SUPERIOR RESERVE
ENGINEERING & CONSULTING
888-688-4560
www.superiorreserve.com

Full Reserve Study

Eagle Highland Owners Association

Fairborn, Ohio

August 10, 2017

Reference Number: 160197

Eagle Highland Owners Association

Table of Contents

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Reserve Component List

	Engineering Data Section	Replacement Year (near term in red)	Age (N/A = not available)	Useful Life (years)	Remaining Useful Life (years)	Replacement Cost without Inflation	% Included	$ Included	Number of Phases	Cost per Phase	Flexibility
Exterior Building Components											
Chimney Chase Covers (1)	2.221	2018	original	25	1	$13,500	100%	$13,500	1	$13,500	deferrable
Gutters and Downspouts - Front (1)	2.362	2025	original	25	8	$14,000	100%	$14,000	2	$7,000	deferrable
Gutters and Downspouts - Rear	2.363	2032	2007	25	15	$10,400	100%	$10,400	1	$10,400	deferrable
Lighting - Exterior (1)	2.381	2040	N/A	25	23	$6,000	100%	$6,000	1	$6,000	deferrable
Masonry Restoration (1)	2.421	2019	original	20	2	$6,000	100%	$6,000	1	$6,000	deferrable
Roofs - Asphalt Shingles (1)	2.441	2040	2015	25	23	$120,000	100%	$120,000	2	$60,000	firm
Siding - Vinyl (1)	2.761	2025	original	35	8	$162,000	100%	$162,000	2	$81,000	deferrable
Soffits and Fascia - Aluminum (1)	2.891	2025	original	35	8	$46,200	100%	$46,200	2	$23,100	deferrable
Site Components											
Concrete Aprons (10% every 5 years)	6.141	2020	original	5	3	$12,000	10%	$1,200	1	$1,200	deferrable
Concrete Sidewalks and Stoops (5% every 5 years)	6.181	2020	original	5	3	$26,000	5%	$1,300	1	$1,300	deferrable
Mail Cluster Box Stations	6.621	2038	2013	25	21	$4,000	100%	$4,000	1	$4,000	deferrable
Pavement Replacement - Driveways (1)	6.661	2027	N/A	20	10	$50,000	100%	$50,000	1	$50,000	deferrable
Sign	6.961	2021	original	30	4	$4,300	100%	$4,300	1	$4,300	deferrable

(1) See Property Engineering Review Page 1.201

SUPERIOR RESERVE
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Eagle Highland Owners Association

Property and Service Summary

Location:	Fairborn, Ohio
Property type:	townhome condominium
Number of residential buildings:	7
Number of units:	28
Number of stories:	2
Year of construction:	1986
Date of inspection:	August 10, 2017
Type of service:	reserve study
Level of service:	Full Study
Length of analysis:	30 years
Exterior features:	masonry veneer, vinyl siding, asphalt shingle roofs
Site features:	asphalt driveways, concrete sidewalks and stoops
Completed projects:	replacement of roofs
Upcoming projects:	replacement of chimney chase covers


front elevation


rear elevation

front elevation


rear elevation

Property Engineering Review

During our inspection of your property, we identify the following repairs and improvements that the property should consider:

Actionable recommendations - near term actions on these items will minimize future costs and maintain the comfort and security (See "Pages with Engineering Data" for more information where applicable):

We observed locations where the flashing at the intersection between the bottom of the siding and the top of the brick is pitched towards the buildings. This greatly increases the potential for leaks. Remediation of this condition will require trimming back the lower course of siding to enable the flashing to be installed to pitch away from the buildings.

The vinyl siding at the base of the walls is damaged from lawn care equipment. To minimize damage, we recommend the installing landscape, such as mulch, to eliminate the need for lawn maintenance near the siding.

Storm water can get between the joint of the fascia and J channel at the gable rake if the caulk fails. The property should inspect these joints annually and replace any failed caulk.

Green ideas - Opportunities for energy efficiency and best practices for sustainability. Acting on these recommendations will provide significant cost savings (See "Pages with Engineering Data" for more information where applicable):

We observed the use of inefficient incandescent bulbs at the exterior fixtures. Replace incandescent bulbs with LED bulbs to save approximately $15 in electrical usage annually per fixture (based on 10 hours of operation per day per fixture and an electrical rate of $0.08 per kilowatt hour).

The property has seal coated the asphalt pavement in the past. It is our professional opinion that seal coating asphalt pavement does not extend the useful life of the pavement. Seal coats do not add structural strength to the pavement. Seal coating is also a source of environmental contamination. Many properties opt to save money by *not* seal coating their pavement. If the property decides to seal coat for aesthetic reasons, avoid the use of coal tar based pavement seal coats as they pollute waterways. Instead, consider a slurry coat of asphaltic emulsion to provide a sacrificial wearing surface to the pavement. Also, if the property chooses to seal coat, we recommend applying the seal coat in the spring rather than the fall. Snow removal equipment wears the seal coat. Application in the spring will provide the maximum visual enjoyment from a fresh seal coat. The property should fund this expense through the operating budget.

Engineering solutions - reference this information for proper scope of work and best outcome on upcoming projects (See "Pages with Engineering Data" for more information where applicable):

The chimney chase covers are at the end of their useful lives. Chimney chase cover replacement should include a cambered top to shed water, a formed drip edge to direct water away from the siding and fasteners through the sides to minimize the potential for leaks.

The downspouts discharge at the foundations which increases the potential for grade settlement, standing water and foundation settlement. We recommend the installation of subterranean downspout extensions that discharge 10 feet away from the buildings through pop-up drainage emitters in the landscape areas. At the center garages, we recommend resloping the gutters to discharge into a downspout either to the left or right of the doors (not the center) and then through subterranean downspout extensions (beneath the sidewalks) into the adjacent grass areas. We estimate a cost of $175 per downspout for this repair. We recommend subterranean PVC pipes with glued connections to elbows (similar to interior plumbing) to minimize the potential for root and dirt penetration at joints.

We were informed of leaks at the chimney of 1473 Eagle Highlands. We observed that in addition to caulking at the chimney cover, kick-out flashing is missing where roof terminates at the gutter adjacent to the chimney chase. Water flowing at the roof to wall intersection can bypass the gutter, penetrate the wall and increase the potential for water infiltration. Kick-out flashing should be installed at this location (and other similar locations), integrated with the shingles and step flashing.

The property recently replaced the roofs. It is our professional opinion that the roofs were installed well based on the following observations:

- laminated architectural shingles were installed
- metal drip edge was installed at the roof perimeters
- ridge vents with wind baffles were installed
- rubber and metal flashing at vent pipes were installed
- exposed nail heads were sealed
- self adhering underlayment was installed at that gutter edge
- flashing was appropriately lapped atop the shingles at the roof to wall intersections over the garages

We did observe locations of cupped shingles at the roof to wall intersections over the garages that require securing and limited locations of flashing that require securing.

Flashing is missing above the window and door openings. Flashing, in conjunction with building paper, would collect any water that gets behind the siding and direct it back to the exterior. The lack of flashing results in accelerated window and substrate deterioration, and increases the potential for water infiltration. This condition is made worse with the lack of building paper behind the siding. Siding replacement should include flashing and building paper.

The partially vented soffits are inadequate to properly ventilate the attics. Soffit ventilation is necessary to allow air flow into the attics. This air flow helps reduce attic temperatures and maximizes the useful

life of the shingles. Balanced air flow through the attics minimizes the potential for ice dams and reduces summer air conditioning costs. Shingle manufacturers recommend one square foot of attic ventilation for every 300 square feet of roof area, with half of this ventilation in the soffits and the other half at the rooftops. We recommend the installation of fully vented soffits at the time of soffit and fascia replacement. We also recommend an inspection of the attics to ensure the vents are not blocked by insulation at the time of replacement.

Implementation of these repairs and improvements could increase the useful life of the components, minimize operating costs and provide guidance at the time of component replacement.

Reserve Study Overview

This reserve study is a *physical and financial analysis* of your property that determines what components of your property will eventually require either major repairs or restoration, or complete replacement. Large, one-time contributions (special assessments) for these projects can be eliminated with development of a *reserve* through relatively smaller annual contributions. The physical analysis determines the existing quantities, conditions, useful lives and costs of the components. The financial analysis determines the existing financial situation of your property and the reserves necessary to offset the future expenses.

Reserve Component

Components in this reserve study meet the following requirements:

- responsibility of the property
- limited useful life expectancy
- predictable *remaining* useful life expectancy
- above a minimum threshold cost

Components that do not fulfill the above requirements are not included in this study.

30 Year Analysis

The analysis for this reserve study encompasses the next 30 years. The components of the property age each year. Those who enjoy the use of each component are financially responsible for what they enjoyed. This length of an analysis is necessary to analyze the aging of nearly all the major components of the property. The expectation is not that the current Residents, Board of Directors and/or Management will be present at the property in 30 years. Rather, the future analysis aids in determining the most accurate *current* contribution for the aging components.

Funding Method

The funding method of this reserve study utilizes the *cash flow method*. With the cash flow method, contributions to the reserve fund are designed to offset variable annual expenditures. We experiment with different contribution scenarios until an ideal scenario is discovered to offset reserve expenditures. All expenses and contributions are *pooled* together. Our experience indicates that the cash flow method typically results in lower overall contributions than the *component method*, which typically segregates funds.

Funding Goal

The funding goal of this reserve study is to maintain a reserve balance above a minimum *threshold* during the years of major expenditures. We assume a contingency reserve balance of not less than

approximately ten percent (10%) of the expenditures in the **threshold funding year** (The year the reserve balance is at its lowest point. See Funding Plan Page 1.401 for the identification of this year). The property can determine if they prefer a higher or lower contingency.

The ideal situation is when the threshold funding year is in the last year of the analysis. This provides the maximum amount of time that the property can save up for major expenses. A critical situation is when the threshold funding year is in the first few years of the analysis. This situation requires major initial reserve contributions to offset near term expenditures.

Funding

This reserve study assumes an ideal situation where all future costs are offset by annual contributions to the reserve fund. *We understand that this is not always possible.* Our experience suggests that major projects are funded through multiple means such as partially through the reserve fund and partial through either additional assessments or bank loans. The specific funding of the projects is determined by the property at the time of the event (this is not something we can forecast). The goal of the property should be to follow the recommended funding plan outlined in this reserve study. If the recommended reserve contributions are not feasible as determined by the Board of Director's judgment, this reserve study should then be used, at a minimum, to justify the need for an *increase* over the *current* reserve fund contribution.

Flexibility

The time of replacement for each component involves a varying degree of deduction. To help understand the criticality of each replacement time, we provide the following replacement flexibility guide:

firm - Replacement time has little, if any, flexibility. Deferring the replacement time would have an adverse effect on the property.
deferrable - Replacement time has limited flexibility. Continually deferring the replacement time would eventually have an adverse effect on the property and raise aesthetic concerns.
discretionary - Replacement time has flexibility. Continually deferring the replacement time would either raise aesthetic concerns or the component does not affect the functionality of the property.

Reserve Study Requirements

Property Declarations occasionally define reserve study requirements. The state legislature may also define reserve study requirements. The following is a link to state reserve study requirements (the property should be aware more recent or pending legislation may exist since the date of this report):

http://codes.ohio.gov/orc/5311

It is our intention that this reserve study complies with these requirements. The property should consult with their attorney on discrepancies between reserve study requirements. Contact us for any revision necessary to the reserve study to fulfill these requirements.

Cost estimates

We obtain the cost estimates for replacements from the following sources:

- published sources (*RS Means* based on standard union labor rate)
- historical costs
- proprietary information

Our estimates are not guarantees of actual replacement costs. We base our estimates on our calculation of expected market rate for your specific location and specific situation. Multiple contractor bids will result in multiple cost estimates. *Multiple* contractor estimates will inevitably vary from our *single* estimate. If the property receives an estimate that is higher than the estimate in this reserve study, the property should use this study as a tool to negotiate a lower cost. If the property receives an estimate that is lower than the estimate in this reserve study - congratulations! You have received an estimate that is below the expected market rate. The property should verify the scope of work in the contractor's estimate is similar to what is noted on the Engineering Data page (Engineering Data pages are all the data pages subsequent to "Limiting Conditions", Page 1.701).

Long Lived Components

There exists components at the property that will not require replacement during the 30 year analysis. Although these long lived components will eventually require replacement, they do not fall within the scope of the analysis. Periodic updates of the study will eventually include their replacement. Frequent updates of the study will ensure the property has up to 30 years to plan for their eventual replacement. The following is a list of ***common*** long lived components for the property:

- electrical systems
- foundations
- pipes within the building walls and subsurface
- structural frames

Operating Budget

The operating budget provides funds necessary for the daily operation of the property. In general, the operating budget includes expenses that repeat from year to year, such as administrative expenses and cleaning. All the property components require maintenance. *This reserve study does not include maintenance costs that would traditionally fall under an operating budget.* We assume the property will fund normal annual maintenance through the operating budget. We also assume that the property will fund replacement of components below an estimated minimum threshold cost of

$2,000

through the operating budget. The following is a list of components that we assume the property will fund through the operating budget:

- crack repairing and patching of asphalt pavement
- landscape
- painting
- seal coating of asphalt pavement (for aesthetic purposes if desired) and striping

The items in the list above have a minimal (if any) impact on our recommended reserve fund contribution. If the property chooses to fund these expenses through reserves, updates of this reserve study would account for these expenses.

Homeowner Responsibility

The property's Declaration assigns the responsibility of certain components to the homeowners. These are typically components where the use is solely enjoyed by the homeowner. The following is a list of components that are the responsibility of the homeowners as described to us during our meeting at the property:

- electrical systems within the individual homes
- garage doors
- heating, ventilating and air conditioning (HVAC) units serving the individual homes
- interiors of the individual homes
- patios and fences
- pipes that branch off the common pipes to the individual home plumbing fixtures
- skylights
- windows and doors

We do not provide an opinion on the accuracy of this list. Historical practices for repairs and replacements occasionally conflict with what is stated in the Declaration. The property should consult with their attorney to verify the accuracy of the information in this list provided to us.

Although these components are maintained by the homeowners, Declarations typically allow the Board of Directors to have *architectural control* over replacement. This aids in keeping a uniform appearance throughout the property. Homeowner replacement projects with a high dollar value can be managed by the property but the expenses charged back to the homeowners. This simplifies complex projects by having one contractor and further ensures a uniform appearance.

Additional Assessments

The objective of properly planned operating budgets and reserve contributions is to avoid additional assessments. However, additional assessments are necessary for unplanned costs such as code change requirements, unobservable conditions, property improvements, etc. We *do not* recommend the property fund these expenses through reserves. The property should consult with an attorney to determine if the property Bylaws have a provision for these types of expenses.

Definitions and Supporting Information

Community Associations Institute (CAI) and the Association of Professional Reserve Analysts (APRA) are national organizations that provide requirements for reserve studies. The property should refer to these organizations for reserve study definitions and supporting information. The following are links to these organizations:

http://www.caionline.org

http://www.apra-usa.com/

Reserve Fund Status

If the property were to fund all expenditures identified in this study through reserves, an increase in the reserve contributions is necessary. See Funding Plan Page 1.401 for our recommended reserve funding plan.

Updates

The reserve study is a static snap shot in time based on the date of the inspection. However, costs, inflation rates, interest rates and weather conditions are dynamic in that they are always changing. This necessitates periodic *updates* of the reserve study. An update is less costly than the original reserve study since there is less labor involved in gathering information on your property. We suggest updating the reserve study every three to six years. Factors that can determine when an update should occur are an upcoming major project, completion of a major project, major change to the property, known change

in the interest and/or inflation rates compared to the last reserve study, etc. Please contact us for a reserve study update proposal when necessary.

Sincerely,

Justin J. Maier, RS
Partner
Superior Reserve Engineering & Consulting
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888-688-4560
Report submitted on: August 14, 2017

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Recommended Reserve Funding Plan
Eagle Highland Owners Association

Year	Inflated expenditures (3% annual)	Recommended reserve contributions	Ending reserve balance	Average $ per home per month (28 homes)	$ increase per month from previous year	% increase from previous year
2017*	$0	$0	$32,327	$0.00	-	-
2018	($13,905)	$30,100	$49,007	$89.58	$89.58	-
2019	($6,365)	$31,000	$74,378	$92.26	$2.68	3.0%
2020	($2,732)	$31,900	$104,614	$94.94	$2.68	2.9%
2021	($4,840)	$32,900	$134,098	$97.92	$2.98	3.1%
2022	$0	$33,900	$169,811	$100.89	$2.98	3.0%
2023	$0	$34,900	$206,958	$103.87	$2.98	2.9%
2024	$0	$35,900	$245,557	$106.85	$2.98	2.9%
2025	($143,905)	$37,000	$140,957	$110.12	$3.27	3.1%
2026	($144,960)	$38,100	$35,147	$113.39	$3.27	3.0%
**2027	($67,196)	$39,200	**$7,405**	$116.67	$3.27	2.9%
2028	$0	$17,000	$24,596	$50.60	-$66.07	-56.6%
2029	$0	$17,500	$42,496	$52.08	$1.49	2.9%
2030	($3,671)	$18,000	$57,421	$53.57	$1.49	2.9%
2031	$0	$18,500	$76,721	$55.06	$1.49	2.8%
2032	($16,203)	$19,100	$80,556	$56.85	$1.79	3.2%
2033	$0	$19,700	$101,341	$58.63	$1.79	3.1%
2034	$0	$20,300	$122,979	$60.42	$1.79	3.0%
2035	($4,256)	$20,900	$141,199	$62.20	$1.79	3.0%
2036	$0	$21,500	$164,522	$63.99	$1.79	2.9%
2037	$0	$22,100	$188,729	$65.77	$1.79	2.8%
2038	($7,441)	$22,800	$206,445	$67.86	$2.08	3.2%
2039	($11,497)	$23,500	$220,997	$69.94	$2.08	3.1%
2040	($135,191)	$24,200	$111,992	$72.02	$2.08	3.0%
2041	($121,968)	$24,900	$15,687	$74.11	$2.08	2.9%
2042	$0	$25,600	$41,629	$76.19	$2.08	2.8%
2043	($29,114)	$26,400	$39,398	$78.57	$2.38	3.1%
2044	$0	$27,200	$67,234	$80.95	$2.38	3.0%
2045	($5,720)	$28,000	$90,454	$83.33	$2.38	2.9%
2046	$0	$28,800	$120,512	$85.71	$2.38	2.9%
2047	($121,363)	$29,700	$29,745	$88.39	$2.68	3.1%

* reserve contributions are budgeted
**2027 is the THRESHOLD FUNDING YEAR (the year the reserve balance is at its lowest point)

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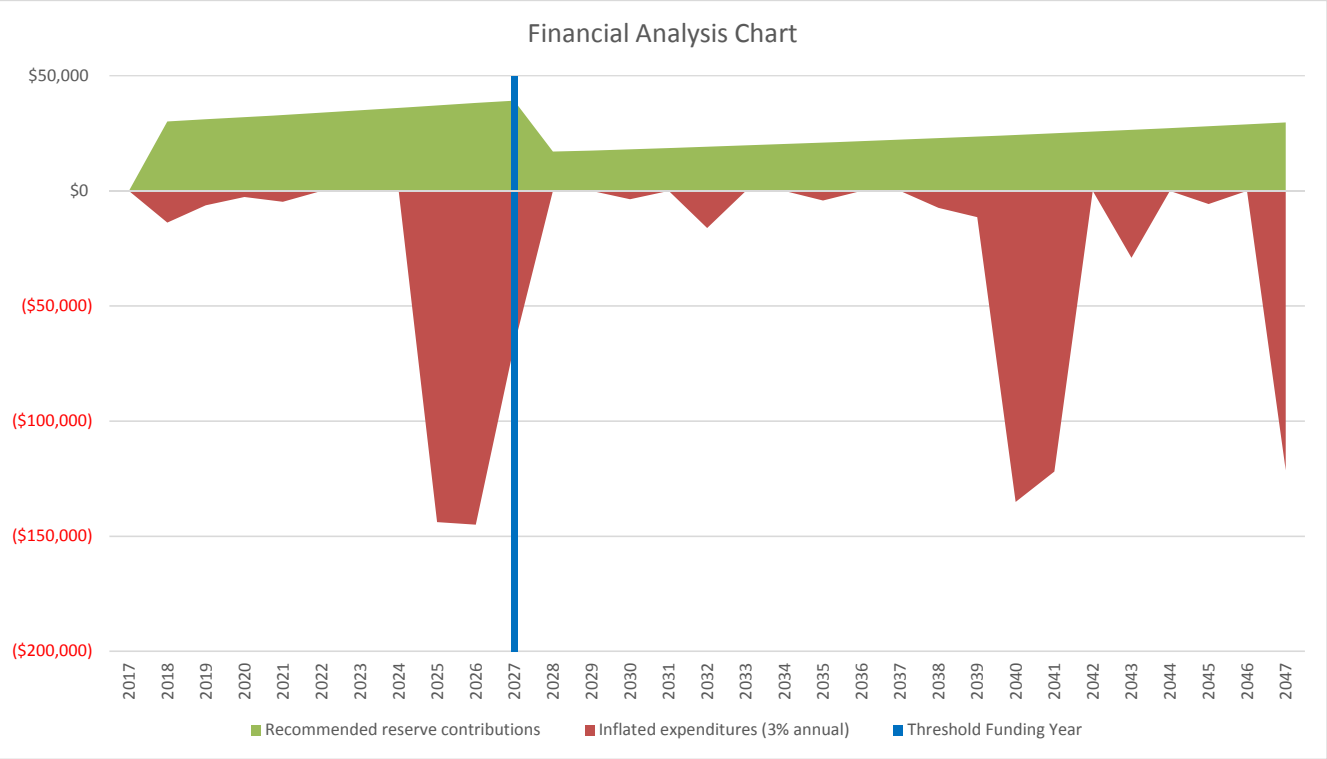
Eagle Highland Owners Association



30 Year Expenditure Summary

These summary pages depict the INFLATED reserve expenses during the next 30 years. The costs on these pages SHOULD NOT be compared to current bid costs as these costs are inflated.

Eagle Highland Owners Association

Fiscal year	2017	2018	2019	2020	2021	2022	2023	2024
Construction inflation rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Compounded construction inflation	100.0%	103.0%	106.1%	109.3%	112.6%	115.9%	119.4%	123.0%
Beginning balance (June 30, 2017)	$32,295	$32,327	$49,007	$74,378	$104,614	$134,098	$169,811	$206,958
Inflated expenditures (3% annual)	$0	($13,905)	($6,365)	($2,732)	($4,840)	$0	$0	$0
Recommended reserve contributions (remaining 2017 contribution)	$0	$30,100	$31,000	$31,900	$32,900	$33,900	$34,900	$35,900
Earned interest (1.2% PROJECTED yield rate)	$32	$485	$736	$1,068	$1,424	$1,813	$2,247	$2,699
Ending reserve balance	$32,327	$49,007	$74,378	$104,614	$134,098	$169,811	$206,958	$245,557

Reserve Component List

Exterior Building Components								
Chimney Chase Covers (1)		13,905						
Gutters and Downspouts - Front (1)								
Gutters and Downspouts - Rear								
Lighting - Exterior (1)								
Masonry Restoration (1)			6,365					
Roofs - Asphalt Shingles (1)								
Siding - Vinyl (1)								
Soffits and Fascia - Aluminum (1)								
Site Components								
Concrete Aprons (10% every 5 years)				1,311				
Concrete Sidewalks and Stoops (5% every 5 years)				1,421				
Mail Cluster Box Stations								
Pavement Replacement - Driveways (1)								
Sign					4,840			

(1) See Property Engineering Review Page 1.201

30 Year Expenditure Summary

These summary pages depict the INFLATED reserve expenses during the next 30 years. The costs on these pages SHOULD NOT be compared to current bid costs as these costs are inflated.

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Eagle Highland Owners Association			threshold funding year					
Fiscal year	2025	2026	2027	2028	2029	2030	2031	2032
Construction inflation rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Compounded construction inflation	126.7%	130.5%	134.4%	138.4%	142.6%	146.9%	151.3%	155.8%
Beginning balance (June 30, 2017)	$245,557	$140,957	$35,147	$7,405	$24,596	$42,496	$57,421	$76,721
Inflated expenditures (3% annual)	($143,905)	($144,960)	($67,196)	$0	$0	($3,671)	$0	($16,203)
Recommended reserve contributions (remaining 2017 contribution)	$37,000	$38,100	$39,200	$17,000	$17,500	$18,000	$18,500	$19,100
Earned interest (1.2% PROJECTED yield rate)	$2,305	$1,050	$254	$191	$400	$596	$800	$938
Ending reserve balance	$140,957	$35,147	$7,405	$24,596	$42,496	$57,421	$76,721	$80,556

Reserve Component List

Exterior Building Components								
Chimney Chase Covers (1)								
Gutters and Downspouts - Front (1)	8,867	9,133						
Gutters and Downspouts - Rear								16,203
Lighting - Exterior (1)								
Masonry Restoration (1)								
Roofs - Asphalt Shingles (1)								
Siding - Vinyl (1)	102,608	105,687						
Soffits and Fascia - Aluminum (1)	29,262	30,140						
Site Components								
Concrete Aprons (10% every 5 years)	1,520					1,762		
Concrete Sidewalks and Stoops (5% every 5 years)	1,647					1,909		
Mail Cluster Box Stations								
Pavement Replacement - Driveways (1)			67,196					
Sign								

(1) See Property Engineering Review Page 1.201

30 Year Expenditure Summary

These summary pages depict the INFLATED reserve expenses during the next 30 years. The costs on these pages SHOULD NOT be compared to current bid costs as these costs are inflated.

Eagle Highland Owners Association

Fiscal year	2033	2034	2035	2036	2037	2038	2039	2040
Construction inflation rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Compounded construction inflation	160.5%	165.3%	170.2%	175.4%	180.6%	186.0%	191.6%	197.4%
Beginning balance (June 30, 2017)	$80,556	$101,341	$122,979	$141,199	$164,522	$188,729	$206,445	$220,997
Inflated expenditures (3% annual)	$0	$0	($4,256)	$0	$0	($7,441)	($11,497)	($135,191)
Recommended reserve contributions (remaining 2017 contribution)	$19,700	$20,300	$20,900	$21,500	$22,100	$22,800	$23,500	$24,200
Earned interest (1.2% PROJECTED yield rate)	$1,085	$1,338	$1,576	$1,823	$2,107	$2,357	$2,549	$1,986
Ending reserve balance	$101,341	$122,979	$141,199	$164,522	$188,729	$206,445	$220,997	$111,992

Reserve Component List

Exterior Building Components								
Chimney Chase Covers (1)								
Gutters and Downspouts - Front (1)								
Gutters and Downspouts - Rear								
Lighting - Exterior (1)								11,842
Masonry Restoration (1)							11,497	
Roofs - Asphalt Shingles (1)								118,415
Siding - Vinyl (1)								
Soffits and Fascia - Aluminum (1)								
Site Components								
Concrete Aprons (10% every 5 years)			2,043					2,368
Concrete Sidewalks and Stoops (5% every 5 years)			2,213					2,566
Mail Cluster Box Stations						7,441		
Pavement Replacement - Driveways (1)								
Sign								

(1) See Property Engineering Review Page 1.201

30 Year Expenditure Summary

These summary pages depict the INFLATED reserve expenses during the next 30 years. The costs on these pages SHOULD NOT be compared to current bid costs as these costs are inflated.

Eagle Highland Owners Association

Fiscal year	2041	2042	2043	2044	2045	2046	2047
Construction inflation rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Compounded construction inflation	203.3%	209.4%	215.7%	222.1%	228.8%	235.7%	242.7%
Beginning balance (June 30, 2017)	$111,992	$15,687	$41,629	$39,398	$67,234	$90,454	$120,512
Inflated expenditures (3% annual)	($121,968)	$0	($29,114)	$0	($5,720)	$0	($121,363)
Recommended reserve contributions (remaining 2017 contribution)	$24,900	$25,600	$26,400	$27,200	$28,000	$28,800	$29,700
Earned interest (1.2% PROJECTED yield rate)	$762	$342	$483	$636	$940	$1,258	$896
Ending reserve balance	$15,687	$41,629	$39,398	$67,234	$90,454	$120,512	$29,745

Reserve Component List

Exterior Building Components							
Chimney Chase Covers (1)			29,114				
Gutters and Downspouts - Front (1)							
Gutters and Downspouts - Rear							
Lighting - Exterior (1)							
Masonry Restoration (1)							
Roofs - Asphalt Shingles (1)	121,968						
Siding - Vinyl (1)							
Soffits and Fascia - Aluminum (1)							
Site Components							
Concrete Aprons (10% every 5 years)					2,746		
Concrete Sidewalks and Stoops (5% every 5 years)					2,974		
Mail Cluster Box Stations							
Pavement Replacement - Driveways (1)							121,363
Sign							

(1) See Property Engineering Review Page 1.201

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2017

Hybrid Reserve Expenditures and Funding Plan

January 1, 2017 through December 31, 2017

Year of forecast:	0
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2017:	100.0%
Unaudited, provided, beginning reserve balance as of June 30, 2017:	$32,295
Budgeted reserve contribution: +	$0
Estimated interest earned (6 months of remaining interest at 0.2% yield rate): +	$32
Total remaining contributions: =	$32

Eagle Highland Owners Association

2017 Expenditures

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$32,327

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2018

Hybrid Reserve Expenditures and Funding Plan

January 1, 2018 through December 31, 2018

Year of forecast:	1
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2018:	103.0%
Beginning reserve balance:	$32,327
Recommended reserve contribution: +	$30,100
Estimated interest earned (1.2% PROJECTED yield rate): +	$485
Total contributions: =	$30,585

Eagle Highland Owners Association

2018 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Chimney Chase Covers (1)	1	deferrable	2.221	($13,905)
Total expenditures:				($13,905)
			Ending reserve balance:	$49,007

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2019

Hybrid Reserve Expenditures and Funding Plan

January 1, 2019 through December 31, 2019

Year of forecast:	2
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2019:	106.1%
Beginning reserve balance:	$49,007
Recommended reserve contribution: +	$31,000
Estimated interest earned (1.2% PROJECTED yield rate): +	$736
Total contributions: =	$31,736

Eagle Highland Owners Association

2019 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Masonry Restoration (1)	1	deferrable	2.421	($6,365)
Total expenditures:				($6,365)
			Ending reserve balance:	$74,378

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2020

Hybrid Reserve Expenditures and Funding Plan

January 1, 2020 through December 31, 2020

Year of forecast:	3
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2020:	109.3%
Beginning reserve balance:	$74,378
Recommended reserve contribution: +	$31,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,068
Total contributions: =	$32,968

Eagle Highland Owners Association

2020 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Concrete Aprons (10% every 5 years)	1	deferrable	6.141	($1,311)
Concrete Sidewalks and Stoops (5% every 5 years)	1	deferrable	6.181	($1,421)
Total expenditures:				($2,732)
			Ending reserve balance:	$104,614

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2021

Hybrid Reserve Expenditures and Funding Plan

January 1, 2021 through December 31, 2021

Year of forecast:	4
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2021:	112.6%
Beginning reserve balance:	$104,614
Recommended reserve contribution: +	$32,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,424
Total contributions: =	$34,324

Eagle Highland Owners Association

2021 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Sign	1	deferrable	6.961	($4,840)
Total expenditures:				($4,840)
			Ending reserve balance:	$134,098

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2022

Hybrid Reserve Expenditures and Funding Plan

January 1, 2022 through December 31, 2022

Year of forecast:	5
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2022:	115.9%
Beginning reserve balance:	$134,098
Recommended reserve contribution: +	$33,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,813
Total contributions: =	$35,713

Eagle Highland Owners Association

2022 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$169,811

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2023

Hybrid Reserve Expenditures and Funding Plan

January 1, 2023 through December 31, 2023

Year of forecast:	6
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2023:	119.4%
Beginning reserve balance:	$169,811
Recommended reserve contribution: +	$34,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$2,247
Total contributions: =	$37,147

Eagle Highland Owners Association

2023 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$206,958

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2024

Hybrid Reserve Expenditures and Funding Plan

January 1, 2024 through December 31, 2024

Year of forecast:	7
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2024:	123.0%
Beginning reserve balance:	$206,958
Recommended reserve contribution: +	$35,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$2,699
Total contributions: =	$38,599

Eagle Highland Owners Association

2024 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$245,557

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2025

Hybrid Reserve Expenditures and Funding Plan

January 1, 2025 through December 31, 2025

Year of forecast:	8
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2025:	126.7%
Beginning reserve balance:	$245,557
Recommended reserve contribution: +	$37,000
Estimated interest earned (1.2% PROJECTED yield rate): +	$2,305
Total contributions: =	$39,305

Eagle Highland Owners Association

2025 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Gutters and Downspouts - Front (1)	2	deferrable	2.362	($8,867)
Siding - Vinyl (1)	2	deferrable	2.761	($102,608)
Soffits and Fascia - Aluminum (1)	2	deferrable	2.891	($29,262)
Concrete Aprons (10% every 5 years)	1	deferrable	6.141	($1,520)
Concrete Sidewalks and Stoops (5% every 5 years)	1	deferrable	6.181	($1,647)
Total expenditures:				($143,905)
			Ending reserve balance:	$140,957

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2026

Hybrid Reserve Expenditures and Funding Plan

January 1, 2026 through December 31, 2026

Year of forecast:	9
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2026:	130.5%
Beginning reserve balance:	$140,957
Recommended reserve contribution: +	$38,100
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,050
Total contributions: =	$39,150

Eagle Highland Owners Association

2026 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Gutters and Downspouts - Front (1)	2	deferrable	2.362	($9,133)
Siding - Vinyl (1)	2	deferrable	2.761	($105,687)
Soffits and Fascia - Aluminum (1)	2	deferrable	2.891	($30,140)
Total expenditures:				($144,960)
			Ending reserve balance:	$35,147

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2027 (Threshold)

Hybrid Reserve Expenditures and Funding Plan

January 1, 2027 through December 31, 2027

Year of forecast:	10
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2027 (Threshold):	134.4%
Beginning reserve balance:	$35,147
Recommended reserve contribution: +	$39,200
Estimated interest earned (1.2% PROJECTED yield rate): +	$254
Total contributions: =	$39,454

Eagle Highland Owners Association

2027 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Pavement Replacement - Driveways (1)	1	deferrable	6.661	($67,196)
Total expenditures:				($67,196)
			Ending reserve balance:	$7,405

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2028

Hybrid Reserve Expenditures and Funding Plan

January 1, 2028 through December 31, 2028

Year of forecast:	11
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2028:	138.4%
Beginning reserve balance:	$7,405
Recommended reserve contribution: +	$17,000
Estimated interest earned (1.2% PROJECTED yield rate): +	$191
Total contributions: =	$17,191

Eagle Highland Owners Association

2028 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$24,596

SUPERIOR RESERVE
ENGINEERING & CONSULTING

1.404.2029

2029

Hybrid Reserve Expenditures and Funding Plan

January 1, 2029 through December 31, 2029

Year of forecast:	12
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2029:	142.6%
Beginning reserve balance:	$24,596
Recommended reserve contribution: +	$17,500
Estimated interest earned (1.2% PROJECTED yield rate): +	$400
Total contributions: =	$17,900

Eagle Highland Owners Association

2029 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$42,496

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2030

Hybrid Reserve Expenditures and Funding Plan

January 1, 2030 through December 31, 2030

Year of forecast:	13
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2030:	146.9%
Beginning reserve balance:	$42,496
Recommended reserve contribution: +	$18,000
Estimated interest earned (1.2% PROJECTED yield rate): +	$596
Total contributions: =	$18,596

Eagle Highland Owners Association

2030 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Concrete Aprons (10% every 5 years)	1	deferrable	6.141	($1,762)
Concrete Sidewalks and Stoops (5% every 5 years)	1	deferrable	6.181	($1,909)
Total expenditures:				($3,671)
			Ending reserve balance:	$57,421

SUPERIOR RESERVE
ENGINEERING & CONSULTING

1.404.2031

2031

Hybrid Reserve Expenditures and Funding Plan

January 1, 2031 through December 31, 2031

Year of forecast:	14
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2031:	151.3%
Beginning reserve balance:	$57,421
Recommended reserve contribution: +	$18,500
Estimated interest earned (1.2% PROJECTED yield rate): +	$800
Total contributions: =	$19,300

Eagle Highland Owners Association

2031 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$76,721

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2032

Hybrid Reserve Expenditures and Funding Plan

January 1, 2032 through December 31, 2032

Year of forecast:	15
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2032:	155.8%
Beginning reserve balance:	$76,721
Recommended reserve contribution: +	$19,100
Estimated interest earned (1.2% PROJECTED yield rate): +	$938
Total contributions: =	$20,038

Eagle Highland Owners Association

2032 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Gutters and Downspouts - Rear	1	deferrable	2.363	($16,203)
Total expenditures:				($16,203)
			Ending reserve balance:	$80,556

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2033

Hybrid Reserve Expenditures and Funding Plan

January 1, 2033 through December 31, 2033

Year of forecast:	16
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2033:	160.5%
Beginning reserve balance:	$80,556
Recommended reserve contribution: +	$19,700
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,085
Total contributions: =	$20,785

Eagle Highland Owners Association

2033 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$101,341

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2034

Hybrid Reserve Expenditures and Funding Plan

January 1, 2034 through December 31, 2034

Year of forecast:	17
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2034:	165.3%
Beginning reserve balance:	$101,341
Recommended reserve contribution: +	$20,300
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,338
Total contributions: =	$21,638

Eagle Highland Owners Association

2034 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$122,979

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2035

Hybrid Reserve Expenditures and Funding Plan

January 1, 2035 through December 31, 2035

Year of forecast:	18
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2035:	170.2%
Beginning reserve balance:	$122,979
Recommended reserve contribution: +	$20,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,576
Total contributions: =	$22,476

Eagle Highland Owners Association

2035 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Concrete Aprons (10% every 5 years)	1	deferrable	6.141	($2,043)
Concrete Sidewalks and Stoops (5% every 5 years)	1	deferrable	6.181	($2,213)
Total expenditures:				($4,256)
			Ending reserve balance:	$141,199

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2036

Hybrid Reserve Expenditures and Funding Plan

January 1, 2036 through December 31, 2036

Year of forecast:	19
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2036:	175.4%
Beginning reserve balance:	$141,199
Recommended reserve contribution: +	$21,500
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,823
Total contributions: =	$23,323

Eagle Highland Owners Association

2036 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
Ending reserve balance:				$164,522

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2037

Hybrid Reserve Expenditures and Funding Plan

January 1, 2037 through December 31, 2037

Year of forecast:	20
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2037:	180.6%
Beginning reserve balance:	$164,522
Recommended reserve contribution: +	$22,100
Estimated interest earned (1.2% PROJECTED yield rate): +	$2,107
Total contributions: =	$24,207

Eagle Highland Owners Association

2037 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$188,729

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2038

Hybrid Reserve Expenditures and Funding Plan

January 1, 2038 through December 31, 2038

Year of forecast:	21
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2038:	186.0%
Beginning reserve balance:	$188,729
Recommended reserve contribution: +	$22,800
Estimated interest earned (1.2% PROJECTED yield rate): +	$2,357
Total contributions: =	$25,157

Eagle Highland Owners Association

2038 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Mail Cluster Box Stations	1	deferrable	6.621	($7,441)
Total expenditures:				($7,441)
			Ending reserve balance:	$206,445

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2039

Hybrid Reserve Expenditures and Funding Plan

January 1, 2039 through December 31, 2039

Year of forecast:	22
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2039:	191.6%
Beginning reserve balance:	$206,445
Recommended reserve contribution: +	$23,500
Estimated interest earned (1.2% PROJECTED yield rate): +	$2,549
Total contributions: =	$26,049

Eagle Highland Owners Association

2039 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Masonry Restoration (1)	1	deferrable	2.421	($11,497)
Total expenditures:				($11,497)
			Ending reserve balance:	$220,997

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2040

Hybrid Reserve Expenditures and Funding Plan

January 1, 2040 through December 31, 2040

Year of forecast:	23
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2040:	197.4%
Beginning reserve balance:	$220,997
Recommended reserve contribution: +	$24,200
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,986
Total contributions: =	$26,186

Eagle Highland Owners Association

2040 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Lighting - Exterior (1)	1	deferrable	2.381	($11,842)
Roofs - Asphalt Shingles (1)	2	firm	2.441	($118,415)
Concrete Aprons (10% every 5 years)	1	deferrable	6.141	($2,368)
Concrete Sidewalks and Stoops (5% every 5 years)	1	deferrable	6.181	($2,566)
Total expenditures:				($135,191)
			Ending reserve balance:	$111,992

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2041

Hybrid Reserve Expenditures and Funding Plan

January 1, 2041 through December 31, 2041

Year of forecast:	24
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2041:	203.3%
Beginning reserve balance:	$111,992
Recommended reserve contribution: +	$24,900
Estimated interest earned (1.2% PROJECTED yield rate): +	$762
Total contributions: =	$25,662

Eagle Highland Owners Association

2041 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Roofs - Asphalt Shingles (1)	2	firm	2.441	($121,968)
Total expenditures:				($121,968)
			Ending reserve balance:	$15,687

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2042

Hybrid Reserve Expenditures and Funding Plan

January 1, 2042 through December 31, 2042

Year of forecast:	25
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2042:	209.4%
Beginning reserve balance:	$15,687
Recommended reserve contribution: +	$25,600
Estimated interest earned (1.2% PROJECTED yield rate): +	$342
Total contributions: =	$25,942

Eagle Highland Owners Association

2042 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$41,629

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2043

Hybrid Reserve Expenditures and Funding Plan

January 1, 2043 through December 31, 2043

Year of forecast:	26
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2043:	215.7%
Beginning reserve balance:	$41,629
Recommended reserve contribution: +	$26,400
Estimated interest earned (1.2% PROJECTED yield rate): +	$483
Total contributions: =	$26,883

Eagle Highland Owners Association

2043 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Chimney Chase Covers (1)	1	deferrable	2.221	($29,114)
Total expenditures:				($29,114)
			Ending reserve balance:	$39,398

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2044

Hybrid Reserve Expenditures and Funding Plan

January 1, 2044 through December 31, 2044

Year of forecast:	27
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2044:	222.1%
Beginning reserve balance:	$39,398
Recommended reserve contribution: +	$27,200
Estimated interest earned (1.2% PROJECTED yield rate): +	$636
Total contributions: =	$27,836

Eagle Highland Owners Association

2044 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$67,234

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2045

Hybrid Reserve Expenditures and Funding Plan

January 1, 2045 through December 31, 2045

Year of forecast:	28
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2045:	228.8%
Beginning reserve balance:	$67,234
Recommended reserve contribution: +	$28,000
Estimated interest earned (1.2% PROJECTED yield rate): +	$940
Total contributions: =	$28,940

Eagle Highland Owners Association

2045 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Concrete Aprons (10% every 5 years)	1	deferrable	6.141	($2,746)
Concrete Sidewalks and Stoops (5% every 5 years)	1	deferrable	6.181	($2,974)
Total expenditures:				($5,720)
			Ending reserve balance:	$90,454

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2046

Hybrid Reserve Expenditures and Funding Plan

January 1, 2046 through December 31, 2046

Year of forecast:	29
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2046:	235.7%
Beginning reserve balance:	$90,454
Recommended reserve contribution: +	$28,800
Estimated interest earned (1.2% PROJECTED yield rate): +	$1,258
Total contributions: =	$30,058

Eagle Highland Owners Association

2046 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Total expenditures:				$0
			Ending reserve balance:	$120,512

SUPERIOR RESERVE
ENGINEERING & CONSULTING

2047

Hybrid Reserve Expenditures and Funding Plan

January 1, 2047 through December 31, 2047

Year of forecast:	30
Annual CONSTRUCTION inflation rate:	3.0%
Compounded CONSTRUCTION inflation in 2047:	242.7%
Beginning reserve balance:	$120,512
Recommended reserve contribution: +	$29,700
Estimated interest earned (1.2% PROJECTED yield rate): +	$896
Total contributions: =	$30,596

Eagle Highland Owners Association

2047 Expenditures (inflated)

	Number of phases	Flexibility	Engineering Data Section	
Pavement Replacement - Driveways (1)	1	deferrable	6.661	($121,363)
Total expenditures:				($121,363)
			Ending reserve balance:	$29,745

Summary of Qualifications

Justin J. Maier, P.E., RS
Partner

Services

Justin J. Maier is a partner and co-founder of Superior Reserve Engineering and Consulting. Justin J. Maier provides *expert* reserve and transition studies, and critical property reviews. Properties that have benefited from his experience include townhome associations, condominium associations, planned unit developments, marinas, resorts, hotels, churches and country clubs. These properties vary from complex high rise buildings to vintage buildings of historical significance. He has provided these services to *more than* 1,600 properties throughout the United States and worldwide.

Prior Experience

Prior to co-founding Superior Reserve with Nik J. Clark, Mr. Maier had conducted reserve and transitions studies with Reserve Advisors for 14 years. During this time, he was the Director of Product Development where he oversaw the development, improvement and production efficiency of reserve and transition studies for the firm. He was the leading producer of reserve and transition studies. Mr. Maier was instrumental in improving the quality of reports both in content, clarity and appearance. Reserve Advisors experienced tremendous success based on the standard of reserve and transition study quality that he implemented.

Mr. Maier was a structural engineer for Wausau Window and Wall Systems. There he analyzed stresses in horizontal and vertical components of aluminum frame curtain wall window systems in projects throughout the United States for both wind pressure and suction loads. He was involved in field work to correct improperly installed system components.

Mr. Maier was an Assistant Engineer for Crest Consulting Engineers. His services required on-site field investigation of architectural and structural failures, analysis of the preexisting design and conditions, and determination of the design shortfalls or owner modifications that caused the failures. He designed remedial repairs, produced cost estimates for the repairs, prepared the specifications and oversaw the implementation of the repairs.

Expert Witness

Through the expert witness of Mr. Maier, the Villages at Cumberland Trail in Columbus, Ohio and The Retreat Homeowners Association in Indianapolis, Indiana were able to successfully negotiate a settlement for their construction defects.

Education

Milwaukee School of Engineering (MSOE)

Professional Affiliations

Professional Engineer (P.E.) - licenses held in WI, IL, OH, NY, TX, DC, VA, MD, MI, MN, PA
Reserve Specialist (RS) - credential awarded by Community Association's Institute (CAI)
Certified Pool / Spa Operator - issued by the National Swimming Pool Foundation

Terms, Conditions and Limitations

1) Superior Reserve Engineering & Consulting (SREC) will perform a visual inspection of the property. While due diligence will be exercised during the onsite inspection, we make no representations regarding latent or hidden defects not observable from a visual inspection. We do not conduct invasive or destructive testing nor provide an exhaustive review of building code compliance. Material testing, core sampling, performance testing of building or site elements and equipment is not part of the scope of work.
2) Our opinions of estimated costs and remaining useful lives are not a guarantee of the actual costs of replacement, a warranty of the common elements or other property elements, or a guarantee of remaining useful lives.
3) SREC may rely on information provided to us, by the client named in this contract, in our report. We assume information provided to us by the client to be correct and assume no liability for the accuracy of information provided to us by the client. You agree to indemnify and hold us 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 as 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.
4) Our Reserve Study Report in whole or part is not and cannot be used as a design specification, design engineering services or an appraisal.
5) Substances such as asbestos, urea-formaldehyde foam insulation, other chemicals, toxic wastes, environmental mold or other potentially hazardous materials could, if present, adversely affect the validity of this study. Unless otherwise stated in this report, the existence of hazardous substance, that may or may not be present on or in the property, was not considered. Our opinions are predicated on the assumption that there are no hazardous materials on or in the property. We assume no responsibility for any such conditions. We are not qualified to detect such substances, quantify the impact, or develop the remedial cost.
6) In the event of errors in our report, SREC's liability is limited to the cost of this study.

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Chimney Chase Covers

Material: metal

Overall condition: **poor**

Specific condition: rust and caulk repairs

Quantity (each): 27

Cost ($ each): $500

Current total cost: **$13,500**

Cost per home: $482

Assumptions: replace with 24 gauge galvanized steel

Operating expenses: painting, caulking at flue penetrations

Homeowner expenses: flue caps

Engineering solutions: The chimney chase covers are at the end of their useful lives. Chimney chase cover replacement should include a cambered top to shed water, a formed drip edge to direct water away from the siding and fasteners through the sides to minimize the potential for leaks.

metal chimney chase cover

rust at cover

rust at cover

caulked cover at 1473 Eagle Highlands - leaks at chimney

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Gutters and Downspouts - Front

Material:	aluminum
Gutter profile:	five-inch seamless K-style
Gutter fasteners:	nails
Downspout size:	two-inch by three-inch
Overall condition:	good to fair
Specific condition:	minor weathering, corrosion of fasteners and clogged extensions
Quantity (linear feet):	2,000
Per home (linear feet):	70
Cost ($/linear foot):	$7
Current total cost:	**$14,000**
Cost per home:	$500
Coordinate with:	siding
Assumptions:	replace with .027-inch thick aluminum
Operating expenses:	semiannual inspections, repairs at seams and fastening points, cleaning and verification that the downspouts discharge away from foundations

Engineering solutions: The downspouts discharge at the foundations which increases the potential for grade settlement, standing water and foundation settlement. We recommend the installation of subterranean downspout extensions that discharge 10 feet away from the buildings through pop-up drainage emitters in the landscape areas. At the center garages, we recommend resloping the gutters to discharge into a downspout either to the left or right of the doors (not the center) and then through subterranean downspout extensions (beneath the sidewalks) into the adjacent grass areas. We estimate a cost of $175 per downspout for this repair. We recommend subterranean PVC pipes with glued connections to elbows (similar to interior plumbing) to minimize the potential for root and dirt penetration at joints.

aluminum gutters and downspouts - front

gutter interior

reroute gutters and downspouts at garages to discharge into adjacent grass

downspout discharges too close to foundation (splash block not installed properly)

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Gutters and Downspouts - Rear

Material:	aluminum
Gutter profile:	six-inch seamless K-style
Gutter fasteners:	screws
Downspout size:	three-inch by four-inch
Overall condition:	good
Specific condition:	no visible deterioration
Quantity (linear feet):	1,300
Per home (linear feet):	50
Cost ($/linear foot):	$8
Current total cost:	**$10,400**
Cost per home:	$371
Assumptions:	replace with .027-inch thick aluminum
Operating expenses:	semiannual inspections, repairs at seams and fastening points, cleaning and verification that the downspouts discharge away from foundations

aluminum gutters and downspouts - rear

gutter interior

downspout discharges too close to building

surface extensions are unsightly and prone to damage

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Lighting - Exterior

Material:	cast aluminum
Glass type:	beveled
Bulb types:	incandescent, fluorescent and LED
Number of bulbs per fixture:	1
Overall condition:	good
Specific condition:	no visible deterioration
Quantity (each):	60
Cost ($ each):	$100
Current total cost:	**$6,000**
Cost per home:	$214
Assumptions:	reuse of existing wiring

Green ideas: We observed the use of inefficient incandescent bulbs at the exterior fixtures. Replace incandescent bulbs with LED bulbs to save approximately $15 in electrical usage annually per fixture (based on 10 hours of operation per day per fixture and an electrical rate of $0.08 per kilowatt hour).

cast aluminum light fixture with beveled glass


exterior light


exterior light

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Masonry Restoration

Construction:
3 by 8 inch masonry units
running bond pattern
mortar joints are tooled concave (ideal)

Overall condition:
good to fair

Specific conditions:
efflorescence (note 1) is not evident
masonry cracks are not evident
isolated mortar deterioration is evident
spalled masonry is not evident
caulking exhibits deterioration
previous repairs are not evident

Quantity (square feet):
4,000

Per home (square feet):
140

Cost ($/square foot):
$1.60

Current total cost:
$6,000

Cost per home:
$214

Anticipated work:
paint lintels
repoint (note 2) masonry (2%)
caulk windows, doors, control joints (50%)

Actionable recommendations: We observed locations where the flashing at the intersection between the bottom of the siding and the top of the brick is pitched towards the buildings. This greatly increases the potential for leaks. Remediation of this condition will require trimming back the lower course of siding to enable the flashing to be installed to pitch away from the buildings.


masonry facade with 3 by 8 inch masonry units and running bond pattern


masonry overview


isolated mortar deterioration


flashing is pitched towards the building increasing the potential for leaks

(note 1) White, powdery deposit of soluble salts carried to the surface of masonry by moisture. The moisture evaporates, leaving the residue.

(note 2) Raking and cutting out defective mortar to a depth of not less than ½ inch nor more than ¾ 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. Compact the new mortar in two lifts/layers.

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Roofs - Asphalt Shingles

Material: asphalt shingles

Roof composition:
laminated architectural shingles
Boston style ridge shingles
California style enclosed valleys
metal drip edge (note 1)
ridge vents (adequate)
rubber and metal flashing at vent pipes
sealed nail heads (proper)
self adhering underlayment at gutter edge

Overall condition: good

Specific condition: isolated loose flashing and shingles at roof to wall intersections

Roof pitch (average): 6:12

Quantity in squares(note 2): 300

Per home (squares): 11

Cost ($/square): $400

Current total cost: **$120,000**

Cost per home: $4,286

Coordinate with: gutters and downspouts

Operating expenses: semi annual inspections and repairs

Anticipated expenses: total removal of existing roofing (note 3)
sheathing replacement contingency (5%)
metal drip edge at roof perimeters
lead boot flashing at waste pipes
#15 felt underlayment
self adhering underlayment at roof edges
Class A 240-260 pounds/square shingles
rooftop ventilation
bathroom vents discharge through roofs

Engineering solutions: See the Property Engineering Review (Section 1.201) for our observations on the condition of the roofs.

(note 1) Metal flashing at the perimeter of the roof that directs water away from the structure. The absence of this roofing component increases the likelihood of water infiltration.

(note 2) One square equals 100 square feet.

(note 3) Benefits of total replacement (rather than overlay/shingle over) include: 1) replacement of deteriorated sheathing, and proper flashing at penetrations and roof perimeters 2) ensuring the new shingles will lay properly 3) ensuring the useful life of the new shingles will not be diminished due to continued deterioration of underlying shingles 4) cost of removal will not be deferred to future budgets


roof with asphalt shingles


self adhering underlayment at gutter edge


asphalt shingles and ridge vents with wind baffles


California style enclosed valleys

rubber and metal flashing at vent pipes

shingle overview

ridge vent with wind baffles

loose flashing requires securing - address with semiannual inspections

missing kick-out flashing and reports of leaks at 1473 Eagle Highlands

roof overview

underlying shingles appropriately installed beneath flashing at roof to wall intersection

upper shingle course at roof to wall intersection requires securing

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Siding - Vinyl

Material:	vinyl
Profile:	clapboard double 4-inch
J channel (note 1):	exists at windows, doors and other penetrations (proper)
Building paper (note 2):	does not exist
Gap between siding & roof:	does not exist (note 3)
Flashing at openings:	does not exist
Overall condition:	good to fair
Specific condition:	finish deterioration at decorative gable vents, isolated damage and unmatched replacement pieces
Quantity (square feet):	33,000
Per home (square feet):	1,180
Cost ($/square foot):	$4.90
Current total cost:	**$162,000**
Cost per home:	$5,786
Coordinate with:	soffits and fascia
Operating expenses:	cleaning, repairs, interim vent replacement
Anticipated costs:	remove siding install building paper replacement with .042-inch thick vinyl siding replace gable vents replace address plaques


vinyl siding with clapboard double 4-inch profile


finish deterioration at decorative gable vents


damaged and unmatched replacement piece


missing building paper

Engineering solutions: See the Property Engineering Review (Section 1.201) for our observations on the condition of the siding.

(note 1) Trim that conceals the thermal expansion and contraction of siding at end joints. Caulk would typically fail at these locations due to the excessive movement of the siding.
(note 2) Siding is an exterior cladding that is not watertight. Water-vapor permeable building paper is necessary to prevent water from contacting sheathing and interior finishes. Lack of building paper will result in water penetration and deterioration of building substrate.
(note 3) The siding throughout the property is in direct contact with the roof. This condition impedes drainage and makes replacement of the shingles more difficult. The Vinyl Siding Institute recommends a 1/2" gap at these locations. It is our opinion that repairs to these conditions are not necessary at this time. Future repairs and replacement should following the guidelines set by the Vinyl Siding Institute: http://www.vinylsiding.org

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Soffits and Fascia - Aluminum

Material:	aluminum
Ventilation type:	vented soffits (33%)
Ventilation status:	insufficient
Overall condition:	good to fair
Specific condition:	missing cladding
Quantity (square feet):	6,900
Per home (square feet):	250
Cost ($/square foot):	$6.70
Current total cost:	**$46,200**
Cost per home:	$1,650
Coordinate with:	siding
Operating expenses:	securing/replacement of loose pieces, clearing vents
Anticipated costs:	remove soffits and fascia install vented .020" thick aluminum soffit intall .032 inch fascia cladding

Actionable recommendations: Storm water can get between the joint of the fascia and J channel at the gable rake if the caulk fails. The property should inspect these joints annually and replace any failed caulk.

Engineering solutions: The partially vented soffits are inadequate to properly ventilate the attics. Soffit ventilation is necessary to allow air flow into the attics. This air flow helps reduce attic temperatures and maximizes the useful life of the shingles. Balanced air flow through the attics minimizes the potential for ice dams and reduces summer air conditioning costs. Shingle manufacturers recommend one square foot of attic ventilation for every 300 square feet of roof area, with half of this ventilation in the soffits and the other half at the rooftops. We recommend the installation of fully vented soffits at the time of soffit and fascia replacement. We also recommend an inspection of the attics to ensure the vents are not blocked by insulation at the time of replacement.


aluminum soffits and fascia


vented soffits (33%)


water can get between fascia and J channel if caulk fails


missing cladding at 2332 Raider

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Aprons

Material:	concrete
Overall condition:	good to fair
Specific condition:	cracks and concrete disintegration
Quantity (each):	10
Quantity (square feet):	1,000
Cost ($/square foot):	$12
Current total cost (note 1):	**$12,000**
Assumptions:	5-inch thick, 3,000 psi replacement concrete with 6x6 - W1.4xW1.4 steel reinforcing mesh
Operating expenses:	interim replacements of deteriorated sections, slab jacking
Coordinate with:	concrete sidewalks and stoops

concrete apron

cracks in concrete

concrete disintegration

cracked concrete

(note 1) Concrete aprons have a useful life of up to 60 years. Replacement of all the aprons during a single event is unlikely. Instead, we assume periodic replacements of limited quantities.

SUPERIOR RESERVE
ENGINEERING & CONSULTING

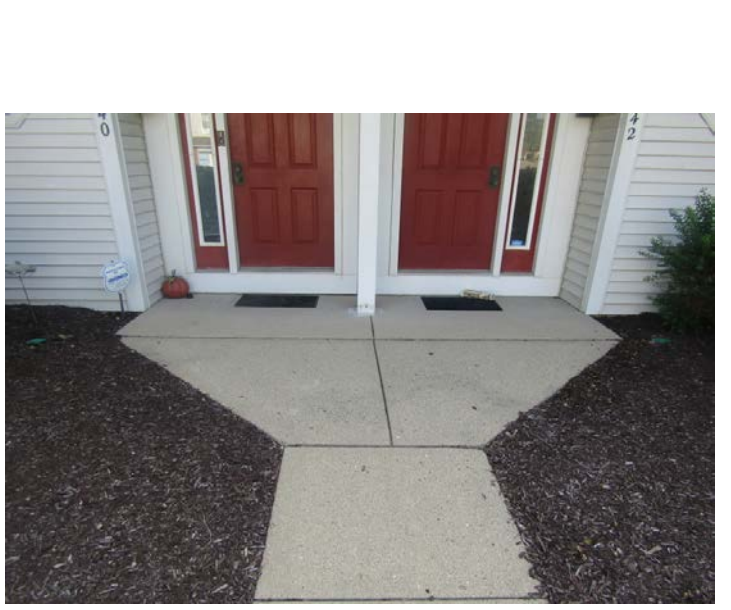
Sidewalks and Stoops

Material:	concrete
Overall condition:	good to fair
Specific condition:	minor settlement
Locations:	home entrances
Length (linear feet):	600
Quantity (square feet):	2,400
Per home (square feet):	60
Cost ($/square foot):	$10.80
Current total cost (note 1):	**$26,000**
Assumptions:	4-inch thick, 3,000 psi replacement concrete with 6x6 - W1.4xW1.4 steel reinforcing mesh
Operating expenses:	marking of trip hazards, interim replacements of deteriorated sections, slab jacking (pumping grout under sections to lift them)
Coordinate with:	concrete aprons


concrete sidewalks


minor settlement


minor settlement


concrete sidewalk and stoops

(note 1) Concrete sidewalks and stoops have a useful life of up to 60 years. Replacement of all the sidewalks and stoops during a single event is unlikely. Instead, we assume periodic replacements of limited quantities.

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Mail Cluster Box Stations

Auth-Florence aluminum mail cluster box station

Material:	aluminum
Manufacturer:	*Auth-Florence*
Number of mail stations:	2
Boxes per station (each):	12 and 16
Overall condition:	good
Specific condition:	no visible deterioration
Cost ($/station):	$2,000
Current total cost:	**$4,000**
Cost per home:	$143
Operating expenses:	painting, replacement of locks

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Pavement Replacement - Driveways

Material:	asphalt
Overall condition:	fair
Specific condition:	cracks and raveling (loss of surface material)
Location:	driveways
Quantity (square yards):	1,600
Per home (square yards):	57
Repaving method:	replacement
Cost ($/square yard):	$31
Current total cost:	**$50,000**
Cost per home:	$1,786
Anticipated costs:	remove pavement, regrade & augment base install 3 inches of new pavement
Operating expenses:	crack repairing, patching, seal coating and striping

Green ideas: The property has seal coated the asphalt pavement in the past. It is our professional opinion that seal coating asphalt pavement does not extend the useful life of the pavement. Seal coats do not add structural strength to the pavement. Seal coating is also a source of environmental contamination. Many properties opt to save money by *not* seal coating their pavement. If the property decides to seal coat for aesthetic reasons, avoid the use of coal tar based pavement seal coats as they pollute waterways. Instead, consider a slurry coat of asphaltic emulsion to provide a sacrificial wearing surface to the pavement. Also, if the property chooses to seal coat, we recommend applying the seal coat in the spring rather than the fall. Snow removal equipment wears the seal coat. Application in the spring will provide the maximum visual enjoyment from a fresh seal coat. The property should fund this expense through the operating budget.

asphalt pavement at driveways

raveling (loss of surface material)

crack in pavement

cracks in pavement

SUPERIOR RESERVE
ENGINEERING & CONSULTING

Sign

Materials:	wood and composite
Overall condition:	fair
Specific condition:	weathered wood and peeling paint
Current total cost:	**$4,300**
Cost per home:	$154
Operating expenses:	painting

property identification sign

weathered wood