

Red Cedar Canyon Townhouse Association

Hudson, WI • February 2, 2023

RESERVE STUDY



Red Cedar Canyon Townhouse Association
Hudson, Wisconsin

Dear Board of Directors of Red Cedar Canyon Townhouse Association:

At the direction of the Board that recognizes the need for proper reserve planning, we have conducted a *Reserve Study* of Red Cedar Canyon Townhouse Association in Hudson, Wisconsin and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, February 2, 2023.

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

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

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

Respectfully submitted on February 20, 2023 by

Reserve Advisors, LLC

Visual Inspection and Report by: Robert Schwankl, Engineer
Review by: Alan M. Ebert, RS¹, PRA², Director of Quality Assurance



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

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





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1. RESERVE STUDY EXECUTIVE SUMMARY

Client: Red Cedar Canyon Townhouse Association (Red Cedar Canyon)

Location: Hudson, Wisconsin

Reference: 071179

Property Basics: Red Cedar Canyon Townhouse Association is a townhome style development which consists of 112 units in 29 buildings. The community was built from 2000 to 2012.

Reserve Components Identified: 17 Reserve Components.

Inspection Date: February 2, 2023. We conducted previous inspections in 2008, 2010, 2013, 2015 and 2017.

Funding Goal: The Funding Goal of this Reserve Study is to maintain reserves above an adequate, not excessive threshold during one or more years of significant expenditures. Our recommended Funding Plan recognizes this threshold funding year in 2043 due to the replacement of the asphalt shingle roofs.

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

- Current and future local costs of replacement
- 1.3% anticipated annual rate of return on invested reserves
- 3.5% future Inflation Rate for estimating Future Replacement Costs

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

Unaudited Cash Status of Reserve Fund:

- \$2,680,645 as of December 31, 2022
- 2023 budgeted Reserve Contributions of \$130,344. The Association will also contribute approximately \$385,229 in recoverable depreciation from the current insurance claim to replace the roofs and skylights.
- A potential deficit in reserves might occur by 2042 based upon continuation of the most recent annual reserve contribution of \$130,344 and the identified Reserve Expenditures.

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

- Replacement of the asphalt shingle roofs due to storm damage
- Replacement of the remainder of the asphalt pavement at the driveways due to the Association's near term plans
- Partial repairs to the masonry façade as well as partial sealant replacements due to noted occurrences of mortar and sealant deterioration
- Partial repairs and replacements to the concrete flatwork at the unit entry sidewalks due to noted occurrences of heaving and cracks



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

- Additional contribution of \$385,229 in 2023 from recoverable depreciation
- Phased increases of approximately \$23,300 from 2024 through 2028
- Inflationary increases thereafter through 2053, the limit of this study's Cash Flow Analysis
- Initial adjustment in Reserve Contributions of \$23,256 represents an average monthly increase of \$17.30 per homeowner and about a six percent (5.8%) adjustment in the 2023 total Operating Budget of \$403,872.

Red Cedar Canyon
Recommended Reserve Funding Table and Graph

Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)	Year	Reserve Contributions (\$)	Reserve Balances (\$)
2024	153,600	640,352	2034	303,400	2,525,258	2044	428,100	459,147
2025	176,900	549,597	2035	314,000	2,764,775	2045	443,100	224,042
2026	200,200	737,599	2036	325,000	3,073,821	2046	458,600	577,113
2027	223,500	885,171	2037	336,400	3,431,839	2047	474,700	936,231
2028	246,800	1,111,120	2038	348,200	3,717,985	2048	491,300	1,289,974
2029	255,400	1,280,921	2039	360,400	3,777,039	2049	508,500	1,616,180
2030	264,300	1,563,591	2040	373,000	3,999,092	2050	526,300	2,166,911
2031	273,600	1,745,314	2041	386,100	3,806,376	2051	544,700	2,549,751
2032	283,200	2,031,357	2042	399,600	2,374,026	2052	563,800	3,051,527
2033	293,100	2,328,918	2043	413,600	293,280	2053	583,500	3,678,490





2. RESERVE STUDY REPORT

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

Red Cedar Canyon Townhouse Association

Hudson, Wisconsin

and submit our findings in this report. The effective date of this study is the date of our visual, noninvasive inspection, February 2, 2023. We conducted previous inspections in 2008, 2010, 2013 and 2015.

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

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

IDENTIFICATION OF PROPERTY



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

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

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

We advise the Board conduct an annual review of these classes of property to confirm its policy concerning the manner of funding, i.e., from reserves or the operating budget. The Reserve Study identifies Reserve Components as set forth in your Declaration or which were identified as part of your request for proposed services. Reserve Components are defined by CAI as property elements with:

- Red Cedar Canyon responsibility
- Limited useful life expectancies
- Predictable remaining useful life expectancies
- Replacement cost above a minimum threshold

Long-Lived Property Elements – These elements may not have predictable Remaining Useful Lives or their replacement may occur beyond the 30-year scope of the study. The operating budget should fund infrequent repairs. Funding untimely or unexpected replacements from reserves will necessitate increases to Reserve Contributions. Periodic updates of this Reserve Study will help determine the merits of adjusting the Reserve Funding Plan. We identify the following Long-Lived Property Elements as excluded from the 30-year Reserve Expenditures at this time.

- Electrical Systems, Common
- Foundations
- Pipes, Subsurface Utilities
- Structural Frames

Operating Budget - Provides money for the repair and replacement of certain Reserve Components. The Association may develop independent criteria for use of operating and reserve funds. For purposes of calculating appropriate Reserve Contributions, we identify the following list of Operating Budget Funded Repairs and Replacements:

- General Maintenance to the Common Elements
- Expenditures less than \$5,000 (These relatively minor expenditures have a limited effect on the recommended Reserve Contributions.)
- Catch Basins, Landscape
- Columns, Decorative, Unit Entrances
- Irrigation System, Maintenance and Minor Repairs
- Landscape, Maintenance
- Paint Finishes, Touch Up
- Retaining Walls, Repairs
- Walls, Wood Siding and Trim, Repairs, Paint and Stain Applications
- Other Repairs normally funded through the Operating Budget

Homeowners' Responsibility - Items designated as the responsibility of the homeowners to repair or replace at their cost. Property Maintained by Homeowners, including items billed back to Homeowners, relates to unit:

- Electrical Systems (Including Circuit Protection Panels)
- Fences
- Garage Doors
- Heating, Ventilating and Air Conditioning (HVAC) Units
- Interiors
- Patios
- Pipes (Within Units)
- Solar Tubes (Skylights)
- Windows and Doors



Others' Responsibility - Items designated as the responsibility of others to repair or replace. Property Maintained by Others relates to:

- Asphalt Walking Paths (Red Cedar Canyon Homeowners Association)
- Light Poles and Fixtures (Utility Company)
- Mailbox Stations (Master Association)
- Ponds (Red Cedar Canyon Homeowners Association)
- Signage, Entrance Monuments (Red Cedar Canyon Homeowners Association)
- Street Systems, Deerwood Court and West Canyon Drive (Municipality)

3. RESERVE EXPENDITURES and FUNDING PLAN

The tables following this introduction present:

Reserve Expenditures

- Line item numbers
- Total quantities
- Quantities replaced per phase (in a single year)
- Reserve component inventory
- Estimated first year of event (i.e., replacement, application, etc.)
- Life analysis showing
 - useful life
 - remaining useful life
- 2023 local cost of replacement
 - Per unit
 - Per phase
 - Replacement of total quantity
- Percentage of future expenditures anticipated during the next 30 years
- Schedule of estimated future costs for each reserve component including inflation

Reserve Funding Plan

- Reserves at the beginning of each year
- Total recommended reserve contributions
- Estimated interest earned from invested reserves
- Anticipated expenditures by year
- Anticipated reserves at year end
- Predicted reserves based on current funding level

Five-Year Outlook

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

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

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

RESERVE EXPENDITURES

**Red Cedar Canyon
Townhouse Association**
Hudson, Wisconsin

Explanatory Notes:

- 1) **3.5%** is the estimated Inflation Rate for estimating Future Replacement Costs.
- 2) FY2023 is Fiscal Year beginning January 1, 2023 and ending December 31, 2023.

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	RUL = 0 FY2023	1 2024	2 2025	3 2026	4 2027	5 2028	6 2029	7 2030	8 2031	9 2032	10 2033	11 2034	12 2035	13 2036	14 2037	15 2038	
						Useful	Remaining	Unit (2023)	Per Phase (2023)	Total (2023)																		
Exterior Building Elements																												
1.240	20,240	10,120	Linear Feet	Gutters and Downspouts, Aluminum, Phased	2042	15 to 25	19 to 20	11.50	116,380	232,760	4.1%																	
1.260	136	136	Each	Light Fixtures	2027	to 25	4	150.00	20,400	20,400	0.7%				23,409													
1.280	3,440	1,720	Squares	Roofs, Asphalt Shingles, Phased (2023 is Budgeted)	2023	15 to 20	0 to 1	480.00	825,600	1,651,200	49.7%	2,358,266																
1.540	26,600	6,650	Linear Feet	Sealants, Windows and Doors, Phased	2024	to 20	1 to 16	6.50	43,225	172,900	3.8%	44,738					53,135					63,107						
1.620	15,400	5,133	Square Feet	Soffit and Fascia, Aluminum, Phased	2038	35 to 40	15 to 17	7.00	35,933	107,800	1.7%																60,201	
1.870	8,600	2,867	Square Feet	Walls, Siding, Wood, Phased	2038	35 to 40	15 to 17	10.00	28,667	86,000	1.3%																48,027	
1.820	106,300	35,433	Square Feet	Walls, Masonry, Inspections and Repairs, Phased	2024	10 to 15	1 to 11	1.10	38,977	116,930	3.5%	40,341					47,912					56,905						
Property Site Elements																												
4.020	18,300	18,300	Square Yards	Asphalt Pavement, Crack Repair, Patch and Seal Coat	2027	3 to 5	4	3.00	54,900	54,900	5.2%				62,999				72,293						82,958			
4.045	18,300	6,100	Square Yards	Asphalt Pavement, Total Replacement, Phased (Near Term is Remaining)	2023	15 to 20	0 to 2	52.50	320,250	960,750	21.5%	253,685		246,850														
4.108	2	1	Allowance	Asphalt Aprons, Reinforcement, Remaining (Planned with Near Term Repaving)	2023	N/A	0 to 2	28,490.00	28,490	56,980	0.5%	28,490		28,490														
4.140	24,800	930	Square Feet	Concrete Sidewalks, Approaches and Stoops, Partial	2024	to 65	1 to 30+	17.00	15,810	421,600	2.0%	16,364				18,778			21,548						24,726			
4.410	9	3	Each	Irrigation System, Controllers, Pumps and Backflow Preventers, Phased	2026	to 15	3 to 13	2,500.00	7,500	22,500	0.7%			8,315					9,876						11,730			
4.420	72	14	Zones	Irrigation System, Phased	2040	to 40	17 to 25	2,200.00	31,680	158,400	2.9%																	
4.500	1	1	Allowance	Landscape, Partial Replacements	2026	to 5	3	11,000.00	11,000	11,000	1.0%			12,196					14,485						17,204			
4.745	1,260	315	Square Feet	Retaining Walls, Masonry, Driveways, Phased	2028	to 35	5 to 14	40.00	12,600	50,400	0.6%					14,965			16,592			18,396			20,396			
4.746	340	340	Square Feet	Retaining Wall, Masonry (Units 129 and 135)	2035	to 35	12	50.00	17,000	17,000	0.2%											25,688						
4.810	28	28	Each	Signage	2033	15 to 20	10	600.00	16,800	16,800	0.6%										23,698							
Anticipated Expenditures, By Year (\$11,239,614 over 30 years)												2,640,441	101,443	275,340	20,511	86,408	33,743	101,047	0	113,246	21,548	23,698	138,408	108,646	53,660	20,396	108,228	

RESERVE EXPENDITURES

**Red Cedar Canyon
Townhouse Association**
Hudson, Wisconsin

Line Item	Total Quantity	Per Phase Quantity	Units	Reserve Component Inventory	Estimated 1st Year of Event	Life Analysis, Years		Costs, \$			Percentage of Future Expenditures	16 2039	17 2040	18 2041	19 2042	20 2043	21 2044	22 2045	23 2046	24 2047	25 2048	26 2049	27 2050	28 2051	29 2052	30 2053
						Useful	Remaining	Unit (2023)	Per Phase (2023)	Total (2023)																
Exterior Building Elements																										
1.240	20,240	10,120	Linear Feet	Gutters and Downspouts, Aluminum, Phased	2042	15 to 25	19 to 20	11.50	116,380	232,760	4.1%				223,741	231,572										
1.260	136	136	Each	Light Fixtures	2027	to 25	4	150.00	20,400	20,400	0.7%													55,322		
1.280	3,440	1,720	Squares	Roofs, Asphalt Shingles, Phased (2023 is Budgeted)	2023	15 to 20	0 to 1	480.00	825,600	1,651,200	49.7%				1,587,217	1,642,770										
1.540	26,600	6,650	Linear Feet	Sealants, Windows and Doors, Phased	2024	to 20	1 to 16	6.50	43,225	172,900	3.8%	74,952					89,019						105,727			
1.620	15,400	5,133	Square Feet	Soffit and Fascia, Aluminum, Phased	2038	35 to 40	15 to 17	7.00	35,933	107,800	1.7%	62,308	64,489													
1.870	8,600	2,867	Square Feet	Walls, Siding, Wood, Phased	2038	35 to 40	15 to 17	10.00	28,667	86,000	1.3%	49,708	51,447													
1.820	106,300	35,433	Square Feet	Walls, Masonry, Inspections and Repairs, Phased	2024	10 to 15	1 to 11	1.10	38,977	116,930	3.5%	67,585					80,270						95,335			
Property Site Elements																										
4.020	18,300	18,300	Square Yards	Asphalt Pavement, Crack Repair, Patch and Seal Coat	2027	3 to 5	4	3.00	54,900	54,900	5.2%	95,196								125,355				143,847		
4.045	18,300	6,100	Square Yards	Asphalt Pavement, Total Replacement, Phased (Near Term is Remaining)	2023	15 to 20	0 to 2	52.50	320,250	960,750	21.5%			594,861	637,230		682,617									
4.108	2	1	Allowance	Asphalt Aprons, Reinforcement, Remaining (Planned with Near Term Repaving)	2023	N/A	0 to 2	28,490.00	28,490	56,980	0.5%															
4.140	24,800	930	Square Feet	Concrete Sidewalks, Approaches and Stoops, Partial	2024	to 65	1 to 30+	17.00	15,810	421,600	2.0%		28,374				32,560				37,363			42,875		
4.410	9	3	Each	Irrigation System, Controllers, Pumps and Backflow Preventers, Phased	2026	to 15	3 to 13	2,500.00	7,500	22,500	0.7%			13,931					16,546					19,651		
4.420	72	14	Zones	Irrigation System, Phased	2040	to 40	17 to 25	2,200.00	31,680	158,400	2.9%		56,855		60,905		65,243		69,890		74,868					
4.500	1	1	Allowance	Landscape, Partial Replacements	2026	to 5	3	11,000.00	11,000	11,000	1.0%			20,432					24,267					28,822		
4.745	1,260	315	Square Feet	Retaining Walls, Masonry, Driveways, Phased	2028	to 35	5 to 14	40.00	12,600	50,400	0.6%															
4.746	340	340	Square Feet	Retaining Wall, Masonry (Units 129 and 135)	2035	to 35	12	50.00	17,000	17,000	0.2%															
4.810	28	28	Each	Signage	2033	15 to 20	10	600.00	16,800	16,800	0.6%										39,703					
Anticipated Expenditures, By Year (\$11,239,614 over 30 years)												349,749	201,165	629,224	1,871,863	2,511,572	267,092	682,617	110,703	125,355	151,934	201,062	0	192,320	98,197	0

RESERVE FUNDING PLAN

CASH FLOW ANALYSIS
Red Cedar Canyon
Townhouse Association
 Hudson, Wisconsin

Individual Reserve Budgets & Cash Flows for the Next 30 Years

		FY2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Reserves at Beginning of Year	<i>(Note 1)</i>	2,680,645	580,311	640,352	549,597	737,599	885,171	1,111,120	1,280,921	1,563,591	1,745,314	2,031,357	2,328,918	2,525,258	2,764,775	3,073,821	3,431,839
Recommended Reserve Contributions		130,344	153,600	176,900	200,200	223,500	246,800	255,400	264,300	273,600	283,200	293,100	303,400	314,000	325,000	336,400	348,200
Additional Contributions (Recoverable Depreciation)		385,229															
Total Recommended Reserve Contributions	<i>(Note 2)</i>	515,573	153,600	176,900	200,200	223,500	246,800	255,400	264,300	273,600	283,200	293,100	303,400	314,000	325,000	336,400	348,200
Estimated Interest Earned, During Year	<i>(Note 3)</i>	24,534	7,883	7,685	8,313	10,480	12,892	15,448	18,370	21,369	24,390	28,159	31,348	34,163	37,706	42,014	46,174
Anticipated Expenditures, By Year		(2,640,441)	(101,443)	(275,340)	(20,511)	(86,408)	(33,743)	(101,047)	0	(113,246)	(21,548)	(23,698)	(138,408)	(108,646)	(53,660)	(20,396)	(108,228)
Anticipated Reserves at Year End		<u>\$580,311</u>	<u>\$640,352</u>	<u>\$549,597</u>	<u>\$737,599</u>	<u>\$885,171</u>	<u>\$1,111,120</u>	<u>\$1,280,921</u>	<u>\$1,563,591</u>	<u>\$1,745,314</u>	<u>\$2,031,357</u>	<u>\$2,328,918</u>	<u>\$2,525,258</u>	<u>\$2,764,775</u>	<u>\$3,073,821</u>	<u>\$3,431,839</u>	<u>\$3,717,985</u>
Predicted Reserves based on 2023 funding level of:	\$130,344	580,311	616,945	479,027	595,801	647,768	753,418	792,700	934,196	963,550	1,085,580	1,207,032	1,214,607	1,252,236	1,345,698	1,473,855	1,515,275

(continued)

Individual Reserve Budgets & Cash Flows for the Next 30 Years, Continued

		2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Reserves at Beginning of Year		3,717,985	3,777,039	3,999,092	3,806,376	2,374,026	293,280	459,147	224,042	577,113	936,231	1,289,974	1,616,180	2,166,911	2,549,751	3,051,527
Total Recommended Reserve Contributions		360,400	373,000	386,100	399,600	413,600	428,100	443,100	458,600	474,700	491,300	508,500	526,300	544,700	563,800	583,500
Estimated Interest Earned, During Year		48,403	50,218	50,408	39,913	17,226	4,859	4,412	5,174	9,773	14,377	18,768	24,431	30,460	36,173	43,463
Anticipated Expenditures, By Year		(349,749)	(201,165)	(629,224)	(1,871,863)	(2,511,572)	(267,092)	(682,617)	(110,703)	(125,355)	(151,934)	(201,062)	0	(192,320)	(98,197)	0
Anticipated Reserves at Year End		<u>\$3,777,039</u>	<u>\$3,999,092</u>	<u>\$3,806,376</u>	<u>\$2,374,026</u>	<u>\$293,280</u>	<u>\$459,147</u>	<u>\$224,042</u>	<u>\$577,113</u>	<u>\$936,231</u>	<u>\$1,289,974</u>	<u>\$1,616,180</u>	<u>\$2,166,911</u>	<u>\$2,549,751</u>	<u>\$3,051,527</u>	<u>\$3,678,490</u>
Predicted Reserves based on 2023 funding level of:	\$130,344	1,314,142	1,259,945	774,202	(968,572)	(3,377,869)										

Explanatory Notes:

- 1) Year 2023 starting reserves are as of December 31, 2022; FY2023 starts January 1, 2023 and ends December 31, 2023.
- 2) Reserve Contributions for 2023 are budgeted; 2024 is the first year of recommended contributions.
- 3) 1.3% is the estimated annual rate of return on invested reserves.
- 4) Accumulated year 2053 ending reserves consider the age, size, overall condition and complexity of the property.
- 5) Threshold Funding Year (reserve balance at critical point).

FIVE-YEAR OUTLOOK

**Red Cedar Canyon
Townhouse Association**
Hudson, Wisconsin

Line Item	Reserve Component Inventory	RUL = 0 FY2023	1 2024	2 2025	3 2026	4 2027	5 2028
<u>Exterior Building Elements</u>							
1.260	Light Fixtures						23,409
1.280	Roofs, Asphalt Shingles, Phased (2023 is Budgeted)	2,358,266					
1.540	Sealants, Windows and Doors, Phased		44,738				
1.820	Walls, Masonry, Inspections and Repairs, Phased		40,341				
<u>Property Site Elements</u>							
4.020	Asphalt Pavement, Crack Repair, Patch and Seal Coat						62,999
4.045	Asphalt Pavement, Total Replacement, Phased (Near Term is Remaining)	253,685		246,850			
4.108	Asphalt Aprons, Reinforcement, Remaining (Planned with Near Term Repaving)	28,490		28,490			
4.140	Concrete Sidewalks, Approaches and Stoops, Partial		16,364				18,778
4.410	Irrigation System, Controllers, Pumps and Backflow Preventers, Phased				8,315		
4.500	Landscape, Partial Replacements				12,196		
4.745	Retaining Walls, Masonry, Driveways, Phased						14,965
Anticipated Expenditures, By Year (\$11,239,614 over 30 years)		2,640,441	101,443	275,340	20,511	86,408	33,743

4. RESERVE COMPONENT DETAIL

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

Exterior Building Elements



Building exterior overview

Gutters and Downspouts, Aluminum

Line Item: 1.240

Quantity: Approximately 20,240 linear feet of aluminum six-inch seamless gutters and three-inch by four-inch downspouts

History: The gutters and downspouts are original to each buildings' construction

Condition: Good to fair overall with dented downspout extensions evident



Aluminum gutter and downspouts



Dented downspout extension

Useful Life: 15- to 25-years

Component Detail Notes: The size of the gutter is determined by the roof's watershed area, a roof pitch factor and the rainfall intensity number of the Association's region. We recommend sloping gutters 1/16 inch per linear foot and providing fasteners a maximum of every three feet.

Downspouts can drain 100 square feet of roof area per one square inch of downspout cross sectional area. We recommend the use of downspout extensions and splash blocks at the downspout discharge to direct storm water away from the foundations. The useful life of gutters and downspouts coincides with that of the sloped roofs. Coordinated replacement will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

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

- Semi-annually:
 - Clean out debris and leaves that collect in the gutters
 - Repair and refasten any loose gutter fasteners
 - Repair and seal any leaking seams or end caps
 - Verify downspouts discharge away from foundations

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

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

Light Fixtures

Line Item: 1.260

Quantity: Approximately 136 exterior light fixtures

History: The light fixtures are original

Condition: Good to fair overall



Light fixture overview

Useful Life: Up to 25 years

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

- As-needed:
 - Replace burned out bulbs at common fixtures as needed
 - Inspect and repair broken or dislodged fixtures
 - Ensure a waterproof seal between the fixture and building exists

Priority/Criticality: Per Board discretion

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

Roofs, Asphalt Shingles

Line Item: 1.280

Quantity: Approximately 3,440 squares¹

History and Condition: The asphalt shingle roofs at the buildings constructed from 2000 to 2006 were replaced from 2013 to 2016 due to a construction defect. The asphalt shingle roofs at the buildings constructed from 2006 to 2012 are original to the buildings' construction. The Association plans to replace the asphalt shingle roofs in 2023 for \$2,358,266 due to storm damage. The Board informs us this cost includes replacement of the skylights; we assume future replacements of the skylights will be conducted at the expense of the individual homeowner.



Asphalt shingle roof overview



Asphalt shingle roof overview



Asphalt shingle roof overview



Asphalt shingle roof overview

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



Curled shingles

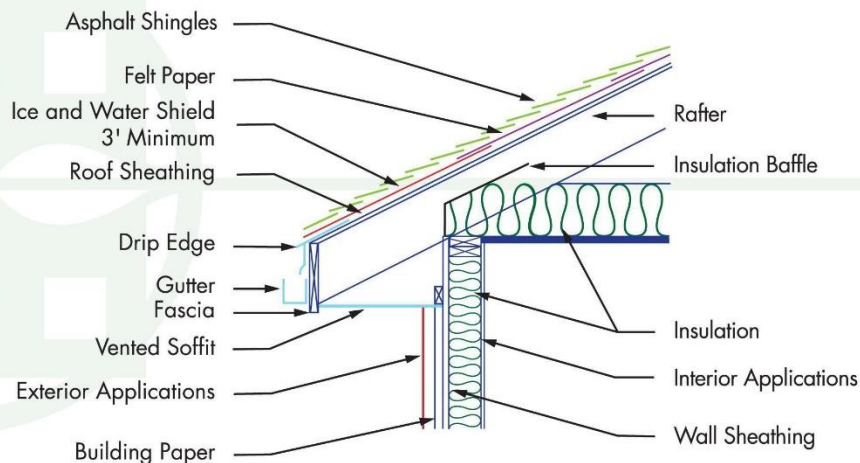
Useful Life: 15- to 20-years

Component Detail Notes: The existing roof assembly comprises the following:

- Laminate architectural shingles
- Boston style ridge caps
- Rubber seal with plastic base boot flashing at waste pipes
- Soffit and square hood box vents
- Metal drip edge
- Open valleys with metal W flashing

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

ROOF SCHEMATIC



© Reserve Advisors

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

The Association should plan to coordinate the replacement of gutters and downspouts with the adjacent roofs. This will result in the most economical unit price and minimize the possibility of damage to other roof components as compared to separate replacements.

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

- Annually:
 - Record any areas of water infiltration, flashing deterioration, damage or loose shingles
 - Implement repairs as needed if issues are reoccurring
 - Trim tree branches that are near or in contact with roof
- As-needed:

- Ensure proper ventilation and verify vents are clear of debris and not blocked from attic insulation

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

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We opine the near term cost of the roof replacements were bid above market average potentially due to the increased project scope. We anticipate subsequent replacement costs in the future to closer reflect market average costs.

Sealants, Windows and Doors

Line Item: 1.540

Quantity: Approximately 26,600 linear feet of exterior sealants or *caulk*²

History: The sealants and control joints likely vary in age

Condition: Good to fair overall with sealant failure evident at windows



Typical window sealant. Cohesive failure at corners noted.



Control joint

Useful Life: Up to 20 years

Component Detail Notes: The rate of deterioration of the sealants is not uniform due to the different exposures to sunlight and weather. The Association should anticipate gradual dispersed deterioration as the sealants age.

Correct preparation of the joint surfaces before re-application of a sealant is important to ensure proper adhesion. The surfaces must be removed of all contaminants, including the previous sealant material, paint, rust and other corrosion, water, grease, etc. The

² The terms sealant and caulk are used interchangeably throughout this text and throughout the industry.

surfaces should also be dry and free from dust and grit, which can be removed using dry compressed air or brushes. The Association should ensure the manufacturer's instructions are followed in determining if the substrate is compatible with the sealant and that the chemical cleaners and solvents used to prepare the surfaces are also compatible with the sealant.

Several types of caulk are available with significantly different weathering and elongation properties. We recommend a silicone-based or polyurethane-based caulk. The major advantage of polyurethane-based caulks is their ability to bond to most construction surfaces without special preparation, such as primer application, as is required for alternate materials like silicone caulk. With proper surface preparation, i.e., removing surface contaminants, silicone-based caulks perform better than most other caulk materials. The weathering and elongation properties of silicone-based caulk give it a much longer useful life than other caulk materials.

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

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We recommend Red Cedar Canyon replace up to twenty-five percent (25%), or 6,650 linear feet of joint sealant per event.

Soffit and Fascia, Aluminum

Line Item: 1.590

Quantity: Approximately 15,400 square feet of aluminum soffit and fascia

History: The soffit and fascia is original

Condition: Good overall with isolated occurrences of minor deflection



Aluminum soffit and fascia

Useful Life: 35- to 40-years

Component Detail Notes: Consideration of appearance largely governs the decision to replace the aluminum soffits and fascia, in whole or partially, prior to the end of their useful life. Maintenance and partial replacements of the soffits and fascia may extend the useful life. Normal deterioration mainly relates to fading of the exterior finish from exposure to sunlight, weathering and air pollutants. The lack of replacement pieces matching the color and profile of the existing soffits and fascia may result in the need for a premature replacement.

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

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

Walls, Siding, Wood

Line Item: 1.870

Quantity: Approximately 8,600 square feet of the exterior walls

History: The wood siding is original

Condition: Good overall



Wood siding

Useful Life: With the benefit of periodic maintenance, applications of this type of material can have a useful life of 35- to 40-years. This useful life is dependent upon timely paint applications and partial replacements of deteriorated siding up to every four- to six-years through the operating budget.

Component Detail Notes: Wood siding is not watertight and is especially prone to water penetration at joints and knots. Therefore, wood siding should be installed over a continuous weather resistant barrier. The weather resistant barrier should include water-vapor permeable building paper and properly integrated flashing around all penetrations.

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

- Annually:
 - Inspect and repair loose siding, warping, wildlife damage and sealant deterioration
 - Inspect and repair finish deterioration, peeling and chipping
 - Touch-up paint finishes as necessary to ensure a uniform finish in between complete finish applications

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

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

Walls, Masonry

Line Item: 1.820

Quantity: Approximately 106,300 square feet of masonry comprises the exterior walls

History: The Association conducted approximately \$13,000 in masonry repairs in 2022 along with other miscellaneous repairs conducted through the operating budget

Condition: Good to fair overall with the following evident:

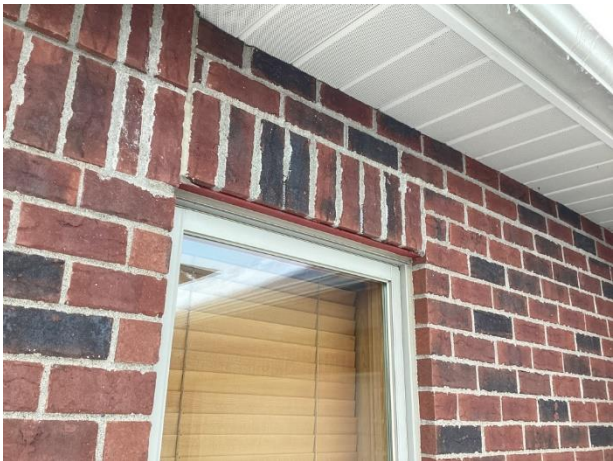
- Previous repairs are evident
- Efflorescence is visible (Efflorescence is not a safety concern. However, it can be an indication of water infiltration, masonry saturation, improper drainage behind the façade or another underlying issue.)
- Lintel paint finishes in good condition
- Mortar deterioration is common along wall bases
- Mortar joints are tooled
- Weeps and flashing at lintels are visible



Masonry façade overview



Masonry façade overview



Steel lintel



Previous mortar repair



Previous mortar repair



Previous mortar repairs and deterioration at wall base



Mortar deterioration at wall base



Mortar deterioration at wall base



Mortar deterioration at wall base



Efflorescence

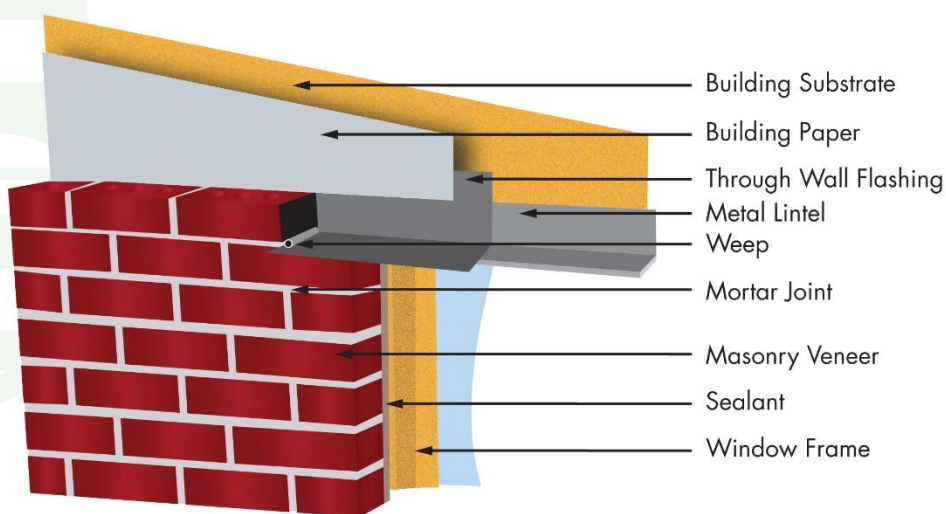
Useful Life: We advise a complete inspection of the masonry and related masonry repairs every 10- to 15-years to forestall deterioration.

Component Detail Notes: Common types of masonry deterioration include efflorescence, spalling, joint deterioration and cracking. The primary cause of efflorescence, cracks and face spall is water infiltration, therefore prevention of water infiltration is the principal concern for the maintenance of masonry applications.

Repointing is a process of raking and cutting out defective mortar to a depth of not less than $\frac{1}{2}$ inch nor more than $\frac{3}{4}$ inch and replacing it with new mortar. Face grouting is the process of placing mortar over top of the existing mortar. We advise against face grouting because the existing, often deteriorated mortar does not provide a solid base for the new mortar. New mortar spalls at face grouted areas will likely occur. One purpose of a mortar joint is to protect the masonry by relieving stresses within the wall caused by expansion, contraction, moisture migration and settlement. Repointed mortar joints are more effective if the mortar is softer and more permeable than the masonry units, and no harder or less permeable than the existing mortar. The masonry contractor should address these issues within the proposed scope of work.

We recommend an inspection, partial repair and replacement of the steel lintels. Lintels are structural supports or beams above windows and doors. Fatigued lintels also allow the direct penetration of storm water into the wall assembly. These inspections should locate areas of rust on the lintels and cracks or other structural damage to the walls around lintels. The contractor should remove any areas of rust, prime and paint these lintels. Paint protects and maximizes the remaining useful life of the lintels and therefore the exterior wall systems. Structural damage can eventually lead to costly replacements of lintels and surrounding wall systems. The following diagram details a typical metal lintel and weep system and may not reflect the actual configuration at the Association:

MASONRY WALL, METAL LINTEL AND WEEP SYSTEM DETAIL



© Reserve Advisors

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

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes the following activities:

- Complete inspection of the masonry
- Repointing of up to three percent (3%) of the masonry
- Replacement of a limited amount of the masonry (The exact amount of area in need of replacement will be discretionary based on the actual future conditions and the desired appearance.)
- Replacement/flushing installation at up to three percent (3%) of the metal lintels
- Paint applications to the metal lintels

Property Site Elements

Asphalt Pavement, Crack Repair, Patch, and Seal Coat

Line Item: 4.020

Quantity: Approximately 18,300 square yards of asphalt pavement at the shared driveways

History: The Association has repaved five shared driveways comprising approximately 6,050 square yards to date

Condition: The asphalt pavement at the shared driveways that has been repaved is in good overall condition. The asphalt pavement at the original driveways is in fair to poor overall condition with frequent occurrences of fatigue cracks, raveling and potholes.

Useful Life: Three- to five-years

Component Detail Notes: Proposals should include mechanically routing and filling all cracks with hot emulsion. Repairs should also include patching at areas exhibiting settlement, potholes, or excessive cracking. The contractor should only apply seal coat applications after repairs are completed. A seal coat does not bridge or close cracks, therefore, unrepaired cracks render the seal coat applications useless. These activities minimize the damaging effects of vehicle fluids, maintain a uniform and positive appearance, and maximize the useful life of the pavement.

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. Our cost includes an allowance for patching of up to two percent (2%) of the pavement.

Asphalt Pavement, Repaving

Line Items: 4.045 and 4.108

Quantity: Approximately 18,300 square yards of asphalt pavement at the shared driveways

History: The Association has repaved five shared driveways comprising approximately 6,050 square yards to date. The Association plans to repave an additional 4,850 square yards of asphalt pavement in 2023 for approximately \$253,685, and plans to complete repaving throughout the community in 2025 for approximately \$246,850.

Additionally, the Association plans to conduct asphalt apron reinforcements in coordination with the near term repaving. The cost for these improvements is approximately \$725 per apron.

Condition: The asphalt pavement at the shared driveways that has been repaved is in good overall condition. The asphalt pavement at the original driveways is in fair to poor overall condition with frequent occurrences of fatigue cracks, raveling and potholes.



Repaved access drive and driveways



Driveway overview



Driveway overview, fatigue cracks noted



Fatigue cracks and raveling



Fatigue cracks along pavement edge



Fatigue cracks and pothole



Fatigue cracks along pavement edge



Fatigue cracks



Raveling at previous pavement patch



Fatigue cracks and raveling

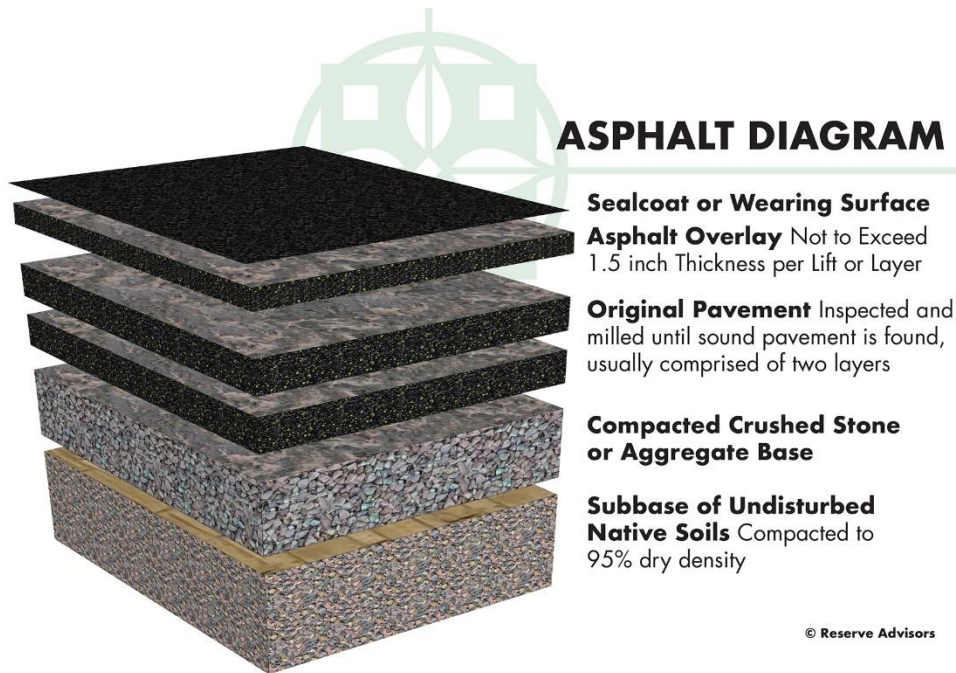


Fatigue cracks along pavement edge

Useful Life: 15- to 20-years with the benefit of timely crack repairs and patching

Component Detail Notes: The initial installation of asphalt uses at least two lifts, or two separate applications of asphalt, over the base course. The first lift is the binder course.

The second lift is the wearing course. The wearing course comprises a finer aggregate for a smoother more watertight finish. The following diagram depicts the typical components although it may not reflect the actual configuration at Red Cedar Canyon:



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

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

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

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

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

Concrete Sidewalks, Approaches and Stoops

Line Item: 4.140

Quantity: Approximately 24,800 square feet of concrete flatwork at the unit entry sidewalks

Condition: Good to fair overall with cracks and minor heaving evident



Unit entry sidewalk overview



Unit entry sidewalk overview



Minor sidewalk heave



Exposed concrete aggregate



Concrete crack

Useful Life: Up to 65 years although interim deterioration of areas is common

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

- Annually:
 - Inspect and repair major cracks, spalls and trip hazards
 - Mark with orange safety paint prior to replacement or repair
 - Repair or perform concrete leveling in areas in immediate need of repair or possible safety hazard

Priority/Criticality: Per Board discretion

Expenditure Detail Notes: Expenditure timing and costs are depicted in the **Reserve Expenditures** table in Section 3. We estimate that up to 7,440 square feet of concrete sidewalks, or thirty percent (30%) of the total, will require replacement during the next 30 years.

Irrigation System, Controllers, Pumps and Backflow Preventers

Line Item: 4.410

Quantity: Three controllers, pumps and backflow preventers

History: These components likely vary in age and date of installation

Condition: Reported satisfactory

Useful Life: Up to 15 years

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

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

Irrigation System

Line Item: 4.420

Quantity: 72 zones

History: The irrigation system is original

Condition: Satisfactory operational condition and Management does not report any deficiencies

Useful Life: Up to and sometimes beyond 40 years

Component Detail Notes: Irrigation systems typically include the following components:

- Electronic controls (timer)
- Impact rotors
- Network of supply pipes
- Pop-up heads
- Valves

Red Cedar Canyon should anticipate interim and partial replacements of the system network supply pipes and other components as normal maintenance to maximize the useful life of the irrigation system. The Association should fund these ongoing seasonal repairs through the operating budget.

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

- Semi-annually:
 - Conduct seasonal repairs which includes valve repairs, controller repairs, partial head replacements and pipe repairs
 - Blow out irrigation water lines and drain building exterior faucets each fall if applicable

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

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

Landscape

Line Item: 4.500

Component Detail Notes: The Association contains a large quantity of trees, shrubbery and other landscape elements. Replacement of these elements is an ongoing need. Many associations budget for these replacements as normal maintenance. Other associations fund ongoing replacements from reserves. Large amounts of landscape may need replacement due to disease, drought or other forces of nature. If the cost of

removal and replacement is substantial, funding from reserves is logical. The Association may also desire to periodically update the appearance of the community through major improvements to the landscape.

Useful Life: At the request of Management, we include a landscape allowance for partial replacements every five years.

Priority/Criticality: Per Board discretion

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

Retaining Wall, Masonry

Line Items: 4.745 and 4.746

Quantity: Approximately 1,260 square feet of masonry at the retaining walls along the driveways and approximately 340 square feet of masonry at the retaining wall at Units 129 and 135

History: The retaining walls are original with minor repairs conducted as needed through the operating budget

Condition: The retaining walls vary in condition. Majority of the retaining walls are in good overall condition, we note walls displaying leaning and capstone spalls.



Retaining wall near Unit 133, leaning noted



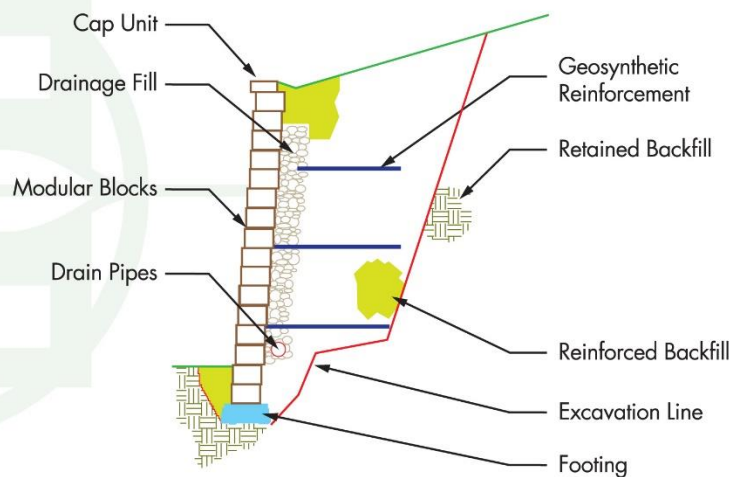
Retaining wall near Unit 117, capstone spalls and displacement evident

Useful Life: Up to 35 years

Component Detail Notes: Properly constructed interlocking masonry retaining walls utilize geosynthetic reinforcement and a drainage system to stabilize the wall and prevent the buildup of hydrostatic pressure behind the wall. Water stains may indicate inadequate drainage or blocked drainage from behind the wall. The following schematic depicts the

typical components of a retaining wall system although it may not reflect the actual configuration at Red Cedar Canyon:

MASONRY RETAINING WALL DETAIL



© Reserve Advisors

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

- Annually:
 - Inspect and repair leaning sections or damaged areas
 - Water stains which may indicate possible blocked drainage should be investigated further
 - Inspect and repair erosion at the wall base and backside

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

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

Signage

Line Item: 4.810

Quantity: 28 building identification signs

History: The signs appear to have been recently replaced

Condition: Good overall



Building identification sign

Useful Life: 15- to 20-years

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

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

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

Priority/Criticality: Per Board discretion

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

Reserve Study Update

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

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

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

5.METHODOLOGY

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

Red Cedar Canyon can fund capital repairs and replacements in any combination of the following:

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

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

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

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

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

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

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

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

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

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



6. CREDENTIALS

HISTORY AND DEPTH OF SERVICE

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

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

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

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

TOTAL STAFF INVOLVEMENT

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

OUR GOAL

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

VAST EXPERIENCE WITH A VARIETY OF BUILDINGS

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

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

OLD TO NEW

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

ROBERT A. SCHWANKL
Responsible Advisor

CURRENT CLIENT SERVICES

Robert A. Schwankl, a Mechanical Engineer, is an Advisor for Reserve Advisors, LLC. Mr. Schwankl is responsible for the inspection and analysis of the condition of clients' property, and recommending engineering solutions to prolong the lives of the components. He also forecasts capital expenditures for the repair and/or replacement of the property components and prepares technical reports on assignments. He is responsible for conducting Life Cycle Cost Analysis and Capital Replacement Forecast services and the preparation of Reserve Study Reports for condominiums, townhomes, and homeowners associations.



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

Regatta Wayzata Bay Residence Owners' Association - This mid-rise, located in Wayzata, Minnesota, was built in 2014 and contains a combination of flat and sloped roof systems, multiple community rooms, a community rooftop plaza and a parking garage.

Emerald Gardens Association – This multi-building 212-unit condominium association contains multiple underground garages, elevated concrete patios and a variety of siding comprise the building façade.

Innsbruck North Townhouse Association - Located in Fridley, Minnesota, this property contains 282 units in 75 buildings and was built in 1973. This property contains a playground, a tennis court, a community club house and pool area.

Widsten Townhomes Association - Built from 1996 to 1998 and located in Wayzata, Minnesota, this property contains a diverse style of townhome and rowhome buildings containing a combination of masonry and cedar shake siding as well as cedar shake roofs. Robert recently worked with the Association to incorporate future reserve allowances for their recently constructed community plaza added to the center of the property.

Rose Court Carriage Homes Association - This seven building, 32-unit property located in Minneapolis has a combination of composite hardboard siding and wood trim as well as asphalt shingle roofs. The property utilizes four large masonry retaining walls at the perimeter of the property which have an extensive history of ongoing repairs, maintenance and partial replacements to maintain the structural integrity of the retention system.

The Lakes at Maple Grove Townhome Association - Located in Maple Grove, Minnesota, this townhome community contains 83 units across 14 buildings comprising of a combination of clapboard and shake profile vinyl siding as well as cantilevered wood balconies. This property also has two large retaining walls at the west perimeter with a history of ongoing repairs and partial replacements.

PRIOR RELEVANT EXPERIENCE

Before joining Reserve Advisors, LLC, Mr. Schwankl attended the University of St. Thomas in St. Paul, Minnesota where he attained his Bachelor of Science degree in Mechanical Engineering.

EDUCATION

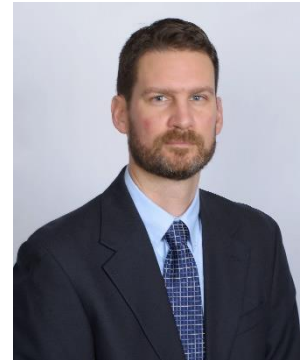
University of St. Thomas – B.S. Mechanical Engineering

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

CURRENT CLIENT SERVICES

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

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



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

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

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

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

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

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

PRIOR RELEVANT EXPERIENCE

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

EDUCATION

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

PROFESSIONAL AFFILIATIONS/DESIGNATIONS

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

Reserve Specialist (RS) - Community Associations Institute

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



RESOURCES

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

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

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

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

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

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

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

7. DEFINITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



8. PROFESSIONAL SERVICE CONDITIONS

Our Services - Reserve Advisors, LLC ("RA") performs its services as an independent contractor in accordance with our professional practice standards and its compensation is not contingent upon our conclusions. The purpose of our reserve study is to provide a budget planning tool that identifies the current status of the reserve fund, and an opinion recommending an annual funding plan to create reserves for anticipated future replacement expenditures of the property.

Our inspection and analysis of the subject property is limited to visual observations, is noninvasive and is not meant to nor does it include investigation into statutory, regulatory or code compliance. RA inspects sloped roofs from the ground and inspects flat roofs where safe access (stairs or ladder permanently attached to the structure) is available. The report is based upon a "snapshot in time" at the moment of inspection. RA may note visible physical defects in the Report. The inspection is made by employees generally familiar with real estate and building construction. Except to the extent readily apparent to RA, RA cannot and shall not opine on the structural integrity of or other physical defects in the property under any circumstances. Without limitation to the foregoing, RA cannot and shall not opine on, nor is RA responsible for, the property's conformity to specific governmental code requirements for fire, building, earthquake, and/or occupancy.

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

RA assumes, without independent verification, the accuracy of all data provided to it. You agree to indemnify and hold RA harmless against and from any and all losses, claims, actions, damages, expenses or liabilities, including reasonable attorneys' fees, to which we may become subject in connection with this engagement, because of any false, misleading or incomplete information which we have relied upon supplied by you or others under your direction, or which may result from any improper use or reliance on the Report by you or third parties under your control or direction. Your obligation for indemnification and reimbursement shall extend to any director, officer, employee, affiliate, or agent of RA. Liability of RA and its employees, affiliates, and agents for errors and omissions, if any, in this work is limited to the amount of its compensation for the work performed in this engagement.

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



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

Your Obligations - You agree to provide us access to the subject property for an on-site visual inspection. You agree to provide RA all available, historical and budgetary information, the governing documents, and other information that we request and deem necessary to complete the Report. You agree to pay actual attorneys' fees and any other costs incurred to collect on any unpaid balance for RA's services.

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

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

Payment Terms, Due Dates and Interest Charges - The retainer payment is due upon authorization and prior to inspection. The balance is due net 30 days from the report shipment date. Any balance remaining 30 days after delivery of the Report shall accrue an interest charge of 1.5% per month. Unless this agreement is earlier terminated by RA in the event you breach or otherwise fail to comply with your obligations under this agreement, RA's obligations under this agreement shall commence on the date you execute and deliver this agreement and terminate on the date that is 6 months from the date of delivery of the Report by RA. Notwithstanding anything herein to the contrary, each provision that by its context and nature should survive the expiration or early termination of this agreement shall so survive, including, without limitation, any provisions with respect to payment, intellectual property rights, limitations of liability and governing law.

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