	0	0	0	0	0	0	0	90,112
Allocation for future walking trail overlay	0	0	0	0	0	0	0	0	0	162,202	162,202
Sectional repairs to Fletcher Ct, clubhouse parking lot, & north parking lot	0	0	7,859	0	0	0	0	7,859	0	0	31,434
Crack fill & seal coat Fletcher Ct, clubhouse parking lot, & north parking lot	0	0	4,030	0	0	0	0	4,030	0	0	16,120
Resurface Fletcher Ct, clubhouse parking lot, & north parking lot	0	0	0	0	0	0	0	0	0	0	36,270
Sectional repairs to pool deck	0	0	4,950	0	0	0	0	0	0	0	9,900
Replace south walking trail bridge	0	0	0	0	0	0	0	0	0	0	25,000
Replace wood fence around pool	0	0	0	0	0	0	0	0	0	0	8,500
Common area drainage improvements	0	0	0	15,000	0	0	0	0	15,000	0	60,000
Allowance for tree removal and replacement	0	20,000	0	0	0	0	20,000	0	0	0	80,000
Building Exterior											
Replace roofs and gutters on clubhouse	0	0	0	0	0	0	0	0	0	0	8,040
Building Interior											
Mechanical											
Replace pool water heater	0	0	0	0	0	0	0	0	4,500	0	9,000
Replace pool pump and filter	0	0	0	0	0	0	4,800	0	0	0	9,600
Replace HVAC furnace and condenser for clubhouse	0	0	0	0	0	0	0	0	0	0	5,800
Amenities											
Paint pool	0	0	10,075	0	0	0	0	10,075	0	0	40,300
Replace pool cover	0	0	0	4,530	0	0	0	0	0	0	9,060
Replace pool furniture	0	0	3,500	0	0	0	0	0	0	0	7,000
Refurbish clubhouse	0	0	45,000	0	0	0	0	0	0	0	45,000
Other											
Total Costs	18,304	20,000	75,414	19,530	0	0	24,800	21,964	37,804	162,202	798,362
Total Costs Adjusted For 3% Inflation	24,599	27,685	107,522	28,680	0	0	39,797	36,302	64,359	284,421	1,097,975

Existing Funding Levels

Year	Beginning Reserve Fund Balance	Annual Fee Revenue	Annual Fee Revenue Per Owner	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
2023	\$7,774	\$0	\$0	\$0	\$117	\$0	\$7,891
2024	\$7,891	\$0	\$0	\$0	\$0	\$26,574	(\$18,683)
2025	(\$18,683)	\$0	\$0	\$0	\$0	\$42,720	(\$61,403)
2026	(\$61,403)	\$0	\$0	\$0	\$0	\$43,709	(\$105,112)
2027	(\$105,112)	\$0	\$0	\$0	\$0	\$9,511	(\$114,623)
2028	(\$114,623)	\$0	\$0	\$0	\$0	\$128,890	(\$243,513)
2029	(\$243,513)	\$0	\$0	\$0	\$0	\$142,584	(\$386,097)
2030	(\$386,097)	\$0	\$0	\$0	\$0	\$71,620	(\$457,717)
2031	(\$457,717)	\$0	\$0	\$0	\$0	\$19,002	(\$476,719)
2032	(\$476,719)	\$0	\$0	\$0	\$0	\$0	(\$476,719)
2033	(\$476,719)	\$0	\$0	\$0	\$0	\$24,599	(\$501,318)
2034	(\$501,318)	\$0	\$0	\$0	\$0	\$27,685	(\$529,003)
2035	(\$529,003)	\$0	\$0	\$0	\$0	\$107,522	(\$636,524)
2036	(\$636,524)	\$0	\$0	\$0	\$0	\$28,680	(\$665,205)
2037	(\$665,205)	\$0	\$0	\$0	\$0	\$0	(\$665,205)
2038	(\$665,205)	\$0	\$0	\$0	\$0	\$0	(\$665,205)
2039	(\$665,205)	\$0	\$0	\$0	\$0	\$39,797	(\$705,001)
2040	(\$705,001)	\$0	\$0	\$0	\$0	\$36,302	(\$741,304)
2041	(\$741,304)	\$0	\$0	\$0	\$0	\$64,359	(\$805,662)
2042	(\$805,662)	\$0	\$0	\$0	\$0	\$284,421	(\$1,090,084)

Existing Funding Levels

Beginning Balance as of start of year beginning Jan 2023: \$7,774

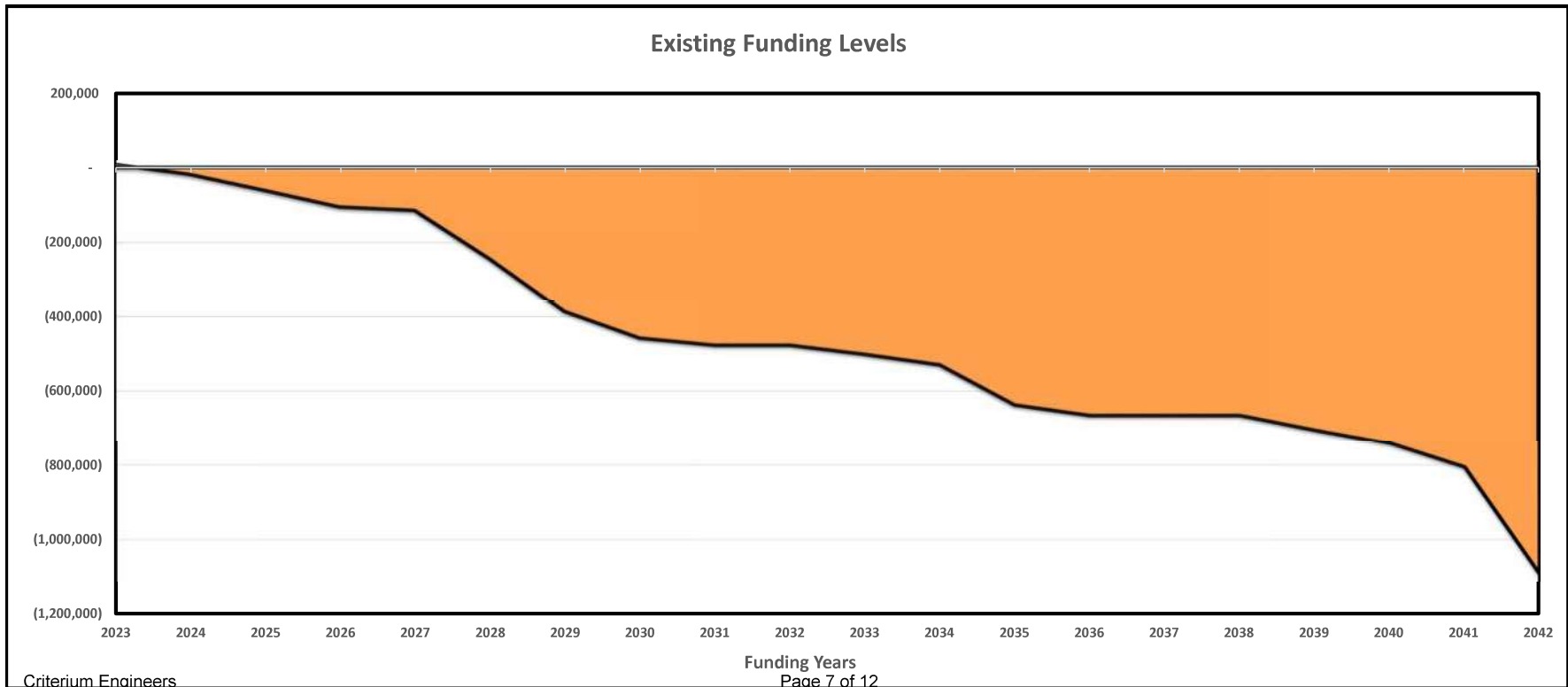
CONTRIBUTIONS	
AMOUNT	
\$0.00	per year
\$0.00	per unit per year
\$0.00	per month
\$0.00	per unit per month

SPECIAL ASSESSMENTS			
Totals			
Per Year	\$0	Per Unit	\$0

Projected Annual Funding and Expenditures:

Year:	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	7,891	(18,683)	(61,403)	(105,112)	(114,623)	(243,513)	(386,097)	(457,717)	(476,719)	(476,719)	(501,318)	(529,003)	(636,524)	(665,205)	(665,205)
Capital Expenditures:	-	26,574	42,720	43,709	9,511	128,890	142,584	71,620	19,002	-	24,599	27,685	107,522	28,680	-
Total Revenue (all sources)	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Year:	2038	2039	2040	2041	2042
Year Number:	16	17	18	19	20
End of Year Reserve Fund Balance	(665,205)	(705,001)	(741,304)	(805,662)	(1,090,084)
Capital Expenditures:	-	39,797	36,302	64,359	284,421
Total Revenue (all sources)	-	-	-	-	-



Alternative 1: Level Funding with Steps

Year	Beginning Balance	Fee Revenue	Fee Revenue Per Owner	Special Assessments	Investment Earnings	Capital Expenditures	Ending Balance
2023	\$7,774	\$59,904	\$312	\$0	\$1,015	\$0	\$68,693
2024	\$68,693	\$59,904	\$312	\$0	\$1,530	\$26,574	\$103,554
2025	\$103,554	\$59,904	\$312	\$0	\$1,811	\$42,720	\$122,549
2026	\$122,549	\$59,904	\$312	\$0	\$2,081	\$43,709	\$140,825
2027	\$140,825	\$59,904	\$312	\$0	\$2,868	\$9,511	\$194,087
2028	\$194,087	\$59,904	\$312	\$0	\$1,877	\$128,890	\$126,977
2029	\$126,977	\$59,904	\$312	\$0	\$664	\$142,584	\$44,961
2030	\$44,961	\$59,904	\$312	\$0	\$499	\$71,620	\$33,744
2031	\$33,744	\$59,904	\$312	\$0	\$1,120	\$19,002	\$75,766
2032	\$75,766	\$59,904	\$312	\$0	\$2,035	\$0	\$137,705
2033	\$137,705	\$59,904	\$312	\$0	\$2,595	\$24,599	\$175,605
2034	\$175,605	\$59,904	\$312	\$0	\$3,117	\$27,685	\$210,942
2035	\$210,942	\$59,904	\$312	\$0	\$2,450	\$107,522	\$165,774
2036	\$165,774	\$59,904	\$312	\$0	\$2,955	\$28,680	\$199,953
2037	\$199,953	\$59,904	\$312	\$0	\$3,898	\$0	\$263,754
2038	\$263,754	\$59,904	\$312	\$0	\$4,855	\$0	\$328,513
2039	\$328,513	\$59,904	\$312	\$0	\$5,229	\$39,797	\$353,850
2040	\$353,850	\$59,904	\$312	\$0	\$5,662	\$36,302	\$383,113
2041	\$383,113	\$59,904	\$312	\$0	\$5,680	\$64,359	\$384,338
2042	\$384,338	\$59,904	\$312	\$0	\$2,397	\$284,421	\$162,218

Alternative 1: Level Funding with Steps

Beginning Balance as of start of year beginning Jan 2023: \$7,774

CONTRIBUTIONS	
FIRST YR	LAST YR
\$59,904.00	\$59,904.00 per year
\$312.00	\$312.00 per unit per year
\$4,992.00	\$4,992.00 per month
\$26.00	\$26.00 per unit per month

SPECIAL ASSESSMENTS				
First Second	Per Year Per Year	Totals		\$0 \$0
		\$0 \$0	Per Unit Per Unit	

SETTINGS (analyzed by unit/month)			
Starting amount (\$):	26		
Increment by (\$):	0		
Every	2	year	
Frequency:	15	time	

Projected Annual Funding and Expenditures:

Year:	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Year Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
End of Year Reserve Fund Balance	68,693	103,554	122,549	140,825	194,087	126,977	44,961	33,744	75,766	137,705	175,605	210,942	165,774	199,953	263,754
Capital Expenditures:	-	26,574	42,720	43,709	9,511	128,890	142,584	71,620	19,002	-	24,599	27,685	107,522	28,680	-
Total Revenue (all sources)	60,919	61,434	61,715	61,985	62,772	61,781	60,568	60,403	61,024	61,939	62,499	63,021	62,354	62,859	63,802
Year:	2038	2039	2040	2041	2042										
Year Number:	16	17	18	19	20										
End of Year Reserve Fund Balance	328,513	353,850	383,113	384,338	162,218										
Capital Expenditures:	-	39,797	36,302	64,359	284,421										
Total Revenue (all sources)	64,759	65,133	65,566	65,584	62,301										

